

THE THREAT POSED TO HELICOPTERS BY 50 CALIBER ANTI-ARMOR SNIPER RIFLES



The Violence Policy Center (VPC) is a national non-profit educational organization that conducts research and public education on firearms violence and provides information and analysis to policymakers, journalists, advocates, and the general public. The Center examines the role of firearms in America, analyzes trends and patterns in firearms violence, and works to develop policies to reduce gun-related death and injury. This report was authored by VPC Senior Policy Analyst Tom Diaz. This report was funded in part with the support of The David Bohnett Foundation, The California Wellness Foundation, The Richard and Rhoda Goldman Fund, The George Gund Foundation, The Joyce Foundation, and, The John D. and Catherine T. MacArthur Foundation. Past studies released by the VPC include:

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- *Guns For Felons: How the NRA Works to Rearm Criminals* (March 2000)
- *One Shot, One Kill: Civilian Sales of Military Sniper Rifles* (May 1999)
- *Cease Fire: A Comprehensive Strategy to Reduce Firearms Violence* (Revised, October 1997)

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—Barrett Firearms Manufacturing Inc. brochure advertising its Model 82A1 50 caliber sniper rifle

Helicopters Are Ideal Targets for 50 Caliber Anti-Armor Sniper Rifles Easily Available in the U.S. Civilian Market

Reports on recent discoveries of the terrorist group al Qaeda's interest in helicopters emphasize their potential use as flying bombs or vehicles for airborne terrorist attacks.¹ However helicopters are themselves targets that are extremely vulnerable to ground fire from 50 caliber anti-armor rifles, which are sold freely in the United States. Since helicopters are generally acknowledged to be difficult to fly,² authorities and the American public should also consider the threat of a direct attack on helicopters from these heavy sniper rifles.^a Under federal law, anyone at least 18 years old who can pass the rudimentary Brady Law background check can legally buy one of these rifles. Military grade armor-piercing and armor-piercing incendiary ammunition is legally sold by ammunition dealers—including at least one 50 caliber rifle manufacturer—over the phone and through the Internet.

The Danger of New Forms of Attacks Against Aviation by Terrorists Using 50 Caliber Anti-Armor Sniper Rifles

As authorities strengthen screening aimed at airline passengers, visitors, explosives, and firearms, the security perimeter is pushed out from the airport terminal. Terrorists will look for ways to attack from beyond the expanded perimeter. Thus, the 2,000 yard effective range of the 50 caliber sniper rifle becomes painfully relevant, because it is an easily obtained weapon to attack with great effect from beyond the security perimeter. As the leading manufacturer, Barrett Firearms Manufacturing, itself states in a promotional brochure, its 50 caliber anti-armor sniper rifle "has the ability to engage the enemy at ranges far beyond those at which small arms can return fire."³

^a This report is excerpted from two more detailed Violence Policy Center reports: *"Just Like Bird Hunting"—The Threat to Civil Aviation from 50 Caliber Sniper Rifles* (January 2003), and *Really Big Guns: Even Bigger Lies—The Violence Policy Center's Response to the Fifty Caliber Institute's Misrepresentations* (March 2004), both available online at www.vpc.org.

Specifically Designed to Destroy Aircraft and Helicopters

The 50 caliber anti-armor sniper rifle was designed in large part specifically to destroy aircraft from long range, beyond a security perimeter. Thus, gun expert Ian V. Hogg^b described the weapon's initial reception:

The Barrett company were the first to introduce a production .50 sniping rifle, when this weapon appeared in 1983. There was a good deal of scepticism at the thought of using such a heavy weapon for sniping but, after Barrett pointed out that the object was to wreck several million dollars' worth of jet aircraft with one or two dollars' worth of cartridge, the whole thing began to make more sense and the idea spread.⁴

Hogg's description is borne out by early Barrett promotional material that directly stated the new anti-armor rifle's usefulness against aviation targets. For example, an undated brochure (apparently, however, from about 1984), obtained from Barrett's Bureau of Alcohol, Tobacco, Firearms and Explosives' (ATF) licensing file states:

The Model 82A1 is designed to provide extreme accuracy at extended ranges with standard military ammunition....The accuracy of the Model 82A1 makes possible the placement of the shot in the most vulnerable area of the target. The compressor sections of jet engines or the transmissions of helicopters are likely targets for the weapon, making it capable of destroying multi-million dollar aircraft with a single hit delivered to a vital area. The cost-effectiveness of the Model 82A1 cannot be overemphasized when a round of ammunition purchased for less than 10 USD can be used to destroy or disable a modern jet aircraft.⁵

