



THE TACTICAL EDGE

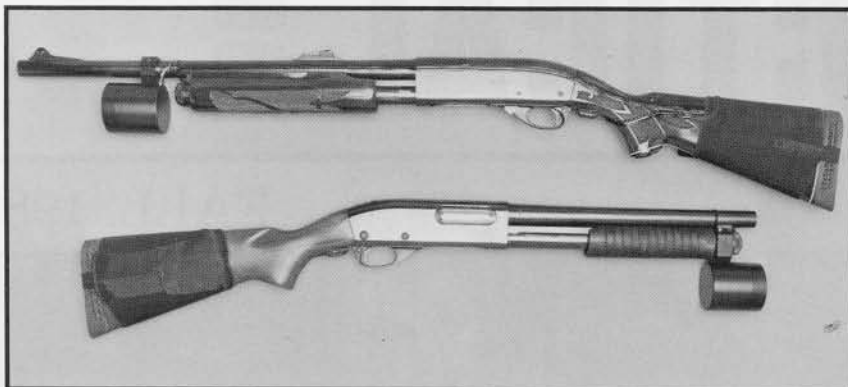
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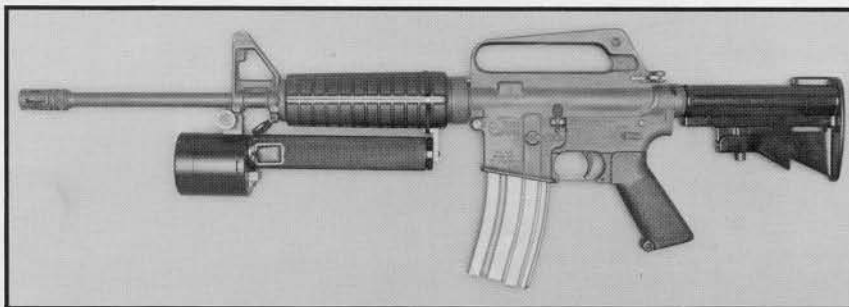


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SPLLATM Certification Class

(Special Purpose Low Lethality Anti-terrorist Munitions)

December 12, 1987

Phoenix, AZ

\$500 tuition

Contact Accuracy Systems, Inc., 15203 N. Cave Creek Road, Phoenix, AZ 85032, or call (602) 971-1991 for further information.

Crisis Media Management Workshop

December 3-4, 1987

St. Louis, MO

\$250 tuition includes lunch and handbook

Contact Roco Training Specialists, Inc., Box 40216, Baton Rouge, LA 70835, 1-800-647-ROCO, or in LA (504) 273-3283.

1987 Street Survival Seminar

November 22-24, 1987

Baltimore, MD

December 1-3, 1987

Seattle, WA

December 12-14, 1987

Las Vegas, NV

Call Calibre Press, toll free (except IL) 1-800-323-0037 or (312) 498-5680 for other scheduled dates.

SWAT Seminar

November 12-13, 1987

Columbus, OH

ABOUT THE COVER PHOTO

A Special Reaction Team (SRT) participates in an explosive entry exercise during a six-day training program conducted in New Jersey. Photo courtesy of John T. Meyer, Jr., D.O.D. Police.

\$100 tuition.

Contact the Ohio Tactical Officers Association, P.O. Box 3096, Columbus, OH, 43210-0096, (614) 274-2015, for reservations or additional information.

International Training Seminar

January 7-11, 1988

New Orleans, LA

Tuition: \$150 members,

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Contact American Society of Law Enforcement Trainers, 26818 98th St., Trevor, WI 53179, or call (414) 862-6220.



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Field Test: Ferret® Rounds vs. Domestic Barricades

by Scott McClintock

Overview

In the Summer '86 issue of "The Tactical Edge," we discussed an actual barricade situation in which the suspect propped mattresses and box springs into his windows. Our bothersome concern at the time was: If an assault becomes necessary and if chemical agents are called for, will our ordnance penetrate a mattress and effectively "gas" the room?

The literature which comes with Ferret® packaging clearly lists the round's penetration capabilities into window glass, automobile glass, solid core doors, etc., but nowhere does it mention mattresses!

After many hours of negotiation, the suspect was convinced to surrender peacefully, and we never learned the answer to our question.

A mattress is a very common and available barricade. Given the density of a common mattress and the light weight of Ferret® rounds, we worried that our state-of-the-art gas ordnance might be easily defeated. Another question concerned us: Was the counter tactic of mattress barricades a spur-of-the-moment invention of this particular gunman, or had he learned it in county jail or over a beer with a handful of other crooks as part of common criminal folklore?

Recently, a rural residence in our jurisdiction was condemned and scheduled for destruction. This structure became available to the San Diego County (CA) Sheriff's Department's Special Enforcement Detail for training. It was used to conduct field testing of our Ferret® rounds against mattresses and box springs propped into the windows.

"Ferret®" is a trademarked product name for flameless liquid chemical agent barricade-penetrating projectiles manufactured by the AAI Corporation. Other manufacturers produce similar rounds under other names. Our arsenal was stocked



Actual box spring window barricade from a 1986 mission. The suspect surrendered before chemical agents were used.

with AAI's 12-gauge and 37mm CS Ferret® rounds, and these were used in our research.

Testing Methods

In Test I, all rounds were fired through single pane residential gauge glass windows behind which either a mattress or a box spring was propped. The mattress was 6 inches thick, of inner spring unit construction, and made mostly of cotton felt and urethane foam. The box spring used was 7½ inches thick with 8 lb. cotton batting. We feel that both the mattress and the box spring used were representative of average residential bedding in our jurisdiction.

The test trials were conducted as scientifically as possible. At least one researcher stood safely aside in the room for each trial to maintain consistency, and to observe the behavior of the projectiles. The sensitive and sophisticated "equipment" used to analyze the room's atmos-

continued on page 9



Researchers preparing for testing.



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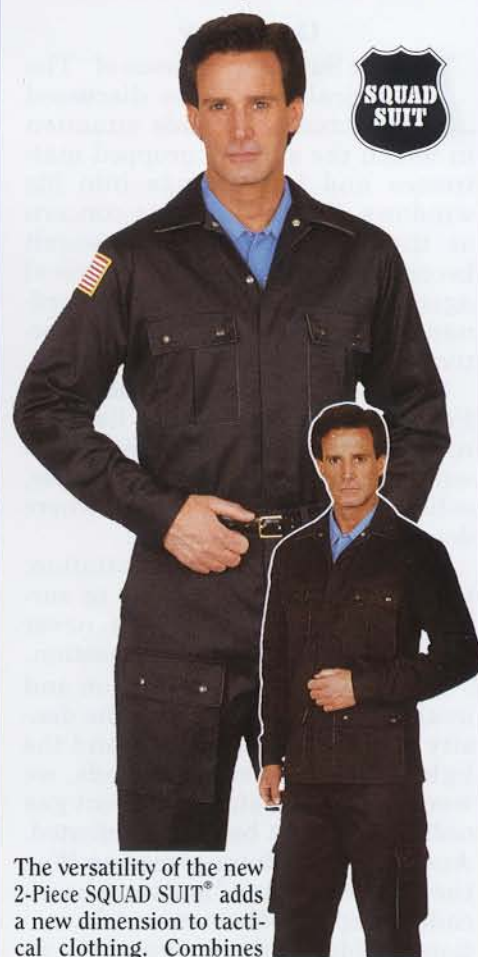
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Field Test

continued from page 7

phers for CS concentration after each trial were the eyes, noses and lungs of the four Sheriff's Deputies conducting the research.

The room was sealed for each trial. After the projectile was fired, the researchers would enter the room, move about, and breathe normally to analyze the concentration of CS agent. They would then open all of the doors and windows and ventilate the room until clear, prior to sealing it for the next trial. A total of four mattresses and four box springs were used during the trials. When one became shot-up or had absorbed a lot of liquid agent, it was replaced.

All four deputies involved in the research were designated grenadiers who specialize in tactical chemical agent deployment. By the end of the tests, these individuals had suffered far more personal pain and discomfort than is usually asked of city or county employees.

Test Results

The mattress proved to be an effective barricade against 12-gauge Ferret® rounds except when fired quite close to the window. The 37mm round was also physically contained by the mattress at all distances. However, at 10 yards, its thrust was enough to project its liquid contents through the mattress fabric and



Researcher firing 37mm Ferret® at mattress barricade.

into the room. A researcher standing inside the room could clearly see the 37mm's liquid "squirt" through the inside fabric when the round was fired from 5 or 10 yards away.

In Test I, all rounds hit window glass first, which, per design, broke the caps off of the rounds so that they could discharge their liquid. The glass also slowed the projectiles and allowed the mattress to more effectively contain them.

Box springs, because of their "hollow" construction, were ineffective in stopping the Ferret® rounds, whether or not window glass was involved. Occasionally, a trial round

would strike one of the wood slats mounted on the bottom side of the box spring. This presented no problem, in that the slat helped to break up the shell and disperse the liquid. A gauze-like material stretched over the slats easily allowed liquid CS to pass through (refer to Table 1).

Test II data was collected just as in Test I, without window glass. These trials simulated the situation where a suspect might prop a mattress or box spring into an open or broken window. Without glass, the mattress still contained both 12-gauge and 37mm rounds from 25

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Mattress propped behind test window.



Wire spring coils inside of most mattresses help to rupture the caps of projectiles for close-in shots.

TEST I – SINGLE PANE WINDOW GLASS

TRIAL	RANGE	CALIBER	BARRICADE	PROJECTILE BEHAVIOR
1.	25 yds.	12 GA.	Mattress	Contained in mattress. No CS Agent in Room.
2.	25 yds.	37mm	Mattress	Bounced off of mattress surface and lay broken between mattress and window pane. No CS Agent in Room.
3.	15 yds.	12 GA.	Mattress	Contained in mattress. No CS Agent in Room.
4.	15 yds	37mm	Mattress	Contained in mattress; however, the liquid seeped through to inside surface and gave off light CS vapor.
5.	10 yds.	12 GA.	Mattress	Contained in mattress. No CS Agent in Room.
6.	10 yds.	37mm	Mattress	Contained in mattress, but liquid visibly continued through the fabric and adequately contaminated room.
7.	5 yds.	12 GA.	Mattress	Contained in mattress. Liquid continued through and contaminated small room.
8.	5 yds.	37mm	Mattress	Contained in mattress. Liquid continued and effectively contaminated room. The mattress, which was propped up with sticks, was knocked over by the energy of the round.
9.	25 yds.	12 GA.	Box Spring	Penetrated glass and box spring. Full effects of CS in Room.
10.	25 yds.	37mm	Box Spring	Penetrated glass and box spring. Round struck wood slat, broke up, and effectively contaminated the room.

Table 1

TEST II – UNOBSTRUCTED OPENING

TRIAL	RANGE	CALIBER	BARRICADE	PROJECTILE BEHAVIOR
1.	25 yds.	12 GA.	Mattress	Contained in mattress. No CS Agent in Room. Projectile tumbled and broke up inside of mattress.
2.	25 yds.	37mm	Mattress	Contained in mattress. Wire inside cracked cap and liquid seeped to inside surface. Negligible contamination in room.
3A.	15 yds.	12 GA.	Mattress	Full penetration without tumbling. Projectile passed through without striking wires.
3B.	15 yds.	12 GA.	Mattress	Struck wire inside of mattress, broke up and exited mattress. Full effects of CS Agent projected into room.
4.	15 yds.	37mm	Mattress	Contained in mattress; however cap was broken off and entire contents projected into room.
5A.	10 yds.	12 GA.	Mattress	Struck hard component inside of mattress and was contained. No CS Agent in Room.
5B.	10 yds.	12 GA.	Mattress	Struck wire inside of mattress, broke up and exited mattress. Full effects of CS Agent projected into room.
6A.	10 yds.	37mm	Mattress	Full penetration. Cap broke off, projectile landed on floor 5 ft. inside. Full effects of CS Agent projected into room.
6B.	10 yds.	37mm	Mattress	Contained in mattress, but the cap broke off and split the fabric on interior side. Effectively contaminated room.
7.	25 yds.	12 GA.	Box Spring	Penetration. Full effects of CS in Room.
8.	25 yds.	37mm	Box Spring	Penetration. Wood slat on far side broke up the projectile. Full effects of CS in Room.

Table 2

Field Test

continued from page 9

yards away. However, when the shooter moved up to 15 yards, the round began penetrating and effectively contaminating a very small room.

