

Thanks to the British Army there is now a vehicle that can load and unload ISO containers, flat racks, skips, tanks and that can also tip.

Peter Shakespeare reports

The Rheinmetall MAN Military Vehicle (RMMV) HX range was launched in 2003. Based on the MAN TG heavy truck range, it features a militarised version of the MAN TG chassis and driveline components. A year later, the Ministry of Defence (MoD) placed its first order for 4x4, 6x6 and 8x8 HX vehicles following a competitive tendering process which included vehicles from Mercedes-Benz, and US-based manufacturers Oshkosh and Stewart and Stevenson.

The HX range - referred to by its biggest user, the Army, as the MAN SV (support vehicle) - replaced the Army's ageing green fleet of Leyland DAF, Bedford and Foden flat-bed load carriers. At this time, the Army also operated Foden and Leyland DAF 8x8 demountable rack offload load and pick-up system (DROPS) vehicles, which were a military version of the commercially available hookloader and equipped with the Multilift load handling system. DROPS was developed in the mid-1980s and introduced into service in the early 1990s, primarily to meet a requirement - in the event of war with the USSR - to be able to rapidly supply large quantities of heavy 155mm artillery ammunition and bar mines direct to Royal Artillery and Royal Engineer Regiments operating in the northern European theatre. The vehicle platform was built to the ISO container 20-foot standard, albeit the ISO container had to be lifted and secured on to a flat rack before it could be loaded on to the DROPS vehicle.

DROPS underwent a major upgrade in 2002, but as the Leyland and Foden



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vehicle platforms were being phased out of production, the increasingly high cost and reduced availability of spares led the MoD to begin to look for a replacement. MAN SV flatbed 'cargo' vehicles saw operational service in Iraq and Afghanistan alongside DROPS. In 2008, due to an urgent operational requirement, the MoD procured 190 units of the Enhanced Pallet Loading System (EPLS) version of the 8x8 RMMV HX77 for service in Afghanistan.

HOW THEY WERE MADE

Tim Cookson, sales manager for Hiab's government business operations division, provides some context. He says: "The first 190 Mk1 EPLS vehicles were built by RMMV in Vienna under the UOR on the 8x8 SV chassis, with Hiab supplying the lifting equipment. A second order [the Mk 2] followed for 56 new vehicles, which were destined for training establishments. The MoD finally retired DROPS in early 2020, and to bridge the capability gap, it ordered 382 EPLS to replace them. The difference

was, with Mk3 EPLS, the MoD used 8x8 SV cargo vehicles it had in storage, which were sent back to MAN Truck & Bus in Manchester for conversion. This involved removing the flatbed, altering the chassis configuration, changing the steering geometry and fitting the hooklift and container handling system, which we supplied."

The HX77 is powered by the 434bhp, 10.6-litre MAN D20 Euro IV common rail engine, and meets NATO STANAG 4569 criteria, providing the crew with some protection from ballistic threats, land-mines and IEDs. Like the DROPS hooklifter, the vehicle can handle traditional flat racks, but crucially can lift 20-foot ISO 1C and 1CC containers weighing up to 15 tonnes without the requirement for them to be secured on a flat rack, thanks to its Hiab-developed container handling unit (CHU). The load handling system comprises the familiar hooklift mechanism plus a separate lifting frame and specially designed outer rear support rollers made from high-tensile steel, which fold down

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to the rear of the chassis allowing the bottom of the container sub-frame to be supported as the container is lifted and slid on to the vehicle.

When not in use, the container frame is locked on to a stowage frame behind the cab. To operate, the container frame is unlocked from its stowage frame manually and an electric actuator moves the lifting frame into position, with a safety latch securing it to the hooklift. The hooklift and frame is then extended over the rear of the vehicle to meet the front of the container, when it is locked in position by steel pins. The hooklift then lifts the container on to the truck in the same way it would a flat rack; and, once in place, the container is secured to the chassis using traditional twist locks.

Cookson continues: “The big advantage over DROPS is EPLS can pick up and drop a container in any location that the truck can access, without the requirement for infrastructure such as a port crane or heavy forklift truck to lift it on or off a flat rack. If collecting from a location with overhead container

lifting equipment or heavy forklifts, the container can also be dropped on to the EPLS vehicle, secured by twist locks and driven off in the normal way. The container handling frame can then be attached to the container while it is on the vehicle and it can be offloaded by the hooklift, or vice versa. This capability gives the military logisticians ultimate flexibility, and saves on time, manpower and resources.”

CIVILIAN VERSION

Based on the success of the military EPLS, and realising opportunities for a commercial application, in 2018 Hiab launched its civilian version of EPLS, the Multilift Commander. Available in two lengths for 6x4 or 8x4 rigs, Cookson says that the Multilift Commander is suitable for applications including: emergency, fire, and rescue services; special logistics applications; greenfield infrastructure projects; and factory-to-terminal transportation from remote sites. Unlike EPLS, Multilift Commander can lift ISO containers weighing up to 16.5 tonnes, thanks to the lighter tare weight of a civilian vehicle. “The cost savings and flexibility that this provides can make a massive difference to the ability to transport goods to and from inconvenient sites, or remote locations. One feature of the Commander that is not present on EPLS, is it can be fitted

with a tipping capability, which offers additional flexibility to construction or waste management customers.”

The Commander can also be used with a specialist trailer to load, unload and transport two flat racks or 20-foot ISO containers. This was a feature of DROPS but is not currently a capability of EPLS. (Hiab says this is due to issues with the HX77 vehicle’s towing capacity, and not the load handling system.)

One system on the military EPLS vehicle that is bespoke is the digital active safe load indicator (DASLI). Tim Cookson says it was developed by Hiab with the MoD, following safety concerns about moving overweight or badly loaded containers – containers are often sealed, preventing inspection by the driver. While not designed as a weighing system, sensors in the hooklift and lifting frame monitor the longitudinal centre of gravity of the container to ensure the vehicle is sufficiently stable to be driven safely. It will also give an indication if it detects the container is overloaded or within payload limits for the vehicle.

In terms of maintenance, Cookson says everything up to third line repairs and maintenance (base workshop) – as opposed to in operation (first line) and field workshops (second line) – are undertaken by the Army’s Royal Electrical and Mechanical Engineers staff, after suitable training. He says Hiab engineers will assist if there is an issue with the DASLI system, or if there has been significant damage or component failure that requires a new set-up on the chassis. More often than not in this situation, the whole vehicle will be backloaded to a MAN or Hiab facility. General repair of the EPLS equipment is undertaken by component swap.

While Hiab admits that uptake in the commercial sector for the Multilift Commander has not been huge, the flexibility of the system is clearly impressive. For the military, EPLS delivers battle-winning logistics capability. [TE](#)