

INFANTRY WEAPON SYSTEMS USED BY SPECIAL OPERATIONS FORCES TO CARRY OUT ASSIGNED MISSIONS

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ABSTRACT

Special Operations Forces (SOF) operate in dynamic, challenging environments, requiring accurate and versatile infantry weapon systems to effectively perform their assigned missions. This article provides a comprehensive review of the diverse range of infantry weapon systems used by SOF units in different theatres of operations. Through a synthesis of empirical data, operational perspectives and expert analysis, the study aims to elucidate the critical role of specialised weaponry in increasing the success rate of SOF missions. The analysis covers a broad spectrum of weapon platforms, each tailored to meet distinct mission requirements. In addition, the article explores the integration of advanced technologies into weapon construction, such as high-performance optical systems, silencers and other modular accessories, which enhance the lethality, accuracy and stealth capabilities of special forces units.

KEYWORDS: weapon systems, special forces, automatic weapons, special equipment, assault rifle

1. Introduction

Special Operations Forces (SOF) are elite military structures that plan and execute special operations, using unconventional tactics, techniques and methods, across the full spectrum of action, conducted independently or in conjunction with conventional forces, with the aim of achieving success, strategically or operationally, even when there are significant political risks.

Special Operations (SO) involve the use of small units in military actions, focused on strategic or operational objectives.

Units of this type are made up of military personnel specialised in more than one military speciality, trained to use modern, high-performance equipment in combat, and capable of dealing with difficult tactical situations beyond those faced by conventional forces.

Special operations involve the execution of missions on the edge, often with a political underpinning, which is why the best forces, equipped with modern weapons systems, must be involved, and failure in combat must be ruled out in order to avoid undermining the interests and prestige of the state concerned.

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The success of special operations is based on the establishment of clear strategic objectives, both at national and theatre level, on the effective provision of

command, control, communications, computers and intelligence (C4I) support at operational level, and on accurate and competent planning, leading to tactical execution. This requires them to be trained, equipped and organised in such a way that they can conduct such operations.

The research methodology applied in this article on Special Operations Forces (SOF) infantry weapon systems combines qualitative and quantitative approaches. The study includes an in-depth literature review of existing military documents, reports and academic papers on SOF weaponry and tactics. The study also incorporates empirical data collected in field and operational reports. The analysis of technical data and the way such weapons are deployed is based on interviews and consultations with military personnel and defense industry experts. In addition, the methodology includes case studies of specific SOF deployments to illustrate the practical application and effectiveness of the various weapon systems. The advanced technologies embedded in these weapons are evaluated against technical specifications and performance parameters to provide a comprehensive picture of their impact on mission success.

2. Defining Aspects of Special Operations

Successful operations of this type require planning of activities down to fighter level and detailed information. It is also relevant to know the culture(s) and languages of the geographical area(s) in which the missions are to be carried out, and to carry out rigorous training based on the tactical situation of the mission, repeating it and the individual tasks until stereotypes are created.

Special missions are often conducted at a considerable distance from the operational support bases and sophisticated communications systems may be used to avoid interception or jamming of the means of communication with the own structures.

Non-standardised equipment is used during actions, which is required by the discriminate and precise use of force, with penetration, support and return from the area of action being based on state-of-the-art technical means with multiple functionalities.

Since special actions are often not conducted in plain sight, in order to avoid political conflict, actions in areas of interest are generally denied or veiled.

3. Main Attributes of Special Operations Forces (SOF)

From the outset, it should be noted that special forces soldiers have skills that distinguish them from line soldiers, and their training requires a long time and considerable expense.

They go through a special training and education programme, which makes intense demands on them and puts them to the test, in relation to the skills and performance levels achieved by each individual.

The preparation and selection phase for missions involves complex selection processes, with only those able to meet the required standards, which are above those of the military in the line forces, being retained. The level of specific training of the forces is strictly checked to see to what extent they are capable of carrying out the missions entrusted to them, especially as they cannot be replaced and no personnel with the required level of competence can be generated. The personnel in such structures have a high level of competence in at least two military specialities. Since training takes place in the context of the military needing to know the culture(s) and languages of the geographical area(s) in which they will be deployed, they will be regionally oriented for employment.

