

Los Artefactos Explosivos Improvisados

Improvised Explosive Devices in El Salvador

by Charles H. Briscoe

VERY little has been written about the role of Army Special Operations Forces (ARSOF) in El Salvador during that country's thirteen-year civil war (1980–1993). In the decade following the Vietnam War, American military intervention to prevent the spread of Communism was looked upon with disfavor, even after the Sandanistas overthrew the Somoza regime in Nicaragua in 1979. American casualties had increased dramatically during the Nixon era of "Peace with Honor" in Vietnam, and in 1973, the U.S. Congress passed the War Powers Resolution to limit the president's authority to commit American military forces in "undeclared" wars.

During the Carter administration (1977–1981), the U.S. Army leadership hunkered down and waited for better times, and counterinsurgency was regarded with disdain. These were difficult times for the executors of U.S. military assistance in Latin America: the Special Forces, Civil Affairs, and Psychological Operations elements conducting training missions, and the Operational Planning and Assistance Training Teams (OPATT) officers and noncommissioned officers assigned to El Salvador Armed Forces (ESAF) brigades as trainers.

Employing unconventional warfare tactics to counter insurgents fighting a guer-



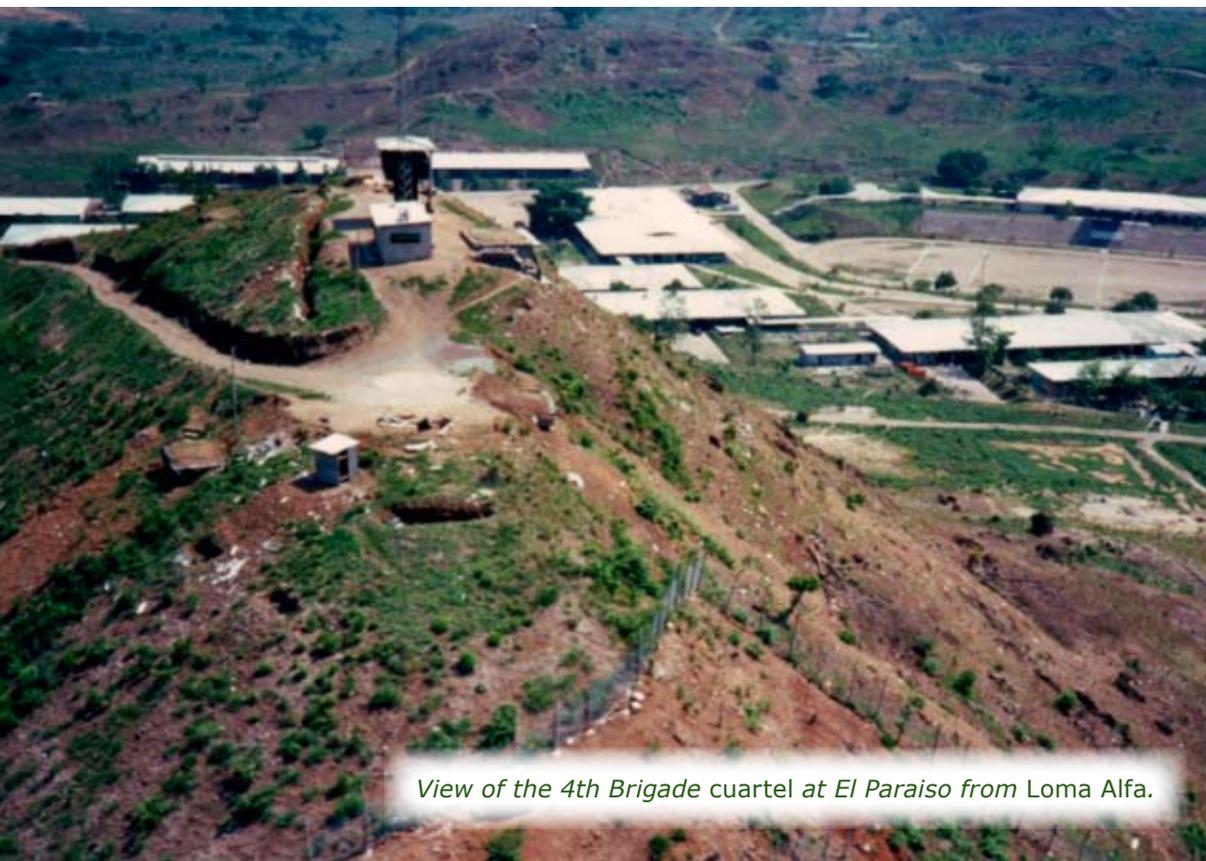
El Salvador Armed Forces 4th Brigade



El Salvador Armed Forces DM-1



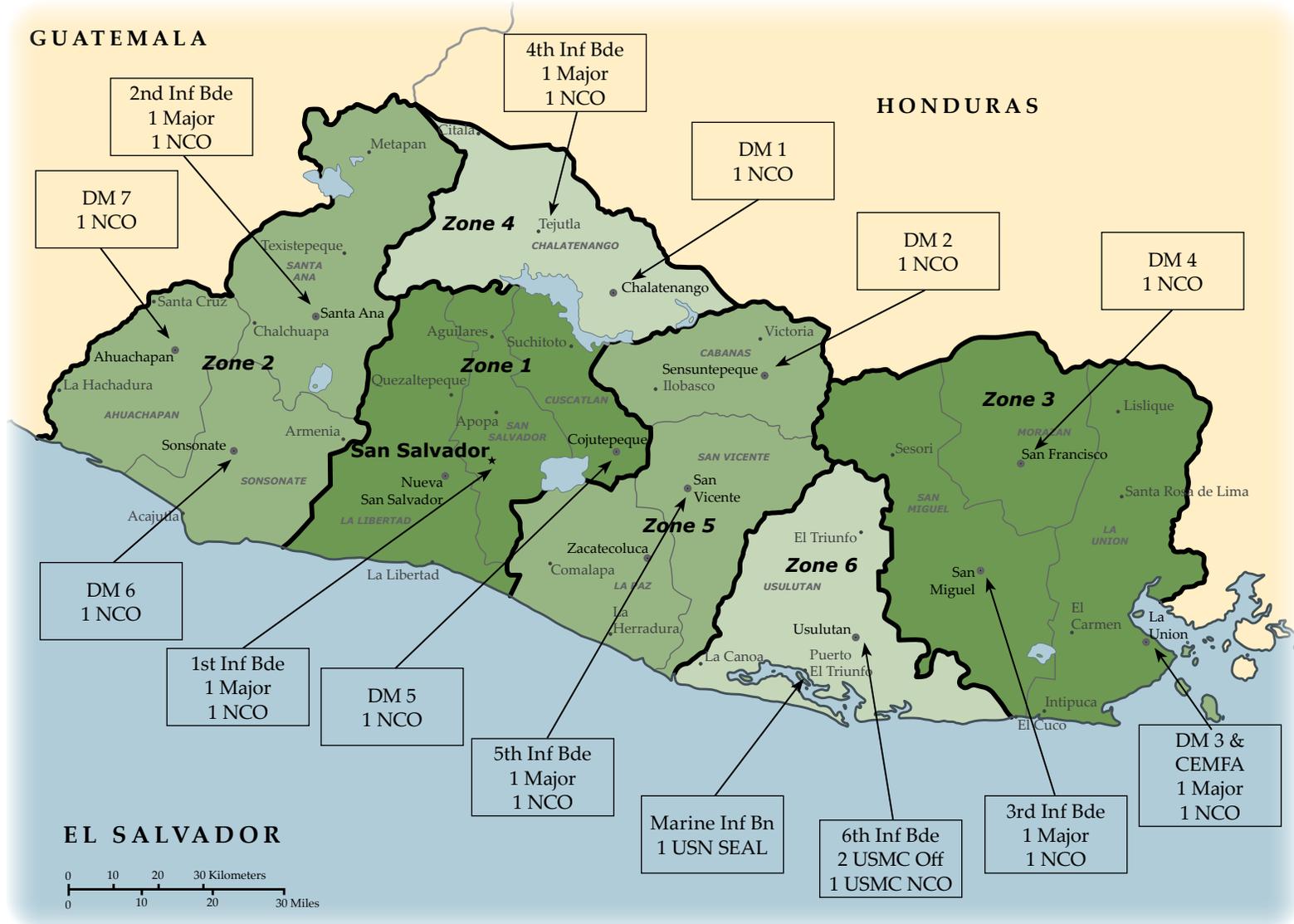
Unofficial U.S. Military Group-El Salvador shoulder patch



View of the 4th Brigade cuartel at El Paraiso from Loma Alfa.

