

GICHD Mechanical Mine Clearance Equipment Catalogue

In order to create the definitive list of demining machines that are currently available on the international market, GICHD created the GICHD mechanical mine clearance equipment catalogue. It highlights numerous machines and will be updated annually, as its creators hope that it will better aid the attempt to eradicate the world's landmines by 2010.

by Detlef Schroeder, GICHD

Background

Antipersonnel (AP) landmines continue to threaten the lives and livelihood of millions. The UN names 86 countries affected by mines in recent statistics. Although it has not proved possible to estimate the number of mines deployed world wide, it can be recognized that mines are a scourge for those unfortunate enough to live within their proximity.

The Ottawa Convention was signed in 1997, and an important aim of the Convention is that all AP mines should be removed and destroyed by 2010. Achieving this aim will be a major challenge for the mine action community. The speed and safety of demining operations must be increased. Efficiency and cost effectiveness must be improved. The use and continued development of mechanical mine clearance systems may prove to be the best means for the realization of the 2010 aim. Mechanical equipment can save precious time for manual deminers by preparing the ground for them; machines can be employed ahead of deminers to remove, detonate, destroy or

sift out mines. These functions can be combined, and some of the latest designs are using a "toolbox" system, greatly increasing the range and work flexibility of existing machines. Demining organizations can now employ a range of commercially available machinery for their operations because of the many companies developing a wide variety of purpose-built machines for mine clearance.

The History of Mechanical Mine Clearance Equipment

Mechanical means of mine clearance were first developed for military purposes such as mine field breaching. Flails were developed in South Africa and the United Kingdom during the second World War. The idea of mechanical mine clearance is not new. What is surprising is how little mechanical clearance was further developed until the last decade.

The GICHD Mechanical Mine Clearance Catalogue

It is now often stated that humanitarian mine clearance began in Afghanistan



in 1989. Since that time, mine clearance organizations have used machines to clear mines or assist manual clearance with varied results. Until recently, most machines were designed for military and not humanitarian tasks. Through continued experimentation and adaptation, considerable experience has been built up by mine clearers and the choice of tools for the task has expanded. In 1999, the German government, acting on behalf of the United Nations Mine Action Service (UNMAS), took the responsibility for producing a catalogue of the mechanical demining equipment available on the world market. The German government has in turn tasked the Geneva International Centre for Humanitarian Demining (GICHD) with amending and updating the list to form a mechanical demining equipment catalogue.

The Aim of the Catalogue

The GICHD catalogue has two aims: to provide current information about machines for mine clearance available on the international market and to provide an annually updated database for such equipment. Previous catalogues have

given a general overview of available systems, but the new catalogue will seek to provide further information about commercial machines useful to the demining community, including some purpose-built systems under development.

The Concept of the Catalogue

The GICHD catalogue highlights different machines and provides a concise explanation of their mode of operation. The machines are grouped in categories such as flails, tillers, combined systems, sifters, vegetation cutters, mine protected vehicles and "multi-tools."

In general, the information given for each machine covers four pages, including illustrations. Technical data for each machine is included in tables at the back of the document. Each machine is detailed in paragraphs covering:

1. General description
2. Clearance/Working methodology
3. Current usage
4. Engine, fuel and oil types and quantities
5. Factory support
6. Maintenance support
7. Tests and evaluations
8. Strengths and limitations
9. Manufacturer's point of contact
10. Technical data

The catalogue covers 31 different machines. Published in January 2002, the catalogue will be distributed to members of the international mine clearance community, including NGOs, charities, commercial mine clearance companies, UN bodies, donor organizations, foreign

governments and national demining programs. It is also available on the GICHD website www.gichd.ch. The catalogue will serve the user in the field by explaining the choice of machinery available, what it does, how much it might cost and how to contact the manufacturer. It is not intended to act as free advertising for systems producers but is an objective view of the choice of equipment available to the deminer.

Catalogue Preparation

The information contained within the catalogue comes from three main sources:

- Manufacturers, who explain the mode of operation and provide technical data and costs of their machines.
- Feedback from the field by demining organizations, which assess the actual performance of systems, and offer suggestions for user requirements.
- National and international evaluations and tests, where conducted.

The GICHD mechanical mine clearance catalogue does not in any way endorse the products shown. The organizations that produce the equipment featured within it are independent organizations and are not in any way affiliated with the GICHD. The international Test and Evaluation Program (ITEP) has not yet begun in earnest; therefore national or independent tests and evaluations reported in the catalogue have no international authority, and are for consideration only. Where possible, the provenance of all such tests is given.

Summary

The GICHD mechanical mine clearance equipment catalogue is designed to be a definitive list of demining machines on the international market. It aims to be as comprehensive as possible, and will be updated annually. It features machines designed for mine clearance, commercial machines successfully adapted from other military or civilian purposes and prototypes and machines still under development. It will enable a dialogue between producers, evaluators and users, to improve the capabilities of equipment by the cross-pollinations of positive ideas throughout the international humanitarian demining community. Finally, it will hopefully improve the prospect for the worldwide eradication of AP mines by the year 2010. ■

**All photos courtesy of the author.*

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■ (L-R) The DTW Tempest built in Cambodia cutting vegetation. The Mine Guzzler working in Egypt. The bdm48-2.

■ (L-R) Armtrac 325 in Kosovo. MV-flail working in Croatia. The PRO MAC bdm48 cutting bamboo in Thailand.