It should be emphasised that special operations forces are not a substitute for basic forces, but can be engaged in combat with them at the front line where the situation is most difficult and joint training actions can be organised to synchronise combat.

For politico-military reasons, the actions of special operations forces are often clandestine.

4. Missions of the Special Operations Forces

Special Operations Forces perform missions specific to unconventional warfare, internal defence missions, external defence missions, special reconnaissance missions, direct action missions, counter-terrorism missions and weapons of mass destruction counter-proliferation missions.

These types of missions make Special Forces unique, as they are engaged in combat in peacetime, in situations of armed conflict and in wartime.

According to their nature, special operations forces carry out two types of missions, namely primary missions and secondary missions.

Primary missions encompass a range of critical tasks that Special Operations Forces (SOF) undertake to achieve strategic objectives. These missions include Direct Action (DA), which involves swift, targeted strikes to disrupt enemy operations; Counter Terrorism (CBT), a multifaceted effort aimed at neutralizing terrorist threats and safeguarding civilian populations; foreign internal defense (FID), wherein SOF collaborate with allied forces to bolster security and stability in partner nations; Unconventional Warfare (UW), encompassing clandestine operations to undermine adversary forces; special reconnaissance (SR), involving covert intelligence gathering in high-risk environments; psychological operations (PSYOP), focused on shaping attitudes and behaviors through information campaigns; civil affairs (CA), facilitating cooperation between military and civilian authorities to support operational objectives; Information Operations (IO), leveraging technology to influence adversary decision-making; and Weapons of Mass Destruction (WMD) Counter-Proliferation Operations (CP), aimed at preventing the spread of deadly weapons.

Secondary missions further extend SOF capabilities and support broader military objectives. These include Coalition Support, facilitating interoperability among allied forces; Combat Search and Rescue (CSAR), rescuing personnel in hostile environments; counter-drug (CD) activities, disrupting illicit narcotics networks; Counter Countermeasures (CM) activities, neutralizing explosive threats; humanitarian assistance (HA), providing aid in crisis situations; and security assistance (SA), bolstering the capabilities of partner nations in alignment with national foreign policy goals. These missions collectively demonstrate the versatility and effectiveness of SOF in addressing diverse challenges across the global landscape.

5. Requirements for Infantry Weapon Systems in Special Forces

The diversity and complexity of the missions that special forces perform require adaptability, flexibility, high firepower, maneuverability and safety in the storage, handling and use of the weapon systems they are asked to use. In addition to these, the Special Forces also benefit from high protection equipment and high-performance communications.

They use a wide range of systems, from self-defence to medium and long-range combat systems such as assault rifles and sniper rifles.

In order to limit the possibility of counteracting the combat effects of the weaponry used by special operations forces, some of it is designed or adapted strictly to meet the specified operational requirements. For this reason, it is made in small series, sometimes in one piece, and is difficult to repair and replace.

In general, a special forces weapon must have characteristics such as reliability, ensuring guaranteed operation when firing a large number of rounds, and high accuracy to take out a target from the first shot. From this perspective, many of the weapons are

equipped with day and night sights and the staff with high-performance day sights.

The pace and intensity of actions are variable and require the possibility of sudden interruption of fire, which is particularly important in counter-terrorism, counter-narcotics and apprehension missions.

Unconventional actions require a high degree of mobility of the fighter, having ballistic protection equipment and individual weaponry on him, which requires that the latter does not hinder him, being necessary to be as compact as possible, allowing easy maneuverability in the most unfriendly and less accessible spaces and modular, in order to put at the fighter's disposal substantial elements that increase his performance in combat. Equally, it must allow the weapon to be changed in calibre or accessorised, enabling the fighter to adapt easily to the tactical situation at hand, using a single weapon system.

Of particular interest is the high magazine capacity, to facilitate diverse, high-risk combat actions with frequent changes of target position, requiring short reaction times and not allowing immediate change of weapon system magazines.

Weapons carried must be light, allowing rapid movement in the area of combat actions, over long periods of time, with frequent changes of position of the weapons and the fighter.

If one were to rank these characteristics in conjunction with the types of special forces missions, reliability would rank first, followed by shooting accuracy. It is vital that the weapon works every time and the bullets hit their intended targets.

