MEDIUM TRACKED VEHICLE PRODUCTS

PEARSON ENGINEERING

INTRODUCTION

Pearson Engineering is a privately owned UK company that develops Combat Engineer systems and equipment to meet the needs of the world's Armed Forces. Our particular expertise is in the supply of specialised Counter-Mine, Counter-IED, Route Proofing and Clearance, Combat Earthmoving and Assault Bridging Equipment for Armoured Fighting Vehicles. Pearson Engineering are world experts in designing and manufacturing high quality products and integrated solutions, to enhance mobility and protection of those in harm's way.

ASSURED MOBILITY

In the challenging, complex and uncertain land environment, Commanders need more than ever the ability to freely manoeuvre to places at times of their choosing. Our range of vehicle attachments, each optimised for a particular combat engineering role, can be interchanged and configured to deliver Assured Mobility support to combat operations.

GLOBAL CAPABILITY

Our core company values are built around a desire to serve the needs of customers and to provide solutions to their particular requirements. The company supplies equipment and services to many countries throughout the world delivering Global Capability when and where it's needed, on time, every time.

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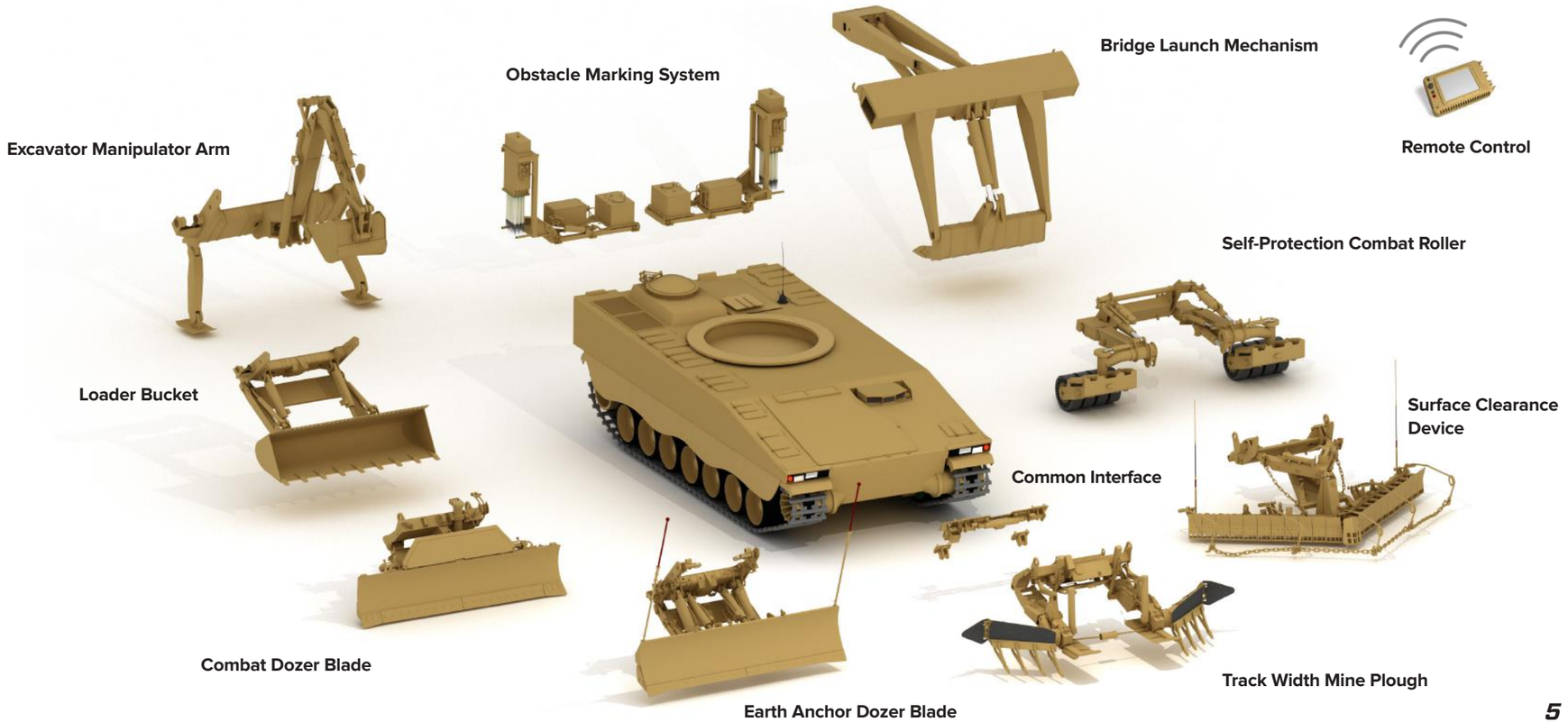
PRODUCTS FOR MEDIUM TRACKED ENGINEER VEHICLES

