

*Many of those in the Seven community seem to share a fascination for machinery and especially things that fly.*

**Pierson Broome** recounts the Carratlanders' recent tour of RAF Wattisham, home to the Apache AH-Mk1.

# RePulsing the enemy



IN THE WONDERFUL *Restaurant at the End of the Universe*, one of the 'Hitchhikers Guide...' books by the sadly-departed Douglas Adams, the author describes a weapon which is being brandished at two of the book's heroes, Arthur Dent and Ford Prefect:

*The Kill-O-Zap is a deadly brand of weaponry. The designer was clearly not instructed to beat about the bush. "Make it evil," they've been told. "Make it totally clear that this thing has a right end and a wrong end. Make it totally clear to anyone standing at the wrong end that things are going badly for them. If that means sticking all sorts of spikes and prongs and blackened bits all over it, then so be it."*

AS OUR ASSEMBLED group stood in front of the matt-black Apache AH-Mk 1 attack helicopter to record the visit for prosperity (and this *Lowflying* article) I couldn't help but be reminded of that passage. Whenever members of the Taliban are 'standing at the wrong end' and 'things are going badly for them' out in Afghanistan, I suspect they're thinking something different, though...

Warrant Officer Class 1 (Artificer Sergeant Major) Martin Smith is my friend and an erstwhile regular squash opponent. I had first approached him about the possibility of arranging a tour of the Depth Support Unit (DSU), which maintains operational air-worthiness on the British Army's fleet of AgustaWestland Apache helicopters at RAF Wattisham in Suffolk, after sounding out members of the Suffolk and Norfolk 'Carrotlanders' group some months previously. Knowing the Severer's love of all things oily I had assumed that an up-close-and-personal sight of one of the world's most sophisticated pieces of military hardware might prove popular—and so it did. Martin sought, and was granted, permission to escort fifteen Club members around the various Pulse Line stations (in the largest free-standing building in the county) on a Summer Saturday morning. Once the invitation went out the places were snapped up in no time at all.

Being greeted by the Earthly equivalent of a

Kill-O-Zap gun, the Army's SA80, toted by a stern-looking soldier in army fatigues at the base's main gate set the tone for the level of security which surrounds the home of these awesome machines. "No cameras and please, don't touch anything", requested Martin, "this stuff is all pretty expensive..." How expensive? Try a 'list price' of £37 million each, but with the Army's additions closer to £40 million a piece. And there are sixty-seven of them... The Whitehall mandarin who signed a cheque for £2,680,000,000 must have made a sharp intake of breath when taking the cap off his Montblanc a few years ago—although with upgrades and tactical additions to the fleet the total cost now exceeds £4 billion.

But once Martin began to explain the armour, avionics, targeting systems, navigation controls, payload capabilities and the like it soon became apparent why the Apache cost as much as it did. And to put things into perspective, our American cousins operate 800 of them – they have as many in three battalions as the British Army has in total. 'Our' Apaches (the Mk1 derivation, meaning Longbow radar-equipped and distinct from their AH-64A/D), however, are superior devices: the rotor blades are designed to fold, enabling ship-based use; the engines are more powerful British-made Rolls-Royce TurboMeca units producing 2,100 bhp each against the American's 'paltry' 1,800 bhp General Electric equivalents—and ours

sport that distinctive domed Longbow radar sensor array which sits on top of the rotor stack which many of the US machines do without. Many other components and features are shared of course, including the 30mm M230 chain gun slung beneath the helicopter and capable of being aimed through interactive targeting systems built in to the operators' helmet visors. Both pilots' and co-pilots' helmets have an eye-piece displaying vital tactical information—when engaged, either occupant can simply turn their head to look at a threat and the chain gun automatically follows their gaze. Very *Terminator*...

However, as deeply impressive as the Apache itself is, the DSU Pulse Line upkeep facility with its tightly-controlled processes and timings is even more so. In 2006 the Army built a maintenance line of unparalleled efficiency at Wattisham. Each Pulse is a stand where a helicopter is first meticulously broken down component by component and then carefully re-assembled once it reaches either a 450-hour or 900-hour flying limit—think of it as a 6,000- and 12,000-mile service routine but with a little more involved than a change of oil, filter and spark plugs...