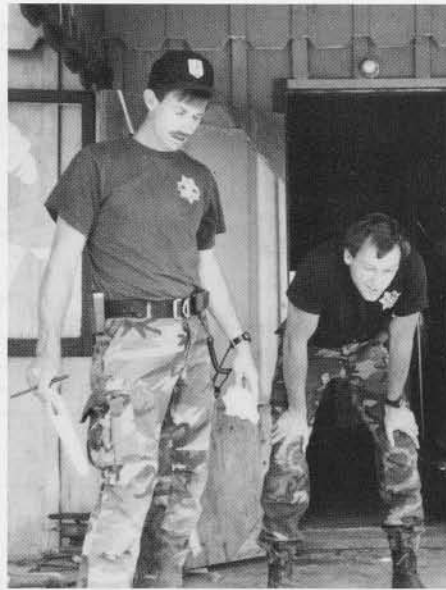
Without the window pane to break the caps off the rounds, we wondered if they would project their liquid after passing only through the soft contents of a mattress. Dissection of the mattress after each trial showed that there is enough wire inside in the form of coil springs and framework to usually break up the cap of the round.

As Table 2 shows, box springs were no problem for Ferret® rounds, even at 25 yards.

Conclusion

The call-out which led to this test was the first and only time we had experienced the counter tactic of mattress barricading. Our concern that it is a part of the jailhouse curriculum was averted when we learned that this suspect had never served a day of custody in his life, nor did he associate with habitual criminals. He may have learned it from his "survivalist" father, but Ferret® rounds are not likely to be within civilian survivalist lore.

We researched the suspect's background and character to some extent. He lived a hard luck but legal life up to the night he became intoxicated,



Researchers recover from effective CS concentration.

"snapped," and began shooting. After release from the mental facility, he has returned to a rather wholesome lifestyle. We believe that this suspect, in a high state of intoxication, merely grabbed the most convenient barricade material which was available to him.

The test data indicates that a common household mattress is a very effective barricade against 37mm Ferret® rounds when fired at a range of 15 yards or more. The penetration of 12-gauge rounds was unreliable and unpredictable at a mere 5 yards. Typical box springs

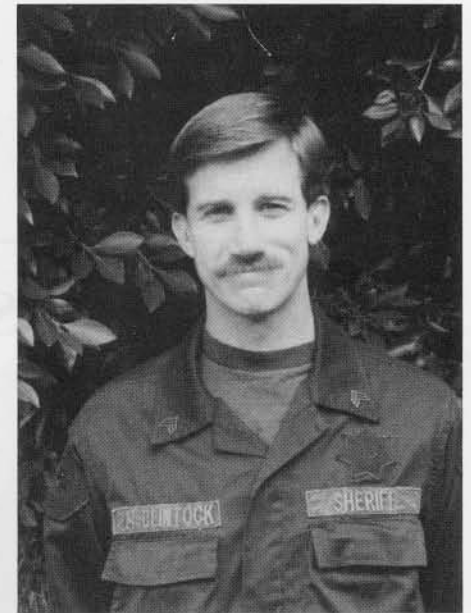
are negligible barricades. Therefore, it is important for intelligence sources, such as scouts, sniper/observer teams, and witness interviewers, to attempt to discern what type of bedding, if any, is propped in the windows.

Consider also, that in most homes, there are far more windows than mattresses. If specific windows and doors are barricaded with bedding, it would be wise to insert chemical agents through other portals. If there is no choice other than to attempt mattress penetration, the person firing the round must be dangerously close to the barricaded portal. In this case, distractions and careful cover fire may be indicated.

Chemical Agent Research: Keith McClanahan, John Pokorny, Larry Van Dusen, SDSO.

Suspect Research: Keith Blackburn, SDSO

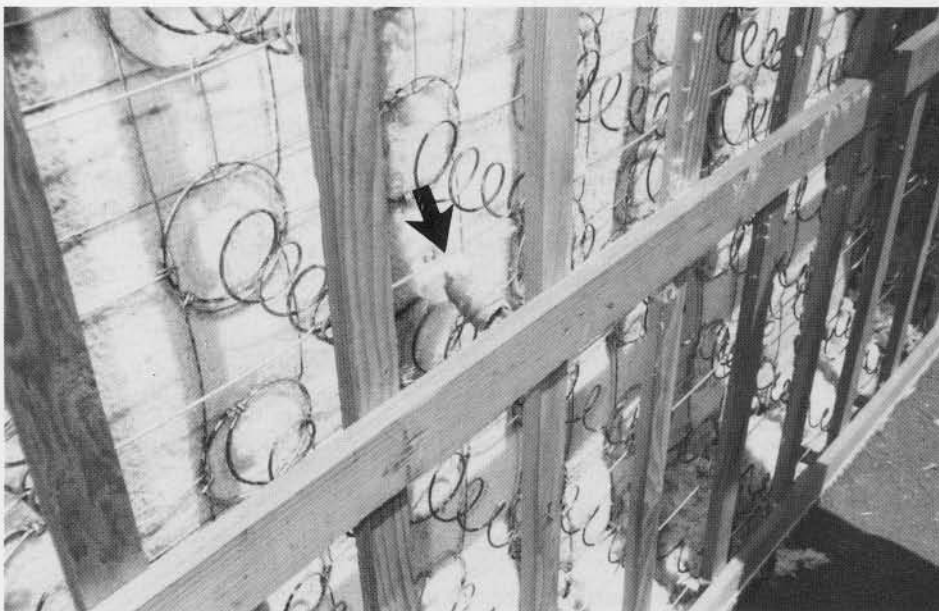
Conceptual Consulting: Mike Hurlley, SDPD



About the Author

Sergeant McClintock is 34 years of age and a 12-year veteran of the San Diego County Sheriff's Department. He is currently assigned as a supervisor in the Special Enforcement Detail, which is responsible for tactical response, underwater search and recovery, canine training, riot control and other varied duties.

Sergeant McClintock graduated from California State University, Long Beach, in 1974 with a Bachelor of Science degree in Criminology.



A 37mm Ferret® projectile (arrow) has penetrated a box spring.



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ASSOCIATION NEWS

Counterterrorist Unit Visit Update

Because of the interest expressed in organizing a visit to selected European counterterrorist units, N.T.O.A. is in the process of soliciting approval from several of the units.

The trip will be planned with the understanding that substitutions may be made in the event approval is not obtained from all units. The planned dates of the trip are April 14 through April 28, 1988. Letters containing more specific informa-

tion will be mailed in the near future to all who expressed an interest.

Change of Address

Members are again reminded to advise N.T.O.A. of any changes in address, either residential or departmental. Bulk mail is not always automatically forwarded to a new address by the Post Office. Therefore, it is essential that notice be made to N.T.O.A. if you expect to receive Association correspondence and magazines. Also, please check the mailing label to be sure we have your correct address.

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The National Tactical Officers Association would like to thank the members of the Ontario (CA) Police Officers Association for their generous contribution of \$50 to the Memorial Fund.

Any member or group interested in making a donation to the fund should direct their contributions to the N.T.O.A. Memorial Fund, P.O. Box 1412, La Mirada, CA 90637-1412.

All recommendations for awards should be made by mail to N.T.O.A. headquarters, or in extreme cases, by calling N.T.O.A. at (213) 943-4223.

Letters

Dear N.T.O.A.:

Let me take this opportunity to express my thanks to the N.T.O.A. and many writers of "The Tactical Edge." The information presented by the N.T.O.A. allows smaller teams, such as ours, the chance to "Keep Up" with the new tactics, equipment and training requirements of more developed teams. Again, thank you!

Respectfully,
Stephen F. House
Titusville (FL) Police Department
E.R.T. Unit
Team Leader

Dear N.T.O.A.:

Just a note to commend your magazine on the fine articles and information you have provided since I subscribed.

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Tactical Study Update

by Dennis (Skip) Higgins

Editor's Note: In the Summer issue of "The Tactical Edge," Lieutenant Higgins provided a description of the ongoing N.T.O.A. Tactical Study. In this issue, he continues his update by discussing the findings to date.

This copyrighted study, initiated by the National Tactical Officers Association, has become adequate enough to offer up some speculative analysis. More, much more information is still necessary, however, to make an authoritative "fact statement" based on the data base we are compiling. Your continued assistance with, and support of, this project has been greatly appreciated.

There are some very interesting trends which are forming within the data fields. At this point in time, we are not yet able to provide any *area specific* comparisons. The reason for this hopefully temporary inadequacy, is that the data base is not yet "representative in nature." By way of explanation, the data base includes responses (shown in percentage of the total data base) from the following geographic areas:

Northeast States	3.6%
Northwest States	2.7%
Southwest States	68.5%
Mid-Atlantic States	2.7%
Midwest States	12.6%
Southern States	9.9%
Plains States	0.0%
Alaska	0.0%
Hawaii	0.0%
Canadian Provinces	0.0%

To expound on this point, for the purpose of this study, the **PLAINS STATES** include Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, and Wyoming. Continued assistance with and by the submission of tactical data from **all** areas is, therefore, absolutely necessary for the proper function of this study.

Now, as to that information which is available . . .

When the Incidents Occurred

It would appear, from the data base, that 0700 hours on Tuesdays in the Spring is the safest and most dull time to pull tactical duty, while Wednesdays at 2000 hours in the Winter is the apparent opposite side of the coin. With additional data, it will prove beneficial to graph the response. Even at this early date, there appears to be a pattern. The only surprise I've had with the chronology at this point has to do with the predominance of Wednesdays being the day most incidents were initiated, as opposed to the weekends.

The percentage breakdown of all the incidents reported as to **TIME OF DAY** they were initiated is as follows.

0100 - 4.42%	0900 - 2.65%	1700 - 6.19%
0200 - 3.54%	1000 - 3.54%	1800 - 8.85%
0300 - 2.65%	1100 - 4.42%	1900 - 4.42%

0400 - 2.65%	1200 - 6.19%	2000 - 10.62%
0500 - 1.77%	1300 - 4.42%	2100 - 1.77%
0600 - .88%	1400 - 3.54%	2200 - 5.31%
0700 - 0.00%	1500 - 3.54%	2300 - 7.08%
0800 - 1.77%	1600 - 4.42%	2400 - 4.42%

Frequency concerning the **DAYS OF THE WEEK** when the incidents were reported are:

Sunday	-	18.42%
Monday	-	8.77%
Tuesday	-	7.02%
Wednesday	-	20.18%
Thursday	-	18.42%
Friday	-	14.04%
Saturday	-	13.16%

And, finally, the **SEASONS** during which the incidents were reported indicated the following frequency:

Spring	-	22.81%
Summer	-	23.68%
Fall	-	23.68%
Winter	-	29.82%

There is obviously only a slight numeric variance indicated with the "Seasons." I still feel, from the general tone of the information received so far, that there will be an even greater trend toward winter (most frequent), and summer (second most frequent), as the information becomes more representative of the population.

The Municipal and Specific Locations of Occurrence

There is no earth-shattering news in this area! The indications are that you are more than twice as likely to employ your tactical expertise within the city while surrounding a single family home. The information supplied will ultimately benefit the proposed computer program in selecting the most appropriate response to a given situation as described.

The total response to this location of occurrence section resulted in the following **MUNICIPAL LOCATION** frequency within the data base:

City	-	58.77%
Suburb	-	21.05%
Rural	-	19.30%
Other	-	.88%

The **SPECIFIC LOCATION** responses indicate that you responded to:

Single family homes	-	64.91% of the time
Multi-family or small apartments	-	21.05% of the time
Business high rise, factories and small business, government buildings or Airports and open areas or fields	-	2.63% of the time in each case

continued on page 16

Tactical Study Update

continued from page 15

Forms of Transportation (i.e.,
Air/vehicle/boat or train) - 1.75% of the time

Who Perpetrated The Incident?

We specifically did not request any information about "why" any of these offenders/suspects went to the sometimes bizarre lengths they did to prove their point. In most situations, the answers are simply beyond the scope of our employment and, often, beyond our reason.

As one extreme example, Charlie Whitman, the "Texas Tower" sniper, would for our purposes have only been listed as one adult male offender with no known terrorist affiliations and no hostages. He obviously *became* a terrorist while in the clock tower. Our intent is merely to provide information and a reasonably accurate indication of what response (in a given situation) will be the most efficient.