All of Pearson Engineering's front end equipment is designed to be fitted either directly to the host vehicle or via a common interface system which allows for their quick and easy attach and release.

The common interface is suitable for all of our front end equipment and offers the commander the flexibility to adapt to his mission. They can task organise equipment to the mission requirement and choose the best tool for the job. This approach leads to higher levels of mission success by increasing force capability and availability without increasing force structure and manpower.



TRACK WIDTH MINE PLOUGH

- Clears mines from the track width of the vehicle
- Designed to minimise the effect of detonating mines
- Designed to compactly stow
- Designed to minimise the tractive effort required
- Low impact on mobility
- Capable of operating in a wide range of soil conditions
- Common interface compatible

The Track Width Mine Plough (TWMP) is designed to provide vehicle self-protection by clearing concealed or buried mines and IEDs by bringing them to the surface and moving them wide and clear of the vehicle. This produces a safe and mine free track width cleared lane in front of the vehicle.

The TWMP has been designed to compactly stow on a Main Battle Tank. The approach angle has been maximised without impeding the operation of the gun, even when fully depressed.

The blast resistant system comprises two 4-tine track width blades to protect vehicle tracks. Fold-out blade extensions to each side of the system ensure that mines are pushed well beyond the width of the cleared tracks.

SELF-PROTECTION COMBAT ROLLER

- Applies a load to the ground through rollers ahead of each of the vehicle tracks
- Designed to operate on concrete, asphalt, gravel and hard dirt roads
- Steer rollers left and right to provide a level of coverage while cornering
- Operate in float and push down modes to adjust roller ground contact force
- Stows neatly when not in use
- Minimal impact on vehicle mobility
- Common interface compatible

The Self-Protection Combat Roller (SPCR) exerts high pressure onto the ground ahead of the tracks of the host vehicle to target pressure activated explosive devices. The SPCR is designed for use on concrete, asphalt, gravel and hard dirt roads.

The SPCR comprises two 4-wheel roller gangs to protect the vehicle tracks, which stow neatly to minimise its impact on vehicle operability and mobility when not in use.

The rollers are able to steer left and right to provide coverage during cornering.

The heavy effect provided by the SPCR is generated by a combination of the weight of the rollers and a self-contained hydraulic system.

SURFACE CLEARANCE DEVICE

- Clears surface laid mines and ordnance from the full width of the vehicle
- Vee-blade optimised for clearing routes
- Angle-blade optimised for clearing areas
- Proven to operate on a wide range of terrains
- Low maintenance with replaceable blade segments
- Optimised for the host vehicle
- Common interface compatible

The Surface Clearence Device (SCD) clears surface laid mines and threats found within the path of the full width of the vehicle from roads, tracks and rough terrain to produce a cleared route for follow-on vehicles.

Independent segments of a full width blade follow the ground contours to move threats wide and clear of the vehicle.

There are two versions of the SCD; a Vee-blade optimised for clearing routes and a straight Angle-blade which is optimised for clearing areas.

The robust system comprises easily and rapidly replaceable blade segments to ensure operability, even after a blast.

OBSTACLE MARKING SYSTEM

- **Provides vehicles with the capability to clearly mark out safe lanes and routes or hazardous areas**
- **Low weight system**
- **Deployment mechanisms available to suit a wide variety of combat vehicles**
- **Various marker poles are available including reflective, fluorescent, day-glow and LED-enhanced**
- **Capable of manual, distance or time-based firing**
- **Proven and in service with numerous Armed Forces**

The Obstacle Marking System (OMS) is a vehicle mounted electro-pneumatic payload dispensing system most commonly used for marking the boundaries of routes and areas. Designed to fire marker poles into the ground at controlled intervals, the OMS gives a host vehicle the capability to clearly mark out hazardous areas such as the edges of a minefield breached lane.