On the morning of our group's visit Pulse 1 presented us with what looked for all the world like a 1:1 scale Airfix kit, an Apache with its composite panels removed, engines and gearboxes stripped, armaments dismounted,

Comparing a Seven to a military helicopter might seem a touch fanciful, but terms such as specialized, focused, effective, hard-worked and lovingly maintained come to mind.

If you've ever stripped down your Seven for maintenance, you would be fascinated by what goes on here...



avionics, cockpit and seating pulled and the rotors (main and tail) hived off to safety elsewhere in the facility. Just the airframe remained. It was sitting on very expensive-looking axle stands the like of which simply aren't available in Halfords. Every component is inspected, refurbished and/or replaced according to wear, time-limit or damage before the helicopter moves on to Pulse 2 and the process of careful reassembly begins. Each Pulse move continues the re-build procedure until the Airfix kit once again starts to resemble a fully-fledged attack helicopter. Pulse 6 is the final Pulse for work, but Pulse 7 is for Flight Test and is the final stand where the main engines undergo testing and thereafter the pilot check-list followed to the letter to re-start and then fly the helicopter for the first time. Each Pulse stand 'owns' the Apache for a rota of nine days, each split into a morning and afternoon shift pattern, meaning that it takes 54 days, plus time for Pulse 7 Flight Test routines, in total to fully service these machines.

During our visit there was in fact a twelfth. A fully-operational 'cab' (a colloquial Army term of affection for these rather expensive taxis...) had been especially positioned in front of the closed hanger doors specifically for our (Army-permitted and sanctioned...) photograph.

It is often said that 'form follows function' and, with something as highly sophisticated as the AH-64, that's totally possible to believe. Yet somehow here was what looked for all the world like a massive, malevolent mosquito, sinister and intimidating, asleep now but ready to pounce with its deadly scaled-up bite simply for the want of asking. It's a device designed for killing and as evil-looking as evil-looking gets.

In an age where the term 'logistics' was hijacked some time ago to describe the storage and movement of cornflakes and toilet rolls, the Army's cool, calm and highly-polished professionalism serves to remind us of from where the expression originates. The adjoining warehouse next door to the Pulse lines

The bally Carrotlanders are:

John 'Chalky' Cockburn; Nick 'Dusty' Woods; Nevil 'Wilko' Smith; Paul 'Maverick' Scott; James 'Biggles' Brierly; Andrew 'Handlebar' Hooper; Kingsley 'Ice Man' Young; Brian 'Binky' Wood; Dave 'Chopper' Bridges; Mike 'Tail-gunner' Brooke; Rupert 'Bader' Batho; Geof 'WingCo' Carlton-Smith; Steve 'Ginge' Wright; Pierson 'Ace' Broome.

people know nothing about, yet who are providing the necessary environment to ensure our troops' on-going safety and security in far-flung theatres of war.

Living in this part of Suffolk I frequently hear the distinctive heavy 'whump' of an Apache's rotors as crews run through practice drill after practice drill in the skies overhead. Having now seen one stripped almost bare and appreciated the complexity of their design and construction they hold even more of a fascination for me.

Questions exhausted and our one photograph taken, the Carrotland group members

Members of the Carrotland squadron present themselves at RAF Wattisham for a rare opportunity to go behind closed doors and see how the Apaches are serviced.



If parts which are manufacturer-only serviceable need attention this can mean returning them to places such as Florida and an associated lead-time of up to 450 days(!), necessitating the frequent cannibalisation of parts from other aircraft. In such instances the helicopter in question can be consigned to a 'hospital' bay within the facility, meaning that, with the addition of three Hybrid DSU line Modification Bays, at any one time there can be up to eleven Apaches in varying states of undress sitting in the vast building.

contains multiple replacement parts for just about every component and is operated on the same principles of management, goods-in and despatch as civilian facilities. The difference is that it is all simply taken as a given—it's something the British Army has always done superbly well and is the blue-print for successful supply chain operations in the commercial world. In this quiet, unassuming part of sleepy Suffolk one of the world's most sophisticated pieces of military machinery is kept flying by a dedicated team which most

emerged blinking into bright sunlight on the Wattisham airfield apron after the tour—I know that I speak for us all when I say that we felt privileged to have been allowed to see, literally, the inner workings of these incredible machines and the facilities which maintain them with such little fuss and bother.

I am particularly indebted to WO1 (ASM) Martin Smith for making it all become a reality: without him none of it could have happened—heck, I may even let him win our next squash match...





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