GUATEMALA

HONDURAS



EL SALVADOR

Map of El Salvador showing the six military zones of the country and the distribution of U.S. Operational Planning and Assistance Training Teams officer and noncommissioned personnel with the El Salvador Armed Forces infantry brigades, military department commands (i.e., Departimiento Militar Uno), the El Salvador Armed Forces Marine infantry battalion, and the national military training center (Centro Entrenamiento Militar Fuerza Armada) at La Unión.

rilla war is now an integral part of America's Global War on Terrorism in Afghanistan and Iraq. Improvised explosive devices (IEDs), whether used in an urban or field environment, are standard guerrilla weapons. The majority of our combat losses in Iraq and Afghanistan are attributed to IEDs, and the same was true for the ESAF during its long war against the Farabundo Martí National Liberation Movement (FMLN) and the Ejército Nacional de Colombia (ENA). Though most of the IEDs used in Iraq and Afghanistan employ conventional military munitions, the purpose of this article is to remind ARSOF elements committed overseas today that simple field-expedient IEDs made from fertilizer chemicals, rebar rods, scrap metal, and rocks—homemade “first-generation munitions”—being employed by the Fuerzas Armadas Revolu-

In 2003, Colombia had the third highest number of mine victims (668) in the world, exceeded only by Afghanistan (847) and Cambodia (772). Mine laying in these countries has been significantly reduced, while in Colombia more mines are being laid now than ever before. In the first quarter of 2005, one out of every three soldiers killed was the victim of a mine or IED.¹

cionarias de Colombia (FARC) cannot be discounted. As more conventional weapons and munitions caches are discovered and destroyed, the potential threat of encountering primitive IEDs in Afghanistan and Iraq will grow. Thus, a review of ARSOF experiences in El Salvador and similarities in Colombia is most appropriate.

The consistent commitment of 7th Special Forces Group mobile training teams to train El Salvadoran armed forces increased momentum in 1982. By then, the Salvadoran military had been fighting the FMLN for several years; however, levels of financial and material support provided to the FMLN by Cuba and Nicaragua during the Cold War were minimal compared to those being made available to insurgencies by al-Qaeda and other terrorist groups today. Thus, the majority of IEDs—*artefactos explosivos improvisados*—employed by the

FMLN against the ESAF elements in the war were very primitive compared to those encountered in Afghanistan and Iraq today, but similar to those in Colombia. Only the term “field-expedient explosives” and effective lethality connect them.

This article discusses the three most common IEDs encountered in El Paraiso and Chalatenango [Military Department 1 (DM-1, *Departemento Militar Uno*)] in 1988–1989, when fighting was heaviest in El Salvador. El Paraiso and Chalatenango were the largest cities in the FMLN-dominated north. FMLN control of those two cities would split the country in half.² El Paraiso was overrun by the insurgents in December 1983 and 31 March 1987, when Special Forces SSG Gregory A. Fronius was killed. Both times the Salvadoran military recaptured the city after fierce fighting. El Paraiso was subjected to two more major FMLN attacks in March and September 1988, and again in September and November 1989, during the last countrywide FMLN offensive. This was the “hot spot” during the Salvadoran war.