Magazine capacity sizing is related to the calibre of the weapons, and it is important to maximise the number of rounds that fighters can carry without affecting their combat capability during missions. So, the number of rounds of cal. 5.45 mm or 5.56 mm will be much higher than cal. 7.62 mm or 12.7 mm.

Special forces need weapons that provide both protection and concealment during actions, which increases the importance of using precision weapons that operate semi-automatically or non-automatically, but also high hit density in a given area to prevent enemy retaliation, in which case they use fully automatic weapons such as light machine guns. The first category of weapons also facilitates low ammunition consumption, which is a factor worth considering during isolated missions.

The easy use of weapons of high diversity and complexity requires superior preparation (knowledge and training) of special forces soldiers, since during missions they encounter unforeseen situations and need to retaliate with their own weapons or those captured from the enemy.

6. Infantry Weapon Systems Used by Special Forces

If we had to give one attribute to the weaponry used by Special Forces units, it would be diversity, as a foundation for the military to carry out a wide range of missions with a high degree of complexity and risk. In general, most Special Forces use the following types of weaponry.

6.1. Pistols

➤ **The Glock 19** is the basic pistol of many special operations forces.

It is used by American special forces (Delta Force, Rangers, Navy SEALs), British, Russian, Romanian and other countries, most of which use it under the name Glock 19.



Figure no. 1: *Glock – pistol, calibre 9mm*
(Source: The Glock Shop, 2024)

These pistols are made in different designs, which follow the basic solution, but may vary in size, calibre and shape. The guns are based on three safety systems, which are outstanding during operation and make accidental firing almost impossible. It has been found that when falling on hard objects, such as the floor of a turret or hitting objects on the ground after a parachute, the gun does not go off if the safeties are activated. The relatively simple construction and the small number of components (34 parts) make it easy to know, dismantle and reassemble the weapon. Simplicity makes the weapon very reliable, allowing it to operate in extreme conditions without even stopping.

The Glock can be equipped with lighting systems, optics, caliber change and the use of magazines of increased capacity, 22 and even 30 rounds, and is appreciated by the military in special forces.

➤ **Makarov**

Makarov is appreciated for its simple design and reliability. The pistol has a compact design and at its time was considered as one of the best self-defence pistols. It is known and appreciated mainly by special operations forces in Eastern Europe, although the gun is not very accurate or lethal at ranges over 15-20 meters.

The Makarov is a double-action pistol, has a manual safety on the left side of the weapon and is made in a steel configuration typical of older models. The gun was made in horse variants. 7.62 mm and cal. 9mm.



Figure no. 2: *Makarov – pistol, calibre 7,62 mm*
(Source: <https://en.kalashnikovgroup.ru/catalog/boevoe-strelkovoe-oruzhie/pistolety/pistolet-makarova-modernizirovannyy-pmm>)

➤ **CZ 75**

It is a pistol used by many European special forces, especially law enforcement. The design of the weapon has undergone adaptations, especially in the last three decades.

The pistol has been produced in several different designs, mainly differentiated by calibre, gauge, weight, magazine capacity, trigger mechanism operation, safety features, finish, body material, grips and other specific improvements. The CZ 75 is in the service of the Czech and Turkish police and various police departments in the United States. The reviews of the pistol are of the highest order, being considered one of the best combat pistols in its class.



Figure no. 3: *CZ 75 – pistol*
(Source: <https://blog.cheaperthandirt.com/range-report-remarkable-cz-75/>)

➤ **Beretta 92**

The Italian-designed Beretta 92 is one of the most popular combat pistols and is used by special forces around the world, including the US. It has earned its prestige as it offers a multitude of attractive technical-tactical features, being safe in storage, handling, accidental hits, easy to fire.

For all these reasons, it has become a reliable individual weapon and has become a favourite among users, in a variety of designs.



Figure no. 4: *Beretta 92 – pistol*
 (Source: <https://www.amis-instinct.ro/produs/pistol-cu-glont-beretta-92fs-9x19/>)

➤ ***SIG-Sauer P226***

The SIG-Sauer P226 is a popular pistol among Special Operations Forces (SOF). Initially, although it fully met the technical-tactical requirements of the recipient, it lost out to the Beretta 92 F due to its lower purchase price. Subsequently, it gained global appreciation, being preferred by police forces, the army and civilian shooters.

