



Wound Ballistic Workshop

March 9, 2006

Hosted By:

San Angelo, Texas Police Department



Agencies in Attendance

San Angelo Police Department
SA Lake & Parks
ICE

Host Agency

San Angelo Police Department
Academy Director Sgt. Rusty Herndon
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ATK Factory Personnel

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Stephen McGrory
Law Enforcement Sales
2299 Snake River Ave
Lewiston, ID 83501

Tel 208-799-3582

Dear Wound Ballistic Workshop attendees,

Thank you for taking the time out of your busy schedules and a very windy day, to attend the Wound Ballistic Workshop that we conducted at the San Angelo Police Department's range on March 9, 2006. We appreciate you giving us the opportunity to demonstrate the Law Enforcement products produced by ATK, and evaluate those products, to help you decide what best suits your needs.

As you know, ATK is the manufacturer of Speer Gold Dot, Federal Tactical and Federal HST. For this workshop we demonstrated HST and Gold Dot. HST, being the featured product, was designed to be a formidable duty round through all of the test barriers. HST was designed to provide Law Enforcement with a product that would make little, if any compromises in performance and yet be affordable to agencies that may have limited budgets. Gold Dot and Tactical are our bonded rounds that remain leaders in Law Enforcement Ammunition. Included is the test data from this workshop for you to review.

Thanks again for your participation in this shoot. We encourage anyone that may have more questions, or need additional information to contact Steve at 208-799-3582 or GT Distributors at 800-443-6283.

Sincerely,

Stephen McGrory
ATK LE Sales Specialist
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Wound Ballistic Workshop Report

A Factory Representative from ATK (Federal Cartridge, CCI, Speer) was present March 9,2006 to demonstrate the features and benefits of ATK centerfire pistol products when shot using the FBI Wound Ballistic Testing Protocol. In addition, limited testing was done to compare bullet design and performance of .223 in bare gelatin, and through auto glass.



ATK featured Federal HST and Speer Gold Dot. San Angelo PD provided their Winchester SXT duty round to be demonstrated side by side with ATK's product.

**Note* – All Winchester rounds were supplied by the department. No competitor rounds were supplied by ATK or Distributor personnel.*



All rounds were shot through the FBI test protocol side by side, with the independent verification of the rounds by San Angelo Police Officers. Various San Angelo Officers performed all of the shooting. Rusty Herndon and Mike Hernandez measured penetration for all rounds and were the official judges for the workshop. All recovered bullets were weighed and measured in the same order they were shot, and mounted on a display board in that order.

Gelatin

Gelatin was measured for calibration (Temperature 37-41 degrees, BB penetration 3.25"-3.75") and shot within 20 minutes of removal from refrigeration. **Note – because of very windy conditions, we were unable to test the velocities of the BB's, however temperature and penetration were within parameters.*

Rounds

San Angelo PD tested: 40 S&W 180 gr. Gold Dot and 40 S&W 165 gr. HST & SXT
45 ACP 230 gr. Gold Dot, HST & SXT
.223 62 gr. Federal Tactical BSP and 55 gr. BTHP
.223 55 gr. Win. Ballistic Tip

Test Events

Bare Gelatin

All rounds typically perform well in bare gelatin, which is the easiest test event. It is the benchmark test for bullet performance. Past and current hollow points were designed to expand 1.5 times the original bullet diameter. Federal HST rounds were engineered to expand more than twice the original diameter in bare gelatin.

Federal HST 40 165 gr. Expanded 42% more than the Winchester SXT and retained 3.45% more weight.
Federal HST 45 230 gr. Expanded 30% more than the Winchester SXT and retained 8.18% more weight.

Bullet	Cal. / Weight	Penetration	Expansion	Retained Weight
Speer Gold Dot	40 S&W 180 gr.	13.00"	.59"	98.72 %
Federal HST	40 S&W 165 gr.	13.50"	.81"	100.12 %
Win. SXT	40 S&W 165 gr.	15.25"	.57"	96.67 %
Speer Gold Dot	45 ACP 230 gr.	13.25"	.71"	99.96 %
Federal HST	45 ACP 230 gr.	13.25"	.97"	99.35 %
Win. SXT	45 ACP 230 gr.	13.50"	.75"	91.17 %

Heavy Clothing

All Bullets performed well in Heavy Clothing. Federal HST again demonstrated the design expansion characteristics and outperformed all tested rounds for expansion.