The "hostile subjects" you have thus far reported have been predominantly male adult. A further breakdown reads:

Adult Males	-	93.86%
Adult Females	-	1.75%

Juveniles	-	1.75%
Combination of the above	-	2.63%

For the greatest part, the incidents so far reported concerned an initial complaint of a single "hostile subject." As noted here, there were some incidents wherein the number of the individual perpetrators was not known at the time of the initial report:

One "hostile subject" reported	-	93.86%
Several reported	-	1.74%
An unknown number of "hostiles"	-	4.38%

Hostages were reported right at the start in less than one half of the incidents; and where hostages were taken, slightly more than half of those incidents indicate multiple hostages reported. The frequency ratios are:

Hostages Involved?		
Yes	-	40.35%
No	-	57.89%

Number of Hostages Initially Reported		
One/single	-	42.11%
Multiple	-	55.27%

In the majority of the incidents on file, the "hostile subject" was reported to have *available* a weapon or dangerous device without reported use of or visual confirmation of same. The initial reports to the law enforcement agencies indicated the "hostile subject" was observed or reported to have:

Caused death or injury	-	in 11.40% of the incidents
Used a weapon or device	-	in 29.82% of the incidents
Displayed a weapon or device	-	in 15.79% of the incidents
Available a weapon or device	-	in 39.47% of the incidents

The Enforcement Response

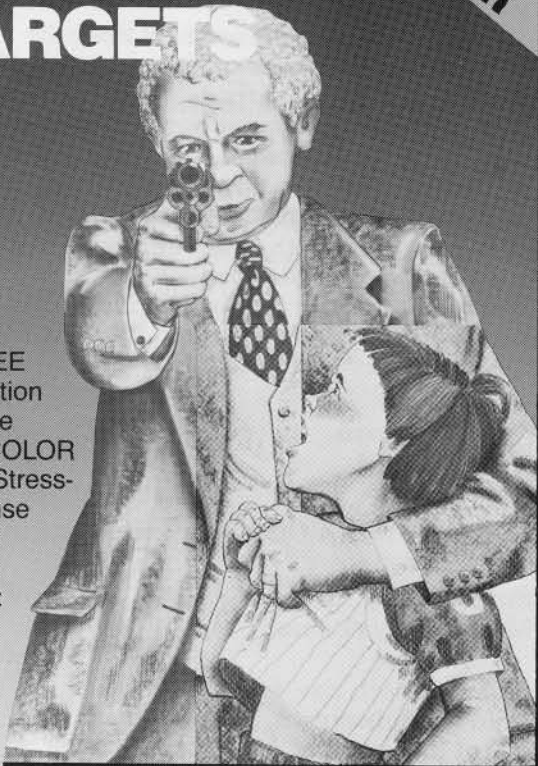
As to the law enforcement response to these reports, the initial officers (and hopefully supervisory personnel) requested some sort of tactical assistance within the first twenty (20) minutes in 64.91% of the incidents reported. Within twenty minutes, they also established a Command Post (40.35% of the time) and had the situation effectively contained (57.89% of the time).

Tactical (Negotiations, SWAT, ERT, etc.) assistance arrived within forty (40) minutes 35.96% of the time, while in 43.86% of the reported incidents, their arrival took somewhat longer than forty minutes.

The situations were neutralized in all but 5.23615% of those incidents reported, and the remaining few were most often attributed to "false reports" of imminently dangerous activity or individuals having been made to the agency at the initiation of the incident. Others in this category had to be listed as ending with "No Change" after the location was entered and the tactical unit found that the "hostile subject(s)" had, in fact, been suicides committed at the time of the report and therefore, for the data base, were indicated as "No Change." Those that could not be interpreted in either of these fashions (slightly less than 1%) were the result of the reported "hostile subject" having escaped the

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perimeter without detection. Considering the confusion present at the onset of a tactical incident, the 1% escaping a perimeter is testimony to the efficiency of tactical response.

Of those incidents which were reported as neutralized, the actual result of this neutralization is as follows:

- 88.59649% resulted in the surrender or apprehension of the "hostile subject(s)"
- 3.50877% resulted in the death of the "hostile subject(s)"
- 1.75439% resulted in the death of the "hostile suspects" with death or injury to hostages or enforcement personnel
- .87719% resulted in the surrender or apprehension of the "hostile subject(s)" with death or injury to hostages or enforcement personnel

These reported incidents did obviously require some amount of time to handle effectively. One of the most interesting and frequent comments appended to the forms returned reveals that a portion of the reported incidents were neutralized on the *mere arrival* of the tactical units. The comment makes plain the deterrent factor which exists when law enforcement agencies are willing to employ an organized tactical response. Of course, not all situations could be so efficiently disposed of, and most required more than the minimum twenty-minute segment allotted.

Some of the time-on-call information is as follows:

- 21.33 hours The longest reported time spent on a situation where the result was the surrender or apprehension of the "hostile subject(s)"
- 72.00 hours The longest reported time spent on a situation where the result was the death of the "hostile subject(s)"
- 2.66 hours Longest reported time indicating surrender or apprehension of subject(s) while reported death or injury of hostages or enforcement personnel
- 7.33 hours Longest reported time indicating the death of the subject(s) and also the death or injury of hostages or enforcement personnel

The average reported times are:

- 4.43 hours On incidents with no hostages involved
- 4.04 hours On incidents reporting hostages being held

The Weapons or Devices Recovered

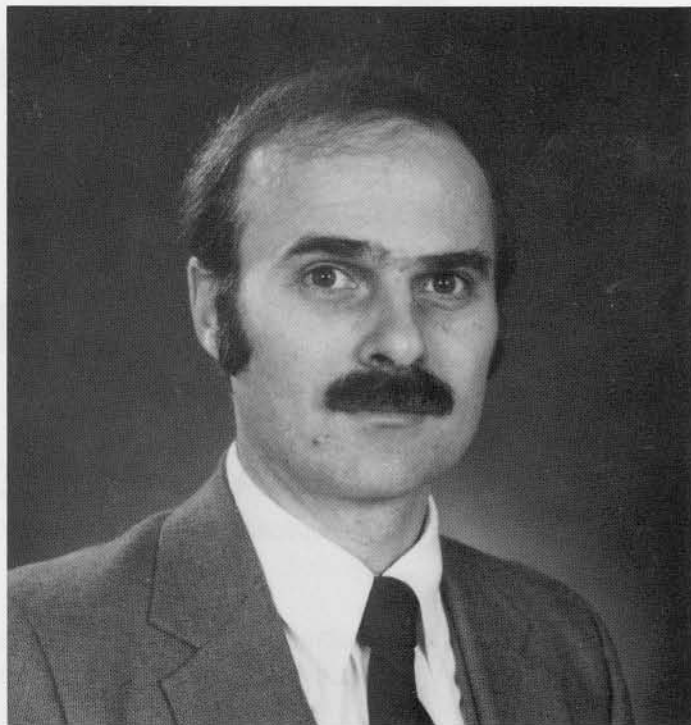
At the termination of all reported incidents, respondents were asked to indicate what "type" of weapon/device was seized or found. The presumption here being that the weapon/device was available to the person(s) who initiated the incident. Where none was indicated, a default option of "knife or other cutting instrument" was used. The necessity to indicate the "default" was limited in any case. You are merely advised of its possible effect on the voracity of the "knife . . ." category.

The frequency of use in perpetration of these incidents was:

Knife, etc.	22.80702%
Handgun (alone)	25.43860%
Rifles (non-class III)	14.91228%
Shotguns	1.75439%
Explosive or Incendiary devices	3.50877%
Full automatic weapons	Less than 1%
Combinations of weapons or devices including handguns	18.42105%
(43.85965% of the total data base reports the availability of a handgun or combination)	
Combinations of all other weapons or devices	12.27351%

We have all come a long way in law enforcement since the "Texas Tower" incident, and it is obvious a collective "finesse" has been liberally applied to our handling of these hazardous situations. We probably will not ever be able to *prevent* those incidents wherein hostages or law enforcement officers are killed or injured, but we can and must apply the lessons learned from each encounter.

Therefore, we thank those of you who have thus far responded for your efforts in submitting information, and hope for your continued support with this project. All are reminded that a large and current statistical base is necessary to validate the information and prevent erroneous conclusions. Lastly, if your agency has not yet become involved with this project, please contact N.T.O.A. for the data entry forms.

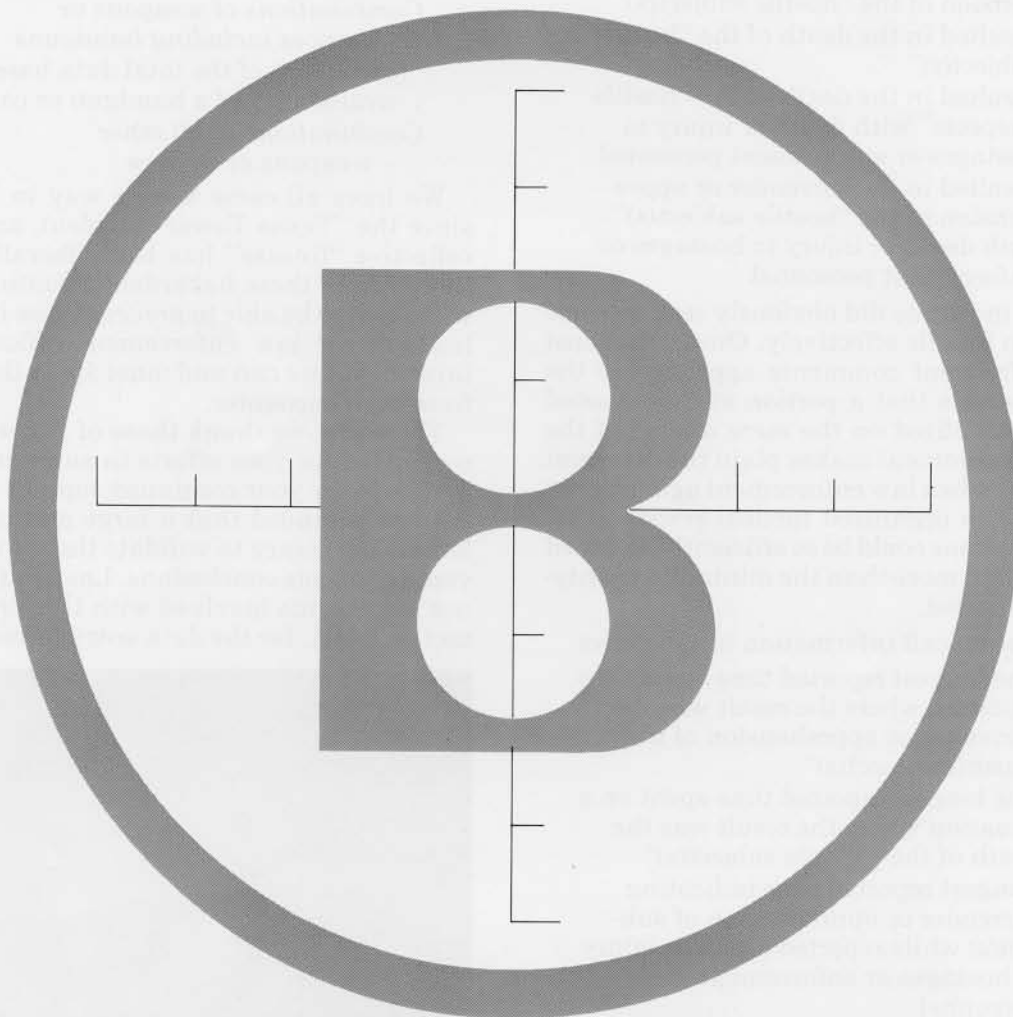


About the Author

Lieutenant Higgins is a consultant for N.T.O.A., a frequent contributor to "The Tactical Edge," and the former Commander of the Racine (Wisconsin) Police Department SWAT Unit. Lieutenant Higgins is the Project Manager of the Tactical Study, and can be reached at (414) 633-6311.

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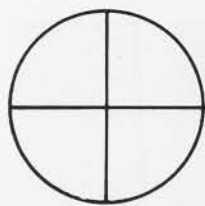
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CROSSHAIRS

The Tactical Edge Zeros In On The Ohio State University Police Department Special Response Team

by David W. Stelzer

The Ohio State University, located in Columbus, Ohio, has an area of approximately 5 square miles and consists of nearly 400 buildings, including 26 dormitories, 400 apartments, 1 hotel, 5 hospitals, 4 clinics, 25 businesses, two golf courses, a commercial airport and a number of athletic facilities, including a 90,000 person capacity stadium. Daily population of the University is estimated at 80,000 students, staff, faculty, and visitors, making Ohio State the 12th largest "city" in Ohio.

The Ohio State University Police Department is exclusively responsible for providing police services to the University. The Department has 56 sworn officers and 11 full-time civilian personnel. The Department maintains a Bomb Evaluation Team, Hostage Negotiation Team, Personnel Protection Team, and Special Response Team.

The mission of the Special Response Team, formed in 1981, is to preserve life and property by the utilization of officers with specialized equipment and tactical training to handle especially hazardous police duties. The Team objectives are: dislodge barricaded suspects, conduct rescue operations for persons held hostage by suspects or citizens endangered by gunfire, neutralize and capture snipers, train other Department personnel in response to and handling of high risk incidents, and preplan strategies in the event of an unusual incident.

The Team is not a full-time assignment, and members may be drawn from any of the Departmental Divisions. Currently, there are eight officers and one Captain on the team. At this time, the Captain and seven officers are from Patrol Division,

with the remaining officer from the Investigative Services Division. Frequently, two Team members in Patrol Division are assigned together to better utilize their team training.