The P226 first used the cal. 9 mm, the bullet having a high velocity at launch and therefore high penetrating power. It is the primary weapon used in close-range combat, which is why it was preferred by US Special Forces in conflicts in the Gulf, Iran and Afghanistan. The P226 is also used by special operations forces in the UK, Canada, China, France and Germany. The weapon has been produced in many variants (approx. 15) and meets the challenges required by the diversity of tactical battlefield actions.



Figure no. 5: *SIG-Sauer P226 – pistol*
 (Source: <https://www.sigsauer.com/p226-elite-full-size.html>)

6.2. Automatic Weapons

The high degree of complexity and dangerousness of the missions carried out by Special Forces requires modern weapon systems and equipment capable of supporting their combat operations.

One such advanced combat system is the assault rifle. In recent years, innovative technical solutions have been developed and incorporated into their structure, developing modular weapons, based on bullpup construction principles, in ambidextrous systems, with telescopic beds or weapons accessorised by means of picatiny and waber rails, ensuring their increased combat capability.

Today's Special Forces rifles are designed to be quickly reconfigured in the field for different types of missions or applications. Optical systems, lasers, night vision systems, thermal imaging systems, silencers, and grenade launchers can be mounted on weapons via these rail systems.

Other specialised weapon systems have also been developed, some of which even allow firing around corners, through walls or from unconventional positions, which is particularly important in urban combat.

Suggestive, for the purposes of the above, is the presentation of some weapons used by special operations forces around the world, mainly standard weapons.

➤ ***American M4 carbine***

It is an assault weapon with high combat performance, used in many situations by special operations forces. The weapon uses 5.56 mm NATO-standard ammunition, has a high rate and accuracy of fire, and can be easily operated and manoeuvred both day and night, which is vital for the type of actions carried out by special forces sub-units in combat zones. For easy movement, it is equipped with a detachable carrying handle.



Figure no. 6: *M4 – carbine*

(Source: https://odin.tradoc.army.mil/WEG/Asset/M4_Carbine_American_5.56mm_Assault_Rifle)

The weapon is used by Special Forces in Canada, the United Kingdom, Denmark, the Netherlands, Norway, Portugal and Romania.

➤ ***Israeli-designed Tavor assault rifle***

The Tavor is considered one of the most modern weapons in the Israeli armed forces. The compact structure, design and shooting stability of the weapon make it

particularly suitable for fighting in urban areas, and it is preferred by Special Forces.

The weapon is of the bullpup type, allowing the attachment of multiple accessories, including a hose grenade launcher, 40 mm, md. M203. It is made in different calibres to easily adapt to the specifics of combat actions.



Figure no. 7: *IWI-Tavor assault rifle*

(Source: <https://iwi.us/firearms/tavor-sar/idf-5-56-nato-16-5in-barrel/>)

➤ ***British-designed L85A2 assault rifle***

The L85A2 is the standard assault weapon of the British forces, based on the earlier L85A1 concept, which was upgraded by the German company Heckler&Koch between 2000...2002. The weapon is robust, with high firepower, is built according to the bullpup principle and has increased accuracy and reliability, being able to cope with the diverse challenges demanded by the battlefield. The calibre of the weapon is 5.56 mm and its effective range is close to 600 metres, the weapon is approved and used by British Special Forces.



Figure no. 8: *L85A2 assault rifle*

(Source: <https://www.eliteukforces.info/weapons/sa80/>)

➤ ***HK G36 assault rifle of German design***

The HK G36 is a horse assault rifle. 5.56 mm rifle with high firing accuracy, which is why it has been approved for use by both German line and Special Forces. Among other things, the weapon has a magazine made of translucent material, which allows the quantity of ammunition in the magazine to be observed at all times, making it possible to determine when it changes in relation to the tactical situation on the battlefield. At the same time, the rifle can use a large-capacity drum-type magazine that can hold 100 rounds. The rail system under the barrel allows the attachment of a horse grenade launcher, 40 mm grenade launcher, which has a trigger independent of the weapon's trigger.

