



UNITED STATES DEPARTMENT OF DEFENSE

HUMANITARIAN DEMINING R&D PROGRAM

Rotary Mine Comb

A mechanical anti-tank mine clearing tool mounted on a commercial tractor

The Rotary Mine Comb (RMC) is a vehicle based anti-tank (AT) mine clearance system. The RMC extricates buried mines from the soil and pushes them to the side of the vehicle's path. Two ground engaging rotors each contain four or six tines depending on the variant, which intermesh and counter-rotate as the vehicle travels forward. These tines engage and continuously nudge large objects such as AT mines to the outside edge of the vehicle without downward pressure and little soil movement. Forward movement is suspended upon the first sighting of a mine via a camera monitoring system visible to the operator and supervisor.

STATUS

Angola: The RMC underwent an operational field evaluation with The HALO Trust from 2008–2014. The RMC cleared 47 km of road and found 51 AT mines that had been previously undetected by large loop detectors and heavy detonation trailers.

Afghanistan: Three RMCs are in Afghanistan with The HALO Trust, one since 2011 and two beginning in 2015. Together they have cleared more than 11,600,000 m² and recovered 290 AT mines.

The successful performance of the RMC led to the development of multiple versions that refine the capabilities of the original design and adapt it to additional host vehicles. There are four variants, three of which are 3.1 meter wide systems; the original 4 tine design as deployed to Angola in 2008, an improved model of the same design, and a promising new six tine RMC with greatly improved performance and adaptability to a wider variety of vehicles. The fourth variant is a 2.2 m system designed for the ARMTRAC 75T mine clearing system.

The RMC is currently the only technology clearing roads of low-metal AT mines that are not detectable by sensors or destroyed by heavy detonation trailers.



The HALO Trust used the Raptor Fendt tractor with its RMC attachment to uncover this AT mine in Afghanistan

Dozer mounted 3.1 meter wide Rotary Mine Comb cleared 51 AT mines from 47 km of roads in southeast Angola



Cutting-Edge Solutions
DEMINING TECH

MINE CLEARANCE



RMC Variants

FEATURES

- Rotating tines engage soil and push AT mines out of vehicle's path
- Cameras provide view of tines engaging suspect soil
- Moderate vegetation and compacted soil (e.g., road bed) can be processed
- Armored operator cab protects occupant in event of AT mine blast



Intermeshing tines of the early RMC 4 tine design (left) and new six tine variant



Improved 3.1 m wide RMC (left) and the 2.2 m system fitted to an ARMTRAC 75T

APPLICATIONS

- Anti-tank mine clearance
- Preparation of soil for small item sifting



The RMC Lite project evaluated the use of a small frame tractor and a 3.1 meter RMC under light soil conditions



AT mine that the tines have engaged and nudged to the surface

ROTARY MINE COMB SPECIFICATIONS

Length	3.7 m
Width	3.5 m
Height	1.7 m
Clearance Width	3.1 m
Weight	3,400 kg

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