

## THE INFANTRYMAN'S BURDEN

Certain subjects spark debate; others, no less important or seemingly intractable, do not. One such is the load that dismounted infantry today are expected to carry and remain fit to fight. Technology enables huge improvements to the infantryman's capability, but most come at the price of weight increase. Where is the balance? There is no easy answer because his job is very dangerous and he needs all the help that technology can give him. But can't technology also keep the weight down? Is the lack of wide debate giving the scientists and engineers the wrong message?

# The Infantry Section: Lifting its Capability

by Colonel Alec Bain

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The infantry section on operations today is a profoundly more capable grouping than a few years ago. Much of this is due to changes in tactics and improved training for both the infantryman and his leaders. However, few of these developments would have been possible without the new weapons and equipment that have been issued over the last 15 years and especially through the Urgent Operational Requirement (UOR) process of the last six years. I will leave the discussion on tactics and training to others and focus on the changes to the equipment 'line of development'.

### Comparison with the Falklands 1982

The 25th anniversary of the Falklands campaign is a good point from which to make a comparison. At that time, the infantry rifle section comprised ten men – an assault group of seven riflemen and a supporting 'gun' group of three men. The section commander (a corporal) led the assault group and the second in command (a lance corporal) the gun



*A soldier wearing a Head Mounted Night Vision System (HMNV), and using a SA80A2 rifle fitted with an ACOG battle sight and a 40 mm underslung grenade launcher (UGL)*

group. Their weapons and tactics were remarkably simple with all riflemen equipped with a single shot 7.62mm self-loading rifle (SLR) and bayonet, and an assortment of grenades. Each man carried four 20-round magazines, with the fifth magazine carried in a 'large pack' by the platoon sergeant. The 'Energa' grenade fired from the rifle muzzle had been out of service for the previous ten years. The gun group was based on one 7.62mm general purpose

machine gun (GPMG) and had a maximum of 1000 belted rounds, which were carried across the section. All the weapons had iron sights and the only night-fighting capability was the addition to the GPMG of a first-generation image intensification (II) system. One rifleman also carried the Carl Gustav anti-tank weapon with four rounds spread across the section. Only the section commander carried a radio as part of the platoon net. Except for service in Northern Ireland,

no body armour was worn and the 'tin' helmet, rarely.

How things have changed! The rifle section is now eight strong, made up of two 'teams' each of four. This construct was developed 20 years ago from the Northern Ireland 'multiple'. This comprised several four-man teams,<sup>1</sup> in which co-ordinated manoeuvre was the key requirement, with each team being able to act autonomously when required. This was enabled, in part, by the entry into service of the SA-80 family of small arms. This logic still stands and fully supports current doctrines for all types of operations and all phases of war. What it means is that the team is the fundamental 'building block' at the tactical level and has been equipped and trained to operate with greater autonomy in all circumstances and environments.

### The Team

To enable this greater autonomy, the team must be able to manoeuvre in its own right, requiring the ability to suppress and assault at the same time. Soldiers are no longer viewed as individuals, but the team is viewed as a system. The fall-out from this is that each man in the team has his own specific function and, therefore, no two men in the team carry the same weapon and equipment mix. This has generated a heavier training bill and the need for a much more flexible (modular) approach to load carriage.

### Command and Control (C2)

Each man in the section carries a Personal Role Radio (PRR) providing a section communication net. First employed five years ago this has dramatically improved, if not revolutionised, low-level command and control (C2). A digital PRR enabling secure voice and low-level situational awareness will be issued in the near future. The section commander carries a 'command' PRR linked to a Bowman digital radio. With this system he can speak to either his section or on the platoon or company net respectively.

The Bowman digital radio enables direct access to Mortar Fire Controllers (MFC) and Artillery Forward

Observation Officers (FOO). The employment of indirect systems from section level is now a regular occurrence and frequently includes fixed and rotary wing assets. A laser-based Commanders Target Location System (CTLS) will also be issued to team leaders shortly. This will give capabilities similar to the MFC but linked into the digital network, enabling target hand off between section members.

