

SABER RPG Report

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Introduction:

In July 2008, Michael Floyd requested a report covering the following issues:

1. Losses in Iraq of:
 - 1.1. Helicopters
 - 1.2. HumVee
 - 1.3. Tanks
 - 1.4. Bradley AFV
2. Losses in Afghanistan of:
 - 2.1. Helicopters
 - 2.2. HumVee
 - 2.3. Tanks
 - 2.4. Bradley AFV
3. Number of mortars fired into Green Zone
4. Estimated stockpile of RPG's in:
 - 4.1. Iran
 - 4.2. Pakistan
 - 4.3. N.Korea
 - 4.4. China

Summary

US LOSSES DUE TO HOSTILITIES		
	IRAQ	AFGHANISTAN
Helicopters	85	6 (+27 due to mechanical failures)
Humvees	250	7
Tanks	20	7*
Bradley AFV	150	2*

*source: www.kavkazcenter.com

Preamble:

There is still a war going on in Iraq and Afghanistan, casualty data is heavily censored and it was not possible to obtain answers to every question. Nevertheless there is still a considerable amount of information available from open sources including secondary military sources such as the *Army Times* and internet forums with contributions from military or ex-military persons.

1 Losses in Iraq

1.1 Helicopters (Combat losses in Iraq since 2000 - 2005, source: *Army Times*)

Apache attack helicopters	27
Black Hawk utility helicopters	21
Chinook cargo helicopters	14
Kiowa assault helicopters	23

Total	85

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The US Army disclosed in January 2006 that it would seek \$1.2 billion to replace more than 100 helicopters lost to hostile fire and accidents in Iraq. (Source ARMY EQUIPMENT AFTER IRAQ, Apr 2006, Loren B. Thompson, Lexington Institute.)

RPGs are used in certain conditions against low, slow flying or hovering helicopters, where the weapon is fired from maximum range (920 meters) utilizing the self destruct mechanism as a makeshift proximity fuze.

(RPG7 self destruct at 920m – this feature is used as a proximity fuze to destroy helicopters and other targets where a near miss is as good as a kill)

The weapon scored few successes in helicopters direct hits in Afghanistan and Iraq. Recent improvements of the basic weapon include the V1 tandem warhead rocket and RPG-29, available in tandem-HEAT and thermobaric versions.

Aircraft Shoot-Downs: 75 deaths (up to end 2004)

(source:<http://www.geocities.com/militaryincompetence/americaniraqwarcasualties.htm>)

1.2 HumVee (Combat losses in Iraq since 2000 - 2005, source: *Army Times*) Humvees **250**

Rocket-Propelled and Hand Grenades attributed to 93 deaths (up to end 2004). Of which 55 were killed because they were in soft-skin wheeled trucks easily penetrated or had to dodge RPG/AKM fires, did not have or failed to use vehicle smoke grenades to mask themselves.

(source:<http://www.geocities.com/militaryincompetence/americaniraqwarcasualties.htm>)

1.3 Tanks (Combat losses in Iraq 2000 - 2005, source: *Army Times*) M Abrams tanks **20**

The M1A1 was used by the US Army and Marine Corps during Operation Iraqi Freedom in early 2003. The more recent M1A2 did not arrive until the conflict was over. There were no catastrophic losses due to Iraqi direct or indirect fire weapons but several tanks were destroyed due to secondary effects attributed to enemy weapon systems.

The frontal and hull armour continues to provide excellent crew protection but the top, side and rear armour remains susceptible to penetration. There were documented instances where 25 mm armour piercing DU ammunition disabled a tank from the rear. Left and right side non-ballistic skirts were repeatedly penetrated by anti-armour rocket-propelled grenade (RPG) fire.

Externally-stored items were highly vulnerable to small arms fire and some vehicles were lost after burning external APU material and/or packaged POL products dripping down into the engine compartment and catching fire.

