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Stoneleigh on Sunday 27th
January

I would normally open this, our first issue to be sold in the New Year, with cheery talk of how I'm looking forward to the new season, however, it has come to our attention that moves are afoot courtesy of the United Nations Arms Trade Treaty, which in theory could have a huge impact on the hobby and show scene as we know it. Various groups are currently lobbying the UN with regard to the current proposals, which as we understand them, could result in the limitation or in some cases complete ban of vehicle sales, movements, import, export, temporary transfer, lease, loan and gifts around the world, and that currently includes items such as tanks, military aircraft and light weapons with no provision for the exemption of privately owned or museum owned equipment. The upshot of this is that the movement of vehicles to

overseas shows and events could involve masses of import/export documentation, which could reduce or curtail the movement of vehicles, or in a worst case scenario, be banned completely, either of which could have a dramatic affect on shows and key military commemorations. While this would have many implications for those currently enjoying the hobby of military vehicle collecting, it would also involve museums and organisations that often swap and loan vehicles with other museums around the world.

A number of groups are currently watching the situation very carefully and lobbying the UN with a view to having certain exclusions or exemptions written into the treaty, but as to whether this is successful we will just have to wait and see, and we will of course keep readers posted when we know more - Ed.



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Ian Young
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EXCLUSIVE



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NEWS and REVIEWS

UP FRONT

Press Release... War And Peace Races To Hellfire Corner!

Rex Cadman is delighted to announce the launch of his brand new show; The War and Peace Revival, which will be held at RAF Westenhanger, Folkestone Racecourse near Hythe, Kent on 17-21 July 2013.

Of this exciting new venture, Rex said: "after celebrating the 30th anniversary of the War and Peace Show, we thought it was time to draw a line under the event and move forwards with a new event in a new venue, creating something exciting and fresh. My years of experience with The War and Peace Show have given me the understanding of what does and doesn't work, so the new show will be even better!"

Rex is best known for his former show, The War and Peace Show, which was at The Hop Farm in Kent for 25 years and celebrated its 30th anniversary this year. Rex organised this with his team from 1989, taking it from a small club show started by the Invicta Military Vehicle Preservation Society (IMPS) with just 100 vehicles in 1982, to the world's biggest military vehicle event.

The Racecourse location was chosen due to its unique relevancy to the new military and vintage event. Right in the heart of Hellfire Corner, so named due to the battering it received during the Battle of Britain in 1940, the area is steeped in military history. The Racecourse itself was used as part of Operation Fortitude (South) during WW2 - the great deception designed to fool the Germans into believing the D-Day landings would be in Calais, not Normandy. Inflatable aircraft were set up along the racecourse to make it look like an active airfield and in 1944 660 Squadron used the racecourse to practice operations with local army units, prior to leaving for France three months later.

President of the IMPS, James Baxter, said: "This new show, in a fantastic location, is a very exciting development. The permanent facilities, such as bars, restaurants, etc provided at the racecourse will greatly enhance the experience of the show, for both visitors and exhibitors alike. Rex Cadman is moving military history events to a new level which cannot be matched anywhere else, and IMPS is delighted to support this new venture."

Visitors to the new show will be able to see many of the expected attractions including living history, military vehicles, meeting WW2 and other veterans, vintage civilian entertainment, trade stands, celebrities, battle re-enactments and military models.

The first War and Peace Revival will be held at Folkestone Racecourse near Hythe, Kent CT21 4HX (just off the M20 Junction 11) from 17-21 July 2013.

www.thewarandpeacerevival.co.uk

Scale Modelling - Step-by-Step

Key Publishing is pleased to announce the launch of a new magazine special, Scale Modelling - Step-by-Step. This 100-page publication from the team behind Airfix Model World magazine offers sage advice for beginners, those returning to the hobby and even more experienced modellers. All the basic techniques for part preparation, construction, painting and finishing are presented, along with various methods for the more adventurous to attempt. It's everything you need to know to produce a great model, from start to finish!

Available for just £4.99 at WHSmith and other leading newsagents, alternatively, order your copy from: www.keypublishing.com/shop

Key magazine subscriber? Call 01780 480404 to claim your £1 special discount.



Dad's Army Van Sold to Museum



The famous Dad's Army van that once starred in the BBC's TV sitcom went under the hammer at Bonhams on the 3rd December. The van, together with a wider collection of rare classic cars, was included in a sale that saw the disposal of The Patrick Collection and was the third installment of sale involving a collection cars covering 100 years of motoring housed in a

private museum in Birmingham. Bonhams sold Part I of the collection in 1994 and Part II in 2004.

Starting out in the 1930s as Patrick Motors Ltd, before becoming the Patrick Motors Group, PMG Investments Ltd - as it is now known - is a family-run business based in the Midlands with a history stretching back well over 100 years. The company was initially an automobile manufacturer and coachbuilder, then owned a number of prestigious dealerships across marques including Jaguar, Daimler, Vauxhall, Subaru, Isuzu, Peugeot/Talbot, Toyota, Mercedes-Benz and - primarily - Austin Rover, until the last dealership closed in 1999.

The 1935 Ford Box Van, used in classic television series Dad's Army used as Lance Cpl Jones's butcher's van in classic television series Dad's Army, had a pre-sale estimate of between £20,000 - £30,000, but in the end sold for £63,100 at auctioneers Bonhams at Brooklands in Weybridge, Surrey, and was eventually bought by The Dad's Army Museum in Norfolk. Sadly the Dad's Army Museum does not have room to display the van at its own premises at Theftford Guildhall, but it will be on show to the public from next Easter at the nearby Charles Burrell Museum. For further details check out their website at:

www.dadsarmythetford.org.uk

Long Range Desert Group

Ian Stroud recently visited the Armistice show in Cambridge, New Zealand and during his visit he came across a superb LRDG display of which he has sent along some photos. This is what Ian had to say. Our thanks for sending in the photos and information – Ed.

The 2012 Armistice in Cambridge was celebrated over the weekend of 10-11 November at a new venue, the Mighty River Domain, overlooking Lake Karapiro, a short distance from the outskirts of Cambridge in the Waikato region of New Zealand. Fine weather on both days made for a great occasion in park-like surroundings. Amongst the many vehicles on display at the event was a fine collection of privately owned military vehicles, including this impressive collection of Long Range Desert Group vehicles.

For the first time no less than four Chevrolet patrol trucks were displayed (with a fifth example currently being built), together with two Jeeps and an assortment of related North African campaign LRDG memorabilia, as shown in the photographs enclosed. This show gets better every year and the organisers are to be congratulated for their efforts, well done, and to quote Arnie, "I'll be back".



Panther Tank Wheels?

Tim Royall contacted us following a trip to visit the WW1 battlefields around Cambrai and the Somme with his brother and his wife. They were visiting the grave of their great uncle who was in the King's Royal Rifle Corps and died in late 1917 and is buried in a small village outside Cambrai called Fontaine au Pire. Later, he was returning to the motorway in the area of Grandcourt when he suddenly saw this pair of wheels in a warehouse area. Slamming on the brakes, his brother and his wife thought he'd run over something as he muttered something about seeing a Panther! Tim backed up only to find the area was fenced and locked, but he managed to get some photos and Tim asks are these Panther tank road wheels and if so they seem in remarkably good condition?

Well Tim, they certainly look like Panther wheels to me, and if I'm correct they're the centre wheels between the dish outers and the inner set. As to how they've survived without being snapped up by some collector is beyond me, but of course if anyone else can tell us more we would love to hear from you – Ed.



Tankograd Publishing New Releases

The latest batch of new book releases from Tankograd publishing landed on the MMI editorial desk just before we went to press, and while we didn't have time to include them in a regular 'On The Shelf' feature, we've included details of them here so you don't miss out.

The first two new titles are from the Tankograd Technical Manual Series, with both books covering American wartime subjects. The first (ref. 6025) looks at the 'U.S. WWII White, Brockway & Corbitt 6-ton 6x6 Trucks'. The book follows the familiar format for this series of having a mixture of black & white archive images and excerpts from the various official technical manuals, some text, technical data tables and even a couple of colour images on the inside of the front and back covers. Details of a variety of trucks are included, such as the standard 6x6 prime mover, bridge erection truck and crane truck. As usual there's a stack of information packed between the covers of this 52-page softback book, and at £9.99 it offers very good value for money.

The second of the books in the Tankograd Technical Manual Series (ref. 6026) looks at the 'U.S. WWII Tank Recovery Vehicles M32, M32B1, M32B2, M32B3 and Mine Exploder T1E1', which for those not familiar with the M32 was essentially a Sherman tank based recovery vehicle, while the T1E1 was a Sherman tank equipped with

massive mine rollers. The archive images included in this book are particularly nice and well detailed, which will no doubt appeal to model makers as well as vehicle enthusiasts, and once again there are several colour images included on the inside front and back covers. The 52-page softback book retails at £9.99 in the UK and like the others in this series, offers very good value for money.

The subject of the latest book in the 'Tankograd American Special' series (ref. 3018) is the American M520 Goer and M561 Gama Goat articulated trucks of the U.S. Army that saw service in the post-war years. The 76-page book written by Carl Schulze dedicates the first 45-pages to the huge M520 Goer articulated truck, a vehicle I have personally seen up close up on several occasions and find to be a fascinating vehicle, not least because it's amphibious! The variants covered within the book include the basic cargo carrier, cargo with material handling crane, fuel tanker and wrecker. The many photos included within the book (both colour and black & white) provide a detailed appraisal of the Goer, which saw active service in Vietnam, but spent most of its time conducting general duties during the Cold War before being retired from service in the 1980s.

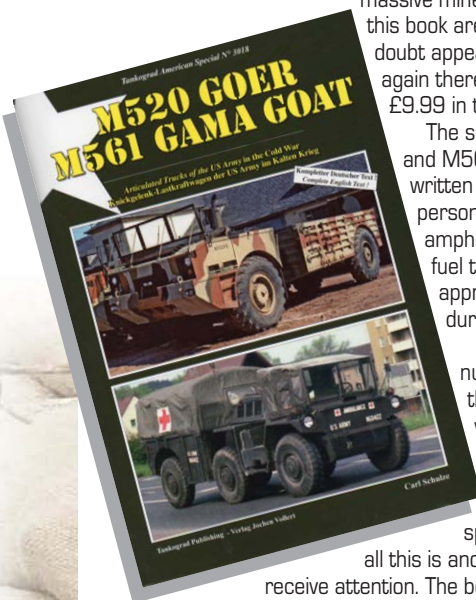
The other vehicle covered in the book is the smaller, but probably more recognisable M561 Gama Goat, a number of which are still in preservation today and regularly attend shows around the world. Unlike the 4x4 Goer, the smaller Gama Goat was a 6x6 vehicle, with a front 'tractor' unit permanently attached to a powered trailer via an articulated joint, and like its bigger brother was also amphibious. The Gama Goat was a more useful vehicle to the military, being a more manageable size, and although they started to be phased out in 1985, went on to serve well into the 1990s.

The photos of the Gama Goat in service are again superb, showing a number of different variants and sporting a variety of camouflage schemes, with many of the photos in colour and the rest in black & white. All in all this is another great addition to the series, covering a pair of unusual and interesting modern military trucks that rarely receive attention. The book retails at £13.99 in the UK.

The latest issue of 'Militär Fahrzeug' (1/2013) has recently been released and once again features a fascinating collection of articles covering the old and the new. Amongst the topics covered are Canadian CMP trucks in German Wehrmacht service, the up armoured T-26 tank, the new Mercedes Bison recovery truck for the Bundeswehr, an update on GECON ISAF operations in Afghanistan and a report from Exercise Caravan Guard II/88. The issue features a blend of colour and black and white photos, with the caption provided in German and English, with an English summary of the body text at the back. The 60-page issue retails at £9.99 in the UK.

The final offering from Tankograd this month is from the 'Tankograd Wehrmacht Special' series (ref. 4018), which looks at the wartime Henschel 33 6x4 truck. Written by Henry Hoppe, the 68-page book is crammed with stunning photos of these large trucks in service during the war and looks at the different variants such as the standard cargo/personnel truck, field cable carrier, engineer combat truck, field workshop, signals van plus many more. The quantity and quality of the photos within this book make it well worth the reasonable £13.99 cover price and while there are very few examples of the Henschel 33 in preservation (although we featured one such example in the May 2012 issue of MMI), the model makers will love this book as a reference source for the various model kits of the Henschel 33 truck that are currently available.

All Tankograd Publishing titles are available in the UK distributors for Tankograd titles Bookworld Wholesale Ltd. See their website for further details at: www.bookworldws.co.uk



Airfix 1/48 Supacat Jackal

Although the scale of 1/48 has been popular with aircraft models for many years, more recently it has seen a dramatic increase in popularity for military vehicle kits, with many manufacturers now offering a range of vehicles. One manufacturer that has also jumped onto the 1/48 bandwagon is popular manufacturer Airfix and this super little kit of the Supacat HMT 400 Jackal (kit ref. A05301) is one of a range of 1/48 scale kits available from Airfix and is well worth taking a closer look at. The kit is part of the 'Operation Herrick Afghanistan' range introduced by Airfix and represents the type of vehicle currently being used by British forces in Afghanistan. The kit itself is beautifully moulded in light grey plastic with the parts supplied on three sprues and some exceptional detail. The wheels and tyres are provided as moulded plastic items, the roll cage come weapon mount is well represented with some beautiful fine mouldings, as are the .50 cal HMG and GPMG weapons also supplied. A small decal sheet is also included, together with a 12-page A4 instruction booklet, which unusually includes a colour plate for the painting/markings instructions. All in all this is a cracking kit, comprising of 123 parts and measuring 125mm in length.



The kit retails at £15.99 and is available from all good model and hobby shops. For further details check out the Airfix website at: www.airfix.com

Airfix 1/48 Supacat Coyote

Another addition to the 1/48 'Operation Herrick Afghanistan' range by Airfix is the 6x6 Supacat Coyote (kit ref. A06302). There is some commonality of parts with the Jackal (as with the real thing), but essentially this is a very different vehicle, being significantly longer with an additional axle. Once again the light grey plastic mouldings are superb and easily comparable with anything the current generation Japanese manufacturers can offer. A small decal sheet is also included, together with a 12-page A4 instruction booklet, which includes a colour plate for the painting/markings instructions. All in all this is a cracking kit, comprising of 148 parts and measuring 151mm in length when complete. A more complete review of this model appeared in the October 2012 issue of Airfix Model World, back issues are available from Key Publishing, see: www.keypublishing.com. The kit retails at £18.99 and is available from all good model and hobby shops. For further details check out the Airfix website at: www.airfix.com



Airfix 1/48 Land Rovers

Our final offering from Airfix this month is another addition to the 'Operation Herrick Afghanistan' range and features the WMIK Land Rover and Snatch Land Rover (kit ref A06301). As with the previous kits, these are also nicely moulded in light grey plastic, with plenty of fine detailing. The WMIK Land Rover, or to be more correct the WMIK R+ Land Rover, represents the latest type to be deployed to Afghanistan in 2011 and includes the distinctive features like the add-on ballistic panels for the front doors and sides of the rear compartment, heavy duty alloy wheels as well as numerous other new internal features.