Field-expedient explosives and weapons—*bloques* (TNT blocks), *torpedos bangalores* (bangalore torpedoes), *rampas* (catapults), and a homemade 12.7mm rifle *cañon* (canon)—were used during the attacks on El Paraiso. The first two were commonly employed by the FMLN throughout the war, while the *rampas* appeared in 1989. The 12.7mm rifle *cañon*, though it might have been tested, was not fired during the 13 September 1988 attack on the 4th Brigade *cuartel* in El Paraiso. It was not for lack of ammunition. *Bloques* had been used during the numerous assaults and were left as booby-traps in ESAF fighting positions and on the .50 cal M-2 machinegun on *Loma Alfa* (Hilltop Alpha) when the FMLN withdrew scattering propaganda leaflets.

Bloques were simply constructed by wrapping several blocks of TNT or plastic explosive together with electrical tape or heavy rubber bands and using plastic bags to make them “water resistant”—a critical factor in daily tropical rains that also collected moisture leading to misfires. Wells were dug in the one end to accommodate detonators or fuse igniters. Detonators and fuse igniters were either taped in place or paraffin was used to secure them.³ Self-taught ESAF “bomb disposal” personnel called *explosivistas* would collect the abandoned *bloques* after the attacks to defuse and disarm them. Destruction of these bomblets was usually accomplished by the SF sergeants serving as OPATT NCOs in the

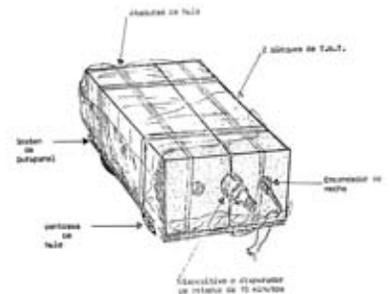
Mimeographed Farabundo Marti National Liberation Movement propaganda leaflet directed towards 4th Brigade soldiers at El Paraiso. The call to surrender contained the simple sketch of an amputee veteran who lost his arm to an improvised explosive device. These leaflets were left scattered about the cuartel area by the Farabundo Marti National Liberation Movement after the September 1988 attack.



The 4th Brigade explosivistas collected abandoned bloques after attacks. Operational Planning and Assistance Training Team noncommissioned officers regularly destroyed these dangerous munitions to prevent accidents.

ESAF brigades. They understood the danger.⁴

After the 13 September 1988 attack on the 4th Brigade *cuartel* in El Paraiso, the “inside perimeter was littered with unexploded ordnance from the destroyed ammunition supply points and *bloques*,” according to the U.S. Military Group (MILGP) El Salvador Flight Detachment UH-1H Huey pilots sent to evacuate the OPATT personnel.⁵ *Bloques con ventosas de hule* (*bloques* with rubber suction cups) were also used to destroy ESAF aircraft at Illopango Airport.⁶ Thus, the



Schematic depicting the elements of the Farabundo Marti National Liberation Movement Bloque improved explosive device.





M2 .50 caliber machine gun on Loma Alfa above the El Paraiso cuartel. The gun was booby-trapped with bloques by the Farabundo Marti National Liberation Movement.



This unused bangalore was abandoned by the Farabundo Marti National Liberation Movement near a fortified position.

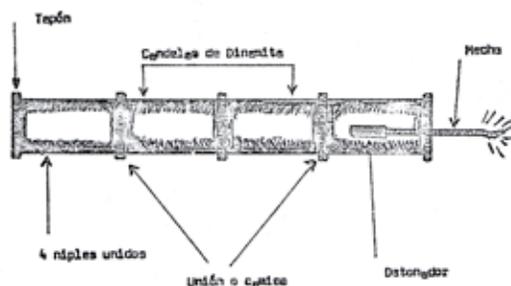
FMLN used *bloques* as large hand grenades and as satchel charges.

Cutting paths through outer defense measures—razor, concertina, and barbed wire emplacements, and improvised minefields—that conventional American military units cleared with bangalore torpedoes led to further improvisation by the guerrillas. The FMLN created its own version of the bangalore torpedo, logically called the *torpedo bangalore improvisado*, with bamboo and plastic PVC pipe. The head of the explosive contained from four to six 8-inch-long machined steel rods, which were propelled horizontally by a bundle of cloth-wrapped dynamite sticks to clear ground obstacles. The tail section of the *bangalore* contained the detonator, normally a non-electric detonator with time cord, held fast by hardened mud. The FMLN emplaced these *bangalores* at the base of walls (barracks, guard posts, and ammunition bunkers) to topple them or to blast entryways for assaulters, to clear paths through barbed wire obstacles, and to create safe lanes through minefields.⁷

