

Under the experienced eyes of Course Manager Ian Baker and Warrant Officer Martin Trafford, eyebrows are immediately raised: "We don't know why they've decided to make the entry to the fuselage on this side."



The solution partly came from an open day held by Hampshire Fire and Rescue Service (UK), where Ian saw some oxy-petro cutters in use to cut through steel. "We asked them if the thermal

lance would cut through a tank, and they said that they'd cut up a tank as part of one of their training courses."

Martin admits that buying equipment for RAF firefighters is not straightforward. "It is all about compromises. We don't have the luxury of two pumps or a rescue tender, or turning up with 15 guys and all the kit you would want. You need the smallest amount of kit that does the maximum amount of tasks and which weighs the minimum – and which cuts through armour."

Each time an incident occurs at Camp Bastion a hot debrief takes place to ensure that any lessons are identified explains Martin. "It's not just kit, it's techniques. Gaining access to an armoured vehicle requires certain techniques and specialised equipment. Any learning points are passed between the crews out there, and then a report goes back to DFRMO HQ for it to be logged and looked at. That's how our training progresses."

Just because a firefighter is on the front line doesn't mean the training stops. Firefighters are expected to become acquainted with all the aircraft that come through the Camp – and in Camp Bastion this includes a wide range of fixed wing and rotary aircraft from UK and coalition forces... So how do they do it? "A lot of these aircraft moving in might only be on the ground for a 20-minute window, so even if its midday you have to go in and get training on it. If not, you have failed your crew by not providing them with that opportunity at some point," says Tim.

So how do firefighters relax on the front line? "Sleep, watch DVDs, go to the gym, send emails home. It is all hard work and a lot of it is not pleasant. But it is so rewarding you see why people go. Although we are just a tiny part of that chain, we are still part of it. The guys see the difference they make."

"There is a huge appreciation out there as to what the fire crews do, especially from the army, who haven't had much experience with the Air Force."

New ICAO foam standard passes full-scale testing in Florida

A new generation of firefighting foam has successfully passed full scale tests in Florida and paves the way for increased aircraft firefighting capability.

Foam fire standards were developed in the 1970s, however recent chemistry developments now permit more effective foams and result in a more successful firefighting system and allow improved post-accident survivability.

The UK Civil Aviation Authority (CAA) working with Transport Canada and other International Civil Aviation Organisation (ICAO) partners has completed a project to develop improved aircraft firefighting foams.

Following a major aircraft accident, foams are used to extinguish and suppress fuel fires. The physical and chemical behaviour of the foam is crucial in fire management. The project challenged the foam manufacturers to improve on the existing effectiveness and allow manufacturers to supply to an improved international regulatory standard.

In September 2008, a series of small scale fire tests were carried out at the CNPP laboratories in Vernon, France. The tests identified one product manufactured by Solberg Foams that was capable of meeting the 60-second extinguishment of the 7m² size fire pan.

The next stage was for the Solberg foam to be subjected to a full scale test of 500m² of fire to replicate the footprint of a medium sized aircraft. After investigating a number of testing facilities the Federal Aviation Agency of the USA offered to host the tests at their extensive site at Tyndal Air Force Base in Florida.

The test protocol set out a requirement for three tests of at least 500m² of fully involved fire using 3,375 litres of aviation fuel. Rosenbauer USA provided a Panther vehicle for the testing and the tests used both its High Reach Extendable Turret and Elkhart bumper monitor. The monitors delivered foam at 2,027 and 2,217 l/min respectively. Two different pits were used one containing a New Large Aircraft (NLA) rig, the other a medium sized aircraft rig. The objective was to achieve 90% control of the fire within 60 seconds.

In the event total extinguishment was achieved in 43, 29 and 51 seconds in the three tests. The tests therefore were a success for the foam, the Level C standard and proving the correlation between the small and large scale tests, which will allow future development of foams in the knowledge that both the existing and new tests are credible and effective. Simon Webb, the CAA's airport fire specialist said: "We are delighted that we have a new test that takes all the industry forward. This project has been an excellent example of co-operation of countries and industry."

Solberg Foams commented, "We are very pleased to have been involved in the process of designing and testing a new product. We consider ourselves the 'foam experts' and are constantly striving to find new 'state of the art' technologies and take on new challenges. We are especially pleased with the outcome of this test protocol."

The final stage in the project is for the standard to be submitted to ICAO for approval and publication in their standards document "Annex 14".