The team consists of a Team Coordinator, who is a Captain, an assault squad, and a marksman squad. The assault squad leader is the Assistant Team Coordinator. During an incident, the Team Coordinator is responsible for the Team and all personnel assigned to the inner perimeter. The marksman squad has the capability of forming two marksman teams. The assault squad is used for many purposes, including building searches, room assaults and securing suspects.

To become a member of the SRT, an officer must submit his/her

request with the recommendation of the commanding officer. This is reviewed by the Team members, Team Coordinator and Commander, who holds the rank of Deputy Chief, and finally the Chief or Police. The applicant then undergoes medical and psychological evaluation, including a physical fitness test. Passing this, the applicant is placed on the Team on a probationary status until minimum training requirements are met. It is difficult to become a member of the Team, and turnover occurs due to the intense requirements members must maintain.

Team members must annually pass the Physical Fitness Test. This consists of four events: the mile-and-a-half run, push-ups, pull-ups,

continued on page 20



The Ohio State University Police Department Special Response Team. (All photos by the author.)

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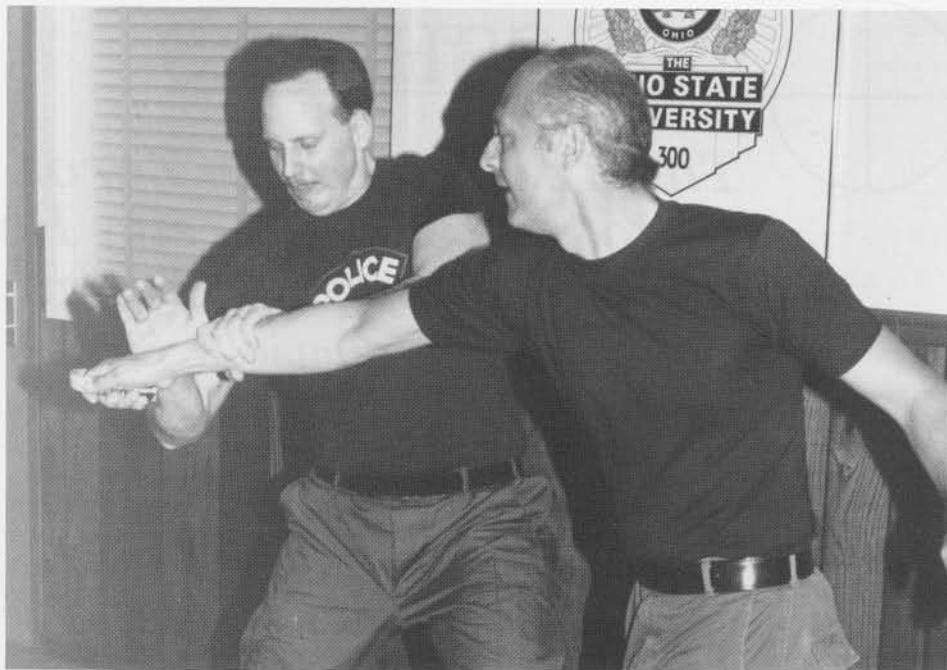
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Crosshairs

continued from page 19

and sit-ups. Each event is scored and a minimum passing grade is 70. A member who is weak in one area can compensate by excelling in another within limits.

Most SRT members receive their basic training from the FBI or the Ohio Air National Guard (EST training). The Team meets and trains monthly. This training does not include weapons training, which is additional. Some of the monthly training topics include individual and team movement, high risk arrest techniques, terrorism, building search techniques, crisis entry/hostage rescue, chemical agents deployment, rappelling, and situation management. Numerous practical exercises are held each year. This often involves officers from other agencies as the perpetrators, and theater students or University staff persons who have had training in hostage behavior as the hostages. Training has also been conducted on bus and aircraft assault. In addition, Team members are sent to suitable training schools as available.

The basic uniform is the military BDU in olive green. Most members have purchased the Eliminator boot by Rocky Mountain. Black knit caps are worn during deployment. Other



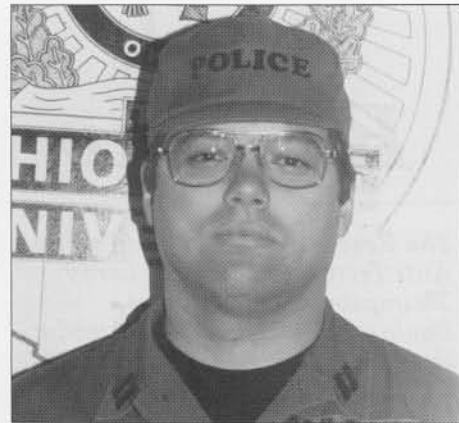
SRT members practice searching/ascending a staircase.

personal equipment consists of a variety of items, both military and commercial. The Second Chance Hardcorp vest is used by the assault squad. The standard sidearm is the Smith & Wesson M39, which will soon be replaced by the M459. The standard shotgun is the Remington 870, with modifications. Other weapons available include the Ruger Mini-14, Colt AR-15, MP-5, and Federal 37mm gas gun. Marksmen use the Remington 700, with Bushnell 3x9 scope in .308 and .223.

During August, 1986, Team members planned and hosted a two-day Tactical Operations Seminar. Guest speakers were John S. Farnam, well-known weapons expert; Chief Ed Bridgeman, University of Cincinnati Police Department; Lieutenant Dennis Higgins, Racine (WI) Police Department; and Sergeant Robert O'Brien, Cleveland Police Department. Both Lieutenant Higgins and Sergeant O'Brien are consultants for the National Tactical Officers Association. The seminar was well received by the 125 officers in attendance. Officers were there from as far away as North Carolina, Wisconsin, Missouri, and New Hampshire. One of the main ideas that evolved from the seminar was the

formation of a tactical officers association for Ohio. This became a reality in March, 1987, with the beginning of the Ohio Tactical Officers Association, which is now in its formative stage.

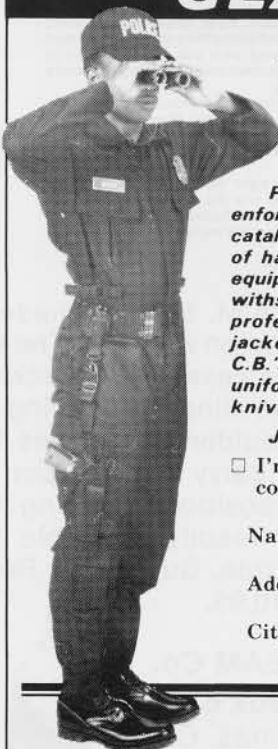
To date there has been no need to utilize the Team in its primary capacity. The Team has been activated twice in a standby capacity. These incidents were a Presidential visit and a anti-Khadafy demonstration. Nevertheless, Team members use many of the skills learned during Team training, such as individual movement, high risk arrest techniques, building search techniques, and additional firearms practice during their regular duty. Team members are often called upon to train other officers in such skills. Ways to better utilize the Team and its members are continually being reviewed. The Department administration realizes it is only a matter of time before the Team may actually be deployed for an unusual occurrence on the OSU campus, and therefore is supportive of the Team.



About the Author

Captain David Stelzer has been with the OSU Police Department for 9 years, and is currently assigned to the Patrol Division. He has been a member of the Special Response Team since its formation in 1981, and became Team Coordinator in July, 1982. He holds a B.S. degree in Criminal Justice and M.A. in Public Administration from Ohio State University. Captain Stelzer is founder/president of the newly formed Ohio Tactical Officers Association.

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Book Review

The Rescuers — The World's Top Anti-Terrorist Units. By Leroy Thompson. Paladin Press, Boulder, Colorado, 1986. Introduction, photographs, bibliography, three appendices, 241 pp. Available from the publisher (P.O. Box 1307, Boulder, CO 80306), or from the Military Book Club.

This book examines the training and operations of the world's Hostage Rescue Units. Following a short discussion of terrorism, the author discusses five successful rescue operations (including the raid at Entebbe and the SAS rescue at Princes Gate). He then evaluates the counter-terrorist unit capabilities of fifty different countries, including the British SAS, West Germany's GSG-9, Italy's GIS, and America's Delta Force. The author also looks at the organization, structure, and training of these units.

The book includes three Appendices dealing with weaponry, HRU units and terms, and a glossary of terrorist groups. Also included is a hypothetical situation used by the author to trace the processes leading to a hostage rescue.

The author's experience in combatting terrorism is varied, having served with VIP protection units on four continents. He is also an advisor to governments and private industry on counter-terrorism, and has provided training to Hostage Rescue Units. Mr. Thompson holds both B.S. and M.A. degrees, and has done graduate work at the universities of London, Oxford, and Edinburgh. During the Vietnam War, he served as an officer with the U.S.A.F. Combat Security Police.

This publication is apparently the only book presently available on the subject of Hostage Rescue Units. As such, it should prove to be a useful reference work for SWAT/tactical units. Unfortunately, its availability to the general public will also serve to educate our potential adversaries.

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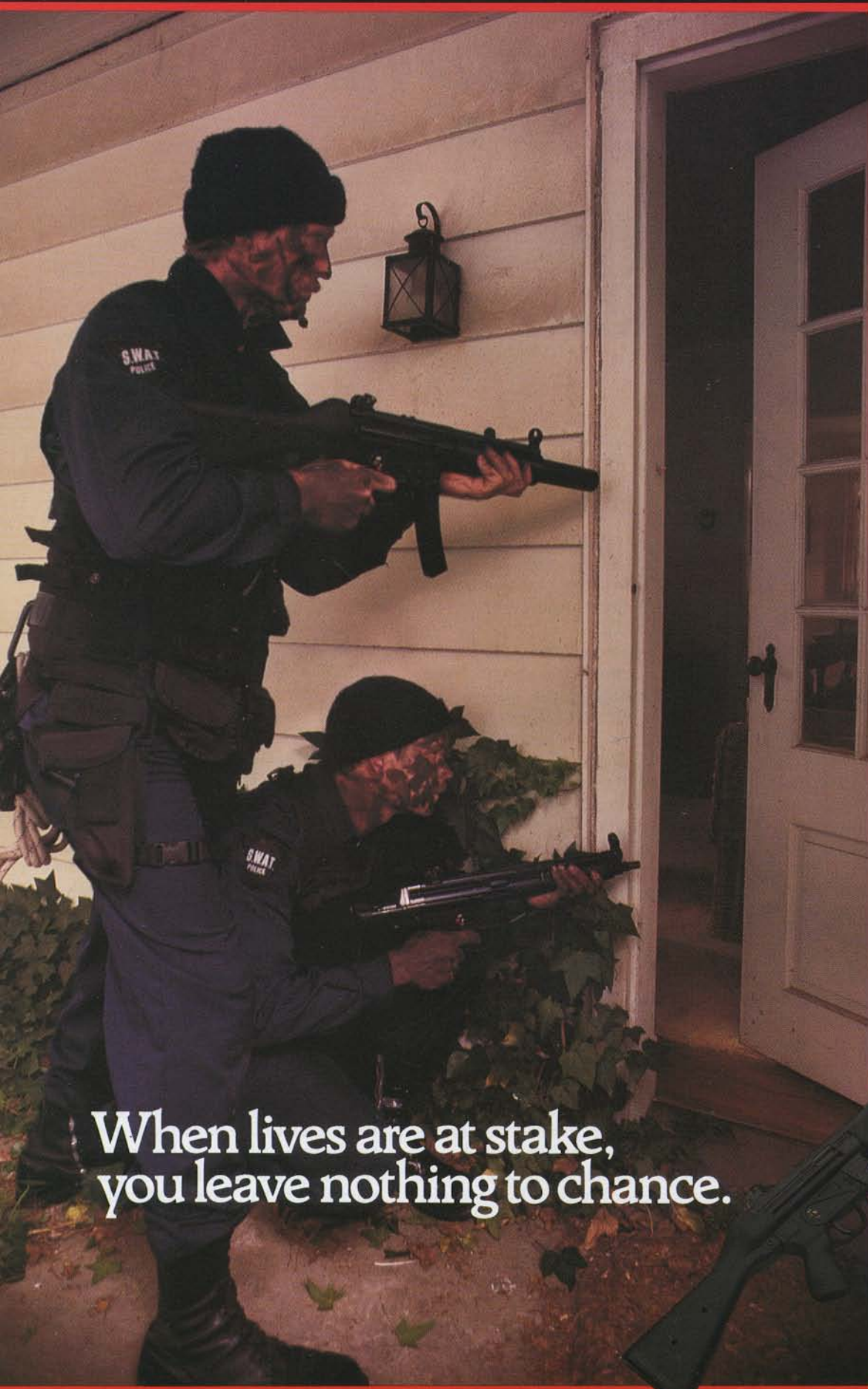
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In a world of compromise, some men don't.

