



## **REPORT**



Title: Airspade Training Afghanistan  
Reference: PS006  
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## **Introduction**

On May 10<sup>th</sup> 2004, Phil Straw (PS) consultant to NVESD traveled to Kabul (Afghanistan), as requested by NVESD, to train HALO operators on the use of the Airspade system. HALO is currently under contract to NVESD to provide the services of field testing and evaluation of a number of new technologies. It was proposed that PS train a team of local Afghans to operate the Airspade, as well as oversee the units deployment and initial testing. The Airspade supplied by NVESD was a trailer mounted version, complete with air tools and a high pressure water system.

## **Aims**

The aim of the visit was for PS to train and deploy the Airspade team. This was carried out in the following sequence:

1. Delivery inspection of complete system and spares.
2. Introduction to Airspade to include:
  - Components, tools and ancillaries.
  - Pre-start checks
  - Start-up procedure
  - Shutdown procedure
  - Connection of air tools
  - Operation of Airspade (to include safety precautions)
  - Airspade excavation techniques
  - Operation of cutting tools (to include safety precautions)
  - Operation of water tools
3. Controlled excavation trials on varying soil conditions.
4. Live excavation trials.

In addition, it was also a chance for PS to check on the Allu Bucket and the US Army Rotar.

## **Training**

HALO provided four members of local staff to attend the training course. It was planned, by HALO, that these members of staff would become the Airspade operating team. In addition, due to the fact that it was primarily intended that the Airspade would be used for battle area clearance, PS requested that the senior local EOD officer attend one day's training, in order that he would gain an understanding of the system. Also PS went through the operation of the system with HALO's senior in-country expatriate.

The initial phase of the training took place inside the HALO compound and was designed to familiarize the trainees with the general workings of the Airspade. It was hoped that this familiarization would help prevent damages to the system due to incorrect running procedures being deployed by the operators. This initial training stage also incorporated the safety precautions to be adhered to during general unit operation.



*Local Afghan operators and senior HALO expatriate during familiarisation training.*

The initial in-compound training was completed after two days, and the team was moved to a non-hazardous field site to allow the use of the system in varying soil conditions. Both the air and water systems were operated in a variety of soil conditions. During these initial trials, the air system proved to be very effective in all of the soil conditions encountered. Generally the ground in Afghanistan is very hard baked soil.

Once the operators were proficient in all areas of the operation of the Airspade, a site was selected for live trials. The selected site was an old ammunition storage area where ammunition had been kept in dug pits. These pits had, over the passage of time, collapsed leaving a large deposit of subsurface munitions. HALO had already been carrying out clearance of this site using manual excavation techniques. Manual excavation is generally very safe, but is a time-consuming operation. It was hoped that the Airspade would perform at a higher rate of clearance than the manual clearers.



*Afghan deminer, during testing in non-hazardous area.*



*Manual excavation site, deminer uses trowel and shovel for the removal of soil to uncover munitions.*



*Airspade operator excavating ammunition pit.*



## Future Plans

HALO is currently working on the clearance of anti-tank mines from large stretches of road verges. These verges are hard packed soil and aggregate. After the initial deployment of the Airspade system, HALO believes that the system would lend itself ideally to the safe excavation of A/T mines along these road sides. Therefore, HALO plans to deploy the Airspade in the very near future to one of these sites. PS discussed the possibilities of the system with HALO's senior in-country expatriate, and a good understanding of future operations with the system was reached. However, it is unlikely that the Airspade will be under permanent fulltime deployment, but will more likely be used in an as required role, deploying from site to site as requested by field operatives. There is no doubt that the system has good potential. It is hoped that HALO will provide NVESD with some good feedback and useful data, which will be the basis for system enhancements.



## **Other Issues**

While in Afghanistan PS took the opportunity to check on other NVESD sponsored trials.

HALO has shipped an Allu Screener Crusher into Afghanistan. This system was to be fitted to a Volvo 4400BM loading shovel for testing, evaluation, and development. When PS arrived the bucket had not been fitted to the Volvo and was still packed in its ISO container. PS supervised the unloading and fitting of the unit. Unfortunately two of the hydraulic hoses supplied by the manufacturer were incorrect, and as such it was impossible to operate the bucket without the correct hoses. PS fitted the unit without these hoses and left instructions with the HALO local staff on the procedures required to complete the installation and deployment. It is hoped that this unit will be deployed in the very near future.

The NVESD constructed CASE 721 fitted with Rotar is currently deployed inside Bagram Airbase. Access to this base was restricted to military personnel only, and as such PS was not permitted to gain entry in order to view the unit and gauge its performance.