Note:

(1) US military and the Pentagon claim only 4 Abrams M1A2 tanks have been destroyed in Iraq. By destroyed they mean "killed". Tanks so badly damaged that they had to be abandoned are not included in this count. (source http://www.liveleak.com/user?a=profile&user=addicted_spud)

(2) Yes very few were completely destroyed by enemy fire. These tanks were likely only disabled by enemy fire and were then destroyed by American forces to prevent the weapons and ammunition from being captured and used by insurgents. It's a pretty common military tactic. (source, LIES. coz)

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(3) One unsubstantiated source claims (Nov 2007) that 550 M1 Abrams tanks were destroyed!? The author of the website text says that he does not believe that any more than 55 tanks were destroyed or damaged beyond the possibility of repair! .
(source, <http://clearinghouse.infovlad.net/showthread.php?p=56686>)

(4) Another unsubstantiated internet source claims that the USA has lost more than 1000 tanks in Iraq!

According to *Jane's Defence Weekly*, The US Army's M1 Abrams main battle tank (MBT) top side, and rear armour "remains susceptible to penetration" and needs improving, according to the Tank and Automotive Command's (TACOM) Abrams programme manager office (PM Abrams).

In a report into the US Army's principal MBT's performance during Operation 'Iraqi Freedom', however, PM Abrams said the tank's frontal turret and hull armour continues to provide excellent crew protection. "The tank performed extremely well providing excellent manoeuvring, firepower and overall crew protection", concluded the report, which has been seen by JDW. "Engines typically outlived expectancies and transmissions proved to be durable."

PM Abrams personnel deployed forward with US Army divisions during the war and collected first-hand feedback from tank crews to compile the report. There were "no catastrophic losses due to Iraqi direct or indirect fire weapons," but several tanks were destroyed due to secondary effects attributed to Iraqi weapon systems. US Army sources told JDW that the report was only "preliminary observations" rather than a definitive study and more work was continuing to further refine the exact causes of US tank losses in Iraq. Other US Army sources report that 14 Abrams tanks were damaged and two destroyed during the war.

Most M1 losses were attributed in the report to mechanical breakdown, or vehicles being stripped for parts or vandalised by Iraqis. There were "no reported cases" of an anti-tank guided missile being fired at any US Army vehicle.

Details of the M1 losses were given, including one where 25mm armour-piercing depleted uranium (AP-DU) rounds from an unidentified weapon disabled a US tank near Najaf after penetrating the engine compartment. Another Abrams was disabled near Karbala after a rocket-propelled grenade (RPG) penetrated the rear engine compartment and one was lost in Baghdad after its external auxiliary power unit was set on fire by medium-calibre fire.

Left and right side non-ballistic skirts were repeatedly penetrated by anti-armour RPG fire, according to the report, but only cosmetic damage was caused when they were struck by anti-personnel RPG rounds. There were no reported hits on ballistic skirts and no reported instance of US tanks hitting an anti-tank mine. Turret ammunition blast doors worked as designed. In one documented instance where a turret-ready ammunition rack compartment was hit and main gun rounds ignited, the blast doors contained the explosion and crew survived unharmed except for fume inhalation.

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Countering the RPG Threat RPG-7 / RPG-7VR / RPG-18 / RPG-26



Indian International Defense Magazine (<http://www.defense-update.com/features/du-1-04/rpg-threat.htm>)

Above: M-1A1 destroyed by RPG ambush. Successful attacks are scored at stationary targets, primarily from side or rear attacks, at the less protected parts of the tanks. Below - Palestinian militants equipped with RPGs.