The lack of artillery support for FMLN attacks led to the development of primitive inclined, fixed-direction systems to launch barrages of explosive “cannonballs” against *cuartels*. These direct-lay artillery systems, *artilleria sin cañon*, were commonly called *rampas* or ramps, based on their simple incline launch platforms. After a thunderous explosion, the sky above the *cuartel* walls would be filled with ten to twenty cloth-wrapped balls (a Sandanista trademark), barely illuminated by their burning detonator cords.⁸ Made of a hardened paste mixture of powdered chlorate, aluminum, and black gunpowder, and filled with rocks and scrap metal serving as shrapnel, the cannonballs would bounce along the ground inside the *cuartel* walls, rolling about, fuses burning. The scene was reminiscent of the Bugs Bunny cartoon in which the bearded and moustached Yosemite Sam ineffectively uses an old cannon to get rid of “that pesky wabbit.”⁹

The few times that *rampas* did work as planned, however, the dud rate for the explosive cannonballs was fortunately quite high. Shorts in lead wires to the 12-volt car battery being used to ignite the charges reduced the number of cannonballs launched simultaneously. The ESAF soldiers’ curiosity and laughter about the comic absurdity of this innovation ended quickly as those closest to the fizzling cannonballs dived for cover.¹³

Despite the time required to build launch ramps—



Schematic depicting elements of Bangalore torpedo made with PVC pipe.

Homemade mortars used by the FARC have improved greatly and now the bombs have stabilizing fins. The 14 April 2005 bombardment of Toribio in the province of Cauca by the Pacific Coast showed the greater accuracy and range (over 800 meters) of these mobile weapons. FARC members have received homemade explosives training from three Provisional

Irish Republican Army (PIRA) members, James Monaghan, Martin McCauley, and Neil Connolly.¹⁰ Originally developed with Libyan help in the early 1970s, the primitive Mark I prototype has evolved into the much more sophisticated Mark 18 “barracks buster,” named for its effectiveness against security bases in Northern Ireland. Refining this weapon earned James Monaghan

the moniker “Mortar Monaghan.”¹¹ Colonel Nelson Francisco Rocha, director of the Colombian Military Engineers School, said, “We are seeing FARC mortars with an amazing similarity to IRA barrack-busters. The rebels are now producing their own electric detonators and have begun using black-powder impulse charges.”¹²

whether dug-out earthworks, wooden troughs, or simple bipods—the need to locate them close to the *cuartels*, and the complicated multiple fusing for simultaneous barrage firings, *rampas* were not often discovered before employment. ESAF commanders ensconced in *cuartels* were not that concerned about close-in security.¹⁴ Still, they were a novel Salvadoran war IED worthy of note.

The photos show two varieties of *rampas* encountered by Major (now Major General) James W. Parker while serving as an OPATT with the 4th Brigade at El Paraiso, 1988–1989. The ESAF 4th Brigade commander pointing out the unfired *rampas* in the photos is Colonel *Ciro Roque López*. These photos were taken the day after the attack of 6 April 1989, three months after MILGP El Salvador reported that the FMLN had called off *rampa* attacks.¹⁵

The 12.7mm rifle *cañon*, though it might have been tested, was not fired during the 13 September 1988 attack on the 4th Brigade *cuartel* in El Paraiso, though not for lack of ammunition since almost forty unfired rounds were found afterward. The 12.7mm *cañon* rifle was fabricated from a Soviet Mi-24 Hind-D attack helicopter chain machine gun breach block. The barrel was hand-machined to fit the Soviet breach mechanism, as was the trigger and pump-action assembly. The rifle had a hand-carved wooden stock, somewhat like that on an M79 grenade launcher, and a forward grip. The Soviet Hind-D 12.7mm linked rounds had been separated for individual loading. “The rifle weighed twenty pounds,” recalled Major General Parker. “Carrying it and the ammo would have been difficult for the Salvadorans. It was understandable why that ‘crew-served monster’ went unfired during the attack and was left behind by the FMLN.”¹⁷ Man-portable did not seem to be part of the FMLN lexicon.