An OMS comprises dispenser units mounted either side of the vehicle, compressor units mounted onto the vehicle, an OMS Control Unit (OMSCU) and a set of marker poles.

The dispenser unit enables marker poles to be fired pneumatically, either manually or automatically, into a variety of surfaces from sand and soil to asphalt and concrete at either timed or distance based intervals.

COMBAT DOZER BLADE

- Prepares defensive positions
- Clears obstacles, urban road blocks and rubble
- Fills anti-tank ditches
- Strong and light
- Opens routes
- Prepares the ground for launching bridges
- Common interface compatible

The Combat Dozer Blade (CDB) enables vehicles to rapidly move obstacles, creating a clear route for following operations. It is suitable for clearing obstacles, urban roadblocks and rubble and can also be used to move earth and to fill craters.

The CDB is compact and is designed to retain the centre of gravity close to the vehicle structure. Made of high tensile, low carbon steel, the CDB is lightweight and strong to withstand the high loads generated during typical earth-moving and dozing tasks. An extension fitted to the top of the blade prevents soil from spilling over and accumulating on the vehicle.

EARTH ANCHOR DOZER BLADE

- Combined capability of earth anchoring and dozing
- Suitable for earth anchoring (recovery) winch operations
- Suitable for clearing rubble and obstacles
- Compact design to minimise effect on mobility
- Common interface compatible

The Earth Anchor Dozer Blade (EADB) provides a combined capability blade enabling earth anchoring, during recovery operations, and dozing tasks to be undertaken.

The blade is optimised as an earth anchor or dozer blade by adjusting the blade via the pitch cylinders. The blade can anchor the vehicle in a wide range of ground conditions, providing a stable platform for winching (recovery) operations. As a dozer, it can be used to rapidly clear rubble and undertake light dozing tasks.

Made of high tensile low carbon steel, the EADB is lightweight and strong enough to resist the high loads generated during operation. The compact system is designed to retain the centre of gravity close to the vehicle structure.

LOADER BUCKET

- 3 modes: Carry, Dig, and “Float” levelling
- Upgrade to 4-in-1 enables Grade and Grab capability
- Includes penetrating bucket teeth to assist earthmoving activities
- Common interface compatible

The Loader Bucket Attachment (LBA) provides a powerful digging and carrying capability, enabling armoured vehicles to transport material, clear obstacles, dig and fill trenches and assist in reconstruction tasks.

Manufactured from structural and wear-resistant steel, the LBA is multi-purpose, suitable for a variety of applications. In basic form, it is used as a carrying bucket and digger to provide earthmoving and obstacle reduction capabilities. It can be further upgraded to a 4-in-1 bucket, enabling grading and clamp (grab) capability.

The LBA can be operated in a float mode to assist levelling operations. Adjustable pitch enables the bucket to articulate from an optimal earth cutting angle to a material dump position.

EXCAVATOR MANIPULATOR ARM

- Excavates and fills trenches, craters or ditches
- Demolishes structures
- Clears other obstacles from routes
- Suitable for lifting and loading tasks
- Robust and strong
- Common interface compatible

The Excavator Manipulator Arm (EMA) enables vehicles to dig, demolish, remove obstacles and fill trenches to create a clear route for following operations. The system comprises a boom, arm, bucket and stabilising arms.

Made of high tensile low carbon steel which makes the product robust and strong yet low weight. The system can also be used for obstacle reduction tasks. During transport, the EMA stows tightly against the hull of the host vehicle and the telescopic stabilising arms are retracted to protect the equipment and to ensure that the centre of gravity is retained close to the vehicle structure.

BRIDGE LAUNCH MECHANISM

- Rapid bridge launch and recovery
- Stows compactly when not in use
- Lightweight
- Low centre of gravity to minimise impact on mobility
- Foot remains in firm contact with the ground at all times
- Common interface compatible

The Bridge Launch Mechanism (BLM) enables a combat vehicle to launch and recover assault bridging in less than two minutes from under armour without permanently changing the role of the host vehicle.