The Snatch Land Rover also represents one of the later types to see service in Afghanistan being based on surplus WMIK Land Rovers and powered by the Wolf diesel engine rather than the V8 petrol of the early Snatch Land Rovers. The front mounted spare wheel and various electronic countermeasure devices mounted on the roof are also indicators that this is a later model, but there is still room for improvement by the keen modeller. It also has the possibility of being back dated to represent a Snatch Land Rover in service in Northern Ireland if the engine bay is ignored and kept closed.



These are two cracking little kits that will appeal to military model makers and Land Rover enthusiasts. The kit retails at £18.99 and is available from all good model and hobby shops. For further details check out the Airfix website at: www.airfix.com

Revell 1/35 German Truck V300 S

A new release from Revell this month is this representation of the German V 3000 S standard 3-ton truck in the ever popular 1/35 scale. The kit (ref 03234) is another of those being branded under the Revell banner, but originally offered by ICM. Like the Staff Car G4 also mentioned here, the V 3000 S truck is moulded in tan coloured plastic with the parts supplied on three large sprues with a smaller clear sprue for parts such as the windshield and lights. As with all of these former ICM kits the parts are beautifully moulded with fine detailing and a total lack of flash.

The underside of the truck is well detailed with the chassis and engine being particularly well represented and the wheels and tyres are provided as plastic mouldings rather than separate vinyl tyres, which I personally find to be more toy like than the much nicer plastic wheels/tyres provided in the kit. Markings and painting details are provided for four camouflage schemes.

All in all a nice kit of a rarely covered subject that is bound to be appreciated by military model makers.

The kit has a recommended retail price of £19.99 in the UK, and Revell model kits are available from all good toy and model retailers. For further information visit: www.revell.eu or email: ukbranch@revell.de



Revell 1/35 German Staff Car G4



The latest release from Revell and another of their recent collaborations with the model company ICM (as evidenced by the logo on the sprues), is this nicely detailed model of the well-known G4 Staff Car (kit ref 03235), as used by high ranking officers of the German Army during World War Two and featuring the distinctive six-wheeled design.

The 1/35 scale kit is supplied in the familiar Revell style carton with colour images of the completed model and an artists image of the vehicle on the front. The parts are provided on three large tan-coloured sprues with a smaller tan-coloured sprue and a clear sprue for the windows and various lights and details.

The kit builds into a detailed model with the chassis, running gear and engine being particularly well described, although only a folded hood is supplied, presumably to ensure that the detailed interior can be viewed, but it would be easy to scratchbuild one if so desired. A small decal sheet is also included, together with painting instructions for three vehicles.

The kit has a recommended retail price of £19.99 in the UK, and Revell model kits are available from all good toy and model retailers. For further information visit: www.revell.eu or email: ukbranch@revell.de



Revell 1/72 Cromwell Mk IV Tank



A new addition to the 1/72 military vehicle kits available from Revell is this kit of the British WW2 Cromwell Mk IV tank. The kit is supplied on three sprues moulded in dark green plastic with the tracks being the 'link & length' type moulded plastic, which to my mind make for a more accurate representation of the tracks than the vinyl rubber band types often supplied in kits of this scale.

The surface detailing on the mouldings is very good, and include an optional four-prong Cullin hedgerow device for the front of the vehicle. A small decal sheet is also supplied with markings for two units. Overall this is a nice kit of an interesting subject that is bound to be of interest to model makers.

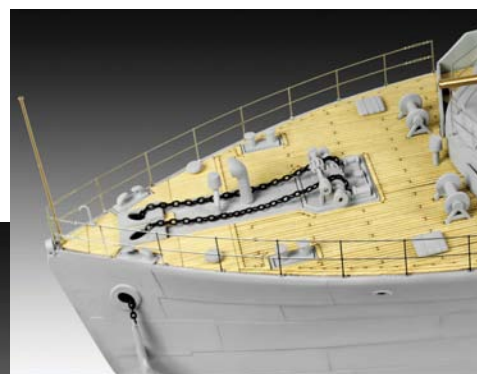
The kit has a recommended retail price of £9.99 in the UK, and Revell model kits are available from all good toy and model retailers. For further information visit: www.revell.eu or email: ukbranch@revell.de

Revell 1/72 Flower Class Corvette

The re-release of the well-liked 1/72 scale Flower Class Corvette by Revell (itself a re-release of the Matchbox kit, the name under which it was first released many years ago) sees the kit being updated and marketed as a 'Platinum Edition' (Kit ref. 05112) and features a raft of updates. Amongst the new parts that accompany the existing plastic sprues (which total 10 large sprues of different colours plus 4 large quarter mouldings for the hull) are an extensive photo etched metal fret approximately A5 in size, sheets of self adhesive wooden planking to lay on top of the existing plastic decking and turned brass metal gun barrels and masts. Also included is a large decal sheet and a sheet of printed flags for additional decoration of the finished model. The main construction is detailed in a 44-page instruction booklet, while the new additions are described in a separate 4-page leaflet. Optional parts, markings and painting details are provided for two well-known Flower Class Corvettes, namely HMS Snowberry and HMS Campanula.

The kit is well moulded with an excellent level of detailing, especially for a kit that is so old, but Revell have obviously taken care to look after the moulds and in terms of a modern injection moulded kit would stand up against all but the very best of the new generation of kits available. In the main the kit should be straightforward to build for any seasoned model maker, with only basic plastic model making skills required for most of the construction, but the construction and use of some of the new photo etched parts may not be familiar to everyone and may be better suited to someone with a little experience, but their inclusion, together with the other detail parts is a welcome addition to the kit and breathes new life into this very popular large scale ship model.

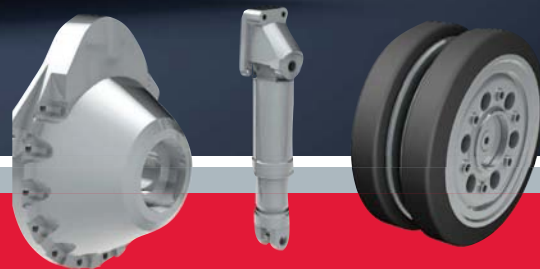
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New Kit Releases for 2013!

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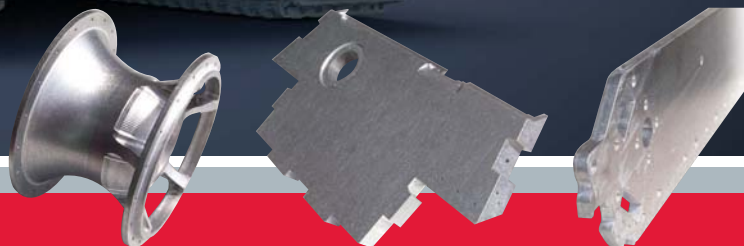


Illustration and graphic design by www.mediaset.co.uk

King Tiger

Back by popular demand, this impressive 1/6th scale all metal model kit, prototypical in construction has exceptional levels of detailing. Featuring scale plate thickness up to 1", weighing in at 140 kilos*, and nearly 5 1/2 feet long! this massive model is outstanding in every respect.

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Armortek model in front of King Tiger 104, at The Tank Museum (Picture courtesy of the Museum)



* Static model weight without options

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The Red Baron is one of the most recent replica Gun Trucks to have been built and regularly appears at military vehicle shows in the UK. (Photo - Ian Young)

VIETNAM GUN TRUCK



Roy Stevenson takes a look at the use of the Gun Truck during the Vietnam War



On September 2 1967, a US Army 8th Transport Group convoy of 39 vehicles was ambushed a few miles west of An Khe by a company of Viet Cong (VC) soldiers. With only weak convoy protection of two Jeeps armed with guns, the results were predictable. Seventeen American soldiers were killed, 13 wounded, and 34 of the vehicles were damaged or totally destroyed.

In another ambush in late 1967, a U.S. Marine convoy of 10 trucks, escorted by tanks, heading for Camp Carroll from Ca Lu on Route 9 was stopped by mines, and then came under attack from small arms and machine gun fire, and rocket propelled grenades. Trapped in a kill zone for

five hours until artillery and helicopter gun ships drove off the attackers, the marines suffered 19 dead and many wounded, with only 10 enemy killed.

Truck convoys had always been tempting targets for the VC, but until these events, the insurgent's long-range sniper and mortar fire, pinprick ambushes, and harassing attacks had been regarded more as a nuisance than a serious threat. With convoys of up to 200 vehicles stretching for many miles, and running seven days a week over poor roads, hilly terrain, and through rain, mud, heat and dust, Route 19, known as 'Ambush Alley' in the An Khe and Man Glang passes was a 'hard road' for the supplies and material to get through. These deadly attacks would change convoy



protocols, and just as interestingly for military vehicle enthusiasts, American ingenuity would lead to the ad hoc creation of a special vehicle that would use elements of armoured personnel carriers, helicopter gunships, with a little nose art from US Air Force bombers thrown in for good measure. The era of the Gun Truck had begun and these vehicles would soon attain celebrity status. Gun trucks clearly provided the inspiration for the armoured cars in the 1979 and 1981 Road Warrior movies and numerous films since.

ARMoured Gun Trucks

What, then, could the 8th, 48th, and 500th Transportation Groups do to minimise truck and personnel losses and defend their convoys? A customised vehicle, soon named the



Top right: 'Satan's Little Angel' & 'Black Widow' parked side by side. Satan's Little Angel had several names over her lifetime. Driver Richard Frazier was killed in an ambush on February 20 1971. It was then renamed 'Proud American'. The 'Black Widow' mounted three .50-cal heavy machine guns, one on each side and one in the rear. She was involved in a fierce ambush on April 25 1970.

Above: 'Duce is Wild' of the 541st Transport Company, pictured here in Kontum in 1970. She was armed with a single .50-cal heavy machine gun and M60 machine guns.



The boys are mounting up for a convoy here. You can see the jury rigged steel plates, somewhat rusted, mounted on the cab doors and an ad hoc metal gun cage has been welded for protection. Although far from tidy, these early armour adaptations proved effective for gun crew protection and did the job well.

THE MATCH BOX

Below: 'The Match Box' was a detachment-1, 5-ton gun truck. It had a higher profile than most gun trucks, and was armed with three .50-cal heavy machine guns. Later, it was lowered to give it a lower profile. It ended up in the 545th TC.



'Gun Truck', was born. Instead of subjecting the modifications to rigorous testing by the army and manufacturer, the gun trucks were simply jury rigged with armour and weapons, making them one of the most unique military vehicles in history, giving the gun trucks their maverick status. Group Commander Colonel Joe Bellino was the first officer to implement the "hardened" truck idea, and he moved fast on it.

Within weeks, armour was installed to 'harden' the trucks. Ranging from 0.25-0.5 inches thick, steel plates were affixed to the cab doors, over fuel tanks, and on the sides of the engine. In the cargo beds, 'gun boxes' were constructed of two layers of 10-inch or 12-inch wooden planks, sometimes with the inner wall made of pierced steel planking or solid M8A1 lightweight landing mats, bolted to a timber framework. The space in between the layers was filled with sandbags, but their weight proved prohibitive to the trucks especially when the bags were wet, straining the engines. Gun box protection eventually morphed into two parallel layers of 36" x 48" steel plates, up to 0.75-inches thick, which even proved effective against RPGs.

The 8th Transport group also created a hybrid 'APC truck' with a stripped-down aluminium M113A1 Armoured Personnel Carrier hull

KING KONG



"...the 8th Transport Group also created a hybrid 'APC Truck"

Lovely clear image of 'Death and Destruction' on convoy patrol showing the typical layout of early gun trucks in Vietnam.



Below: 'King Kong' was one of a number of 5-ton gun trucks belonging to the 8th Transport group. It was a hybrid 'APC Truck' with a stripped-down aluminium M113A1 Armoured Personnel Carrier hull mounted onto the truck bed for added protection. The cab of the 'APC Truck' was armoured in the usual way.



k' with a stripped down aluminium M113A1 APC hull..."

mounted on the truck bed, while ammunition cans were laid across the floor, and sandbags were placed around the vehicle on cab floors, beds floors, running boards, fenders, etc., to absorb mine shock. The gun crews were relieved to find that the ammo cans did not 'cook off' if a truck hit mines or came under fire. Later, cab windows were fitted with 2-inch thick bulletproof glass and drivers and crew wore body armour and steel helmets.

THE WEAPONS

The weaponry installed on gun trucks was truly outrageous. These bad boys were fitted with anything from two to six machine guns with three or four being most common, providing a 360-degree coverage! Initially, the guns were M60s, but from 1969 onwards, M2 Browning .50-calibre machine guns proved the most effective at 'jungle-clearing' with a 2,000-metre range. The 'fifty' could

penetrate double layers of sandbags, trees 16-inches in diameter, or 3ft of loose earth, and could chew through bamboo and brush like an ill-tempered crocodile, all with a 450-600 rounds per minute (rpm) rate of fire.

A few gun trucks were kitted up with 7.62mm M134 Miniguns, salvaged or pirated from helicopter gunships. These electrically operated six-barrel rotary Gatling-type guns could spit out 2,000 or 4,000 rpm, with red tracers and a chainsaw-like shriek that must have made them rather unpleasant to face.

Gun crews affectionately remember the weapons test-firing sessions where all the trucks would line up, and one-by-one, open up on a hillside. Each subsequent crew would try to wreak more havoc than the previous one, and local civilians would watch these displays of unbridled 'rock 'n' roll' firepower with incredulity.

When a convoy was attacked, the gun trucks that were spread out along the convoy, would converge on the hot spot, spread out in the kill zone, and lay down devastating retaliatory fire.

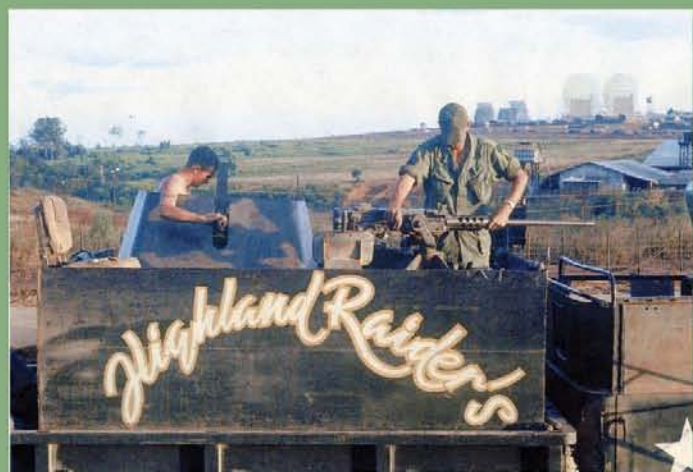
Bottom left: the quest for increased firepower for the gun trucks saw a wide range of weapons used, including the M134 Minigun, many of which were salvaged or pirated from helicopter gunships. This 7.62mm Minigun is firing from 'Mighty Minnie' of the 64th Transport Company, 54th Transport Battalion. These electrically operated six-barrel rotary Gatling-type guns could spit out 2,000 or 4,000 rpm, with red tracers and a chainsaw-like shriek that must have struck fear into the enemy.

Gun crews affectionately remember the weapons test-firing sessions where all the trucks would line up, and one-by-one, open up on a hillside. Each subsequent crew would then try to wreak more havoc than the previous crew, and local civilians would watch these displays of unbridled 'rock 'n' roll' firepower with incredulity.



Highland Raiders

Below: the gun truck 'Highland Raiders' belonged to the 64th Transport Company. This was an early wood-sided gun box truck, mounting a .50-cal in the rear and two M60s forward. God is My Shotgun was painted on both doors. The same armoured box from HR ended up mon a 5-ton at some point. A replica has since been built by enthusiasts in the UK and the truck now forms part of the 'Rolling Thunder' Vietnam re-enactment group and has appeared at numerous vehicle shows, including the War & Peace Show as shown here.