In the continuing conflict in Iraq, shoulder fired rocket propelled grenades anti-tank (RPG) were once again proven a potent weapon. RPGs performed impressively in all post WWII conflicts, especially in Vietnam, Afghanistan and Chechnya. In the 1982 war in Lebanon, Israeli soldiers were confronted on by many RPGs. Palestinian militants are also using in the occupied territories, but Israeli heavy fighting vehicles are well protected to sustain such attacks while effective tactics are used to avoid exposure of softer vehicles to such threats. Inexperienced RPG operators could engage a stationary target effectively from 150 – 300 meters, while experienced users could kill a target at up to 500 meters, and moving targets at 300 meters. Casualties and losses suffered during the Yom Kippur War, from RPGs and anti-tank missiles, caused the IDF to deploy add-on reactive armor.



The Israelis have used various types of add-on armor protection for their tanks and APCs. The most modern add-on hybrid armor package for M-113 and LAV is the L-VAS, designed under collaboration between IMI and RAFAEL.

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The Russian Army followed the same course as a result of its experience in Afghanistan and Chechnya. The Russians have also used cage armour, to protect against RPGs in Chechnya

Designed specifically for close combat operations, this reliable, simple and affordable weapon poses a serious threat to even the heaviest tanks, when used by determined fighters, in urban and guerrilla warfare. In Guerilla warfare, the RPG-7 is an effective tool against convoys, isolated checkpoints, and observation posts, where it is frequently used in volleys, coordination with other shooters.

The Army Times reports that the new enemy weapon that has surfaced in Iraq is the RPG-29, a powerful anti-tank munition with two warheads. Sources said the Hezbollah terrorist group is smuggling the weapon into Iraq from Syria, which resumed arms purchases from Russia last year. Israeli intelligence sources confirmed that the RPG-29 had been used by Hezbollah fighters in Israel in late 2005.

The RPG-29 is designed to defeat explosive reactive armor, metal boxes that detonate to disrupt the effects of incoming weapons; and slat armor, bolted-on cages that are designed to keep weapons from hitting a vehicle's hull.

The new grenade packs two shaped-charge warheads: a small one to blow up the reactive armor or blow through the slats, clearing a path for a larger charge to strike the vehicle's hull.

The RPG-29 poses such a threat to American armor that the U.S. military has refused to allow the newly formed Iraqi army to buy it, fearing it will fall into the wrong hands, the top Iraqi ground forces general told The New York Times last August. (Source, <http://www.armytimes.com/legacy/new/0-ARMYPAPER-1722465.php>)

According to Jane's, the threat weapons are currently typified by the ubiquitous RPG-7 grenade launcher and its original PG-7V and PG-7VM grenades, which can penetrate 260mm and 300mm of rolled homogeneous armor (RHA) respectively. However, the more recent PG-7VR grenade, which has a tandem warhead, is claimed to be capable of penetrating 600mm of RHA. A similar performance is claimed for the latest RPG-27 disposable rocket launcher.

Combat vehicles might also be exposed to attack by shoulder-fired weapons with thermobaric warheads, such as the RPO-A Shmel, or the RShG-1 and -2, which are derivatives of the RPG-26 and RPG-27. There is also a TBG-7V thermobaric grenade for the RPG-7. Such weapons may only damage the sights and the external equipment of tanks, provided their hatches are closed. But the RShG-2 could be a serious threat to lightly armored vehicles because it has inherited a precursor shaped charge from the RPG-27, which could perforate their armor and allow the thermobaric filling to enter them with devastating effect.

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Although the effective range of weapons such as the RPG-7 and RPG-27 is limited to about 200m, they are nevertheless a serious threat in urban combat. Moreover, the threat they pose is made more severe by their possible use in urban environments to attack vehicles from all directions, in contrast with attacks in open terrain that are predominantly within the frontal arc of vehicles. (Source: *Jane's International Defence Review - June 01, 2004*)

The Tank Urban Survivability Kit (TUSK) for M1A1 Tank with Abrams Reactive Armour Tiles (ARAT) provides side protection against handheld urban weapons engaged at close range. There are also a number of other enhancements such as the Rear Protection Unit (RPU). This is a slat armour system mounted at the rear to protect the engine compartment against threats, for example Rocket-Propelled Grenades. (Source: *Jane's Armour And Artillery 31 Mar 2008*)