The same brochure boasts that the accuracy of the 50 caliber sniper rifle "enables it to place more rounds on target in the same time than the M2HB [machine gun] firing full automatic while expending approximately one third of the ammunition."⁶

^b Hogg served 27 years in the British Army's Royal Artillery, the final six as Regimental Sergeant Major and instructor in ammunition and ordnance at the Royal Military College. Retiring as a Master Gunner, he was subsequently editor of *Jane's Infantry Weapons* for 22 years, and has authored or edited more than 140 books. Ian V. Hogg and John S. Weeks, *Military Small Arms of the 20th Century (7th Edition)* (Krause Publications, Wisconsin, 2000), back cover. The National Rifle Association describes him as "acclaimed" in its promotion of *Military Small Arms* on its Internet web site. See, <http://store.nrahq.org>, downloaded July 31, 2002.

The Particular Vulnerability of Helicopters

Helicopters among all aviation targets are particularly vulnerable to 50 caliber sniper rifle fire. The U.S. Army, for example, notes that as of 1984 the Afghan Mujahideen resistance fighters “were credited with shooting down close to 300 Soviet helicopters using small arms and anti-tank weapons.”⁷ It should be noted that this record was achieved against military helicopters, many of which are armored, and before the United States began supplying the thoroughly effective Stinger ground-to-air missile to the Mujahideen.

The 50 caliber anti-armor sniper rifle represents a serious threat to helicopters. In fact, the Barrett Internet web site includes a posting of a 1994 article about the company that states that one Barrett model, the M82A2 “bullpup” design, was “conceived in 1987, reportedly for use against helicopters in Afghanistan.”⁸ The rifle’s design—configured to be fired from the shoulder, as opposed from a prone position—would make it more effective for this purpose.⁹ Although the M82A2 is no longer in production, Barrett manufactures a similar bullpup model, the M95. The company’s Internet web site description of the model M95 includes a downloadable video in which a shooter demonstrates rapidly firing the Model 90, an earlier version of the current Model 95, from the shoulder.¹⁰

Sniper Experts on Helicopter Vulnerability to 50 Caliber Sniper Fire

Major John L. Plaster—a leading sniping expert—directly addressed the vulnerability of helicopters to sniper fire in his text on sniping techniques and equipment, *The Ultimate Sniper: An Advanced Training Manual for Military & Police Snipers*.^c “A military sniper employs armor piercing bullets when engaging helicopters and other thin-skinned materiel targets.”¹¹

^c According to the back page of *The Ultimate Sniper*, Major John L. Plaster, USAR (Ret.), was decorated four times for heroism in Vietnam, where he served with the top secret special operations unit known as the Studies and Observation Group (SOG). He established a U.S. Army National Guard sniper school in Minnesota and has taught sniping to law enforcement officers from more than 50 departments and agencies. An Internet web site run by Navy SEAL Team One veteran Brian Curle says Plaster “is acknowledged as the country’s premier authority on the subject of sniper fieldcraft, tactics, and training for both police and military snipers” (<http://www.navysealteams.com/dvultimate.htm>). *The Ultimate Sniper* has received uniformly warm reviews. Minnesota pro-gun activist David M. Gross called the book “scholarly and detailed” (http://www.wmsa.net/People/david_gross/dg-021011.htm). A book review by Scott Powers on the Internet website [snipercountry.com](http://www.snipercountry.com) enthused, “This book is written by a man who is intimately familiar with the art of sniping and the training of snipers. If you buy only one book on the subject, THIS IS IT. Period. End of discussion” (<http://www.snipercountry.com/TUS.htm>). [Capitals in original.]

Another expert, British military senior sniper Mark Spicer, wrote about the vulnerability of helicopters in more detail in his book *Sniper: The techniques and equipment of the deadly marksman*.^d Spicer appeared as the prosecution's expert witness on sniping in the 2003 criminal trial of Beltway sniper John Allen Muhammad.¹² His book is strongly endorsed by principal figures in the fervently pro-gun Fifty Caliber Institute (FCI).

Helicopters are notoriously easy to disable or destroy. With armor-piercing incendiary ammunition, the sniper is more than capable of bringing down a hovering helicopter. Even with normal sniper ball ammunition, a helicopter can be disabled with a well-placed shot into its engine or rotor area....