Heckler And Koch's Triple Threat Option

by Robert W. Parker

Webster defines ubiquitous as, "existing or being everywhere at the same time."

Used in Mogadishu by the GSG-9, Princes Gate by the SAS, and by countless CT units and law enforcement agencies throughout the world, Heckler and Koch's MP-5 submachine gun does, indeed, fit this definition. Its profile is now as familiar as the Kalashnikov.

Equally omnipresent is the verbiage in reference to the MP-5. You will find this weapon chronicled in a multitude of firearms publications. With this in mind, and wanting to avoid redundancy, it was my original intent to limit this article to test and evaluation of the three-shot trigger mechanism now available for the MP-5. However, to assume all readers of "The Tactical Edge" have a working knowledge of the MP-5 would be presumptuous. So first, some background on the operation of the basic weapon is in order.

Heckler and Koch's "Maschinenpistole funf" (MP-5) is derived by way of the G-3 battle rifle with its closed bolt, roller locked system. Chambered for the 9mm parabelum cartridge, it is capable of semi-automatic, full automatic and three-shot burst fire. Heckler and Koch lists the cyclic rate at 800 RPM. It is actually closer to 850 RPM, and will vary with the ammunition used. The receiver is stamped sheet metal; the furniture is of high-impact plastic. Barrel length is 8.85 inches — six grooves with a right-hand twist. The chamber is fluted. This aids in extraction and accounts for the distinctive striping on ejected casings from HK weapons. With a retractable stock, the weapon weighs in at six-and-a-third pounds, unloaded. Overall length is about 26 inches; with the stock retracted, less than 19½ inches. Sight radius is 13.39 inches. The rear diopter sight is adjustable for windage and elevation. A special sight adjustment tool from the manufacturer is required to accomplish this. This rotation of the rotary sight drum does not change the elevation, only the size of the four apertures to adjust to the



Heckler and Koch MP-5A3 submachine gun. (All photos by the author.)

ambient light.

The standard MP-5 submachine gun consists of five assemblies. This modular design enables the user to disassemble the weapon without the aid of any tools.

First is the receiver assembly. This is comprised of the barrel, cocking mechanism, and sights. All other assemblies are either contained in the receiver or attached to it by way of locking pins. The bolt assembly consists of the bolt carrier, recoil spring, bolt head, which contains the locking rollers, locking piece, firing pin, and firing pin spring. The third assembly is the pistol grip containing the trigger mechanism. The grip is hinged to the receiver and is swung down from it. The safety axle connects the trigger housing to the pistol grip. The buttstock assembly is connected to the receiver by a locking pin. Both the fixed and retractable stock have the rear sling holder attached on the left side. The fixed stock has two tubular rivets which can be used to store the locking pins during disassembly. The final assembly is the handguard, which is attached to the receiver assembly by a locking pin. The MP-5 utilizes a detachable, two-position feed, box magazine of either 15- or 30-round capacity. Earlier 30-round magazines were of a straight design and were replaced with the present curved style. The former design had attributed to it recurrent feed problems.

The cocking lever is located above and to the left side of the receiver. To

load the weapon, place the fire selector on safe. Retract the cocking lever and engage it in the recess in the receiver. Insert a loaded magazine into the magazine well until it engages the catch. Release the lever from the recess and let it slam forward. Don't ride it home. The weapon is now loaded.

With the safety off, pulling the trigger releases the hammer. This in turn strikes the firing pin, and the round is fired. The gases simultaneously drive the bullet out of the barrel and exert pressure on the cartridge case. Delayed recoil keeps the bolt locked until the bullet has left the barrel. After the locking rollers in the bolt have been fully cammed into the bolt head, the bolt can continue its recoil. During this movement, the empty case is ejected and the hammer recocks. At this moment, the recoil spring is compressed, which returns the bolt to its forward position and a new round is chambered. The extractor engages the extracting groove in the cartridge case. Due to the bevelled surfaces of the locking piece, the locking rollers are cammed against the supporting surfaces in the barrel extension and the weapon is ready to fire again. Some will call it Teutonic over-engineering, but the MP-5 has two magazine releases. A button to the rear of the magazine well on the right side, and the lever in front of the trigger guard both function well.

In the semi-automatic mode, the hammer must be released by the trigger every time a shot is fired. In

the full auto setting, the sear is moved out of reach of the catch notch in the hammer. The hammer is then held only by the catch and is repeatedly released by the bolt acting on the release lever.

With the fire selector set on three-shot burst, a ratchet is driven by a lever beside the hammer and in turn a cam pushes the primary sear out of the way. This cam allows for the three shots to be fired with a single pull of the trigger. The ratchet is spring loaded, and is automatically flipped back when the trigger is released to reset for three shots. Two other weapons available to law enforcement with a three-shot burst capability, the Colt M-16A2 and the Ruger AC 556, lack this feature, and after release of the trigger will fire only the remaining rounds of the burst if three have not been fired.

The roller locked, closed bolt method of operation is the key to the MP-5's accuracy. Most submachine guns use the open bolt system. The heavy forward momentum of the open bolt of a sub gun does not contribute to well-placed shots. The fir-

of consideration, is rare; and the relatively few number of shots fired from a submachine gun by a police tactical unit further lessens the risk. Note also that assault rifles and battle rifles (Kalashnikov's, M-16s, G-3s, FALs, et al) work off the closed bolt system.

Disassembly is easily accomplished. Engage the safety and clear the weapon by retracting the cocking handle and let it snap forward. The buttstock is removed by pushing out the locking pin. Then slide off the buttstock. The retractable stock should be in the closed position prior to removal. Swing down or remove the pistol grip and trigger group by removing the locking pin. Retract the cocking handle to push the bolt carrier assembly and recoil spring out of the receiver. Next, detach the handguard. Remove the recoil spring from the spring tube by edging it off to the rear. Rotate the bolt head 90 degrees and detach it from the locking piece, then remove the locking piece, firing pin, and firing pin spring from the bolt carrier. To reassemble the

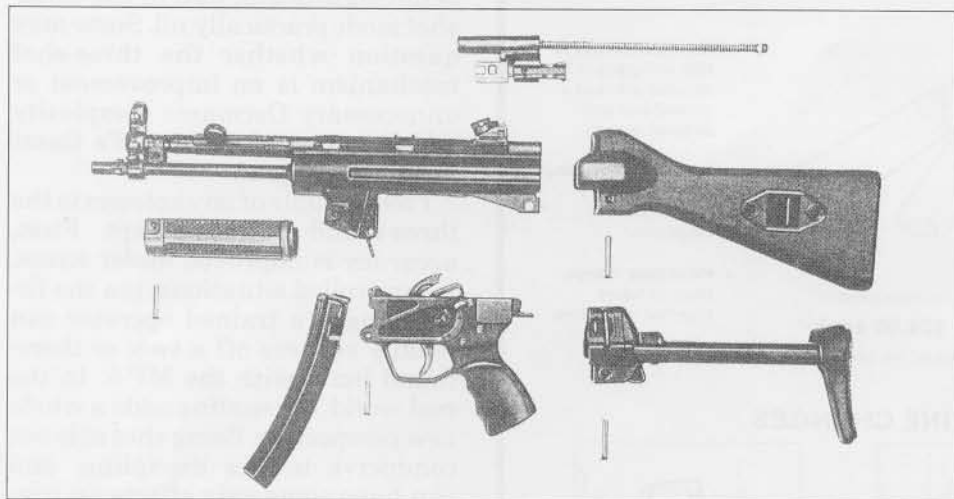
removal of the right-hand selector switch (this is ambidextrous), then removal of the axle to the left. Reassembly requires precise alignment of parts, and can be tedious. This procedure is really unnecessary. If the mechanism does become fouled, it can be washed out in a parts bath. The plastic pistol grip can then be treated with "Armor All" to remove any discoloration caused by the cleaning solvent.

A test and evaluation of firearms new to the market can be useful and informative in aiding law enforcement and military organizations with their selection process. Here, no endorsement is necessary. That the Heckler and Koch MP-5 submachine gun is reliable, accurate, and the best in its class, etc., is a given. I've shot over 5,000 rounds through my MP-5 and experienced but one stoppage. The extractor spring broke. Never a misfire, failure to feed or eject. This weapon has digested anything it was fed. Ball, hollow point, Blitz Action Trauma (BAT) rounds and Glaser Safety Slugs all fed flawlessly.

The testing for this piece centers around the three-shot mechanism for the MP-5 (by only changing the ejector it can also be adapted to the G-3, HK-33, HK-41, and HK-21 light machine gun). The differences appear inside and out from the standard lower receiver. Externally, the pistol grip on the three-shot lower is rounded. The original has finger grooves molded for the right-hand shooter. The selector marking on the standard read SEF. S = safe, E = one shot (semi-auto), F = full auto. The markings on the three-shot lower appear on both sides to match the ambidextrous selector lever. The fire modes are indicated by horizontal bullets. Starting at the bottom, a white bullet with an X through it = safe, one red bullet = semi-auto, three bullets = three-shot burst, and seven bullets = full auto fire.

The MP-5, as stated, comes in two basic configurations. The MP-5A2 is the fixed stock version. The retractable stock model is the MP-5A3. The length of pull of both stocks will be too short for most operators. The fixed stock is almost an inch longer than the retractable and provides a better firing platform. However, for

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Standard MP-5 disassembled.

ing sequences of the closed bolt MP-5 requires only that the hammer move forward to strike the firing pin. Semi-automatic fire is particularly accurate with this arrangement.

With a closed bolt submachine gun, there does exist, theoretically at least, the potential for "cook-off". In a closed bolt design, the chamber will tend to heat up more rapidly than in an open bolt weapon. This heat build-up can cause a chambered round to spontaneously fire. This phenomenon, although worthy

bolt assembly, insert the firing pin, firing pin spring, and locking piece into the bolt head. Insert into the bolt carrier so that the lug on the locking piece is passed through the recess in the bore of the bolt carrier. Then, rotate the bolt head until it engages. Reassemble the remaining modules in reverse order.

Disassembly of the three-shot trigger mechanism is somewhat complicated. It requires pressing a lever in the assembly to rotate the safety axle to a vertical position and re-

H&K's Triple Threat Option

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tactical purposes, the retractable version seems to be the one of preference. The A3 stock is extended by pushing the lever at its base to the left and likewise to retract it.

This weapon is a quick pointer, light weight, and easy to maneuver in tight spaces. Snap shooting could be made easier if the protective ring around the front sight post was replaced with wings. But, when lined up properly, these sights are second to none on a submachine gun.

The pistol grip, even without checkering or serrations, is large enough to provide a substantial hold. There are two handguards available, the slimline and the wide or "tropical" model, so nicknamed due to its better barrel cooling pro-



Three-shot mechanism and pistol grip assembly.

pensities. It also provides a better grip for larger hands.

Accessories for the MP-5 are numerous. The multi-purpose sling is useful, if you can avoid strangulation. The magazine loader/unloader is the best around. An end cap can

be used to replace the buttstock, and a flash hider is available, along with a blank firing attachment. Any number of optical or night vision devices can be mounted by means of a quick detachable claw mount.

There are two variants of the MP-5. The MP-5K (K designates kurz/short) comes without a buttstock, has an overall length of 12.80 inches, weighs 4.4 lbs., a barrel length of 4.53, and has a higher cyclic rate (approximately 100 RPM more), and is equipped with a foregrip just behind the muzzle. The bolt assembly is necessarily more compact than the standard MP-5 and, therefore, cannot be interchanged. The MP-SD is the suppressed version. The suppressor unit is integral to the weapon.

Ejection is violent. Empty casings are thrown into the next county (25-40 feet) with enough velocity to do harm to anyone to the right side of the weapon. If you plan to reload your casings, use a brass catcher.

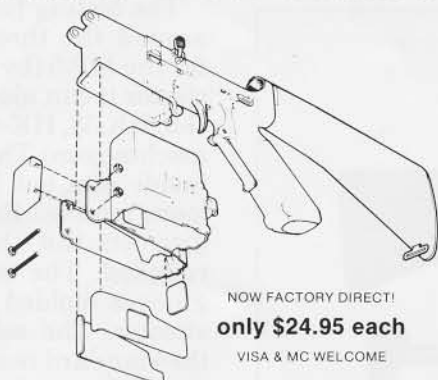
Recoil is all but non-existent. Muzzle climb with controlled bursts is not significant, and in the three-shot mode practically nil. Some may question whether the three-shot mechanism is an improvement or unnecessary Germanic complexity added to one of the world's finest submachine guns.