1.4a Bradley AFV (Combat losses in Iraq 2000 - 2005, source: *Army Times*)

In this period put Bradley fighting vehicle losses at 50, however a later UK Labour Party report dated Oct 2006 states "(US) Congressional reports/ evidence reveals that there has been in the last full fiscal year the loss of 250 Hummer/Humvee's across Iraq and Afghanistan. (Also 21 M1 Abrams Tanks and 150 M2/3 Bradley ICV's)"

We feel more confident that a figure of Bradley losses is closer to **150**

In post war Iraq, RPGs have caused over fifty percent of U.S. soldiers killed in action. In Iraq, the US Army is using reactive armor to protect the Bradley M2, while the new Stryker APC is using an interim Slat (or cage) Armor until the new add-on plate armor will be delivered in 2005. Placement of sand bags and supplies boxes outside the turret and hull are also creating a gap between the RPG and the steel armor, that could degrade and even defeat the HEAT warhead of the RPG.

US Iraq casualty analysis up to end 2004 10 killed because design flaw of *Bradley* has side armor with no spacing from hull, fuel tank in vehicle center too close to turret ammunition. 5 killed because Army refuses to attach extra underbelly armor to M1 *Abrams*, M2 *Bradleys* to counter the "threat from below" which has killed more Soldiers since Vietnam than any other cause. (Source, <http://www.geocities.com/militaryincompetence/americaniraqwarcasualties.htm>)

1.4b Other Combat Vehicles (Combat losses in Iraq 2000 - 2005, source: *Army Times*)

Stryker wheeled combat vehicles **20**

M armored personnel carriers **20**

Another report says, "although more lightly armored than an Abrams tank, the Stryker has survived hundreds of hits by rocket-propelled grenades while giving soldiers greater flexibility when on patrol in dangerous areas." ("Soldiers Defend Faulted Strykers," Steve Fainaru, *Washington Post*, April 3, 2005, p.A2 .)

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2 Losses in Afghanistan

2.1 Helicopters

MH-6J: 1
AH-64 Apache: 3
HH-60 Pave Hawk: 2
UH-60 Black Hawk: 5
CH-47 Chinook: 10
CH-53 Super Stallion: 3
MH-53 Pave Low: 2
OH-58 Kiowa: 2
UH-1N Huey: 1
Cougar AS532: 1
AB 212: 1
Mi-17: 1
Unknown: 1

Total: **33** helicopters (6 to hostile fire)

On Day 1 of the operation in Afghanistan.... The Apache attack helicopters attempted to suppress the numerous enemy positions and four of the eight were immediately damaged by RPG and machine-gun fire..... One of their Chinook helicopters was hit and crash-landed... a second Chinook was shot down at the southern LZ; eight Americans were killed in action and another 40 or so wounded.

<http://www.ndtv.com/convergence/ndtv/story.aspx?id=NEWEN20080057155&ch=7/15/2008%2010:14:00%20AM>

2.2 HumVee, total reported: **7** lost

2.3 Tanks, **7** NATO tanks lost, type unspecified*

2.4 Bradley AFV, **2** lost*

*the only data source located is www.kavkazcenter.com, a pro Taliban and Mujahideen website.

3 Nr of mortars fired into Green Zone

It was not possible to determine the number of mortars fired into the Green Zone, but the number of US forces killed (2003 - 2 Sep 2008) numbers 74 persons. Independant claims are that 58 of these could have been saved had they been in dug-in ISO container "Battle Boxes" that can be moved around so we do not present a fixed target or live in former dictator palaces. Since 2005 deaths have greatly reduced with 8 in 2006, 3 in 2007 and 1 in 2008.