Bullet	Cal. / Weight	Penetration	Expansion	Retained Weight
Speer Gold Dot	40 S&W 180 gr.	15.00"	.65"	99.17 %
Federal HST	40 S&W 165 gr.	14.00"	.75"	100.25 %
Win. SXT	40 S&W 165 gr.	14.00"	.65"	101.58 %
Speer Gold Dot	45 ACP 230 gr.	14.75"	.71"	100.09 %
Federal HST	45 ACP 230 gr.	13.00"	.96"	99.26 %
Win. SXT	45 ACP 230 gr.	14.00"	.81"	100.13 %

Auto Glass

Auto Glass is the toughest and most difficult of all barrier tests. ATK's bonded Speer Gold Dot .40 & .45 both stayed together through Auto Glass. Federal HST and Winchester SXT both experienced core jacket separation in the .40 165 gr., however they stayed together in the .45 230 gr.

Bullet	Cal. / Weight	Penetration	Expansion	Retained Weight
Speer Gold Dot	40 S&W 180 gr.	15.25"	.51"	87.33 %
Federal HST	40 S&W 165 gr.	14.0"	.48"	59.88 % **
Win. SXT	40 S&W 165 gr.	12.25"	.57	77.52 % **
Speer Gold Dot	45 ACP 230 gr.	15.5"	.65"	98.39 %
Federal HST	45 ACP 230 gr.	15.5"	.64"	90.65 %
Win. SXT	45 ACP 230 gr.	15.5"	.60"	90.09 %

** Core jacket separation

Wallboard

All rounds performed as designed through wallboard. Again, Federal HST had superior expansion to the Winchester SXT.

Bullet	Cal. / Weight	Penetration	Expansion	Retained Weight
Speer Gold Dot	40 S&W 180 gr.	14.25"	.64"	98.72 %
Federal HST	40 S&W 165 gr.	12.25"	.72"	95.82 %
Win. SXT	40 S&W 165 gr.	14.50"	.64"	99.21 %
Speer Gold Dot	45 ACP 230 gr.	15.75"	.63"	99.78 %
Federal HST	45 ACP 230 gr.	14.5"	.86"	99.35 %
Win. SXT	45 ACP 230 gr.	16.25"	.73"	100.00 %

Plywood

Plywood is second only to glass when measured in terms of bullet failures to expansion and performance. Federal HST performed as designed, with no failures and great expansions. While Winchester SXT .40 165 gr. plugged and the Gold Dot .45 230 gr. also plugged.

Bullet	Cal. / Weight	Penetration	Expansion	Retained Weight
Speer Gold Dot	40 S&W 180 gr.	14.25"	.64"	98.72 %
Federal HST	40 S&W 165 gr.	12.25"	.72"	95.82 %
Win. SXT	40 S&W 165 gr.	14.50"	.64"	99.21 % *
Speer Gold Dot	45 ACP 230 gr.	15.75"	.63"	99.78 % *
Federal HST	45 ACP 230 gr.	14.5"	.86"	99.35 %
Win. SXT	45 ACP 230 gr.	16.25"	.73"	100.00 %

* Plugged

.223 Testing

Limited testing was done to compare bullet design through Auto Glass and Bare Gelatin. All rounds were fired through a Bushmaster 11.5". Federal Tactical Bonded Soft Point was the only round to stay together through Auto Glass and have a measurable expansion and weight retention.

** Note *- All competitors rounds were provided by the host agency.*

Bullet	Cal. / Weight	Penetration	Expansion	Retained Weight	Comments
Federal Bonded SP	.223 62 gr.	15.25"	.34"	55.97 %	
Federal BTHP	.223 55 gr.	5.0"			Not measurable
Winchester Ballisitctip	.223 55 gr.	5.0"			Not measurable
Federal Bonded SP	.223 62 gr.	18.50"	.43"	99.35 %	
Federal BTHP	.223 55 gr.	9.50"	.46"		
Winchester Ballisitctip	.223 55 gr.	8.0"			Not measurable

Auto Glass

