Mine Stalker

A vehicular landmine detection system using a ground penetrating radar and automatic target recognition algorithms to detect AT landmines for road clearance.

The Mine Stalker system is a vehicular mine detection system optimized for anti-tank (AT) landmine road clearance. The system consists of a 3.2 meter wide ultra-wide-bandwidth ground penetrating radar (GPR) array mounted on a Multidrive 4x4 landmine survivable tractor. Mine Stalker is equipped with automatic target recognition algorithms to detect both metallic and non-metallic AT landmines. The vehicle automatically stops and physically marks when approaching mine-like objects. This capability allows follow-on demining teams to quickly locate and interrogate marked AT landmine detections. Additional capabilities include accurate electronic mapping of mine detections using a differential global positioning system, and a wireless remote viewing station on a ruggedized laptop.

The system detects hard-to-detect low metallic AT landmines. These two mines are known to be present in Southern Angola roads at depths undetectable by current metal detector technologies. An earlier system performed well during 2009 and 2010 technical evaluations in Angola under realistic conditions. Although promising, the tests identified the need for improvements to the radar, algorithms, and associated electronics. The updated system is now undergoing an operational field evaluation in Angola by The HALO Trust.

STATUS

The Mine Stalker system was tested in Angola in 2009 and 2010.

Mine Stalker is undergoing an operational field evaluation in Angola with the HALO Trust.

Cutting-Edge Solutions
DEMINING TECH
MINE DETECTION

FEATURES

- Man-operated Multidrive 4x4 landmine survivable tractor
- Advanced automatic target recognition algorithms that enable the system to automatically detect, physically mark and stop when approaching mine-like objects
- In testing, demonstrated high probability of detecting metallic and low metallic anti-tank landmines.

APPLICATIONS

- On road anti-tank landmine detection
- Ideal for detection of hard-to-detect low metallic AT landmines

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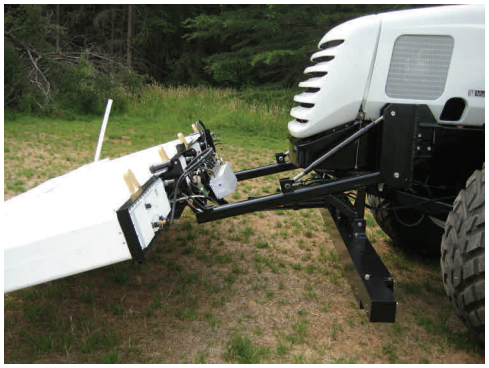
Subsurface visualization display

Sensor Array

- Platform: Man-operated Multidrive 4x4 landmine survivable tractor
- 3.2 meter wide GPR (four panels x 0.8 meter width)
- Very clean and ultra-wide-bandwidth impulses (200MHz to 7 GHz)
- Advanced automatic target recognition algorithms
- Automatically detects, physically marks and stops when approaching mine-like targets
- Differential GPS provides mapping capability and centimeter accuracy of sensor path and targets
- Automatic sensor height control
- Operational height of 1-16” (2.5—40cm)
- Operator control unit with subsurface visualization display



Low Metal AT Mines