The rifle is made mainly of lightweight, corrosion-resistant synthetic materials. The weapon has been produced in many versions and has been adopted by military forces on all continents (approx. 30 countries), including Romania (Wordpress.com, 2014).



Figure no. 9: *HK G36 assault rifle*
(Source: https://www.militaryfactory.com/smallarms/detail.php?smallarms_id=89)

➤ ***HK 416 assault rifle of German design***

The HK 416 is a German-made assault rifle used by several armed forces around the world, and is valued for its accuracy and reliability as well as its ease of use. The rifle has a modular design that allows for easy customization and accessorization, making it a standout among regular military, special operations forces and law enforcement agencies.



Figure no. 10: *HK-416 assault rifle*
(Source: Reddit, n.d.)

HK 416 can be found in Special Forces in Germany, France, and Spain.

➤ ***American MK18 carbine***

The MK18 is a weapon aimed at special operations forces and is highly regarded among them. The carbine uses

caliber ammunition, 5.56 mm NATO standard ammunition and is light in weight, making it suitable for combat in confined spaces and easy to carry and handle. At the same time, the weapon is quick to assemble and disassemble and easy to maintain.



Figure no. 11: *MK 18 assault rifle*
 (Source: Daniel defense, n.d.)

➤ ***Russian-designed PP-2000 automatic pistol***

The PP-2000 is a modern, compact, easy-to-use and easy-to-handle weapon used in special operations such as close combat and police anti-drug actions.

The weapon has cal. 9 mm and is used for actions taking place at close range and involving increased tactical and fire mobility.



Figure no. 12: *PP 2000 assault rifle*
 (Source: <https://rostec.ru/en/news/pp-2000-submachine-gun-a-last-ditch-weapon/>)

➤ ***CornerShot – Israeli designed weapon***

This system can change the nature of the actions deployed by providing fighting forces with an effective tool to accurately identify and engage a target with minimal risk to personal safety. The CornerShot system is designed in a way that allows

forces to engage targets arranged in multiple directions, with the ability to move into each of these firing positions very quickly without taking their hands off the weapon. This shortens reaction time and increases accuracy in sudden engagement situations.



Figure no. 13: *CornerShot system*
 (Source: <https://www.drdo.gov.in/drdo/corner-shot-weapon-system>)

The system allows the execution of shots using the pistol cal. 9mm pistol and is intended for use with assault weapons.

The construction of the weapon facilitates actions carried out under special combat conditions and can facilitate the performance of special forces missions.

The Corner shots system requires additional training hours to develop the skills of the special forces, ensuring that the system can be used to its full technical and tactical value. The same is true for other types of combat equipment and systems.

7. Conclusions

Special Operations Forces are military structures made up of military personnel specialised in more than one military speciality, trained to use modern, high-performance equipment in combat, and capable of dealing with difficult tactical situations beyond those faced by conventional forces, deployed on a wide and complex range of missions.

They undergo a special training and education programme, which makes intense demands on them and puts them to the test, in relation to the skills and performance levels achieved by each individual.

In order to carry out their missions successfully, the Special Forces are equipped with various categories of individual weaponry characterised by high reliability and accuracy, the possibility of sudden interruption of firing, compactness, modularity, low weight and high magazine capacity.

Of all the individual weapon systems used by Special Forces, some of the most

suggestive have been presented, without claiming that there are not others that match their performance.

Examining the individual weapon systems employed by Special Operations Forces (SOF) underscores their critical role in enabling these elite units to successfully execute a wide range of complex and high-risk missions. SOF members must master multiple military specialties, and their rigorous training programs prepare them to handle demanding tactical situations beyond the capabilities of conventional forces. The weapons they employ are a testament to the sophistication and specialization required for their missions.

The implications of this knowledge are important for both military strategy and the broader field of defense technology research. The development and refinement of these weapon systems is central to maintaining SOF's operational advantage. This study highlights the importance of continued research and innovation in weapon design to meet the changing demands of modern warfare.

Furthermore, the study contributes to the broader field of military research by providing insights into the specific needs and challenges of elite forces. It emphasizes the need to continuously develop weapon technology to meet the unique operational requirements of SOF. As threats and combat environments evolve, the integration of advanced technology into weapon systems will remain a critical focus to ensure SOF units maintain their superior effectiveness and operational readiness.

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