Below: 'Your Worst Nightmare' was one of the first replica gun trucks to appear on the military vehicle scene in the UK. It is pictured here at the War & Peace show in the UK in 2003. (Photo - Ian Young)

Bottom: 'Highland Raiders' regularly takes part in the battle re-enactments staged by the Rolling Thunder Vietnam re-enactment group at shows around the country. (Photo - Ian Young)

"...Gun Truck crews were hardly ones to follow the regulations, being flamboyant and highly individualistic..."





It's no wonder that the VC placed money bounties on gun trucks and their crews. All hands were armed with 7.62mm M14 rifles, and truck squad leaders had 40mm M79 grenade launchers and .45 calibre M1911A1 pistols. Other weapons in the gun truck arsenals included .45 calibre M3A1 'grease guns', M16A1 rifles, and 12-gauge pump-action shotguns, mainly for clearing the enemy from roadside ditches.

Other gun trucks were mounted with M55 Quad Fifty Machine guns, designed for anti-aircraft work.

GUN TRUCK CREWS

Most of these modifications were done by the gun crews who quickly formed a strong esprit de corps, establishing reputations as aggressive, motivated, self-starting individualists, a kind of rag-tag elite 'Special Force' for truckers. Gun truck crews were selected from experienced drivers, many of them bored infantrymen who wanted a piece of the action, rather than lying around a firebase all day being sniped at. Hardly ones to follow

regulations, the flamboyant and individualistic crews often had pets aboard their trucks ranging from dogs and cats to birds, lizards, squirrels, and even snakes and monkeys!

THE GUN TRUCKS

The original gun trucks were 2 1/2 tonners from the REO Motor Car Company G-742 series. Of these, the M35A1 and M35A2 were the most widely used. They had a range of 400 miles with an empty weight of 13,443lb. Classified as a 6x6, the 'Deuce' had three axles with six wheels, with the rear two axles mounting dual tyres for a total of ten tyres. The rear axles were powered continually, and power could also be applied to the front axle for better traction on mud, sand, gravel, and rough ground and wet roads. The deuce had a 12.5-inch ground clearance, a 36ft turning radius, and could drive through water 30 inches deep. With pedal to the floor, the in-line, six-cylinder 135 horsepower deuce could just reach 55-60 mph but, with the added weight of sandbags, armour,



Top right: replica gun truck of the quad fifty design photographed at the Kemble MVT show.

Above centre: 'Uncle Meat' a 5-ton gun truck from the 54th Battalion, 523rd TC carried extra tools and a row of tyres at the rear for other vehicles.

Left & above: 'The Red Baron' is a 5-ton gun truck replica complete with heavy armament. Note the row of spare tyres shown above. (Photo - Tina Griffin)

EVE OF DESTRUCTION

Below: perhaps the most photographed of all Vietnam gun trucks - 'Eve of Destruction' is the only surviving gun truck in the U.S.A. Here she is shown on escort duty in the Central Highlands driving past terrain considered ideal for ambush.

Below centre and bottom: In 1972 it was the only original gun truck returned to the U.S. from Vietnam. The truck is kept in pristine condition in the U.S. Army Transport Museum at Fort Eustis, Virginia. In these two great comparison shots, you can see Eve of Destruction from almost the same angle during her Vietnam War era and as she stands now in the U.S. Army Transport Museum.



increased gun crews and the array of weaponry, the deuce proved to be grossly underpowered, often slowing the convoys down.

FIVE TONNERS

Enter the 'five tonner' G-744 series - a scaled up model of the "Deuce", some 11% larger than its smaller brother, but with a lot more grunt. First developed in 1951, and produced in 1953 by GMC and Kaiser, the M54, M54A1, and M54A2 5-ton cargo trucks soon proved to be formidable weapons platforms.

With the same 6x6 configuration, power transfer through the rear, and when needed, front axles, the 5-ton had a 10.5-inch ground clearance, 39ft 3in turning radius, and wading depth of 30-inches. With an empty weight of 19,480lbs, the 5-ton boasted a 7ft 4in x 4ft cargo bed, some 21-inches longer than the deuce, and, with its more powerful 205 horsepower engine, the 5-ton could carry heavier armour, weapons, and ammunition, and still reach 60 mph, with a range of 500 miles.

The macho image of the gun truckers, and the pop culture of the Vietnam War era was reflected in the names sign written on the sides of the gun trucks: Assassin, Black Widow, Dealer of Death, Eve of Destruction, The Grim reaper, King Cobra, Pallbearers, The Rebel, and Wild Bunch, to name a few.

Other uses were quickly found for gun trucks: installation perimeter defence at base camps and fire bases, ground troop support, guarding work sites for engineer details, and covering mine sweeping details.

Below: 'Daughter of Darkness' was a 3/4-ton M37B1 cargo truck fitted with armour and two side-mounted M60s and an M60D machine gun in the cab. They were used as control vehicles, having been introduced in 1968.

On December 4 1967, only three months after the attack that cost so many U.S. lives and vehicles, the VC ambushed an 8th Group convoy. The enemy was surprised to see six armoured gun trucks race to the scene and lay down suppressive fire, forcing them to retreat within 30 minutes. Thirteen enemy were killed and one captured, versus one American killed and six wounded.

In the twelve month period from September 1967, there were 36 major ambushes, 65 sniping incidents, 65 mine attacks, and 18 bridges blown on Route 19, costing the Americans 30 killed, 203 wounded, and 287 vehicles damaged or destroyed.

Despite all these attacks, Route 19 remained open and by the end the 8th Transportation Group had driven a total of over 7,331,924 miles and delivered more than 596,572 tons of cargo, and 4,000,000 gallons of fuel in the face of fierce enemy action.

Between 350 and 400 gun trucks were eventually created during the Vietnam War, and today the only remaining original example, 'Eve of Destruction', is found in the Army Transport Museum in Fort Eustis, Virginia, restored to mint condition.

Archive photos courtesy of the U.S. Transport Museum, Fort Eustis, Virginia, U.S.A.

"...enter the 'five-tonner' G-744 Series - a scaled up model of the famous 'Deuce and a Half'..."



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IN FOCUS HUMMER

Despite high purchase prices, the Hummer is gaining popularity with private owners

Above: this superb Hummer has appeared at many shows up and down the country and is arguably one of the most realistic representations of an in-service US Marine Corps up-armoured M1044 HMMWV weapons carrier. The vehicle belongs to collector Gordon Talbot who painstakingly rebuilt the vehicle from a 1989 M1038 troop carrier and I took the opportunity to take a closer look at this and his other Hummer at the Tanks, Trucks & Firepower show last year, but it's not the first time I've encountered Gordon and his Hummers.

The American Hummer, or High Mobility Multipurpose Wheeled Vehicle (HMMWV) to be more accurate, has been operating with various armies right around the world for many years now, with many thousands of them currently in service and seeing active duty in hotspots such as the Gulf Wars 1 and 2, Bosnia, Iraq, and more recently Afghanistan, but when the first examples rolled off the production line in 1985, not everyone expected the Hummer to still be in such widespread use nearly three decades later following a troubled and sometimes confused gestation period that saw the performance criteria

constantly changing. In the end the Hummer as we know it won through and has generally been well received by those who have used them.

Admittedly the Humvee has undergone some pretty dramatic changes over the years, with the latest armoured variants currently serving in Afghanistan (see November 2012 issue of MMI) a far cry from the original basic utility vehicles that were supplied to the US Army and US Marine Corps, but despite these changes it is still one of the most recognisable military vehicles in the world today, and more and more of them are finding their way into private ownership.

PRIVATE HANDS

A number of variants have found their way onto the market, including various hard top armament carriers, two and four door soft top cargo carriers, some with high tops, and I've even seen a low roof hard top mini ambulance. In addition to these a number of defence manufacturers have procured Hummers to conduct experiments with specialised equipment, and occasionally these vehicles have found their way onto the open market once their useful life is over.

The hard top is one of the more popular types and does have the benefit of being more secure and to a certain extent more weatherproof, but the soft tops do offer the owner the chance to strip the vehicle down for the summer months and is probably the more flexible of the two types to own.

A variety of add-on extras were fitted over the years, from front



Left: given the number of Humvees that have served and still are serving in Europe, it's no surprise that there are a lot in private hands overseas, due in part to vehicles being disposed of from source rather than being shipped back to the United States. As a consequence the European dealers are a good place to start searching for a second hand Hummer if you're looking for one.

Nowadays a fully up and together Hummer in good condition and ready for the road is going to set you back between £40,000 and £50,000, although cheaper examples can be found if you're prepared to do a bit of work yourself, but as with anything, you tend to get what you pay for.

At this year's War & Peace show I came across more Hummers than I've ever seen in once place before, and it's becoming increasingly common to find them turning up at smaller shows too, so why are they so popular, and what do you need to look at if buying one? The images featured here are nearly all privately owned Hummers photographed at various military vehicle shows in the UK, proof that there are a lot of them out there.



Left: a number of Hummers have been acquired by defence equipment manufacturers to test out Hummer-related products. This Hummer was photographed at the Defence Vehicle Dynamics show some years ago, and has been fitted out with an array of access ladders for specialist anti-terrorist activities such as boarding aircraft and buildings.

Below: in contrast to his other Hummer, Gordon Talbot's new acquisition is an M1069 high top, two-door prime mover, complete with the standard two-wheel trailer.

bumper mounted winches to gun mounts, bull bars, light guards and more recently huge 'pusher' type bumpers used as barricade removers in Iraq and Afghanistan.

While the prices of ex-military Hummers remains high when compared with other vehicles available to the private collector, and availability limited compared to many popular vehicles, there are quite a number in private hands and for sale via ex-military dealers. When they first came onto the market around a decade ago, Hummers were typically fetching £25,000 upwards, and it has to be said that many of those early Hummers were decidedly tired, with the authorities of the time reluctant to release any at all, however, in the past few years a great many more examples have surfaced, some direct from the military, but others have been painstakingly restored and rebuilt.



Soft Tops



This four-door M1038, four-man troop carrier belongs to a collector from Germany and was spotted at the 2012 War & Peace Show.

"The Hummer's engine is a General Motors 6.2-litre V8 diesel ..."



War & Peace 2012 was a bumper year for Humvees, here we see another M1038, clearly showing the high top canvas over the rear load bed plus a raised air intake.

Rear view of an M1038 troop carrier also spotted at War & Peace 2012.



The soft top Hummer is a more useful vehicle, capable of being stripped down for the summer.





Top: this Dutch-owned hard top weapons carrier features the later type doors. Early Hummers had distinctive cruciform indentation to them.

Below right & below centre: a privately owned Hummer from the UK photographed at Trucks & Troops. Note the early type doors with cruciform indentations.

Bottom right: this rare M996 two-litter armoured ambulance turned up at the War & Peace Show some years ago.

Bottom left: following experiences in Iraq and Afghanistan, a heavy duty winch bumper capable of removing barricades and pushing vehicles.

HARD LIFE

In general the vast majority of the Hummers you will come across will have led a hard life, and while these trucks are designed and built to cope with the rigours of army life, they can have their problems. One of the more obvious areas to look at very closely is the engine and transmission, mainly because it's one of the most expensive areas to replace or rectify. The engine is a General Motors V8 diesel and is essentially the same as that used in the Chevrolet light trucks also used by the US military. It started life as a 6.2-litre unit, and most examples in private hands are this earlier model, but the engine capacity was increased to 6.5-litres later in life with the introduction of improved models. In general it's an excellent unit, but like any diesel engine it needs regular maintenance and still needs checking carefully because a replacement unit wouldn't

come cheap, assuming you can find one of course!

The 3-speed automatic transmission can give problems if not properly maintained, and while it's reasonably safe to assume that the maintenance will have been carried out while in service, you do have to ask yourself the question "why has the vehicle been sold off in the first place?" and it could well be that problems with the engine and transmission have been deemed not to be cost effective to repair, so buyer beware! If in doubt try and find someone who knows these vehicles and take them with you when looking at a potential purchase.

The suspension and running gear is undoubtedly heavy duty and was designed to cope with harsh military life, however, suspension can still be damaged and deranged if abused, and while it may not be of too much





a



g



b



c



d



e



f

"...it's worth remembering that a Hummer is 16-inches wider than a standard type Land Rover..."

concern on the battlefield if the tracking is out, in private hands it can make an already big vehicle even harder to control on narrow roads, but more importantly can damage the expensive tyres and you wouldn't want to keep replacing sets of tyres unduly, so check for uneven wear or damage to the tread and sidewalls, which may indicate previous problems with the suspension, and check for any obvious signs of damage on the suspension components and wheel rims.

LIVING WITH A HUMMER

Although the Hummer may seem like a good vehicle to buy, be it a soft top or hard top thanks to the ability to drive it on the road, reasonably good access for maintenance (in military vehicle terms at least) and a good sized load bed, many people make assumptions based on lack of knowledge. Firstly it's quite a big vehicle when compared to many British Army vehicles, in fact it's 86-inches wide, some 16-inches wider than a typical Land Rover and yet the interior is remarkably cramped due to the huge transmission tunnel that runs down the spine of the vehicle and consequently there's only has room for four people inside!



Driving it around narrow UK roads and even doing day-to-day things like popping into town and using a car park can be fun, partly due to the size of the vehicle and partly due to the fact that all Hummers are left hand drive so to get a ticket from a parking machine you either need a passenger or to get out of the vehicle! The Hummer is generally a fairly stable platform, but should you clip a kerb or venture down a soft verge the results can be 'exciting' and because the Hummer is so wide that's far more likely to happen, and I wouldn't even want to consider driving one down narrow country lanes!

While the Hummer may be a topic of conversation, don't think you'll be holding much in the way of conversations on journeys because the Hummer isn't the quietest of vehicles, especially when all closed up and driving at speed, which is around 65mph on the road.



a - the interior of the Hummer is pretty cramped for such a big vehicle!

b - the GM 6.2-litre V8 diesel engine was later increased to 6.5-litres.

c - with the bonnet raised the engine is fairly accessible.

d - the raised air cleaner was fitted as standard to later USMC Hummers.

e - the weapon carrier variant is fitted with roof ring mount for weapons.

f - the Hummer's suspension is sturdy, but still needs checking carefully.

g - both two and four-seat variants of the Hummer are available.

h - different variants have the spare wheel mounted in different places.

i - the same fuel filler is to be found on both the hard and soft tops.

j - the inside of an armoured door showing the original cruciform indentations.

k - most in-service Humvees were fitted with radio communications equipment.

l - a variety of weapons were fitted to the roof mounted ring mount.



Even storing your Hummer could be problematical, depending of course on what parking facilities you have available to you. A certain amount of thought will need to be given to where you're going to keep your Hummer when not in use because it certainly isn't going to fit into the average garage, or at least not if you want to get out of it once inside the garage! Outdoor storage is of course an option and it should fit on an average driveway, but would you want to keep £40,000 worth of Hummer on a drive?

STILL WANT ONE?

All that remains to be said is that it's a big vehicle, some would say ugly, not particularly nice to drive, noisy, cramped inside, difficult to store, expensive to buy, fairly expensive to run and of limited use, so would you still want one? Well if I had the money the answer would be a resounding yes!