*Colonel **Ciro Roque López**, 4th Brigade Commander, points out a field of artillery sin cañon or rampas discovered outside the cuartel.*



*Schematic showing the construction of an **Farabundo Marti National Liberation Movement** artillery sin cañon improvised explosive device emplacement and how to direct-lay the 110–115° elevated system.¹⁶*



TECNICA PARA CAVAR LA FOSA

Se escoge un punto de referencia del enemigo y medimos la distancia al objetivo.

Se coloca en los extremos de la fosa una estaca de madera y se hacen coincidir con el punto de referencia.



Schematic of how to lay artilleria sin cañon with range and aim-points.



Field of artilleria sin cañon discovered outside the cuartel. These were made from sheet metal stove pipe.



A close-up of artilleria sin cañon or rampas showing wooden launchers with adjustable legs to set elevation. Earth was tamped against the backplate.

Simply made, primitive, “first generation” IEDs were extremely lethal in the thirteen year-long El Salvador war and are proving just as lethal against ENC in Colombia. While ESAF casualties were reduced by more training and the use of dogs, the FMLN enjoyed huge success with IEDs until a peace was negotiated. The high number of ESAF amputee veterans due to IEDs compelled the post-war government to provide disability pensions and transitional job training. The Colombian military routinely use explosive detection dogs, but often both the handler and dog become mine and IED casualties.¹⁸

IED is the current popular acronym for field-expedient explosives being used by insurgents and terrorists against the American military forces in Afghanistan, Iraq, and the Philippines. The primary difference between those encountered in El Salvador and Afghanistan and Iraq today is the use of conventional munitions instead of homemade varieties. As conventional munitions supplies are reduced, the Afghan and Iraqi guerrillas will resort to first-generation IEDs that can be just as effective (as demonstrated today in Colombia). When used against the civilian populace in Spain, Northern Ireland, Israel, Iraq, the Philippines, England, and the United States (on 11 September 2001), they are called bombs. However, to a soldier, *bloques*, *bangalores*, and *rampas* are simply IEDs in another language in another war. ♣

Pie rompiente or “Footbreaker” is a rudimentary anti-personnel mine commonly used by the FARC. Sections of PVC tube used in household plumbing are filled with explosives and shrapnel. It is detonated by a syringe whose rubber seal has been removed and replaced with a metal contact point. When a soldier/civilian steps on the mine the syringe is depressed, contact is made, and the device is activated. It is very cheap to make, less than \$7 apiece. “Footbreakers” are being mass-produced by FARC blocs (divisions) and in some areas there are factories at the “front” (company) level. They are not only cheap to make but take only seconds to bury and arm, meaning that FARC militiamen, often teenagers, can run ahead of army patrols and quickly place a mine in their path.¹⁹

This article would not have been possible without the assistance of MAJ (now MG) James Parker, CPT (now LTC) Byron Castleman, and SFC (CSM retired) Henry Ramirez, all veterans of El Salvador. Interviews, photographs, and memorabilia give life to documentary evidence (official reports, plans, and manuals). A manuscript, "ARSOF in El Salvador, 1980–1993," is being revised for publication.