### Surveillance Systems and Weapon Sights

The introduction of the SA80, and the Sight Unit Small Arms Trilux (SUSAT) in particular, dramatically improved shooting within the British Army. The fielding of a much improved II system, the Common Weapon Sight (CWS), has greatly enhanced the ability to operate at night. All platoon members are now equipped with the Head Mounted Night Vision System (HMNVS), a monocular II sight, which enables the soldier to manoeuvre at night whilst retaining night vision in his other eye. The HMNVS will not function effectively below a minimum level of ambient light, while it can white out in bright artificial light. To counter these problems a mix of night vision systems is required within the fire team, and hand-held Thermal Imaging (TI) observation systems are already issued and are shortly to be supplemented with two Light Weight TI weapon sights per team. All rifles are also fitted<sup>2</sup> with the Laser Light Module (LLM), which provides visible and infrared illumination and laser aiming for use with the HMNVS.

### Firepower

The section commander and riflemen carry the L85A2 rifle, which has proved a very reliable and capable weapon since the upgrade in 2001. Greater suppression is found from a combination of the 5.56mm L86A2 Light Support Weapon (LSW), which is used in the sharpshooter role out to 700m, and the 5.56mm Light Machine Gun (LMG), which is optimised for high rates of fire at ranges below 300m. The LSW gunner now carries the same scales as the riflemen – 180 rounds in magazines and a bandolier of 150 rounds. The LMG first-line scale is 600

rounds. Under normal circumstances a 40mm Underslung Grenade Launcher (UGL) is attached to the rifleman's weapon, although sometimes it is carried by the team leader. This is often used as a means of initiating an action and is one of the many lessons that shows the importance of high tempo as a prerequisite to success for the infantry section and platoon in close combat, where the winning advantage can be counted in seconds and metres.

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***'The team must be able to manoeuvre in its own right, requiring the ability to suppress and assault at the same time'***

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### Protection and Load Carriage

The Combat Body Armour (CBA) has been further improved on several occasions over the last three years,<sup>3</sup> though this has added considerable weight and bulk to the individual soldier's load, a theme to which I shall return shortly. The new Mk6A helmet offers considerably enhanced protection over its predecessor. Under the recently issued Force Protection Strategy, a modular approach to personal protection is required that will enable commanders to decide on the levels of protection, balanced against considered risk, necessary to achieving mission success. For example, a commander might determine that individual mobility is a significant Force Protection factor for a particular operation, and therefore elect to use the smaller, lighter enhanced CBA ballistic plate over the heavier OSPREY version.

### Mobility

However, the development and improvements in C2, surveillance systems, firepower and protection have come at a price. The average weight carried by a team leader on current operations is 52kgs<sup>4</sup> and no less than

	Commander	Rifleman	LSW Gunner	LMG Gunner
Rifle	x	x		
LSW			x	
LMG				x
UGL 40mm	x			
SUSAT	x	x	x	x
LLM	x	x		
LWTI	x			
HMNVS	x	x	x	x
CWS			x	x
Bayonet		x		
Body Armour	x	x	x	x
Helmet	x	x	x	x
PRR and GPS	x	x	x	x
Section SA	x			
Bowman radio	x			
CTLS	x			
ECM – threat dependent	x	x	x	x

42kgs for each of the remainder of the team. As the capabilities increase, so will the weight on each man's back. We have reached the point at which we can no longer add to this. As indicated above, commanders must strike a difficult balance in providing appropriate levels of protection without endangering the probability of mission success. From now on each upgrade to an existing capability must weigh less and be less bulky than that which it is replacing. Indeed, bulk and weight will be key considerations in the development of new capabilities.