Sometimes the practicality of a vehicle isn't the be all and end all, and sometimes you just have to go with a vehicle that you like and something that's just a little bit out of the ordinary, after all that's partly what the hobby is all about – being different, choosing matt paint instead of gloss paint and chrome and it would seem by the amount of Hummers now in private hands that more and more people agree with me.

So if you fancy owning a Hummer start saving those pennies and keep your eyes open for second hand bargains in all the usual places and in the meantime why not take a closer look at those Hummers you come across at shows and rather than passing them by, take the time to ask the owners about them, and what they're like to live with, after all they're normally only too happy to talk about their vehicles and can be an absolute mine of information.

Classic



Plant

We look at an emerging branch of the military vehicle collecting hobby



Although there have always been those who have had an interest in plant and construction equipment, in the main it has been confined to civilian equipment and supports a thriving hobby, but in recent years the level of interest in military plant and equipment has risen to a point where it can be considered to be an emerging branch of the hobby today, with more and more vehicles attending shows. Over the last few years we here at MMI have been watching the growth of this area of the hobby with interest and in this feature we will be taking a look at some of the vehicles we have come across at various military vehicle shows and museums in an effort to generate yet more interest in this fascinating subject.

Historically the use of plant and construction equipment by the military really began to take off in World War Two as mechanised warfare began to be taken seriously by military planners with all sides making widespread use of equipment. Initially much of the equipment used was based on civilian specification vehicles, but very quickly manufacturers tailored their products to meet specific military requirements such as the small air portable bulldozers used by the Americans to great effect on the islands in the Pacific. The practice continues today with the likes of JCB and Caterpillar producing a range of specific military specification construction equipment that is sold around the world.



For the purpose of this article we are going to be concentrating on the few examples of bulldozers, crawlers and associated equipment we have come across at various shows and museums in recent times, but this is just a small selection from the many vehicles used during the war, with vehicles supplied by big name companies such as Allis-Chalmers, International and Caterpillar. These vehicles were used to perform a great many tasks, some even used at the front line, but more generally they were used for the creation of makeshift airstrips, the clearance of scrub and jungle and the construction of military installations, but they were equally at home demolishing bombed out buildings and clearing roadways and of course would often be employed for the grim task of clearing and burying dead bodies on the battlefield.

Whether it is the wide range of tasks capable of being performed by these vehicles, a particular interest in plant and equipment that just happens to overlap into the military vehicle hobby or just the sheer size of some of these monsters that attracts people to buy and restore these vehicles is unclear, but more and more are being restored and brought along to shows by collectors.

Of course the importance of these vehicles has long been recognised by some, and the Marshall Museum at Overloon in the Netherlands houses a fabulous collection of military vehicles and amongst the collection are a number of examples of plant and equipment, some of which are featured here, and one even bears the name of the late, great, military vehicle historian and author, Bart Vanderveen.

The vehicles featured here are by far from comprehensive and represent just a small number of the manufacturers involved in the production and supply of plant and construction equipment to the military, instead it merely offers a flavour of this emerging area of the hobby, but we hope that you'll find it interesting and who knows, it may even inspire more people to start collecting military plant and equipment, but in the mean time we will be watching the hobby with interest to see how thing progress.

Main photo left: the mighty Caterpillar D8 is one of the bigger pieces of wartime plant equipment to be in private hands. Here we see the owner leaving the arena at the 2012 War & Peace Show having reggraded the surface in the arena together with a D7 dozer, which can be seen in the background.

Above right: the size of wartime plant equipment can vary in size and here we see two ends of the scale with the massive Caterpillar D7 dozer in the background and the relatively small Clarkair CA-1 air portable dozer in the foreground. Both were at the War & Peace Show.

Bottom far left: this example of the wartime Caterpillar D4 is a narrow track variant, being considerably narrower than the standard commercial type, which aided with the transportation of the vehicles.

Bottom centre: this newly restored example of a Caterpillar D7 crawler turned up at the Overlord 2012 show. The extended chassis rails would normally mount a large winch.

Left: the D2 was one of the smallest commercially available Caterpillar crawlers used during the war and was similar in size to the purpose-built Clarkair CA-1 dozers.



CATERPILLAR D8



CATERPILLAR D7



CATERPILLAR D8

One of the largest of the machines supplied to the military by American company Caterpillar was their D8. The example shown here below and far left is a Caterpillar D8-8R that was built in Illinois, USA in 1941 and shipped to the UK prior to the D-Day landings where it joined the 79th Armoured Division 819 Dozer Squadron. These massive machines could be used for a variety of tasks from towing heavy artillery to bulldozing and rubble clearance. This vehicle was photographed at the War & Peace Show having first appeared there in 2009 and now a regular at the event where it is put to great use in the arena making good the off road course. The other vehicle was used by British forces and turned up for the Duxford military vehicle show on the back of a trailer towed by a Diamond T.



CATERPILLAR D7

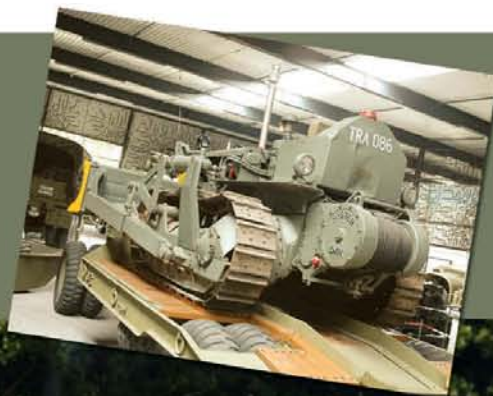
A slightly more common variant of the Caterpillar dozer is the D7, which saw widespread use during the Second World War in a number of guises, including armoured variants. Featured here are two different variants of the D7 that have appeared at shows in the UK. The first (above right) features the distinctive overhanging chassis rails at the front of the vehicle, and the open spoke type front roller wheels that show it to be an RD7. Although it's not fitted to this example in the photos, the extended chassis rails would normally carry a front mounted Hyster winch and would primarily be used as an artillery prime mover.

The second type (shown above left) is fitted with a Le Tourneau XC7 bulldozer blade with the distinctive raised support framework above the vehicle and has been appearing at the War & Peace Show for many years, and the third example without a dozer blade (shown left) was spotted at the Duxford military vehicle show some years ago.

CATERPILLAR D4

One of the medium sized crawlers to see widespread service during WW2 was the Caterpillar D4 and here we have two different examples. The first, (shown top right) photographed in the Marshall Museum, Overloon in the Netherlands is a standard wide-track variant fitted with dozer blade and rear mounted Hyster drum winch. These vehicles were used for a wide range of general tasks and being smaller than the much larger D8 and D7 Caterpillars were more easily transported around the battlefield.

The second example (shown right) was again visiting the 2012 War & Peace Show, which was a bumper year for classic plant and equipment. It is a different variant in that it doesn't have the rear mounted winch fitted and is the narrow track variant, as evidenced by the narrow overall width of the vehicle.



CATERPILLAR D2

One of the smallest commercially available crawlers to be produced by US manufacturer Caterpillar to see service during WW2 was the D2 and here we have two well presented examples. The one (below right) appeared at the War & Peace Show in 2012, while the other (left) was spotted at the 2011 Ponderosa at War show. These smaller crawlers were mainly used for towing and other lighter tasks, but could be fitted with dozer blades, overhead gantry cranes and other accessories to enable it to perform various tasks. In terms of size it was similar to the Clark CA-1.



CLARKAIR CA-1

One of the smallest crawlers to see service with US forces during the Second World War was the Clark CA1 air portable dozer, which was specifically designed by the Clark Equipment Company and American Machine and Metals Inc. to be small enough to be easily transported to far flung theatres of operation such as the islands of the Pacific in the transport planes of the day. The small size of these machines has made them very popular with collectors and there are probably more Clarkair dozers in private hands than any other wartime crawler. The one example shown here was photographed at the War & Peace Show some years ago with the much larger caterpillar D7 offering a comparison in the size of these machines. The other example resides in the Marshall Museum, Overloon in the Netherlands.



ALLIS-CHALMERS

The Allis-Chalmers HD-15A crawler shown here resides in the Marshall Museum, Overloon in the Netherlands and bears the names of the late, great, military vehicle historian and author, Bart Vanderveen. There are very few of these dozers in private hands, but this well restored museum example is fitted with an angle dozer and like the many Caterpillar variants saw some use towards the end of WW2, having been introduced in 1945.

While this particular example is actually a 1950 model, it is essentially the same as those produced at the end of the war and used during WW2.



Stock

To round off our feature we have a vehicle that strictly speaking doesn't fall under the plant and construction category, but because it is so similar in terms of design and usage we have included it for the purposes of this feature. The vehicle in question is a rare agricultural crawler produced by German manufacturer Stock. The Stock company was started by Robert Stock in 1909, and produced a range of agricultural equipment, including tractors, crawlers and mechanical ploughs.

Production ended in WW2 when the company lost their production sites, but the vehicle shown here, the Raupenstock, was designed as an agricultural crawler to tow ploughs, and some were pressed into use with the German military as makeshift artillery tractors during the war. This rare example bearing German markings appeared at the 2012 War & Peace Show and is certainly different to the American crawlers.



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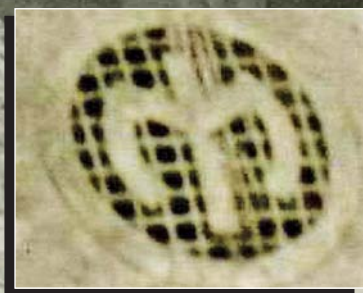
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BULLDOG BREED



Tim Gosling looks at the Mack AC Bulldog military trucks of the First World War

Above: photographed on a dusty French road, this Mack clearly shows the bonnet emblem for "International Motors" (see inset above).

The Mack AC is quite a remarkable truck. The first example was built in 1916 and after a further 40,297 the final Mack AC came out of the factory in 1939. A production run of 24 years without any significant changes to the design is really quite unusual feat suggesting that the designers got it right first time.

The origins of Mack go back to 1901 when the Mack brothers formed the "Mack Brothers Company" in New York and built their first vehicle (a 1-ton bus) the same year. Four years later the business had moved to Allentown Pennsylvania and had diversified into the production of trucks building 51

vehicles in that year. In 1911 (when production had reached 600 vehicles a year) the Company was sold to the "International Motor Company" (IMC), who also owned the Saurer Motor Company (who were building the Swiss Saurer truck under licence) and who then bought Hewitt Trucks in 1912. In purchasing Hewitt, IMC also gained the exceptionally talented engineers Alfred Masury and Edward Hewitt.

The year 1913 would be a difficult one for IMC. Not only was there a recession but there had been a number of new entrants in to the truck building industry and a flood of new



innovations leaving manufacturers uncertain how they might adapt their designs to attract more customers. With limited financial resources available at IMC Hewitt designed a new engine and using proprietary parts from other manufacturers built what would become known as the Mack AB. With the first deliveries made in the autumn of 1914 it quickly became apparent that this was an outstanding truck. The Directors of IMC were very pleased and asked Hewitt to design a new heavy truck to be built entirely "in house". Hewitt was disillusioned with his role as chief engineer and resigned so this task fell on his assistant Masury who then re-employed Hewitt as a consultant. Together they drew up plans for the Model AC, which were approved for manufacture in record time.

The Mack AC

The Mack AC immediately gives the impression that Masury and Hewitt

had the words "Heavy duty" in mind as they designed it. Everything about it from the massive pressed steel chassis to the heavy chains running to each rear wheel from jack shafts protruding from the gearbox look particularly rugged. As other manufacturers were abandoning chain drive for worm drive Masury and Hewitt did the opposite. Worm drive was quite a new invention and as it was untested on such a heavy-duty truck the designers felt that chain drive would be more reliable.

When studying the Mack AC one design feature that is immediately apparent. Following an idea popularised by Renault the radiator was not located in front of the engine but behind it. The main reason for doing this was to protect the radiator (which usually being in front was very vulnerable to damage) and in addition the warm air it generated would be pulled by a large fan into the cab and



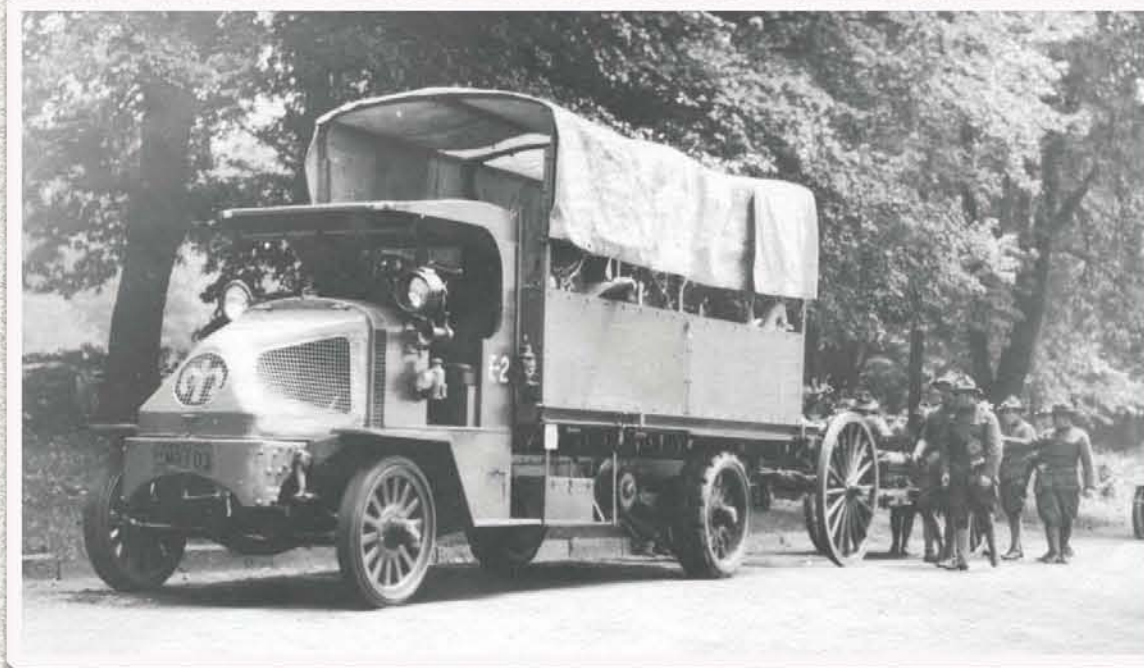
would help keep the driver warm. This arrangement could be problematical for two reasons. On very hot days the driver would probably not have enjoyed having additional hot air being blasted at him and there was no guard between the fan and the drivers feet, which were just a few inches away. When questioned on the safety of this arrangement one driver commented that "common sense suggests that you do not put your foot in to the fan".

Top left: here we see hundreds and hundreds of Bulldog trucks parked outside the Allentown Pennsylvania plant awaiting delivery to Uncle Sam.

Top right: a clear demonstration of the tipper body being lifted by hydraulics and cables.

Above right: the tipper mechanism in action. The hydraulics and cables are clear to see in this view.

Left: this is a very rare and unusual photograph of the second of the experimental Mack AC's. Photographed here on the way to Plattsburg in August 1915.





It is a pity that modern day health and safety arrangements do not follow this same logic.