The BLM is fitted to the front of the vehicle and allows the bridge to be stowed, launched and recovered using a single system. The system is lightweight and is specifically designed to minimise the impact on vehicle mobility by keeping the bridge and bridge launch mechanism low and close to the vehicle hull when in the transport configuration.

Upon launch and recover, the foot of the BLM remains in firm contact with the ground, reducing the load transfer onto the host vehicle and ensuring a stable launch platform.

Partnered Product

MAGNETIC SIGNATURE DUPLICATOR

- Provides stand-off detonation of magnetic influence mines at a safe distance
- Product can be integrated onto any of Pearson Engineering's counter-mine systems
- Enhances operational capability
- Improves survivability
- Provides advanced protection to operations
- Proven and in service with numerous Armed Forces

The Magnetic Signature Duplicator (MSD) increases the effectiveness and survivability of counter-mine equipment by causing the stand-off detonation of magnetic influence mines at a safe distance ahead of the host vehicle.

The MSD generates a multi-axial magnetic signature optimised for magnetic influence fused mines.

The system comprises four emitter coils, two associated power boxes and a MSD Control Unit (MSDCU).

Partnered Product

REMOTE CONTROL SYSTEM

- Proven and in service with numerous Armed Forces
- Safety mechanisms are considered within every design aspect, ensuring safe operation
- Easy to use, based on commonly available remote control hardware
- Secure encrypted digital radio link technology
- Reduces the risk to human life during Counter-IED and Counter-Mine operations
- MANET technology enables multiple RCS's to operate under one frequency, boosting performance in NLOS (near-line-of-sight) environment

The Remote Control System (RCS) is a proven, safe and reliable means of operating unmanned military vehicles either from a remote command vehicle or personnel portable system. Originally developed for use by the British and US Army, the RCS employs secure digital radio link technology with encryption. The radio link is optimized to achieve maximum range and throughput.

RCS operates on the master-slave principle, with the unmanned 'slave' vehicle controlled from up to two (2) Operator Control Units (OCU).

Multiple cameras provide all round vision with high definition video and performance data being relayed to the operator via a high resolution, low glare, display screen.

SPARES AND THROUGH-LIFE SUPPORT

Pearson Engineering is committed to ensuring that customers are fully supported with spares packages, training and through-life support for their equipment.

A dedicated team of through-life support specialists ensure that customers have everything they need at their disposal to effectively use the equipment and to fully maintain its operational capability.

FIELD SUPPORT

Field Support Representatives provide 24/7 on call assistance, in field repair support, trials support, equipment installation support and new equipment training solutions.

INTEGRATED LOGISTICS SUPPORT

Pearson Engineering offers its customers a comprehensive range of ILS services that encompass the DEF STAN 00-60 methodology.

REPAIR AND OVERHAUL

Pearson Engineering has the facilities and key skills required to provide a comprehensive equipment conversion, repair and overhaul service.

DESIGN AND TEST

Pearson Engineering has a dedicated design office, prototype development and test facility and access to test and trial sites throughout the UK and U.S.

FACILITIES

Pearson Engineering facilities include the Armstrong Works in Newcastle upon Tyne, UK.

These unrivalled facilities provides an immediate on-site dedicated machining, fabrication and assembly capability for the rapid prototyping and production of defence materiel.

VEHICLE BUILD

Pearson Engineering offers sub-contract full vehicle assembly, integration & test services for tracked, wheeled, light, medium and heavy armoured vehicles, based at the site of manufacture for the current British Army heavy armoured fleet. Ready now for sub-contract armoured vehicle assembly.

DEFENSIVE STRUCTURES

Our fully equipped facility provides customers with a single location for fabrication, welding, machining and finishing of armoured hulls, turrets and structure. Unique armour manufacturing capability in the UK.

PROGRAMME MANAGEMENT

With over 30 years of experience in delivering Combat Engineering systems to countries worldwide, Pearson Engineering understands defence programmes and contracting with both end-users and prime contractors. Complex project management capability with small company agility.

SUPPORT & MRO SERVICES

Proven complex defence services including repair and integration, modification, inspection and upgrade. End-to-end defence manufacturing services for armoured fleets.

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