- TING SIGHTS PO Box 2108, Salisbury, SP2 2BX, UK

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SIGHTS FOR NIGHT VISION GOGGLES

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When I was a young officer military memories still went back to the South African War at the turn of the century. There had been a short story, designed to improve the ability of young officers, called the Battle of Duffer's Drift. In it an officer dreams each night of how to fight the battle; each night the battle is fought and he loses. By the last night he has come to the correct plan and wins.

The present use of night sights and night vision goggles reminds me of this. Think of the staff officer responsible for equipping an infantry platoon. He has listed the weapons that may be used at night:-

Rifle
Sub machine gun
Light Anti-armour Weapon
Machine gun - against targets on the ground
against targets in the air
40 mm Automatic Grenade Launcher
Pistol

The first night he dreams that each of these has its own night sight as well as its own day sight. The dream ends in a nightmare when he adds up the cost.

The next night he dreams that some clever developer has produced a night sight which clips onto the day sight (like the Simrad). The enemy attacks; the device is on the machine gun. By the time he has transferred it to the LAW the tank has killed him.

The next night he dreams of night vision goggles. But as he dreams he finds that the day sights on the weapons do not match the goggles.

The last night he dreams of Ring Sights (what else?) and finds that every weapon he picks up works with night vision goggles. When he works out the cost it is marginal compared to the gain in effectiveness. Why is this?

It is because the Ring Sights are already optimised for use with NVGs as well as for use by day.

The rifle can be fitted with the HC-14-62 (the standard sight on the FN P90); the LAW with the RC-12 or a derivative (the standard sight on the UK LAW 80 - it only needs a red betalight); the machine gun a LC-31-83 with red betalight or red dot pack (LED illumination) - this sight can be used against ground or air targets.

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We have the WC-30 sight for the 40 mm AGLs and this can be used by day and, with a red dot pack, with NVGs.

Finally our EPC pistol sight enables a man with night vision goggles to shoot an enemy first time at 100 metres; it suits a sub machine gun, such as the H&K MP5, too.

The man with NVG can use them for observation. When he has identified a target he can select the right weapon and kill it. No re-zeroing, no sight changing, just pick up the weapon and shoot. He can use his own rifle, his own pistol and weapons he has confidence in.

Let me go on to other applications. Recently we have provided A&AEE at Boscombe Down with a sight to use by day and night to fire machine guns sideways from helicopters - here it is - the LC-40-100-NVG. It is a standard LC-40-100 with a beamsplitter optimised for the Ferranti NVG and a LED graticule illumination system (it also has a laser illuminator to show the area of engagement but this is not needed for shooting). We have designed matching mounts for the M 60 MG, the M 134 Minigun and the GMPG, all now approved by the RAF for air firing. The Boscombe Down live firings with four trial subjects showed that there was a high chance of a first burst hit from a moving helicopter on a 3 metre square target at 800 metres both by day and night. This is achieved because the sight has a cartwheel graticule enabling the firer to aim off correctly. What he learns in the day applies by night as well.

Clearly the man on the ground who is being shot at must be equipped to shoot back - he can do this with his machine gun, a Ring Sight and NVG.

NVG are starting to be used for other tasks at night - HARRIER maintenance, bridge building etc - in forward areas where artificial lights should not be used. The enemy may well penetrate to these. Those with NVG should defend themselves - with the P 90 for example, a gun easily strapped to the back, they can shoot back straightaway using the P 90 sight and their NVG.

To sum up:-

NVG are going to be used more and more. Russian ones can be bought at the Nuremberg Gun Fair and in the marketplaces of Finland. All enemies can have them.

Small arms and NVG designers should get together with sight designers to optimise the combination and make it suitable for military use.

The great advantage of NVG is that the soldier can use the weapon he needs without delay (especially useful for weapons thrown away on firing).

NVG also allow the soldier to use his own rifle without re-zeroing.