The first two prototypes were completed in early 1915. The first was fitted with a tar boiler and heating apparatus but received little media attention. The second one having undergone some minor modifications was finished as an army truck. On the 15 August it left on the 300 mile journey to Plattsburg camp with 14 other motor vehicles and a group of Army reservists. It had been fitted with demountable armour plate on the sides, carried 30 soldiers, 3 "rapid fire" guns and towed a 3" field gun. Four days after departure it arrived at Plattsburg receiving much interest.

THE BULLDOG NAME

When the first production Mack AC's came out of the factory at the start of

"...The first of two prototypes was completed in 1915..."

Above: the wooden body was of exceptionally heavy construction.

Right: photographed at the "Brill" Company works, this Mack has been fitted with a special body for carrying engineering tools.

Below: this Mack is carrying a dismantled field kitchen. Everything perhaps but the kitchen sink.





appearance of the AC to a British Bulldog and now referred to them as "Bulldog Macks". This name got back to the executives at Mack who found it to be a perfect analogy and the name stuck with it officially becoming the company symbol in 1922.

The various different Corps of the US Army were each responsible for procuring their own vehicles and the Corps of Engineers found the 5 ? ton and 7 ? ton Mack AC chassis to be perfectly suitable for their needs. An initial order for 900 on a \$4 Million contract was made with the first examples being delivered in October 1917. These they named the "Mack HC3" and by the end of the war a total of 4,470 had been purchased, of which 1,586 had arrived in France. The majority of these were fitted with wooden general service bodies but the unloading of road building materials was found to be very labour intensive so an all steel body with a hydraulic and cable tipper mechanism was introduced. The Engineers had an enormous range of roles and responsibilities and the Mack chassis was fitted with a variety of bodies to assist them in these duties.

Blacksmiths and carpenters workshops, water tankers, breakdown truck, tool store and printing press were (after the tipper body) the most common specialist body types fitted. The most unusual and certainly the most impressive was the searchlight carrier. This monster eight-ton truck carried a generator in front of the

Top left: with a shortened chassis and a hoist this Mack has been converted in to a wrecker, here providing assistance to a Nash Quad.

Far left: the water tank on the Mack was located very high which must have improved water pressure but at the detriment of stability.



1916 they quickly found waiting customers. One of these was the British War Department who had sent a buying mission to the United States to purchase mechanical transport desperately needed in Europe. An examination of the lorry and the Mack factory proved satisfactory and an order was placed for 150 of the 5 ?-ton chassis to be shipped to Britain. It was later reported in a trade magazine that the visiting British delegation had likened the

Far left centre: in the service of the 23rd Engineers Road Service this Mack demonstrates the drawback of a non tipping body.

Below: the cab roof on the front of this Mack water tanker appears to have received some damage.





Mack Oddities

Below: loaded on this Mack are seven tons of logs. Unfortunately it caused the truck to sink into the mud and it had to be towed out by six horses.

Bottom: without the bonnet in place the Mack Bulldog does look rather odd, as demonstrated here.



engine and a second radiator to help improve cooling. To help protect these additions the front of the Mack was fitted with a very heavy wooden beam supported by metal Springs. With the front of the lorry so far from the driver it must have been very strange to drive. With the design supervised by Masury and built from 1921 the truck was found to be too heavy and could not be taken off road or in fact over anything but the strongest bridges.

THE MISSING MACKS

It has often been claimed that Mack was a significant supplier to the British War Department with numbers in the region of 2,000 having been purchased. If this was the case then it is rather strange that photographs of Macks in British Army service are incredibly rare. Other evidence suggesting that Macks were not common in British Army Service is that the name Mack is absent from the lists of vehicle types repaired at British army central workshops in France as well as from all technical memorandums issued to the motor transport Company's. In addition the Official History of the Ministry of Munitions does not even mention Mack in its list of American companies, which received large contracts. The possible explanation for this confusion is that the missing trucks were actually manufactured by Saurer the sister company of Mack (which was also owned by IMC). Saurer is a well-known Swiss company who from 1909 shipped truck components to America where they were assembled by the company of Quincy, Manchester and Sergeant.

"... the Mack was probably one of the most durable trucks ever made ..."

By 1911 Saurer were being built under licence in Plainfield, New Jersey when the business was purchased by IMC. Much like Mack the licence built Saurer was tested by the British buying mission and found to be "most satisfactory" and purchased in "quantities". Unfortunately the exact number purchased is not known, but certainly within the hundreds, possibly the thousands. It seems likely that the missing Macks were in fact Saurers.

SURVIVORS

The Mack AC was probably one of the most durable trucks ever made and there certainly are numerous survivors. However, the ones built under a military contract are not so common. I can think of at least two survivors in North America and three more in France. When the American Expeditionary Force withdrew from Europe at the end of the war most of the Macks were put up for sale only to find eager customers within the French population. Perhaps the best-known survivor is the one restored by the Berliet foundation which was placed on display with their substantial collection of trucks in Lyon.

Right: the Mack searchlight carrier would win the prize for the ugliest truck and also perhaps the most imposing.



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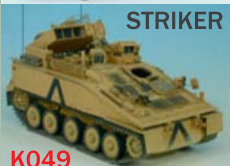
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Commando Force



The original Armored Security Vehicle (ASV) has a history that traces back to the Cadillac Gage LAV-100 Commando, the first production examples of which were built in 1963. The amphibious LAV-100 Commando was used extensively in Vietnam and was followed into production in 1971 by the LAV-150 which was sold to more than 20 countries. The LAV-300, a (6x6), was introduced in 1978 and numerous examples of the 15 variants available remain in service around the world. Assorted other light armoured vehicles including the Scout (4x4), LAV-200 (4x4), LAV-150S (4x4), and V-600 (6x6) have been produced by the now Textron Marine & Land Systems (TMLS), a company that has origins tracing back to 1935 (Bell Aircraft Corporation) and Cadillac Gage (1941). Textron (founded in 1923 as the Special Yarns Company) acquired Bell in 1960, and with the acquisition of Cadillac Gage in 1986 as a wholly owned subsidiary, Textron Marine Systems was created. In 1994 Cadillac Gage was merged with Textron Marine to form the now Textron Marine & Land Systems (TMLS).

ARMY CONTRACT

Following a US Army competition, in December 1995 Textron Marine & Land Systems (TMLS) was awarded a contract worth \$3.2 million to build four prototype Armored Security Vehicles (ASVs). The two final two competitors for the ASV requirement were TMLS and AV Technology, the losing AV Technology bid based on a variant of the Dragoon family of light armoured vehicles. The winning TMLS bid was for the TMLS Cadillac Gage ASV 150. The ASV 150, now designated M1117 Guardian by the US Army, was based around the then current production LAV 150, the LAV-150ST (S – stretched; T – turbocharged).



Textron Marine & Land Systems recently reintroduced the Commando brand for its current range of armoured vehicles...

The original M1117 Guardian ASV prototypes were completed in early 1997, and a production contract award valued at \$50 million for the supply of 94 ASVs over five years followed in 1999. Contract options, if exercised, would have increased the total buy to 250 ASVs. The first production ASVs were delivered in 2000, and by July 2004 the US Army had placed orders for just 132 ASVs, around 80 of which had been delivered. At this point in time there was the very real possibility that the ASV programme would be terminated with no further orders.

However, as the security situation in Iraq began to deteriorate, it became clear that other deployed vehicles in theatre were under-armoured for the prevalent and increasing IED attacks. Alongside other up-armouring efforts, the US Army identified that the better-

Top right: photographed during Exercise Team Spirit '81, here we see an LAV-100 Commando, the predecessor of the M1117 ASV.

Main image opposite: US Army M1117 ASV preparing for convoy escort duties in Iraq 2009. (US DoD)

Below: this 2003 image shows some of the first 80 delivered Military Police ASVs in their original temperate zone camouflage.





Top left: prototype M1117 ASV at speed...

Top right: in December 2009 TMLS received a US Army FMS award valued at \$45.6 million to supply Colombia with an initial 39 stretched ASVs.

Above: the last new-build ASV for the US Army rolled off the TMLS' New Orleans production line in late November 2012.

protected ASV was better suited for Iraq and began urgent efforts to release contracts and ramp up production as quickly as possible.

The US Army then increased its orders, initially to a total of 182. However, by late 2005 the Army's M1117 requirement had increased to over 2,476 vehicles, more than 1,000 of these as MP and convoy protection platforms in Iraq.

The ASV quickly proved its worth in a variety of roles above and beyond its original Military Police/law

enforcement mission. In July 2004 the US Project and Contracting Organization (PCO), acting on behalf of the Iraqi Minister of the Interior, awarded TMLS a contract worth \$50 million for the supply of 60 ASVs (56 armoured personnel carrier, 4 command & control, 2 maintenance) for the then recently formed Iraqi Civil Intervention Force.

These vehicles, which were delivered between November 2004 and July 2005, differed from the standard US Army M1117 ASV in a number of areas. In addition to numerous role-specific minor modifications, Iraqi ASVs featured a stretched (by 24-inches) wheelbase, a slightly taller hull, and had roof-mounted armament in place of the standard ASV turret.

US Army ASV production continued, and by mid-2009 the 2,000th vehicle had left TMLS' production line after continued production of 48-50 vehicles per month since 2006. At the time of writing (early November 2012) it was anticipated that the last new-build ASV for the US Army would roll off the TMLS' New Orleans production

line in late November 2012. Total US Army ASV orders (excluding FMS sales) currently stand at 3,414 vehicles, 465 of these in M1200 Armored Knight configuration. The Armored Knight is an ASV variant used by the US Army Field Artillery Combat Observation Lasing Teams (COLT) in both Heavy and Infantry Brigade Combat Teams (IBCT).

RESET PROGRAMME

Following extensive use in Iraq and Afghanistan, the US Army began looking at a Reset programme for time-served ASVs in 2008. In collaboration with the Red River Army Depot an initial five vehicles were Reset under a pilot programme in 2008, these followed by a further 12 in 2010. In October 2011 TMLS announced that it had been awarded a competitive US Army \$19.18 million contract to Reset a total of 392 ASVs, the initial contract year ending in June 2013. Two option years allow for a further 225 (1st year) and 167 (2nd year) vehicles to be Reset. M1200 Armored Knight vehicles are subject to a separate Reset award.

"The ASV quickly proved its worth in a variety of roles above and beyond its original Military Police/law enforcement mission."

Right: as the security situation in Iraq deteriorated it became clear that other deployed vehicles were under-armoured for the prevalent and increasing IED attacks. Alongside other up-armouring efforts, the US Army identified that the better-protected ASV was better-suited for Iraq and by late 2005 the Army's requirement had increased to over 2,476 vehicles, more than 1,000 of these as MP and convoy protection platforms...

Far right: standard US Army vehicles are fitted with a one-man turret armed with a 12.7 mm HMG and a 40 mm MK19 AGL. This turret is the latest version of that originally designed for installation on US Marine Corps AAV7A1 amphibious assault vehicles.



Under a US Army Reset contract vehicles are returned to their original production configuration and returned to service in a zero miles/zero hours configuration, and with a full new vehicle warranty. The US Army also awards Recap (Recapitalization) contracts, under which a vehicle is Recap'd to the latest build standard; an original A0 to the current A4 using the Oshkosh HEMTT truck as an example.

In addition to the current ASV Reset award, it is understood the US Army is interested in upgrading around 600 more of its ASVs through Reset/Recap. It is understood the desire with this effort is to fit, as part of the Reset/Recap, the upgraded suspension and belly armour of vehicles currently being supplied to the Afghan National Army (ANA).

EXPORT ORDERS

The first export order for the ASV was the previously mentioned sale of 62 vehicles to Iraq. To date Iraq has received a total of 324 ASVs, the original 62 plus a second award for 182 vehicles in M1117 configuration, and most recently an FMS sale for 80 further vehicles in a mix of command and control and APC configurations.

Further export sales of the ASV and its derivatives have been made to Bulgaria, Canada, Colombia and Afghanistan.

Bulgaria placed a \$10.2 million contract early in 2008 for seven vehicles to US Army M1117 ASV build standard (with the possibility of up to 30 follow-on vehicles), while in December 2009 TMLS received as US Army FMS award valued at \$45.6 million to supply Colombia with an

initial 39 stretched ASVs (37 APC, 2 command & control). FMS cases are in work to order a further 28 vehicles, and 12 of the original 39 vehicles will be upgraded and receive the standard M1117 ASV turret.

After an initial Test and Low Rate Initial Production (LRIP), in mid-2011 the US Army awarded TMLS a contract to supply the ANA with up to 440 Mobile Strike Force Vehicles (MSFVs). The MSFV is a further development of the ASV Armoured Personnel Carrier (APC) that has been optimised for the Afghan terrain.

The initial ANA (Afghan National Army) requirement covered nine APC variants, later reduced to three in order to reduce complexity for the ANA. These three include variants fitted with the standard ASV 12.7 mm heavy machine gun (HMG)/40 mm automatic grenade launcher (AGL) turret, a variant fitted with a Gunner Protection Kit (GPK), and an ambulance variant. All ANA variants feature the stretched wheelbase, however, during the trials phase of the programme standard wheelbase variants were also evaluated.

Current ANA MSFV orders total 499, consisting of 18 test vehicles, 41 LRIP, and 240 production vehicles. Including support equipment, spare parts, field service representatives, training and training aids, total contract value exceeds \$530 million. Deliveries to the ANA are scheduled to conclude in October 2013.

As previously covered in MMI, Textron Systems Canada Inc., a Textron Inc. company, announced in June 2012 that it had been selected by the Canadian government for the Canadian Forces Tactical Armoured

Foreign Military Users...



The first export order for the ASV was for 62 vehicles to Iraq. This was followed by a second award for 182 vehicles, and most recently an FMS sale for 80 further vehicles.

Foreign Military Users...



Bulgaria placed a \$10.2 million contract early in 2008 for seven vehicles to US Army M1117 ASV build standard, with the possibility of up to 30 follow-on vehicles.

ve and beyond its original Military Police mission..."





Patrol Vehicle (TAPV) program. The TAPV contract calls for the manufacture of 500 vehicles, with an option for up to 100 more, and has a value of C\$603.4 million. An additional five-year in-service support contract has a value of C\$105.4 million. The first full-rate production vehicle is scheduled to be delivered to the Canadian Army in July 2014, with final delivery scheduled for March 2016.

ARMOUR PROTECTION

While there are numerous internal layout and design differences between the original ASV, current generation ASV variants and the latest TAPV, the all-welded steel armoured hull of all variants retains similar lines. The powerpack is rear-mounted, there are two centrally located side doors for the crew, the driver and commander sitting to the front of the vehicle, and with generous amounts of opaque armour for good situational awareness.

The appliqué armour system of the baseline ASV consisted of IBD's Modular EXpandable Armour System (MEXAS), this utilising a ceramic composite appliqué-mounted on the exterior of the all-welded steel hull, with a spall liner on the interior surfaces.

The ASV's protection package, which has been considerably upgraded following experiences in Afghanistan and Iraq, is understood to have initially provided all-round protection against armour-piercing small arms fire and overhead protection from artillery projectile fragments.

Standard US Army vehicles are fitted with a one-man turret armed with a 12.7 mm HMG and a 40 mm MK19 AGL. This turret is the latest version of that originally designed for installation on US Marine Corps AAV7A1 amphibious assault vehicles.

Automotively all ASV variants are powered by a Cummins six-cylinder diesel engine, the original M1117 ASV, later longer wheelbase variants and ANA deliveries powered by an 8.3-litre 6CTA developing 280 hp at 2,200 rpm, whereas the latest TAPV variant is powered by a Tier 3 rated QSL 365 developing 365 hp, this also being fitted with an uprated 400 A alternator.