4 Estimated stockpile of RPG's in Iran, Pakistan, N.Korea and China

Several of the countries using the RPG-7, besides Russia, are licensed to build their own including Bulgaria, China, Iran, Iraq, Romania and Pakistan. (Source: http://www.olive-drab.com/od_infweapons_soviet_rpg.php)

Iraq and Afghanistan create market for weapons, as reported on July 15, 2008 by the, United Nations.

The wars in Iraq and Afghanistan are undermining efforts to destroy surplus weapons by creating new markets for countries to sell their unwanted firearms, according to a survey. Although the world is witnessing "the largest systematic destruction of military small arms and light weapons since the end of World War II," countries that would normally have destroyed their surplus weapons are now being encouraged to export them, the Small Arms Survey 2008 said.

"The wars in Afghanistan and Iraq have created a revolution in the market for second hand weapons," said Aaron Karp, a senior consultant with the Survey. "We were building up

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momentum in favour of destruction throughout the early 2000s and that momentum has shifted because of the creation of new export opportunities," he added. About 750,000 weapons have been sold to security forces in Afghanistan and Iraq since the wars in those countries began in 2001 and 2003 respectively, according to the study. 500,000 are second hand. They could have been destroyed," Karp said. Countries supplying these weapons include Serbia, Albania and Bosnia-Herzegovina, who sell their surpluses to fund their militaries. The weapons usually go to the government of the recipient country to arm police, border guards, and the armed forces. Karp said Serbia had become the dominant arms supplier to Iraq while Bosnia had become the major supplier to Afghanistan. (Source: Agence France Presse)

Popular Mechanics had an interesting article on the RPG-7:

....by the time the first statue of Saddam Hussein was pulled off its pedestal, a massive stockpile of rocket-propelled grenade launchers and shoulder-launched anti-aircraft missiles had fallen into the hands of Islamic insurgents (...Hussein's looted arsenal was also brimming with SA-7 Grail anti-aircraft missiles.In Iraq, as many as 5000 Grails are believed to have fallen into the hands of insurgents.). In the months that followed, half the Americans who died in Iraq were killed by one type of these weapons, the RPG-7 rocket-propelled grenade. (Source: <http://jrobb.mindplex.org/2004/04/06.html>)

Mordica and other weapons analysts told Popular Mechanics that at least 1 million RPG-7s have been manufactured by Bazalt or are under license. What is known is that since the fall of the Soviet Union, the flow of RPG-7s from military warehouses to the black market has grown from a trickle to a flood. RPG-7s are now so plentiful, they can be bought for less than the price of a decent laptop computer.

The mujahedeen (in Afghanistan) found the weapon even more valuable, adopting tactics that included forming armor-vehicle hunter-killer teams. "Fifty to 80 percent of the personnel were armed with RPG-7s. This could be up to 15 RPGs," says Grau.

Part of the reason for the continuing success of the RPG-7 is Bazalt's eagerness to introduce new types of ammunition for its venerable weapon.

Note: "The Federal State Unitary Enterprise "State Research and Production Enterprise "Bazalt" founded in 1938 as an independent organization is one of recognized world leaders in designing and developing all types of aircraft bombs, anti-tank and anti-saboteur marine grenade launcher complexes, mortar shells of all types and calibers and other kinds of ammunition.

According to foreign sources, the ammunition developed by FSUE "SRPE "Bazalt" is in service with the armed forces of over 80 countries of the world. Licences for production of 61 kinds of ammunition were transferred to 11 countries of the world.

Jane's comment

A Jane's Editor when asked to estimate the number of RPG's in Afgahnistan replied, "How much does a rocket for a RPG launcher cost? Nothing. There's literally tens of thousands of them in Afghanistan alone. RPG 7 rockets are basically rounds of ammunition. The quantity of RPG's can also be considered as "unlimited" as the country is awash with arms."

Appendix

National Inventories: China

National Inventories: Iran

National Inventories: North Korea

National Inventories: Pakistan

Afghanistan - Too many weapons in private hands

List of US casualties in Iraq & Afghanistan

RPG – 7

RPG - 29