

# MECHEM VEGETATION CLEARING SYSTEM



The **MECHEM Vegetation Clearing System (MVCS)** was developed to assist demining personnel in the safe clearing of light to medium (50mm diameter max) plant growth in areas suspected to be contaminated by Landmines.

The system consists of a standard TLB (Tractor Loader Backhoe) fitted with a shrapnel proof armoured shield and an adapted vegetation clearing attachment **MECHEM** currently uses the **JCB-3CX**.

## Operating Platform

The Operating Platform offered is a standard TLB. Whilst certain modifications to the TLB are necessary to optimise its performance in the Vegetation Cutting role, care has been taken not to invalidate the standard manufacturers warrantee.

The most notable modifications are improvements to the plat-

form stabilisers and the addition of extra ballast in the front-loading bucket to counter balance the 5.7m maximum cutting reach of the system.

## Ballistic Protection

The system was designed to be operated from a confirmed safe area (whilst cutting vegetation in the area suspected of being polluted by land-mines). The operating platform has therefore been fitted with a ballistic shield to protect the operator from any shrapnel that might originate from land-mines detonating as a result of the vegetation cutting process. It is therefore standard procedure to always ensure that the protective shield is positioned directly between the operator and the cutting area when working in an unsafe area.

As a result of the abovementioned the operating platform is not mine protected (protected against a landmine detonating under the vehicle as a result of its operation in unsafe terrain).

## Vegetation Cutting Attachment

The heavy duty cutter attachment utilises two hardened swivel mounted cutting blades mounted on a central beam. The beam is driven by a standard angle gearbox which in turn is driven by an 80kW hydraulic motor through a power take-off shaft. The hydraulic motor is driven from the standard operating platform hydraulic supply.

Hydraulic power supply is provided by the operating platform via reinforced hydraulic hoses fitted with quick release type couplings. This provides easy coupling to the hydraulic motor that is mounted on the cutter body.

Being fully manoeuvrable as far as tilting, lift and lowering goes, some "limiting aids" are incorporated to assist operators in the application of the cutter. This is mainly to aid in cutting height control where a height-adjustable skid is fitted on the rear of the cutter.

A robust wheel type roller is provided on the side of the cutter body to assist in the prevention of 'ditching' the cutting blades. This feature increases the life of the cutting blades considerably.

An adjustable friction clutch is incorporated in the drive train to protect the drive system should there be a sudden cutting beam stoppage (Rocks, large tree stumps etc.).

A "purpose manufactured interface" provides the link between the hydraulic arm of the operating platform and the vegetation cutting attachment.

This interface allows easy "pin type" fitting and removal of the cutter from the operating platform. This ensures that the TLB can also be used in its standard role by merely replacing the vegetation cutting attachment with a standard tool.



Robust Wheel Type Roller



Height Adjustable Skid

Hydraulic Motor

## Application of the MVCS

The system is ideally suitable to clear light to medium vegetation with a stem thickness of a maximum of 50-mm.

The system shall typically be applied from a confirmed 'Safe Area' - cutting vegetation in an area suspected of being contaminated by landmines. The cutting action should be in a permissible arc of 60 degrees in order to ensure adequate protection for the operator.

The maximum reach of the cutting attachment is 5.7m. The cutting attachment allows lateral cuts (per attachment swing arc) of a maximum of 1 meter per side stroke – within a cutting arc of 80°.

## Transporting the MVCS

The MVCS is transported on a 10 tonne 6x4 Truck. The machine is reversed onto the truck using a purpose built ramp that duplicates as a trailer, drawn behind the vehicle to transport the standard TLB attachments.



## Minimum Power Specifications for the MVCS

Minimum Hydraulic pressure	220 Bar
Min. Hydraulic Flow:	137 l/min
Min. Cutter-Blade Revolutions:	1010 R.P.M.
Min. Backhoe Arm Carry Capacity:	1000Kg@ 5,5Meters.