In all ASV variants a six-speed fully automatic transmission is fitted, and in all except the original M1117 ASV (which has a single-speed transfer box) this is coupled to a two-speed transfer box. The original M1117 ASV, later longer wheelbase variants and ANA deliveries are fitted with an Allison MD3560/3560SP transmission, while the latest TAPV variant is fitted with an Allison 3200SP transmission.

Suspension on all models is of the fully independent coil-spring type, with 1400R 20 Michelin XZL tyres fitted on the M1117 ASV, 1600R 20 on all other models. A central tyre inflation system (CTIS) and runflat inserts are standard fit.

When compared to a US-specification M1117 ASV, the latest 17,237 kg (GVW) TAPV features a new slightly longer and wider all-welded steel hull that provides more volume and payload (up to 2,495 kg), and is fitted with larger one-piece side doors. The TAPV also features enhanced interior and exterior appliqué armour. Opaque armour and windows are improved, and to offer MRAP levels of blast protection the wheel wells have been redesigned to vent blast away from the vehicle underside.

To enhance off-road mobility, ground clearance has been increased by 44 per cent, Michelin 1600R 20 XZL tyres with run-flat inserts are standard fit.



Top left: total US Army ASV orders (excluding FMS sales) currently stand at 3,414 vehicles, 465 of these in M1200 Armored Knight configuration.

Above centre: after an initial Test and LRIP, in mid-2011 the US Army awarded TMLS a contract to supply the ANA with up to 440 MSFVs.

Above: arty-farty US DoD shot that shows wheel hub and suspension detail...

Right: ASV's latest incarnation, Canada's TAPV winner...



Name Game...

Textron Marine & Land Systems reintroduced the COMMANDO brand at AUSA 2012. The original US Army spec ASV and Iraqi/Colombian/Bulgarian spec vehicles are designated COMMANDO Advanced, Afghan National Army (ANA) spec vehicles are designated COMMANDO Select, while the latest TAPV variants are designated COMMANDO Elite.

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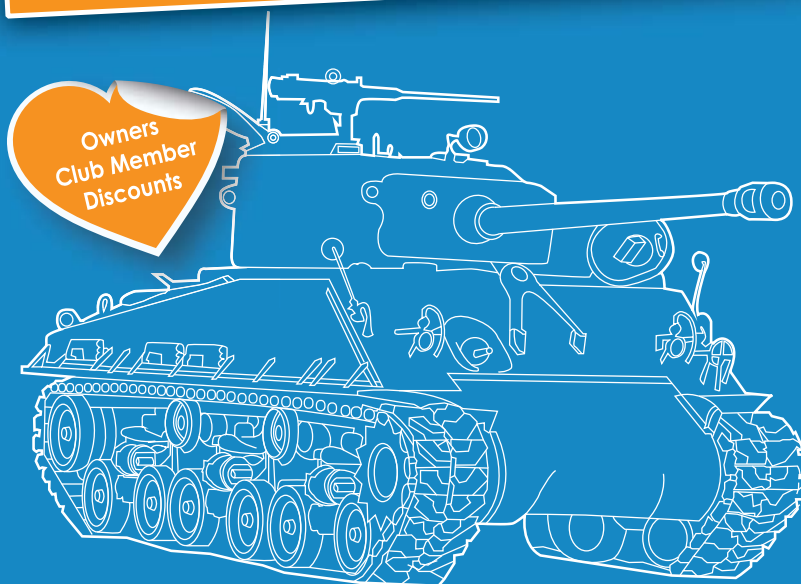
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Desert Rarity



In 1977 the late Jordanian King Hussein ordered the establishment of a national memorial to the many soldiers that have fallen in the line of duty since the Arab revolt of 1916-1919.

The displays in this Martyrs Memorial begin with the Arab Revolt against the Ottoman Empire, the “Arab Legion” under John Bagot Glubb and the battles against Israel from 1948 onwards. The museum does not cover everything in detail, but is nominally a memorial to the fallen soldiers and a reminder of their contribution to the shaping of modern day Jordan.

Next to an Alvis Saladin you will find a Marmon Herrington Mk IV armoured car, which has been placed as a gate guardian at the entrance of the memorial, and beside the fact that such armoured cars are currently quite a rarity, this one is rarer still having been modified to mount a 6-pounder gun instead of the more usual 2-pounder generally fitted to this vehicle.

The South African made Marmon Herrington Mk IV was a design completely different from the company’s previous models and entered service in 1943. Unlike the older Mk I, Mk II and Mk III it had a

Kuno Gross takes a look at a rare upgunned Marmon Herrington Mk IV Armoured Car

Above: the Mk IV acts as a gate-guardian in front of the entrance of the Martyrs Memorial at Amman.

Top right: the box-shaped extension on the turret, which was required by the mounting of the new, larger 6-pounder gun is clearly visible.

Main photo: today this rare Marmon Herrington Mk IV stands proudly outside the Martyrs Memorial.



monocoque hull instead of a separate chassis and hull. It was too late for that model to participate in the fight against the Axis forces in North Africa so they were issued to the Arab Legion of Jordan in large numbers instead.

In 1950 the Jordanian Army rearmed an unknown number of Mk IVs, replacing the original 2-pounder gun with 6-pounder taken from field carriages. When the 6-pounder gun was mounted into the two-man turret it was found the original mounting could not stand the stress and an artillery mounting had to be fitted in its place. Early conversions saw the new gun

being placed within the original turret, but later examples had a new armoured extension on the front face of the existing turret to cover the gun, which was now placed on the outer face of the old turret with a large aperture for the breech. The example on display at Amman's Martyrs Memorial is the only currently known of this version of the 6-pounder Mk IV.

The Martyrs Memorial at Amman is located on a hill within the grounds of the Sports City and opening times are Saturday to Thursday between 9.00am and 4.00pm. The Authors website can be found at: www.desertstories.org



Mk IV Detailing

Below: here we see various details of the Marmon Herrington Mk IV displayed at the Martyrs Memorial. Shown are some of fittings on the left side of the hull, the spare wheel mounting on the rear, the rather crude gun cradle on the rear engine decking, and one of the stowage baskets on the rear wing.



Above: the additional armoured box on the front of the turret covering the new mounting for the 6-pounder gun is clearly visible in this view of the Marmon Herrington Mk IV armoured car.

Below: the considerable size of the armoured extension can be seen in this side view. Note also the sand ladder section located between the wheels.



Below: in this rear three-quarter view of the Mk IV we can see the mounting on the rear of the hull once used to hold the spare wheel. The crude gun cradle is also visible above.



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The VENEZUELAN HUMVEE

Santiago Rivas describes the Tiuna, a general purpose light 4x4 developed for the Venezuelan Armed Forces that has been likened by some to the American Humvee



In early 2004 the Venezuelan Army requested the production of a locally built, multipurpose, lightweight vehicle. In answer to the request, CAVIM (Compañía Anónima Venezolana de Industria Militar), a state owned weapons factory, joined forces with CENARECA (Centro Nacional de Repotenciación C.A.), also a state company, located at Fuerte Tiuna, dedicated to military vehicles modernizations, and together they developed the vehicle using the American Hummer as a basis for their design.

After finishing the blueprints and initial tests in just 22 days, the prototype vehicle (named Tiuna), was completed, and after some further testing was exhibited during a military parade on the 5th July 2004. Later the

Tiuna was passed to the Army for operational tests, which included road and cross country tests and by the end of 2004 the government approved the funding for the series production. Production was to be undertaken by Vehículos Para la Defensa (V.P.D), a company owned by CAVIM and CENARECA, located at Fuerte Tiuna, renamed in 2011 as Empresa Mixta Socialista de Vehículos Venezolanos S.A.

Just one year later the first production models of the Tiuna were handed over to the military and on the 5th July 2005 a total of 52 Tiuna were shown off during a military parade. By 2006 a total of 160 examples participated in the same parade, and by the end of that year the production of the Tiuna had reached a total of 300



One of the latest general purpose Tiunas to be built, with the new front end clearly visible.



Above: three Tiunas armed with the 106mm recoilless guns parked at the side of the street. Note the split windshield.

Group right L to R: the latest version of the general purpose Tiuna, with new front; hard top Tiuna; this is the prototype hard top variant of the Tiuna.



Below: pictured here is the Ecuadorian president Rafael Correa, being transported in a Tiuna, during an official parade while visiting Venezuela.



Special Variants

Below: the communications variant of the Tiuna is fitted with a removable shelter type body in the rear compartment.

Below centre: Tiuna with RBS-70 missile system in the rear. A blast shield is fitted behind the cab. (Photo - Gustavo Briceño)

Bottom: Tiuna shown here with the 106mm recoilless rifle. Note that it is raised from the normal travelling position. (Photo - Gustavo Briceño)



Above: the interior of the Tiuna showing the utilitarian nature of the vehicle.

Bottom: photographed during a military parade, here we have the Tiuna armed with the M40 106mm recoilless gun. (Photo - Enver Cuervos)

examples for the Venezuelan Army, Air Force and National Guard, with a further 100 examples for government agencies, mainly as police, ambulances and environment protection. Some civil versions were also produced and the commercial manager of the company, Jahrold Maizo, stated that other South American forces had tested the vehicle with the possibility of exporting some in the short term, after the deliveries to the Venezuelan Armed Forces had been completed. He also said that the vehicle is very cheap, about 45,000 dollars each, roughly a third of the cost of a similar imported vehicle. In the end just five vehicle were delivered to the Bolivians, the first being in 2009 for testing, but no purchase orders have been received to date. In 2011, the Venezuelan government announced an order for an extra 309 vehicles, most of them to equip the Army units on the borders of the country.

The chassis of the Tiuna is built by the company Dana, at Valencia, Venezuela, from where they are taken to Fuerte Tiuna to be completed. The engine is a Mexican-built Vortec 5.3-litres V8 of 300hp and is the only part of the Tiuna to be imported, but there are plans to build the engine locally in

the future. Today the company has 250 employees and they are building 3 vehicles per day, but the plan is to reach a total of 15.

The Tiuna is an all terrain vehicle of 1.25 tons with a load capacity of about 3,200 kilos and can tow a load of up to 4-tons. It has an automatic gearbox and when tested by the Engineer Institute Foundation of the Venezuelan Science and Technology Ministry, the conclusions were that the Tiuna is an excellent all-terrain vehicle that benefits from having lower centre of gravity centre than the Hummer!

In later versions, the front portion of the vehicle was improved, with the inclusion of more protection against land mines under the engine, a new windscreen and new engine cowling. The rear section was also improved to provide more protection against land mines. The Tiuna is 4.92m in length and 2m wide.

"The engine is a Mexican-built Vortec 5.3-litre V8 of 300hp..."





MILITARY VARIANTS

The variants produced for the military include three anti-aircraft versions, two on the basis of the Plataforma VA5.3 version one for the Air Force, with two Matra Mistral launchers, and the other for the Army with a single RBS-70, and a version with a 20mm Oerlikon gun was developed for the Army.

The utility version, for the Army and the National Guard, has space for up to seven crew, and can be armed with an M2 12.7 mm machine gun or a rocket launcher on the top, and has mounts for two MAG 7.62 mm machine guns in the rear.

An artillery version armed with the M-40A1 106mm recoilless gun was produced for the Army, however, this version had poor results in its original guise, due in part to the soft suspension, which could lead suspension damage after the firing of several shots, and to the vehicle moving from its position after each shot! Because of this, a smaller

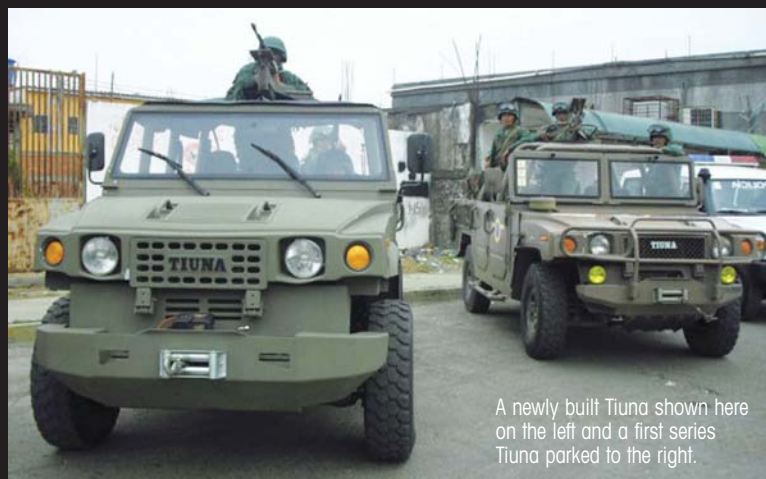


version, with a lower gravity centre and improved, rigid suspension was developed, with a plan to build just ten vehicle per year following a request by the Venezuelan Army.

In addition there are anti-tank versions of the Tiuna armed with a Mapats 2 missile, and a communications variant with a communications box-type shelter in the rear.

Additionally ambulance and armoured versions have been produced for the National Guard, with the ambulance fully equipped for intensive care of patients, while armoured troop carrier has the capacity to carry 12 guards.

At least two hardtop utility versions were also developed, but in the event only prototypes were delivered to the Venezuelan Army, and to date they have not entered series production, although a civil version with hard top and a pickup are being offered for sale.



A newly built Tiuna shown here on the left and a first series Tiuna parked to the right.



A pair of general service soft top Tiunas being tested in Bolivia.

National Guard

Below in this photo we see an armoured troop carrier Tiuna of the National Guard. The additional heavy duty bumper, and steel mesh protecting the windows are clear to see.

Bottom: another Tiuna again belonging to the National Guard, this time the ambulance variant. Note that it is fitted with dual rear wheels like the armoured variant also shown here.



Top left: Tiuna fitted with a 20mm Oerlikon gun in the rear.

Top centre: an Air Force Tiuna armed with the Matra Mistral missile system.

Below: the new Tiuna armed with the popular 106mm recoilless rifle.



Into the Archives

James Payne delves into a photo album that once belonged to Jean H. Barriault, a veteran of the Vietnam War

The photos featured here are taken from a photo album that once belonged to US serviceman Jean H. Barriault. They were taken during his tour of duty in Vietnam and while the images may not be the best quality being snapshots rather than posed photos, they offer a unique insight into the world of the American soldier during the Vietnam War. We included what information we were able to gain from the images themselves, but a lack of information accompanying the photos means that the information is a little sketchy, but if you can fill in a few of the gaps you're welcome to contact us via the usual editorial channels.

The collection is from one of a great many photo albums available on CD from 'Through Their Eyes' with a wide variety of subjects available. For further details check out the website at: www.throughtheireyes2.co.uk

Below & left:

a couple of the photos from the album that feature the former owner, Jean H. Barriault (on the left of both photos).

A typical well laden M113 is the background for the photo below, and the impact point of a round on the side of an M113 APC is the background for the other.

Mass.

DEC

1968



SP-4 Jean H. Barriault,
U.S. Army, son of
Mr and Mrs. Henry J. Barriault,
is home from Germany on a
45-day furlough.
He was in Germany for two years
and trained at a Georgia base
after enlisting three years ago.



Right: a typical in-service M113 APC with all manner of accessories covering the vehicle, from rolls of barbed wire on the front of the hull to boxes of ammunition, cam nets and other items on the roof.