I see a couple of advantages to the three-round burst concept. First, accuracy is improved under stress. In controlled situations, (on the firing range), a trained operator can readily squeeze off a two- or three-round burst with the MP-5. In the real world, adrenaline adds a whole new perspective. Being shot at is not conducive to fire discipline, and can have some ugly effects on trigger control and accuracy. Running through a thirty-round magazine in long bursts is likely to do more property damage and endanger innocents than do harm to your adversaries. Secondly, a restricted three-shot burst will also allow for better follow-through on the trigger pull, since you are not required to squeeze and then let off the trigger in a split second. At close range, this triple tap can be almost as accurate as semi-auto fire.

Testing of the three-shot mechanism was done with my MP-5A3 Both 115 grain ball (FMJ) and hol-

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Top view of MP-5 three-shot lower. Ambidextrous selector levers can be seen on right and left sides (arrows).

low point ammunition were used, with no significant disparity. This weapon will consistently shoot two-inch groups at 50 yards. At 100 yards, five shots from a rest in the semi-auto mode will space at five

inches in the center ring of a "Florida 8" target.

Paper targets measuring 18" x 12" were used in testing. They were positioned at 15 yards down-range. As a control, 30-round magazines were fired at this distance in one continuous burst. I realize no tactical officer worthy of the name would do this in a real-world situation, but like I said, it's a control. A like number of sticks (4) were fired in three-round bursts. The results were not surprising. Of the magazines fired on nonstop full auto, an average of 13 hit the paper, with those grouping at a mean of 8½ inches. Of the rounds fired in three-shot increments, all were on target, closing to a cluster which averaged 6¾ inches laterally. Pulling the trigger approximately three times per second with the MP-5 set in the triple shot mode, multiplies out to 540 RPM. A very controllable cyclic rate.

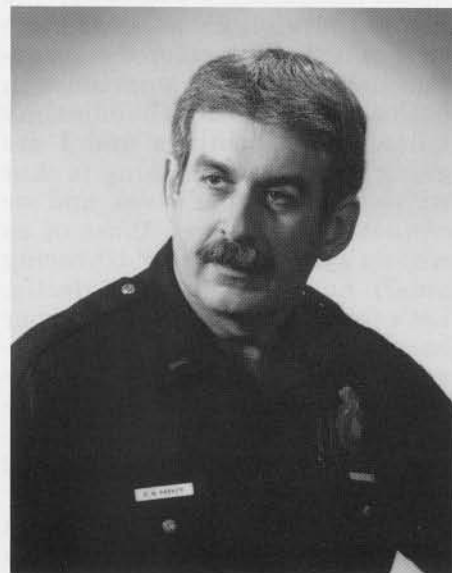
Single, three-shot groups averaged out to four inches at 15 yards. The first two rounds grouped at about 1½ inches, with the third horizontally to the left. These results were consistent nine out of ten times.

The submachine gun's role on the modern battlefield has been usurped

by the small (and getting even more compact) assault rifles. They offer the same high-capacity magazine, and fire a more lethal and greater ranging rifle cartridge. But the sub gun, and in particular the MP-5, will continue to serve in tactical situations in the hands of both civilian police and specialized military units.

As stated previously, any further praise or recommendation of the Heckler and Koch MP-5 would amount to excessive rhetoric. It is a quality weapon, well qualified for its tactical application. The addition of the three-shot burst mechanism is not a superfluous gimmick, but an improvement upon excellence.

Editor's Note: The author would like to express his gratitude for technical explanations and advice on maintenance procedures to Bill Fleming of Fleming Firearms, Dept. TE, 7720 E. 126th St. North, Collinsville, OK 74021.



About the Author

Lieutenant Robert Parker is a sixteen-year member of the Omaha (Nebraska) Police Department. He is presently a Sector Lieutenant within the Uniform Field Bureau. Formerly a Team Leader for the Department's Emergency Reaction Unit, he completed the USAF Emergency Services Team Course, and the U.S. Army Intelligence Anti-Terrorist School. Lieutenant Parker earned a B.S. degree from Nebraska Wesleyan University, and has done graduate work at the University of Nebraska at Omaha.

HECKLER AND KOCH MP-5 SUBMACHINE GUN SPECIFICATIONS

Caliber:	9x19 parabellum (aka Luger)
Method of Operation:	Delayed blowback — roller locked
Modes of Fire:	Semi-auto, full auto, 3-shot burst
Cyclic Rate:	800-850 RPM
Overall Length:	Fixed buttstock 26.77 in. Retractable stock 25.98 in. Stock retracted 19.29 in.
Barrel Length:	8.85 in.
Rifling:	6 grooves, right-hand twist
Weight:	Fixed stock, 5.59 lbs. Retractable stock, 6.34 lbs.
Magazine:	15- and 30-round detachable, two-position feed, box magazine
Sights:	Front — fixed post with protective ring Rear — rotary apertures, adjustable for windage and elevation
Sight Radius:	13.39 in.
Receiver:	Stamped sheet metal
Stock and Forearm:	High-impact plastic
Manufacturer/Distributor:	Heckler and Koch, Inc. Dept. TE 14601 Lee Road Chantilly, VA 22021

Hearing Damage: A Shooter's Tale

by Phil Johnston

Editor's Note: The following article first appeared in the June 1987 issue of the "American Rifleman." Because of the significance of its content, it is reprinted here for the benefit of our membership with the permission of the author and the National Rifle Association.

Getting together with a group of shooters and hunters for a general "bull session" is one of the things I love to do, and a good hunting story always gets my full attention. Lately, however, I have noticed that the volume of the talking is going up — to the point of being uncommonly loud — and the participants seem to ask "What?" more often. By the same token, I notice more and more folks at NRA Annual Meetings who wear some type of little flesh-colored contraption in one ear, and sometimes in both ears. My hunting buddies, my fellow NRA members and I are going deaf. The sad thing is that we've done it to ourselves, and we cannot undo it. Even those of us who do wear a hearing aid (hearing aids?) no longer hear perfectly. Let's face it, if you lose part of your hearing it's gone forever. You cannot destroy one of your five "senses" — which includes hearing along with sight, touch, smell, and taste — and use an electronic device to get it back.

It's also fair to point out that a noise-induced hearing loss is often accompanied by a ringing of the ears, or tinnitus. Tinnitus can be continuous, and it can get loud enough to make life unpleasant. In severe cases, persons who suffer from tinnitus need to use some other noise to "mask" the ringing, just so they can get some shut-eye. I heard of one poor chap who ran a vacuum cleaner next to his bed and was able to sleep that way. Because I'm pretty sure that my wife couldn't tolerate a vacuum cleaner parked next to our bed with its motor running, I'm taking every possible precaution to keep my own tinnitus from getting any worse.

We've all heard sound defined (philosophical discussions aside) as vibrations in air or water which cause stimulation of auditory nerves to produce the sensation of hearing. Thus, when we fire a shot we disturb the air around us, creating pressure waves of energy (vibrations) which are converted by our ears into electrical impulses that stimulate the auditory nerve and eventually the brain.

This conversion of vibration to electricity takes place in the three main parts of the human ear: the outer ear and auditory canal, the middle ear, and the inner ear. Vibrations are collected by the outer ear and are passed down the auditory canal to the eardrum, causing the eardrum to vibrate. Immediately

"... noise-induced hearing loss is often accompanied by a ringing of the ears ..."

behind the eardrum are the hammer, anvil, and stirrup, the three small bones of the middle ear that amplify the vibrations passed to them by the eardrum. The last of these small bones, the stirrup, bears against the "oval window" — a membrane that connects the middle ear and the fluid-filled "cochlea" of the inner ear. Bear in mind that the mechanical amplification performed by the middle ear is on the order of 20 to one, or, a sound is 20 times louder to the inner ear than it was to the human eardrum.

The portion of the inner ear concerned with hearing is the cochlea, a spiral shaped, fluid-filled chamber imbedded in the bones behind the ear. The cochlea is divided into two parts, upper and lower chambers, by a membrane. This "basilar membrane" transmits vibration from the oval window to the "organ of Corti"

where hair-like cells or nerve endings transform physical vibration into electrical energy which is in turn sent down the auditory nerve to the brain. Sensory hearing loss — usually associated with deaf shooters — occurs when the basilar membrane is deflected with enough force to damage or destroy the hair-like cells in the organ of Corti. Since these cells are more or less fragile according to the high or low frequencies to which they respond, loud noise will damage the more fragile high frequency areas before the sturdier low frequency areas are hurt. That is why noise induced hearing loss usually affects the higher frequency ranges first.

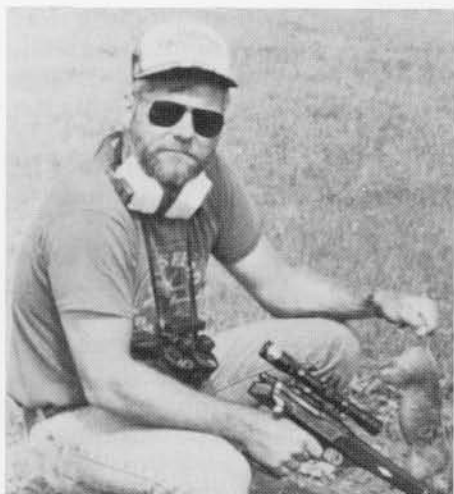
But, damage to the organ of Corti has other effects. The hair-like cells do not necessarily stop sending signals to the brain. On the contrary, often they send false signals, signals that make the ears ring — tinnitus. In severe cases tinnitus is constant and loud. In my own case the ringing is sometimes so loud that I wonder why others cannot hear it. I even wonder, sometimes, if it isn't loud enough that the animals I hunt can hear it and be warned of my presence by it.

Now! Armed with some notion of what we do to harm ourselves, let's study, briefly, how badly we do ourselves harm. Let's see how much noise we inflict upon our own ears; and let's begin our review by discussing how sound is measured.

There are two ways of measuring sound: frequency — the number of vibrations per second — expressed as either Hertz (Hz) or Cycles per Second (c.p.s.), and volume or amplitude, expressed in decibels (dB).

The undamaged human ear is normally receptive to frequencies ranging from about 20 to 20,000 Hz. As we age this band tends to narrow, but even old-timers can enjoy good stereo provided they aren't old-time shooters.

Gunfire probably generates what is known as random noise. That means that it causes vibrations throughout the whole range of fre-



Take your hearing protectors hunting, says the author, who uses his on a prairie dog hunt.

quencies that we can hear. Still, because the human ear is most sensitive in the 1000-to-4000 Hz range, and only slightly less sensitive at frequencies above 4000 Hz, this is where shooters' hearing loss is first detected. In fact, it's common for someone who had good hearing, and who still has good hearing up to about 3000 Hz, to test legally deaf at frequencies from 3000 to 8000 Hz. In my case, this explains why good music falls on deaf ears, and why I cannot understand more than about one word in three that my daughter says. It tells you why I continually ask women to repeat themselves, especially if I'm on the phone and can't watch what is being said.

Frequency, however, does not cause the sort of hearing loss about which we speak; amplitude — volume, or noise level — does. It's as the old Vaudevillian asked, "How loud was it?"

"It was so loud, that I can't hear it anymore!"

Or, as handgun hunting buddy Bob Halcrow once said, "This old .30 Herrett isn't near as loud as it used to be." And, both of us knew perfectly well that the Herrett hadn't gotten any quieter.

The level of sound is expressed in units called decibels (dB). Since the decibel scale is logarithmic (an increase of 10 dB indicates a doubling of loudness; decreasing sound by 10 dB halves it) the numbers don't tend to alarm us as they should. For instance, the threshold of hearing is about 10 dB, and the threshold of pain — the level at

which noise begins to hurt normal ears — is about 100 dB. In between, your lady whispers "sweet nothings" at about 30 dB, a train, passing close by, puts out about 75 dB, and the noise level in your local tavern on payday night hits about 80 dB — which equals the threshold above which continued exposure will cause hearing loss. Exposure to noise levels of about 140 dB will damage hearing in a hurry.

How does all this relate to shooting? It's simple. Virtually no, repeat *no!*, firearm, that is not "silenced," generates a noise level of less than 140 dB when it is fired. No gun should ever be fired unless hearing protection is worn — emergencies excepted.

"But," you ask, "what about my little .22 rimfire? Surely it won't hurt my hearing."

It surely will. Fire .22 Shorts in a revolver and the noise level will be about 143 dB — twice as loud as the threshold level for immediate hearing damage. Load your revolver with .22 Long Rifle cartridges and the noise level goes to 150 dB or so. Remember that "little" .410 — bore shotgun you started out with? That .410 puts up an easy 140 dB; 12-, 16-, and 20-ga. guns are proportionally louder. That is why many hard-of-hearing NRA members got just that way from trap or skeet shooting, and they may have incurred a fair measure of the injury, not from their own shooting but from that of other shooters.