### Conclusions

The simple fact is that on current operations the four-man infantry team – and thus the rifle section – has many more capabilities than their forefathers in the Falklands War. The team is considered as a system that has many capabilities from which to draw in order to achieve success more quickly and with fewer casualties. The ability to manoeuvre and fight at night gives a significant edge. These capabilities enable

greater autonomy of action and much greater synergy with the other half of the section and the platoon, allowing more complex and effective tactics. Conceptually, this is only possible with the application of the philosophy of Mission Command, enabled by a second-to-none training system for our junior leaders. The greater weapon ranges and rates of fire, plus timely access to indirect fire assets, provide greater suppression, enabling much greater freedom of manoeuvre for the infantry teams and sections, thus maintaining high tempo. Physically, these capabilities must be balanced against the weights our infantrymen are now carrying. There is a requirement for an ultra light utility vehicle (ULUV), operated at platoon level in order to relieve the fighter of the additional weights. A robust force protection policy that will enable and support commanders in making considered decisions on the balance of protection and mobility exists and must be defended.

We must be a little cautious of these

successes. The cutting-edge capabilities now issued and the timely upgrades have occurred in many cases through the UOR process. We must keep and continue to develop these capabilities to maintain this edge. Therefore, these capabilities must be brought into the core programmes and continue to be developed. Secondly, we

*'The average weight carried by a team leader on current operations is 52kgs and no less than 42kgs for each of the remainder of the team'*

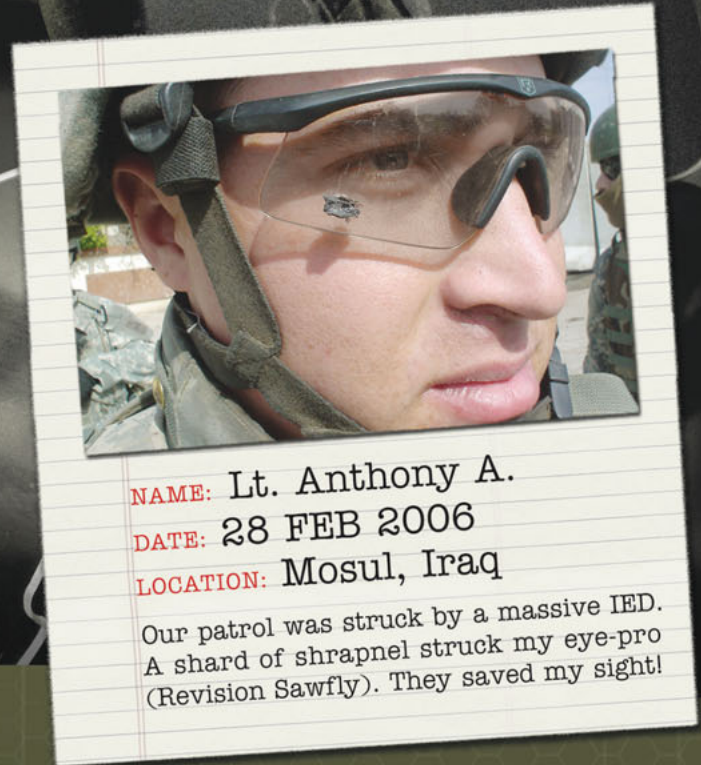
are about to provide the 'straw' that will break the camel's back, and therefore we must do everything possible to minimise the weight and bulk that we ask the infantryman to carry through both clever technologies and procedural solutions.<sup>5</sup> Both will cost, as will the need for regular and demanding training, especially live firing, if we are to continue to fully exploit these growing capabilities.

Finally, although we are gaining greater tactical benefit for the infantry team and section than used to be the case, this is not simply a matter of achieving 'more with less'. For the infantry, there is a critical mass below which we cannot drop if we wish to maintain these high standards. ■

### NOTES

- 1 The number of teams (bricks) in the multiple depended on the mission requirements
- 2 All weapons are now fitted with the 'picattingy' rail, which is a common fit for all sights and ancillaries
- 3 The introduction of OSPREY CBA (full front and back ballistic plates) and KESTREL CBA (OSPREY with additional neck and upper arm protection for vehicle commanders and sentries)
- 4 The aspiration is to deploy infantrymen with no more than 26kgs
- 5 ULUV

# 37 STRIKES... NO PENETRATION



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**DATE:** 28 FEB 2006  
**LOCATION:** Mosul, Iraq

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