Below: a lack of accompanying information with the images from the photo album mean that we have no idea where this photo was taken other than in Vietnam. The vehicles look to be parked in a camp of some description, which could possibly be a forward fire base.



Below: an interesting rear view of an M123 self-propelled flamethrower with the rear door open to reveal the flamethrower equipment inside.



Above: an M113 APC snapped while parked in water with the dense jungle behind. The vehicle has been given the name 'The Lead Zeppelin'.

Below: the slogan 'I'm The God of Hell Fire!' painted on the front of this vehicle gives away the fact that it is a flamethrower variant of the M113 known as the M132 self-propelled flamethrower. A total of 187 M132s were built by FMC, with a great many of them seeing service during the Vietnam War. Note also the extended driver controls held by the crewman to the right of the photo.



Above: nice image of a pair of M42A1 40mm self-propelled anti-aircraft guns parked up at the side of a road in Vietnam. A local woman can be seen at the front of the one vehicle, presumably posing for a photograph. Around 3,700 T141, M42 and M42A1s were built by the Cadillac Motor Car Company and by American Car & Foundry.

Background photo below: a group of M113 APCs (or possibly M132s) and a single M48 medium tank are pictured here during a rest halt.



Left & below: two photos showing the M113 APC-based lightweight folding assault bridge that was developed specifically for use in Vietnam. The system was developed by the U.S. Army Mobility Equipment Research and Development Center at Fort Belvoir. The photo left shows an example of typical artwork applied to the side of this vehicle with the slogan 'Bridge Over Troubled Waters', a play on a popular song at the time.



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Latin American News Bulletin...

Airborne Brigade for the Chilean Army...



anti-tank weapons, and the aircraft that transport the troops would be armed to provide a fire response in the landing zone.

The unit will be similar in organisation to Argentina's Army Regimiento de Asalto Aereo 601, together with the Agrupacion Aviacion de Ejercito, which in conjunction with other Commando units, are effectively an airborne brigade with some 50 transport and attack helicopters, although they are awaiting the arrival of 20 new exploration-attack helicopters.

Chile's Army established the creation of an Airborne Brigade as the top priority of this force for in the coming years. The project will be developed over the next ten to twelve years, and will include the acquisition of thirty medium-transport helicopters as well as eight to twelve attack helicopters.

The unit will be integrated by infantry personnel with a total number of 800 to 1200 infantrymen who will be trained in vertical assault operations. The new brigade would comprise rapid deployment elements for the support of UN missions. Despite the brigade, personnel will have their own combat support weaponry, including mortars and lightweight



Italian Tanks Donation...

The consortium formed by combat vehicle manufacturers Iveco and Oto Melara, part of the Finmeccanica Group, is talking with the Italian MoD, with a view to selling combat vehicles at reduced cost to Peru and Colombia, some of which presently belong to the Italian Army, including the M-113 IFV, the self propelled gun M-109L and the Leopard tanks. Peru urgently needs to replace their T-55 tanks, after more than 40 years of service. Colombia wants to purchase more combat vehicles for its Army, and one of the options is to receive the vehicles for free.



Uruguayan Army purchases 40 Tactical vehicles...

The National Army of Uruguay purchased 40 all-terrain Land Rover Defender vehicles and more recently has purchased another batch of 60 civilian specification Land Rover Defenders. These Land Rover Defender 4x4s will complement the Russian UAZ in use with the National Army of Uruguay.

Uruguay Army plans Armoured Brigade...



The National Army of Uruguay is planning to create an Armoured Brigade that will be located in the central part of its territory, and will be equipped with M-41 Walker Bulldog light tanks (modernised), M113 and BMP-1 tracked APCs. Because of this, the Army has shown interest in purchasing some surplus M113 vehicles, from the Spanish Army and should the purchase be realised, the BMP-1 will be retired from active service, due to its complicated logistical support, unlike the M113.

The twenty-five M-41C Walker Bulldog tanks, donated by Brazil, in early 2012, have been used to reequip the armoured units (Regimiento de Caballeria Blindada). The Brazilian tanks had the original 76mm cannon replaced by a 90mm, with a 400Hp Saab-Scania gasoil engine, similar to those installed on the Uruguayan tanks by the Brazilian company Bernardini. The work was carried out 12 years ago.

Argentine Medium Tank modernisation...



The modernisation process of the Argentine Medium Tank, ended successfully with the new tank prototype, named TAM 2C, this vehicle being the main tank of the Argentine Army. The modernisation of the 326 vehicles, which equip the I and II Brigada Blindada is on track, with the Israeli company Elbit System in charge of the modernisation, and is estimated to finish the first five vehicles at the end of 2012. A similar batch will then be modernised by Elbit and Argentine Army personnel, with the works will continuing until all the 104 tanks have been modernised, this work being performed by Argentine Army personnel of the Agrupacion de Arsenales 601, located at Boulogne Sur Mer, Buenos Aires Province (Ex TAMSE).

The modernisation consists in the change of the hydraulic turret movement system, which require major maintenance and also is very "visible" to the enemy's thermal cameras, to an electrical system. Another important improvement is the new digital direction of the combat field, named BMS (Battle Management System). This is a centralised system, that shows the battlefield through a colour image. This collects the information from land or UAV's units deployed in the Operational Theatre

and immediately sends encrypted information to the Tanks in the combat zone. All the systems are digitalised, and during the upgrades the current radio equipment will be replaced by a newer more powerful system.

A LWS (Laser Warning System), which detects the illumination of the tank by a Laser aiming system, will also be installed, as employed on most anti-tank weapons in the world, giving the crews, valuable seconds to perform an evasive manoeuvre. Three Thermal Cameras will also be installed, one for the driver, one for the gun aimer and one with a 360° vision, for the commander.

A thermal sleeve has also been added to the main gun to distribute the heat in all the cannon length and reduce inaccuracies due to distortion of the barrel. Also being installed is a weather station that checks wind velocity, temperature and humidity, elements that in one or other way could affect the shot.

An APU and fire unit was installed, to provide power to operate the electrical systems, without the engine running, and the fire system was installed inside the vehicle. Final tests were being performed in late 2012, and once approved the final production series will begin.

New Armoured Vehicles for Corpo de Fusileiros Navais...

The Corpo de Fusileiros Navais (CFN) of Brazil, is coming to final stages in the acquisition of 26 AAV-7 amphibious vehicles (CLANf for Brazil), the total amount of the purchase would be \$233 million. The purchase is under the terms of PAEMB (Brazil's Navy equipment plan). These vehicles will be complementing the previous 26 vehicles acquired, which are now under overhaul. The whole idea is to create a second squadron in the north of the country, and a Second Amphibious Division. It is also expected to acquire other types of vehicles.



More Tiuna vehicles for Venezuela...



The Ejercito Nacional Bolivariano of Venezuela, received 42 4x4 all terrain Tiuna tactical vehicles, produced by the Empresa Mixta Socialista de Vehículos Venezolanos S.A., as part of the 300 units purchased.

The production of the Tiuna began in 2004, by the Centro Nacional de Repotenciación C.A. (CeNaReCA). Later, in 2009

CAVIM and CeNaReCA, constituted the Empresa Mixta Socialista de Vehículos Venezolanos S.A. on which the CAVIM, have the 51% of the Stocks.

Several units were sold to the Bolivian Army, being offered to the Argentine MoD, who decided to purchase the similar, Brazilian made Marrua 4x4.



FIRE

TANKS, TRUCKS & FIREPOWER

MMI reports from a show that has a reputation of going with a 'Bang'

The late August bank holiday is a popular date for shows up and down the country, with intense competition between show organisers, but one of my favourite events on the calendar in recent years is relatively new in terms of military vehicle shows - Tanks, Trucks & Firepower. The event is a joint venture between Andrew Baker, owner of the land on which the show is held in the rural setting of a farm just outside Dunchurch near Rugby, and the local Birmingham and West Midlands branch of the Military Vehicle Trust, which helps attract many of the vehicles that attend each year and provides much of the manpower needed to run an event such as this.

Main photo: the Tanks, Trucks & Firepower show makes for a spectacular day out in more ways than one!

Below: since it first started just a few years ago, the show has grown in size and attracts a wide variety of vehicles, including many wartime vehicles such as this Humber Heavy Utility.

Below: being home to the Alvis Fighting vehicle Society it's no surprise to find a great many examples of the CVR(T) at the show, here we see several examples of the CVR(T) Stormer.





Above: rare example of an Alvis Stormer fitted here with a Fox Rarden turret displayed at the show.

Left: another CVR(T) Stormer, this time a recently acquired vehicle fitted with the Starstreak High Velocity Missile System.

Right: recently repainted CVR(T) Scimitar in typical arctic camouflage, making a spectacular change to green or sand!

Far right: a rare early example of the CVR(T) Scorpion finished in the original Deep Bronze Green gloss paint.

CVR(T)s

"Since it started, the Tanks, Trucks & Firepower show has gained a reputation for being one of the best military vehicle shows in the country."

Andrew Baker has very much been the driving force behind the show and since it first started just a few short years ago the event has grown in size and sophistication, with more vehicles than ever attending in 2012, despite the unseasonal weather that saw some vehicle owners cancel at the last minute. Each year a huge collection of CVR(T)s is put on display, with at least one example of every type produced on show to the public and it's no coincidence that Andrew Baker just happens to own a great many of them, together with members of the Alvis Fighting Vehicle Society.

In addition to numerous modern day vehicles was a fine collection of wartime vehicles, which is continuing to increase in size each year, and attracts a wide variety of vehicles both big and small, giving visitors to the show plenty to look at besides the many trade stands that also attend. The show is a little unusual in that it has two arenas with one in the centre of the site providing visitors with the opportunity to see a variety of vehicles being put through their paces throughout the day, and a second arena that is home to not one but two pyrotechnic displays during the show.

The first of the pyrotechnic events is essentially a static blank firing event with three CVR(T) Scorpions firing down the field to targets at the bottom, with plenty of big bangs and explosions to keep the kids happy, and this year there were even smoke rings rising hundreds of feet into the sky! The second event held later in the afternoon was a mobile driving display featuring two of the CVR(T)s being expertly driven at speed in a terrific display of these amazing vehicles' agility and culminating with a series of very large and very loud explosions that made for a spectacular display and a great photo opportunity for the watching crowds.

It's not the biggest of events, but then it's not the smallest, however, there's plenty for the family to see and do during a visit, and the quality and quantity of the vehicles on display is a guaranteed attraction for military vehicle enthusiasts. If you've not been to the event keep an eye out in future issues of MMI for the dates for the 2013 show and check it out for yourself.

LIVING History

Below: as the Tanks, Trucks & Firepower show has grown in popularity and size, it has begun to attract a range of living history groups and their displays. Here we see one of the fox holes dug for the occasion and the field hospital.





ned a reputation for being a show that goes with a bang!"

Below: amongst the many World War Two era vehicles found at the show was this beautifully restored example of the American M16 Multiple Gun Motor Carriage.

Below right: Dodge WC51, but unlike many, this example was painted to represent British use with the Military Police and wears the Mickey Mouse Ear camouflage pattern.

Bottom right: stunning example of the M8 Greyhound armoured car belonging to the nearby company Armourgeddon, as featured in our December 2012 issue.

WW2 Vehicles





Above: a fine example of the Activ Fischer ST4 Snowtrac, once used by the Royal Marines, turned up for the show.

Left: having been subjected to a major overhaul and refit, this Unimog-based Thyssen UR-416 was converted to an armoured ambulance for an overseas customer and is a rare vehicle in the UK.

post WW2

"You won't find a more complete collection of CVR(T)s ..."

FIREPOWER demonstrations



Above: the show features a firepower demonstration and a spectacular mobility display with pyrotechnics. Here we see a rare Scorpion 90 leaping over an obstacle during the mobility display.

Top right: the firepower demonstration involved three Scorpion tanks firing down the field with targets being destroyed in huge balls of flame!

Right: following a balletic display demonstrating the superb agility of the CVR(T) (in the right hands), the show culminated in a spectacular pyrotechnic display to wow the watching crowds.



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Bulletin BOARD

Shaun Connors updates us on the latest defence industry news

Denmark has invited eight pre-qualified European contractors to submit tenders for a wheeled or tracked armoured vehicle to replace its currently deployed M113 series of tracked armoured personnel carriers (APCs) and variants. The Danish Army's M113s have already gone through a number of upgrades, including some under urgent operational requirement (UOR) funding for deployment to Afghanistan, but cannot be developed any further.

Denmark's requirement is for between 206 and 450 vehicles (although around 360 units is more probably the maximum), and under current projections replacement vehicles are expected to be under contract by the end of 2014. The four pre-qualified wheeled contractors are France's Nexter Systems (expected to bid the VBCI), Swiss-based General Dynamics European Land Systems - MOWAG (offering the latest version of the Piranha), Finland's Patria Land Systems (offering the Armoured Modular Vehicle) and Germany's ARTEC (proposing the Boxer). The four pre-qualified tracked contractors are

Germany's FFG Flensburger offering the Protected Mission Carrier G5, Sweden's BAE Systems Hagglunds, which is expected to offer the CV90-based Armadillo, Germany's Rheinmetall Landsysteme possibly offering an upgraded Marder, and Spain's General Dynamics European Land Systems - Santa Barbara Sistemas possibly offering a version of the ASCOD IFV.

MARINE PERSONNEL CARRIER

The US Marine Corps (USMC) recently awarded four contracts valued at around \$3.5 million each to evaluate off-the-shelf designs for its Marine Personnel Carrier (MPC) programme. The marines now propose to evaluate the amphibious capabilities, survivability and 'human factors' (such as the number of personnel that can be carried and how equipment is stowed) of vehicles offered by prime contractors Lockheed Martin, BAE Systems, General Dynamics Land Systems (GDLS) and SAIC.

The overarching aim of these awards is to learn what industry can readily offer for an MPC, and any further acquisition



decisions for the programme will be dependent on a pending 'analysis of alternatives' for a new Amphibious Combat Vehicle (ACV). The MPC is to be complementary to the ACV as the marines are working to synchronise these two emerging programmes with upgrade projects for the ageing Amphibious Assault Vehicle (AAV).

The USMC is expected to release an official MPC request for proposals (RfP) in 2014 before awarding a production contract, under which 579 platforms could potentially be built.

The platform is to offer protection levels similar to those of the mine-resistant ambush-protected (MRAP) class of vehicles and weigh around 20.4-25 tonnes, this weight range likely to limit amphibious capabilities to swimming across rivers, waterways and surf, the selected platform likely to require a ship-to-shore connection.

ARMADA MBT

It has been suggested that Russia will roll out the first prototype/pre-production model of its new Armata (Armada) main battle tank (MBT) in 2013. Armata, which is expected to be the long-term replacement for the currently deployed T72 and T90 MBTs, is being developed by the UralVagonZavod Research and Production Corporation.

According to current plans Armata could in theory enter service with the Russian Army as early as 2015. However, given this short timeline, analysts believe Armata is expected to leverage work already carried out on other recently developed Russian MBTs, these including the T95 (armed with a remotely controlled 152 mm smoothbore gun) and the Black Eagle (armed with an automatic-loaded 125 mm smoothbore gun), neither of which entered production.

It has been suggested that Armata will be armed with a remotely controlled turret featuring a 125 mm smoothbore gun, this (in addition to standard rounds) able to fire a laser-guided projectile with a tandem high-explosive anti-tank (HEAT) warhead out to a range of at least 5,000 m. Supplementary armament may be a 30 mm cannon and a 12.7 mm machine gun.