When rifles were tested by the U.S. Army at Aberdeen Proving Ground, they normally generated from 160 to 172.5 dB, and our magnum handguns can easily make those rifles seem quiet by comparison. Take a magnum handgun to an indoor range and watch the noise level go even higher. I am not sure that you can adequately protect your hearing from the big magnums, fired indoors. In fact, I consider a 9 mm Parabellum downright unpleasant under such circumstances. A field artillery piece, while we are at it, puts up about 188 dB each time the lanyard is pulled, and I'm sure that a lot of veteran artilleryman are also tinnitus sufferers.

Now that we know how badly we have treated our hearing, how can we keep any hearing loss from getting worse? How can we protect our

new shooters? Fortunately, there are products on today's market which will help save your hearing. Before we look at them, it must be understood that not all hearing protection has the same capabilities. Under one set of circumstances, at a particular frequency, one type of protector might attenuate a given level of sound while another type though potentially better will do 2 dB less at that same frequency.

Remember, too, that even the best muffs are less effective if the seal between the earpieces and face is broken by glasses or hair, or if the muffs are worn improperly. It is also important to remember that even the very best ear protection isn't worth a darn if you don't use it.

I've used much of today's standard ear protection and I've settled



Molded plugs and muff-type hearing protectors are two antidotes for shooting noise.

on three types of protection, two of which I use simultaneously. I begin by inserting custom-fitted, molded silicone earplugs into each ear. Mine are Insta-Mold plugs from E.A.R., Inc. Box 2146, Boulder, Colo. 80302. Custom earplugs like these are the ultimate, in my opinion, and tests tend to confirm my feelings. At 4000 Hz, for instance, custom-fitted plugs will dampen sound levels — or "attenuate" sound — by 40 to 50 dB. Molded, custom plugs are available from several firms throughout the shooting world at reasonable prices. The plugs are good enough to manage .22s indoors and most firearms outdoors. At any rate, they should be considered as minimum protection and are even better if worn under a good set of ear muffs like

continued on page 30

Hearing Damage

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those made by Bilsom, E.A.R., Inc., Silencio, and other manufacturers. I use my molded plugs under Silencio Magnum or Bilsom Viking muffs and even a short-barrelled 9 mm sounds like a popgun. The very best muffs attenuate up to 20 dB or so, and add nicely to the protection afforded by molded plugs, although in no case can one attenuation level be added to a second to find the value of the two as combined. Thus using molded plugs at 45 dB plus the 29 dB of the Silencio Magnums doesn't give a total 74 dB of protection. Instead, protection is between 45 and 74 dB.

I have also tried other types of hearing protection. One, that works quite well under most circumstances, is the treated-foam, expanding type made by E.A.R., Norton, and others. These foam cylinders, which may be compressed for ease of insertion into the ear, and which then expand to fill the auditory canal, are only

just less effective than good quality muffs, and they are much better than the "valve" type plugs. My experience with the valve-type plugs has not been good. They don't seem to seal very well in my ears. Independent testers don't give them high marks, either. A third plug, recently introduced, is the "SOFT" earplug from Bilsom. SOFT earplugs are

"If abused, hearing can become a constant source of pain and irritation."

cellophane wrapped compressible cylinders of polyurethane foam and what looks and feels like waxed or oiled cotton. Like the expanding foam plugs, they are intended to be used and thrown away. SOFT earplugs are quite effective, attenuating an average of 26 dB of continuous noise.

There must be earplugs that I

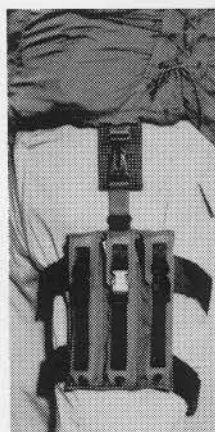
have not tried, and ear muffs that have slipped my attention as well. They all work, probably, if they cover the ears or effectively plug the auditory canal. If they don't do either (and to do both is preferable) then that "hearing protection" is not protecting.

A last few comments are in order. First, it is common to hear people say that they use ear protection while at the range, but not while in the field hunting. To those folks, I will eventually yell that their "plan" isn't good enough. You can't subject your hearing to even one 150 dB blast without causing some damage. I carry and use ear protection while hunting or shooting, or when thinking of doing either. Plugs are a natural for hunters, since they are lightweight, and easily carried in a coat pocket. Muffs get in the way, but some hunters get along fine by hooking muffs over a holster, belt, or the like. The important thing is, *use protection while hunting*, just as you do when shooting anything, anywhere.

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hearing loss, especially if it includes tinnitus, or if you simply want to take better care of your hearing, there are two groups that will help. The first is the American Tinnitus Ass'n, Box 5, Portland, Ore. 97207. Their primary purpose is to aid tinnitus sufferers. The other outfit is Occupational Hearing Services, Box 1880, Media, Pa. 19063. OHS, among its activities, offers "Dial-a-Hearing Screening Test" a telephonic hearing test that may be taken by dialing one of two toll-free numbers: 1-800-222-EARS, or, in Pennsylvania, 1-800-345-EARS. It's an easy, private way to learn if your hearing has been damaged.

And finally, remember that your hearing is the sense that warns of impending danger, well being, and many things in between. It is a source of pleasure and is to be protected. If abused, hearing can become a constant source of pain and irritation. Shooting is simply too good to foul up by losing your hearing. Protect yourself, and enjoy our sport to the fullest. In addition, you'll find that you shoot better when you

protect your ears from the blast. To see young men with hearing aids is a tragedy we can prevent. Do your part to protect yourself and those around you while you shoot. Failure to do so will lead to heartache and disappointment, suffered in silence.

Ringing In The Ears

Tinnitus or ringing in the ears is a condition that has affected 35 million Americans at one time or another, says Occupational Hearing Services, P.O. Box 1880, Media, Pa. 19063. Some tinnitus patients feel relief from annoying head noises within hours, while many suffer in agony for years, according to a noted ear specialist.


Dr. Gale Gardner of the Memphis Society of Otolaryngology, Memphis, Tenn., cites noise as the leading cause of bilateral tinnitus. Hair cells in the inner ear which carry sound signals to the inner ear and brain are easily damaged by noise, according to Dr. Gardner.

Although tinnitus caused by noise is usually temporary, continued exposure will not only lead to a

higher chance of ringing in the ears, but can cause hearing loss as well. This type of tinnitus is medically untreatable, but according to Dr. Gardner, if the patient eliminates exposure to noise, the damaged hair cells over a period of years may be able to heal or the central nervous system can build a tolerance level and block the noise.

There is a wide range of drugs that aggravate tinnitus and should be avoided by anyone who has ringing in the ears, according to Dr. Gardner. The Tinnitus Support Group of Elwyn Institute's National Rehabilitation Center, Philadelphia, lists several common drugs and other products to be avoided by tinnitus sufferers. Some of the more common drugs to avoid are aspirin, ibuprofen, Motrin, Valium, Advin and Mycin drugs. Other things to avoid are caffeine, alcohol, smoking, sodium, excessive carbohydrates and chemical additives.

To avoid tinnitus altogether, limit noise exposure by protecting your hearing in any loud environment, the experts say.



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Tactical Success, The Basics

by Gary L. Cupp

Whether you are forming a tactical unit for a civilian law enforcement agency, a military unit or private industry, there are basic considerations without which a successful conclusion to any type of confrontation is greatly jeopardized.

First, there are the personnel who are selected to form the team. This is probably the most critical of all necessary considerations, for without the highest quality individuals available for the foundation of your unit, you have virtually nothing to build on.

Personnel should be selected with certain abilities and characteristics in mind. They must possess a high physical ability and conditioning. They must possess the ability to perform at the highest level in marksmanship. They must be psychologically stable and not inclined to either underreact or overreact. Finally, they must be totally dedicated. The dedication required for constant training, both physical and mental, is paramount in assuring that when deployed, they will have the maximum advantage possible to achieve a successful conclusion.

Every member of a tactical unit must be adequately equipped with the necessary tools of his trade — adequate weapons systems, ballistic vests, chemical agents, communications equipment, etc.

Pre-Confrontation Phase

Another area of concern is the pre-confrontation phase, which is essential for success. In this area, we focus on the activity and preparation of our unit before a confrontation crisis occurs. Training, for example, is of utmost importance in this area. It must be continual and tailored to meet the needs and resources of the department or agency. Training in this sense is not confined totally to the tactical unit, but must involve the entire response mechanism.

Another concern in the pre-confrontation phase is contingency planning. This encompasses the identi-

fication of potential problems, such as structures susceptible to sabotage, structures providing sniper availability, the most tactically sound approach to potential objectives, etc. Blueprints of buildings, topographical maps and biographical sketches of potential hostages and known members of any radical or subversive organizations which may pose a potential threat should be compiled.

Additionally, during the pre-confrontation phase, clarity on such points as command and control, and liaison and coordination with other units must be made.

***“Training . . .
must involve the
entire response
mechanism.”***

The Confrontation Phase

Having outlined some basic considerations in what we have called the pre-confrontation phase, we move now to the second phase, which will be implemented at the onset of a confrontation.

The basic guidelines set forth in this phase should be standard operational procedures, and understood by all members of a department or agency, because research shows that most likely a regular department member, and not a tactical member, will be the first to encounter the problem.

Of course, the first rule for survival is to find and take protective cover or concealment. But in addition, certain information should be communicated to other responding units in order to establish the most efficient response; the location and nature of the threat, the direction of the fire origin and apparent fire zones. Advice on avenues of approach to avoid fire zones may not only save lives, but limit the amount of intelligence which your adversary may gather on you. Re-

gardless of the problem, counter efforts cannot be optimum unless you are able to seize control of the threat environment.

The major key to seizing control of the threat environment is containment of the threat. In doing so, you will deny the adversary mobility and allow time for stabilization and assessment. Essential to the containment is the establishment of inner and outer perimeters. Rapid establishment of the inner perimeter is vital to the management of the confrontation. Because more than likely the inner perimeter will be established immediately by the regular shift or patrol personnel and not the tactical unit, it is of utmost importance that all members are familiar with this procedure.

Factors determining the size of the inner perimeter are such things as danger radius, time and manpower available, etc. However, failure to establish and control the inner perimeter can result in confusion and unnecessary danger, along with the failure to manage the confrontation.

Once the inner perimeter is established, the evacuation of the area is conducted from the inner perimeter out. As soon as possible, inner perimeter personnel should be relieved by tactical members, allowing for a more strategic positioning of these members.

Planning Phase

Once a general stabilization of the confrontation scene has been achieved, the transition from phase two to phase three, the planning phase, can take place.

Essential in this phase is an accurate assessment of the threat. This is critical, for from this assessment we must build the foundation upon which our strategy and tactics will be based. There are many variables which must be examined in this assessment. Such things as adversary location, hostage locations, adversary motivation, and propensity toward violence. Adversary weapons (to include numbers, type

and sophistication), and data on adversary and hostage biographical information must be considered in building a strategy determination.

Strategy in this situation refers to the overall approach to the problem. Our strategy determination precludes any deliberate tactical planning being initiated. Our tactics are the means by which we implement our strategy. Any deliberate tactical plan should provide the deploying forces to ensure continued containment, probe the objective, and develop additional intelligence while continually improving the posture of the teams. Continual maintenance and improvement of posture will allow for optimum effectiveness should it become necessary to raid the objective on short notice without re-equipping or re-configuring.

Alternate plans must be considered at all times, and they, like all tactical plans, should be flexible. Intelligence gathering must be continual, and a closely simulated rehearsal must be conducted by the primary entry team.

Should the necessity arise to advance to the final phase of our management, requiring tactical unit intervention, hopefully our dedication to the preceding phases will be beneficial. During this phase, we will advance our entry teams while providing continuous cover for their advance.

Included in the responsibilities of inner containment personnel is the continual surveillance of the objective. They must be prepared to support raid execution with precision selective fire, and the injection of chemical agents, if warranted.

Once the decision has been made to make entry and raid the objective, and the objective has been secured, a crime scene investigation and follow-up must be conducted. Also, at the termination of a confrontation we must remember there is valuable information to be shared and built upon through an immediate debriefing of all involved personnel.

Conclusion

There is a tendency in departments and agencies to concentrate totally on specific tactical maneuvers, such as covert and crisis entry. We must remember that without training and developing proficiency

“... failure to establish and control the inner perimeter can result in confusion and unnecessary danger ...”

in the basics, we greatly inhibit our goal of concluding any confrontation in the most successful way possible.

About the Author

Gary Cupp is presently the Team Leader of a Special Reaction Team (SRT) assigned to a Department of Energy facility. His prior experience includes combat service in Vietnam with the Marine Corps, and ten years of service with the Adams County (Colorado) Sheriff's Department.



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MAGAZINE	24 rds
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In The News

DEPUTY, STATE MAN KILLED IN GUNBATTLE

Terre Haute, IN (7-2-87): A sheriff's deputy sent to investigate a report of a domestic disturbance and a man barricaded in his home were killed in an exchange of gunfire, officials said.