Endnotes

- 1 Jeremy McDermott, "Colombian Insurgency Escalates as Guerrillas Go Back on Offensive," *James Intelligence Review*, July 2005, 31.
- 2 Major General James W. Parker, interview by Dr. Charles H. Briscoe, 26 April 2005, Fort Bragg, NC, digital recording, USASOC History Office Classified Files, Fort Bragg, NC.
- 3 Fuerza Armada de El Salvador, Policia Nacional, Departamento de Investigacion Policial. *Foleto Ilustrado con Esquemas de los Artefactos Explosivos Improvisados por Terroristas que Operan en el Pais*. (San Salvador: 1986): 70.
- 4 Command Sergeant Major (Retired) Henry Ramirez, interview by Dr. Charles H. Briscoe, 16 May 2005, Fort Bragg, NC, digital recording, USASOC History Office classified files, Fort Bragg, NC; three ESAF intelligence agents died tragically in their room after one soldier, after inspecting a *bloque*, casually tossed it onto a pile of them; Lieutenant Colonel Byron T. Castleman, XVIII Airborne Corps G-2, interview by Dr. Charles H. Briscoe, 13 September 2005, Fort Bragg, NC, tape recording, USASOC History Office Classified Files, Fort Bragg, NC.
- 5 Captain Timothy J. Looby, "Narrative of actions taken by US personnel during the FMLN assault on the 4th Brigade headquarters, El Paraiso, El Salvador, 13 September 1988," 6 October 1997. Actually, "over a hundred unexploded *bloque*s inside the compound after the attack" and five of none ammunition bunkers were destroyed. Major James W. Parker, 4th Brigade OPATT, After Action Report: Attack on the 4th Brigade Cuartel, El Paraiso, El Salvador, 15 September 1988.
- 6 *Foleto Ilustrado*, 20.
- 7 *Foleto Ilustrado*, 70B; Parker interview.
- 8 *Foleto Ilustrado*, 75.
- 9 Parker interview.
- 10 McDermott, "Colombian Insurgency Escalates," 29.
- 11 Mark Burgess, "Globalizing Terrorism: The FARC-IRA Connection," Center for Defense Information Terrorism Project, 5 June 2002, <http://www.cdi.org/terrorism/farc-ira-pr.cfm>.
- 12 McDermott, "Colombian Insurgency Escalates," 29–30.
- 13 Ramirez interview.
- 14 "The enemy was able to place thirty-eight (38) '*rampas*' (explosive catapults) within 15 meters of the west fence. This area is 'dead space,' but it's still alarming that they were able to place so much material so close without detection." Major James W. Parker, 4th Brigade OPATT, Memorandum subject: Attack Against 4th Bde 6 Apr 89, 8 April 1989, Parker, 4th Military Zone OPATT ETSS Activities Report No. 10, 2 May 1989; Parker interview.
- 15 Lieutenant Colonel David W. Kinder, Senior OPATT, El Salvador, "Historical Sequence of Events, Nov 86–Dec 89," 4 December 1989. According to Kinder, FMLN *rampa* attacks began in November 1988 and ended in February 1989. Major James C. Parker, 4th Brigade OPATT, 4th Military Zone OPATT ETSS Activities Report No. 9, 1 April 1989. "During my first six months here I never saw a *rampa* or heard of their use in this area. Since Jan 89 they were used in four different actions and we have observed two different types of construction." Parker's 3 June 1989 Activities Report stated: "...the enemy used RPG-7s, catapults (*rampas*), and TNT blocks (*bloque*s)."
- 16 McDermott, "Colombian Insurgency Escalates," 71, 72.
- 17 Parker interview.
- 18 "Hazaña de tres héroes: Con los pies firmes, sobre las montañas de Colombia," *Ejército* (Octubre–Noviembre 2004), 22–5.
- 19 McDermott, "Colombian Insurgency Escalates," 31.



Homemade 12.7mm canon rifle fabricated from Soviet Mi-24 HIND-D attack helicopter chain machine gun breach block. It was abandoned by the Farabundo Marti National Liberation Movement after the September 1988 attack on El Paraiso.



Command Sergeant Major (Retired) Henry Ramírez

Command Sergeant Major (Retired) Henry Ramírez is a Department of the Army civilian engineer and demolitions instructor at the U.S. Army John F. Kennedy Special Warfare Center and School (USAJFKSWCS). Before retirement in May 2001, Ramírez served as the Command Sergeant Major of the USAJFKSWCS Non-commissioned Officer Academy and the 10th Special Forces Group. After three years in Panama with C Company, 3rd Battalion, 7th Special Forces Group, Sergeant First Class Ramírez served a year as the Operational Planning and Assistance Training Team noncommissioned officer for DM-1 in Chalatenango, El Salvador, before being assigned as Team Sergeant of Operational Detachment-A 714. The former 12B combat engineer volunteered for Special Forces after a Drill Sergeant tour.