Support helicopters at the hover or while slow moving are also very easily engaged by snipers. Again the placing of an AP [armor-piercing] or API [armor-piercing incendiary] round, or even a standard ball round, into the fuel area of one of these aircraft is going to really ruin the crew's day.¹³

In fact, Spicer's book—which is “highly recommended” by the McMillan Sniper School—includes a photograph of the author “‘engaging’ low flying helicopters” as a sniper in a military training exercise.¹⁴

^d Sergeant-Major Spicer's book is one of two “highly recommended” sniper training and reference books listed on the Internet website of the McMillan Sniper School (<http://www.sniper.ws/Sniper%20Books.htm>). The McMillan Sniper School is sponsored by McMillan Bros. Rifles, which loans 50 caliber sniper rifles to the school (<http://www.sniperschool.org/Staff%20Bios.htm>). Fifty Caliber Institute treasurer Rock McMillan is a designer and manufacturer who founded McMillan Brothers Rifles in 1992 (<http://www.shootingsports.com/mcmillan/rifle.htm>). The Fifty Caliber Institute and the Fifty Caliber Shooters Association work with the McMillan Sniper School staff to provide 50 caliber sniper rifle training (<http://www.sniperschool.org>).



**U.S. government expert witness Sergeant-Major Mark Spicer demonstrates
"‘engaging’ low flying helicopters” in his book Sniper.**

The vulnerability of helicopters to ground fire from small arms has been re-emphasized during recent combat operations in Afghanistan and Iraq.¹⁵ "They fly low, they fly slow, and people shoot at them," explained a defense analyst.¹⁶ "We come in slow and land, and that is where most of our losses were in Afghanistan," a U.S. Army special operations aviator said. "There is no defense against an RPG (rocket propelled grenade) or small arms, if they are in the right place or you are in the wrong place at the wrong time, nothing can defeat that."¹⁷ Note the aviator's clear distinction between RPG's and small arms, and his deliberate inclusion of small arms as a serious threat to helicopters.

The ultimate point is, of course, that if armored helicopters flown by well-trained military pilots are vulnerable to snipers in combat, how much more vulnerable to ruthless terrorists armed with easily obtained 50 caliber sniper rifles are civilian helicopters carrying government dignitaries, business executives, commuters, or sightseers?

ENDNOTES

1. See, e.g., "Tourist Copters in New York City a Terror Target," *The New York Times*, August 9, 2004.
2. See, "The cockpit of dreams: for business or pleasure, little compares," *Chief Executive (U.S.)*, March 1, 2004.
3. Copy of brochure, "Barrett Model 82A1," obtained from Barrett licensing files by Freedom of Information Act request to Bureau of Alcohol, Tobacco, Firearms and Explosives, in files of VPC.
4. Ian V. Hogg, *The World's Sniping Rifles* (Stackpole Books, PA, 1998), p. 108.
5. Copy of brochure, "Barrett Model 82A1," obtained from Barrett licensing files by Freedom of Information Act request to Bureau of Alcohol, Tobacco, Firearms and Explosives, in files of VPC.
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8. Nick Steadman, "Barrett Light 50's: High Powered Wonder Weapons for Special Applications," *Fighting Firearms*, Vol. 2, No. 2, Fall 1994, article posted on Barrett Firearms Manufacturing, Inc. Internet web site http://www.barrettrifles.com/test_weapons.html, downloaded on July 31, 2002.
9. "An American Success Story: Barrett's .50 BMG Rifles," *Guns Magazine Online* (November 2001), downloaded from <http://www.gunsmagazine.com/Pages/1101ftr.html> on July 31, 2002; United States Patent Number 4,932,148, "Shoulder-Fired Semi-Automatic Rifle," issued to Ronnie G. Barrett on June 12, 1990.
10. "See the Power Video About the M95," at "Barrett M95," <http://barrettrifles.com/rifles.html>.
11. John L. Plaster, *The Ultimate Sniper: An Advanced Training Manual for Military & Police Snipers* (Boulder, Colorado: Paladin Press, 1993), 126.

12. "Muhammad Takes Over His Own Defense," *The Washington Post*, October 21, 2003.
13. Mark Spicer, *Sniper: The techniques and equipment of the deadly marksman* (London: Salamander Books Ltd., 2001), 114.
14. Mark Spicer, *Sniper: The techniques and equipment of the deadly marksman* (London: Salamander Books Ltd., 2001), 113.
15. See, e.g., "Iraq Lessons Learned: Coming Under Fire," *Aviation Week & Space Technology*, May 12, 2003; "Loss of Apache in Iraq Is Evidence of Vulnerability of Copters to Ground Fire," *The New York Times*, March 25, 2003; "Chinook's funding troubles worry 'Darkhorse' aviators; Special Operations Aviation Regiment helicopters," *National Defense*, June 1, 2002.
16. "Loss of Apache in Iraq Is Evidence of Vulnerability of Copters to Ground Fire," *The New York Times*, March 25, 2003.
17. Roxana Tiron, "Chinook's funding troubles worry 'Darkhorse' aviators; Special Operations Aviation Regiment Helicopters," *National Defense*, June 1, 2002.