Sgt. Walter K. Artz, 32, was shot in the right shoulder near the neck. Police said Artz had gone to the Robert Ferris home on Terre Haute's northside.

Ferris, 65, was found dead after city, county and state police stormed his house, officials said.

Police threw tear gas and stun grenades into the house, and called SWAT teams from Terre Haute and Indianapolis.

"Shots were exchanged."

Artz, of Terre Haute, was promoted to field sergeant at the beginning of the year. He is survived by his wife, Linda; a 5-year-old daughter; and a 2-month-old daughter.

LIVADITIS GIVEN DEATH PENALTY

Los Angeles, CA (7-9-87): Steven Livaditis, the drifter who pleaded guilty to three murders in a jewelry store hostage siege, was sentenced to death in the gas chamber Wednesday by a judge who called his crimes "ruthless, monstrous and unprovoked."

Livaditis killed two hostages during an attempted robbery of a Van Cleef & Arpels store on exclusive Rodeo Drive in Beverly Hills.

A third hostage was killed mistakenly by a police sharpshooter, and Livaditis was charged with that death under a law that holds a felon responsible for killings that occur as a result of his crime.

His attorney, Michael Demby, argued for a reduction of the penalty, saying that Livaditis is remorseful and has admitted the horror of his crimes.

Deputy District Attorney Dona Bracke ridiculed the claim that Livaditis is remorseful.

"The only remorse he has shown

is over one fact — that he got caught."

Livaditis pleaded guilty in April to murdering saleswoman Anne Heilperin, 40, security guard William Smith, 54, and sales manager Hugh Skinner, 63.

He also pleaded guilty to nine counts of robbery and kidnapping and to allegations of multiple murder and murder during a robbery and burglary, circumstances that made him subject to the death penalty.

NAVY'S SPECIAL OPERATIONS TEAM INVOLVED IN FRAUD PROBE

Washington: One of the Navy's most secretive special operations units has become embroiled in a federal fraud investigation focusing on thefts of government funds and equipment, officials said Tuesday.

The Navy, in a prepared statement, said three men who had been attached to its SEAL Team Six had either been indicted or court-martialed in recent months "and additional courts-martial and indictments are expected."

The investigation began in late 1984 and "to date, information has been developed that a number of current and former personnel were involved in illegal activities, including fraud, theft of government property and improper use of government funds," the Navy said.

The SEALs — the acronym stands for the ability to operate at sea, in the air and on land — are Navy commandos who have been trained in underwater demolition.

SEAL Team Six, based in Dam Neck, Va., outside of Norfolk, is an even more specialized unit trained for counter-terrorism work. Little is known about the unit because of its mission, but it is believed to be similar in many respects to the Army's Delta Force anti-terrorism squad.

Defense Secretary Caspar W. Weinberger, in a meeting with Pentagon correspondents, described the Navy

investigations on Tuesday as narrowly focused on certain "individuals who, it is alleged, betrayed their trust."

Weinberger insisted the alleged misconduct now being investigated in connection with SEAL Team Six could not occur now because of new safeguards that were ordered in the wake of the Army scandal.

DEPUTIES' SLAYING OF DRUG SUSPECT JUSTIFIED, JURY SAYS

Los Angeles, CA (6-12-87): Los Angeles County sheriff's deputies were justified in fatally shooting a 26-year-old Malibu man when they entered his house in the middle of the night in search of drugs, a jury ruled Thursday.

Concluding an eight-week civil rights trial in U.S. District Court in Los Angeles, a six-member jury concluded that deputies made reasonable efforts to warn sleeping residents inside the house before bursting through the front door and confronting Glenn Gorio, a suspected cocaine dealer, outside his bedroom door.

Gorio's parents had sought up to \$3.7 million in damages from the Sheriff's Department, claiming a 29-member SWAT team used excessive force when it arrived at the Gorio home in the pre-dawn hours of Oct. 26, 1984, to serve a search warrant, killing Gorio when he leveled a handgun at an oncoming deputy.

Deputies testified that they shouted warnings outside the house for 30 to 45 seconds before bursting through the front door with a battering ram and throwing a "flash bang" concussion grenade up to the second level of the house.

Gorio's fiancée testified that they were awakened by the sound of the grenade and that Gorio grabbed a gun from beside the bed to confront what they both assumed were burglars. Both sides agreed that Gorio pointed the gun at a figure outside

continued on page 36

In The News

continued from page 35

the door, shouting, "Who is it? Who is it?"

Deputy David Furmanski testified he replied, "Sheriff's Department, Sheriff's Department," firing his automatic weapon only after Gorio fired first.

BESIEGED GUNMAN RELENTS, FREES SONS

Williamsburg, VA (9-19-87): After holding them hostage for almost 34 hours, an angry gunman released his two young sons last night but apparently was maintaining earlier vows that he would not be taken himself.

James City County Police Chief Robert Key said that the boys were taken to Williamsburg Community Hospital for observation. He said that Wallace's girlfriend, Veronica Brown, the children's mother, was allowed at her insistence to join Wallace in the house later last night.

The release of the two boys was one of a series of events yesterday evening that indicated police were making headway in resolving the situation that has pitted Wallace against dozens of officers besieging the rural neighborhood two miles west of Williamsburg in James City County.

Earlier in the day, officers negotiated a deal in which Wallace surrendered three guns in exchange for food for his children and a carton of menthol cigarettes.

Last year Wallace was involved in a similar but short-lived hostage situation at the house.

Authorities, who were able to lead Wallace's girlfriend and a seven-year-old daughter safely from the home before the standoff began, held a warrant for Wallace's arrest for probation violations.

The county's emergency response team had surrounded the house and cordoned off the road leading to the home. Two investigators trained in hostage situations were also present.

His mother, Novella Wright, who flew back to Virginia from a California vacation Thursday night, tried unsuccessfully to persuade

her son to give himself up early yesterday.

Police also asked friends and relatives to speak to Wallace by means of a special telephone placed in the house, but to no avail.

Wallace on occasion threw the phone out of a window and refused to speak with anyone.

About 9 p.m. last night, police attempted to exchange Wallace's girlfriend and a friend of Wallace's for the two children and any remain-

ing guns.

But while the exchange was under way, according to police, Wallace drew a weapon. Ms. Brown, county police inspector Ken Middlebrook and the friend rushed from the house.

Police records showed that Wallace was charged with abducting and sexually assaulting Ms. Brown, 24, in March. But she later dropped the charges, according to wire service reports.

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For additional information regarding Motorola SABER I, II and III synthesized portable radios, contact Motorola, Inc., Communications Sector, Public Relations Department, 1301 East Algonquin Road, Schaumburg, IL 60196.



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scope to its line of GOLDEN RING® sporting optics. The new spotting scope features the same 21mm of eye relief, crisp, bright roof prism optics and lightweight, waterproof body as the original Leupold 20X60mm scope, except that it's almost 3½" shorter and 3½ ounces lighter.

Leupold has produced this spotting scope in a package that's about the same size as its 4X Compac scope. Just 9.4" long, the 20X50mm tips the scales at only 17.5 ounces.

It has a self-storing, screw-on sunshade, lens caps and Cordura® nylon case. The case can be removed completely or the ends can be unzipped and folded back while the scope is in use. An opening in the center of the case allows for tripod attachment.

Like all Leupold Products, the new compact spotting scope is available through gun dealers and sporting goods outlets. For a free catalog write: Leupold & Stevens, Inc., P.O. Box 688, Beaverton, OR 97075.



Motorola's Auto-Watch Vehicular Security System.

Vehicular Security System Announced By Motorola

Motorola, Inc. has introduced the Auto-Watch Vehicular Security System to help protect vehicles against theft.

Auto-Watch vehicular security enables vehicle operators to remove ignition keys and exit vehicles while the engine is still idling. It also allows radios, emergency lights, life support systems and other accessories to remain operational.

The engine automatically stops and sounds an alarm if an unauthorized person moves the shift lever or applies the brakes. Vehicles cannot be driven or re-started without the ignition key. The unit is easy to install and operate, and fits all domestic and foreign vehicles.

Additional information is available from Motorola, Inc., Communications Sector, Public Relations Department, 1301 East Algonquin Road, Schaumburg, IL 60196.

On Rope

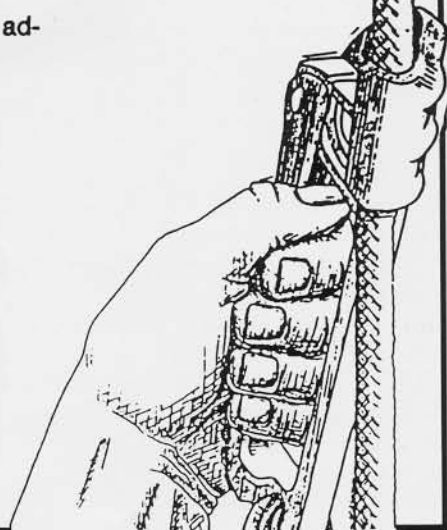
By Allen Padgett and Bruce Smith

This book promises to become the Bible of vertical or single rope techniques (SRT). It contains over 350 pages and more than 650 detailed drawings, eight comprehensive comparison charts, and three how to workshops. Covers everything you need to know from ropes, knots, and harnesses, to ascending, descending, self and partner rescue, belaying and training.

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TAC TALK

N.T.O.A. would like you to consider this column a forum for practical tips of interest to SWAT/tactical team members. If you have developed a technique or procedure you feel might be of benefit to other members, let us know.

Many law enforcement agencies are noting an unfortunate increase in demonstrations and crowd control situations within their jurisdictions. These incidents are often reminiscent of the decade of the 60's, and may involve passive demonstrators. Accordingly, as a service to our membership, this issue will address suggested procedures for the removal of passive demonstrators.

The passive demonstrator attempts to bring attention to his cause by disrupting business or other activities in a non-violent manner. This may be accomplished by blocking doors, sitting in front of vehicles, or filling rooms so that normal activities will be disrupted or cease altogether.

Demonstrators may not seek a physical confrontation with the police, but their methods are usually unlawful and the police may be forced to take action. The demonstrators may attempt to make police officers look foolish by causing them to lose their temper, perhaps in front of the media.

The following information is based upon the experience of a large metropolitan law enforcement agency, and should prove helpful to other agencies seeking guidance in this area.

Team Configuration

Separator Team (unarmed)

- Sergeant in charge of three-

person team.

- Number of teams will depend upon the size of the group.
- Responsible for separating passive demonstrators one at a time until remaining demonstrators disperse or are arrested.

Security Team (armed and fully equipped)

- Responsible for containing demonstrators to protect the Separator Teams.
- The size of the Security Team is dictated by the number and location of the demonstrators.

Arrest Team (unarmed)

- Sergeant in charge of two-person team.
- The number of teams will depend upon the number of demonstrators.

Command Responsibilities

- Attempt to gain cooperation by talking to demonstration leaders.
- Make certain they understand that they constitute an unlawful assembly.
- Issue a dispersal order if the demonstrators remain.
- Make certain the crowd hears and understands the dispersal order. Consider tape recording the dispersal order.
- Make certain that all personnel conduct themselves in a professional manner.

Separator Team Duties

- The sergeant selects the demonstrator he wants removed first.

- The Team concentrates on that person until he or she is separated from other demonstrators.
- Do not rush.
- Do not get personally or emotionally involved.
- The Team turns the arrested person over to the Arrest Team for booking.

Security/Containment Team Duties

- Assume a position around the crowd.
- Every other man is turned in opposite directions.
- Prevent sympathizers from joining the demonstrators.
- Help block view of demonstrators.

Arrest Team Duties

- Remove prisoners to the booking area.
- Make certain necessary paperwork is completed.

Separator Techniques

- Utilize weak points of the body that are painful, but do no permanent damage.
 - Under the nose
 - Ear lobes
 - Sideburns
 - Etc.
- These weak points are used to obtain the cooperation of the demonstrator without drawing the obvious attention of the crowd or members of the press.
- Emotions must not be displayed, and it is important that team members talk firmly but quietly to the demonstrator prior to application of removal techniques.
- Select the most accessible demonstrator and remove him or her first. Take whatever time is necessary.
- Avoid dragging or carrying demonstrators, particularly women. This can result in back injuries to team members, and/or bad media coverage.
- TAKE YOUR TIME — BE SLOW AND METHODOICAL.

It is extremely important that removal techniques be practiced prior to their use in an actual situation. Also, training exercises designed to test the procedure and coordination of all three teams (Separator, Security/Containment and Arrest), as well as command structure, should be conducted. Team members must be mindful that passive demonstrations have the potential to turn violent. Therefore, they must be prepared to make the necessary transition under the protection of the Security/Containment Team.



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