The hull of the Armata will also be used as the basis for a number of other weapon systems, including a well-protected armoured personnel carrier/infantry fighting vehicle (APC/IFV) and an ARRV.

According to Jane's Defence Weekly (JDW), In addition to the Armata MBT, Russia is also developing a selection of other new armoured fighting vehicles. These new vehicles are understood to include the Kurganets family of tracked combat vehicles weighing around 25,000 kg, Bumerang (Boomerang) 8x8 APC and variants, and the Tayfun (Typhoon) family of lighter 4x4 and 6x6 wheeled AFVs.

According to Jane's, Kurganets will be the replacement for the current BMP-3 infantry fighting vehicle (IFV) and its many variants, this still manufactured by the Kurganmashzavod Joint Stock Company (JSC).

Bumerang is being developed by the Military Industrial Company (MIC) and is seen as the long-term replacement for the current BTR-80/BTR-80A family of 8x8 APCs. The BTR-82A, which is seen as an interim solution between the BTR-80/BTR-80A and Bumerang, is also produced by MIC.

PATRIA AMV

Slovenia will now receive no more than the 30 Patria AMVs it already has in service. In a project marred by technical difficulties, allegations of malpractice and a lack of consistent political support and funding, Slovenia ordered 135 AMVs in December 2006 for 278 million Euro.

The first AMV (Armoured Modular Vehicle) was delivered in September 2008, but because of reported malfunctions was only formally accepted into service in June 2009. In June 2010 a reduction to about 70 AMVs, on the basis of Slovenia's financial situation, was mooted.



SERBIAN HUMMERS



The Serbian Ministry of Defence (MoD) recently announced that it has received 17 High Mobility Multipurpose Wheeled Vehicles (HMMWVs/Humvees) from the United States. It is understood these vehicles were donated as part of a \$2.9 million US Foreign Military Financing (FMF) programme agreed by then Serbian Minister of Defence, Dragan Sutanovac, and US Secretary of Defense Leon Panetta during a visit by Sutanovac to the US in August 2011.

In addition to the previously mentioned 17 HMMWVs, the Serbian MoD is understood to be receiving a further four HMMWVs as part of an additional assistance package valued at \$2 million.

In service these vehicles are expected to be used primarily on peacekeeping deployments overseas.

VENEZUELAN VEHICLES

It is understood the light vehicle inventories of the Venezuelan Army and Navy have recently been bolstered by the delivery of approaching 2,300 new vehicles. Deliveries to the Army included 837 Toyota Land Cruiser 78 4x4, 844 Toyota Hilux 4x4, 50 Toyota Land Cruiser Roraima 4x4, and eight 4x4 ambulances, these all acquired through a \$61 million government-to-government contract with Japan.

The Army is also understood to be receiving 300 UR 53AR50 Tiuna light tactical vehicles, these locally produced by state-owned CENARECA. The Navy is understood to have received 130 assorted 'Jeeps' and 12 Tiuna

The indigenously developed UR 53AR50 Tiuna, a HMMWV-look-a-like, was designed by state-owned CENARECA, the National Center for the Renewal of Heavy Vehicles.

In 2005 the Venezuelan government reportedly signed a \$50 million contract

with CENARECA for 310 Tiunas, this reportedly being followed by a further contract for at least 500 more in 2007, bringing the estimated total to >800 vehicles. By early 2008 CENARECA was reported to have delivered 500 Tiunas to the armed forces and had (reportedly) the capability to produce six vehicles per day, with the objective being to produce 20 per day.

The then current requirement was for >800 vehicles, this then likely to be fulfilled by late 2008. However, at the time it was suggested that further production may have been hampered by the fact that the Tiuna's engine is supplied by GM of Mexico, and by late 2007 this company had stopped shipments of the required engine to Venezuela.

It was announced in 2011 that a further 309 Tiuna had been ordered, bringing order totals to around 1,110, of which around 600 had been delivered. The most recently announced order for 300 vehicles could be a re-announcement of the 2011 announcement. Small numbers have been exported, these to Ecuador, Bolivia, and possibly Cuba.

At least six versions of the Tiuna have been produced and are in service, these a basic utility, an armed scout, an ambulance, anti-tank (with M40A1), anti-riot, and a SP SAM platform dubbed the Plataforma VA5.3.

NEW CHINESE SPAAG

Chinese sources have recently revealed limited information on a new 35 mm self-propelled anti-aircraft gun (SPAAG) system based on the NORINCO (China North Industries Corporation) ZBD-09/ZSL-09 8x8 wheeled fighting vehicle. The turret is believed to have been derived from systems used on the PGZ-07 tracked twin 35mm system, this first seen in 2006-2007, and entered PLA service in 2010. The single barrel turret 35mm gun is reported to have a 550 rounds-per-minute rate of fire and a range of 4,000 m. The targeting system radar can track targets out to 15 km.

RG35 MPMFV

Following trials with a first-generation RG35 fighting vehicle in 6x6 configuration, BAE Systems Land Systems South Africa has completed a

second example (now known as the RG35 Mine Protected Multi-purpose Fighting Vehicle (MPMFV)) which features a number of improvements that include a redesigned front for enhanced situational awareness. Development of the RG35 family has been funded as a private venture by BAE Systems to bridge the gap between the combat-proven BAE Systems RG31 4x4 protected vehicle and heavier and more expensive 6x6 infantry fighting vehicles.

NEW POLISH MVS

Under recently disclosed plans Poland's land forces are expected to receive around 300 to 500 new main battle tanks (MBTs) to replace their 584 T-72s and 232 PT-91 MBTs, these to be withdrawn during 2018-2021 and 2027-2032, respectively. Additionally, Poland plans to procure 1,000-1,500 lighter tracked vehicles to replace the 1170 BWP-1 IFVs and BWR-1D/S reconnaissance vehicles, and 300 MT-LB APCs currently in service. As much commonality between the two types as possible will be required.

Poland is looking to order up to 205 more Rosomak APCs for around \$600 million, this order (which is expected early-2013) increasing the number in Polish service to around 850. The need for additional vehicles is due to the planned increase from seven to nine in the number of mechanised Rosomak battalions. Each battalion was equipped with 75 vehicles, each carrying eight soldiers. However, operational



experiences in Afghanistan reduced the number of soldiers carried to six, creating the requirement for 88 Rosomak APCs per battalion.

OSHKOSH MTRV

Oshkosh Defense recently announced details of an order for additional MTRVs (Medium Tactical Vehicle Replacement) from the US Marine Corps Systems Command (MARCORSYSCOM).

To date Oshkosh has delivered in excess of 11,000 MTRVs to the Marines and Navy Seabees, this latest order calling for in excess of 260 more trucks in MK25 Cargo, and MK27 and MK28 Extended Cargo trucks.

Production under this latest award will commence in April 2013, and is expected to be completed in September 2014. The order is valued at more than \$67 million.



BVS10 REFURBISHMENT

BAE Systems has been awarded a £38 million contract to regenerate the Royal Marines' fleet of BvS10 Viking all-terrain vehicles. The contract covers the refurbishment of 99 vehicles and will bring them all to a common Mk2 mine-protected amphibious standard.

The fleet saw heavy use in Afghanistan and is a mix of standards, including earlier versions with limited mine resistance, and the latest Mk2 mine-protected variants. Work will be carried out in Örnköldsvik, Sweden, the programme expected to be completed by the end of 2014. The current out of service date for Viking is 2031.



MISSION BRIEFING

DATES FOR YOUR DIARY

JANUARY 2013

Sunday 27 January 2013:
Militaria 2013: large, indoor militaria event held at the The Exhibition Centre, Stoneleigh Park, Coventry, Warks. CV8 2LZ. For details contact Amanda on: Tel: 01743 762266
amanda@jeeparts.co.uk
www.militaryconvention.com

FEBRUARY 2013

Sunday 9 February 2013:
Fleet Air Arm Model Show: held at RNAS Yeovilton, Somerset, BA22 8HT. Featuring plastic kits, R/C models, Books and Model collectors. Open 10.00am. Tel: 01935 840565
www.fleetairarm.com

MARCH 2013

Sunday 3 March 2013:
Hack Green Secret Nuclear Bunker Rally: French Lane, Nantwich, Cheshire, CW5 8BL. For details call Rod on: Tel: 01270 623353
coldwar@hackgreen.co.uk

Sunday 3 March 2013: 5th Annual Vintage Transport Day: held at the Bournemouth Aviation Museum. Wartime vehicles wanted, plus army surplus dealers, re-enactment groups. For details call Steve Tydeman: stevetydeman@yahoo.co.uk

Sunday 24 March 2013:
Malvern Militaria Fair: large, indoor militaria event held at the Three Counties Showground, Wye Hall, Malvern, Worcs, WR13 6NW. Contact Amanda: Tel: 01743 762266
www.militaryconvention.com

APRIL 2013

Saturday 6 April 2013:
Shoreham Airport Aerojumble: aviation and military collectors fair, held at Shoreham Airport, A27, Shoreham, West Sussex, doors open 10.30am. For more details contact: Tel: 01424 753356
 Mob: 07710 154606
sndz338@aol.com

APRIL 2013

Sunday 28 April 2013:
Northern Military Expo: popular indoor show held at the Newark Country Show Ground, Notts, 2 minutes off the A1M (NG24 2NY). For further details contact: Tel: 01302 739000
www.northernmilitaryexpo.co.uk

Sunday 28 April 2013:
Aviation, Airline, Military & Model Collectors Fair: held at Gatwick Airport, K2 Centre, Crawley, W. Sussex. Open 10.30am. For details contact: tom@singfield.freemove.co.uk

MAY 2013

Sunday 5 May 2013:
Cobbaton Clearout: militaria market, held at Cobbaton Combat Collection, Chittlehampton, N. Devon, EX37 9RZ. For details contact: Tel: 01769 540740
info@cobbatoncombat.co.uk

JUNE 2013

Saturday 15 Sunday 16 June 2013: Dunsfold Collection Open Weekend: held at the Springbok Estate, at GU6 8EX. For details contact: Tel: 01483 200567
openweekend@dunsfold.com
www.dunsfoldcollection.co.uk

JULY 2013

Saturday 6 Sunday 7 July 2013: Lympne Aero Classic: celebrating the history of Lympne Airfield from 1916-1980s. Held at Lympne Village Hall and playing fields. For details call John Simpson: Tel: 01303 265078
johnsimpson43@btinternet.com

New Venue...New Venue... Wednesday 17 to Sunday 21 July 2013: The War & Peace Revival: held at RAF Westenhanger, Folkestone Racecourse, near Hythe in Kent. The world's largest military vehicle show. For details call: Tel: 01304 813337
www.thewarandpeacefestival.co.uk

AUGUST 2013

Saturday 3 Sunday 4 August 2013: Woodhall Spa 40's Festival: held at Jubilee Park, Stixwold Road and Woodhall Spa village hall. Lincolnshire, LN10 6QH. For further details contact Stuart on: Tel: 01526 353215
www.woodhall-spa-40s-festival.com

Saturday 17 Sunday 18 August 2013: Cobbaton Combat VJ Weekend: military vehicle show, stalls, living history, held at Cobbaton Combat Collection, Chittlehampton, N. Devon, EX37 9RZ. For details contact: Tel: 01769 540740
info@cobbatoncombat.co.uk

Saturday 17 Sunday 18 August 2013: Lacock at War, Codename Bolero: Military Vehicle & Re-Enactment Show. Lacock Village near Chippenham SN15 2LQ. Contact, John Wardle on: Tel: 01373 300384
westwiltsmvt@yahoo.co.uk
www.westwiltsmvt.co.uk

Saturday 31 August Sunday 1 September 2013: 70th Anniversary of the Assault Training Center, held in Woolacombe, North Devon, featuring living history displays, beach invasion re-enactment, vehicle run along beach, wreath laying ceremony.
www.assaulttrainingcenter.com

SEPTEMBER 2013

Sunday 1 September 2013: Jeep & Cheerful day: a Free day out for anyone with a Military Jeep, or Military Vehicle, held at the South Yorkshire Aircraft Museum 'AeroVenture' at the former site of RAF Doncaster. For more information or an entry form call: Tel: 01302 739000
info@jeepworld.co.uk
www.jeeppworld.co.uk or www.aerovventure.org.uk

Sunday 7 September 2013: Peopleton Autumn Show: held at Peopleton Village Playing Fields, Peopleton, Worcs. Classic Cars, Military Vehicles, stalls and entertainment. Open 12.00 noon till 6.00pm. For details call John Sargeant: Tel: 01905 840155
sarg-37@tiscali.co.uk

SEPTEMBER 2013

Sunday 29 September 2013: Manchester Militaria Fair: held at Event City, Phoenix Way, Urmston, Manchester, M41 7TB. Located next door to the Trafford centre. For further details or to book in for the event please contact Amanda at: Tel: 01743 762266
amanda@jeeparts.co.uk
www.militaryconvention.com

Sunday 29 September 2013: Stoneleigh Mini Militaria 2013: Blackdown Buildings, The Exhibition Centre, Stoneleigh Park, Coventry, Warks. CV8 2LZ. For details contact Amanda on: Tel: 01743 762266
amanda@jeeparts.co.uk
www.militaryconvention.com

OCTOBER 2013

Sunday 6 October 2013: Hack Green Secret Nuclear Bunker Rally: French Lane, Nantwich, Cheshire, CW5 8BL. For details call Rod on: Tel: 01270 623353
coldwar@hackgreen.co.uk

Friday 11 to Sunday 13 October 2013: Wartime Weekend: held in Pickering, N.Yorks with steam trains running, trade stands and 1,000s of re-enactors. For more details about the show visit: www.nrmr.co.uk
 details about the trading area at: www.jeeppworld.co.uk/pickeringwartimeweekend.htm

NOVEMBER 2013

Sunday 3 November 2013: Northern Military Expo: popular indoor show held at the Newark Country Show Ground, Notts, 2 minutes off the A1M (NG24 2NY). For details contact Mark Askew on: Tel: 01302 739000
 or check out the website at: www.northernmilitaryexpo.co.uk

Sunday 17 November 2013: Malvern Militaria Fair: large, indoor militaria event held at the Three Counties Showground, Wye Hall, Malvern, Worcs, WR13 6NW. For further details please contact Amanda at: Tel: 01743 762266
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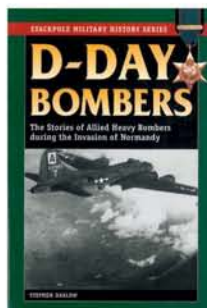


From the MP18 to the Sterling Development of the Submachine Gun, World renowned Sten Gun authority Peter Laidler is the star of a new specialist DVD about the history of the Sten and other submachine guns. Peter reveals fascinating inside stories about the gun that played such a crucial role during the Second World War. Running time 100 mins. Region 2 (PAL) DVD.

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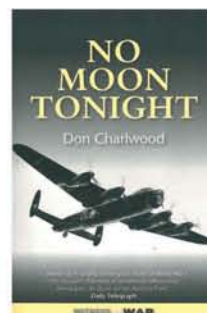


Before Allied soldiers set foot on the beaches of Normandy on D-Day, American and British bombers helped pave the way by pounding German positions on the shoreline and farther inland, a vital mission that continued as the troops waded ashore and the battle beyond the beachhead began. 320 pages, softback.

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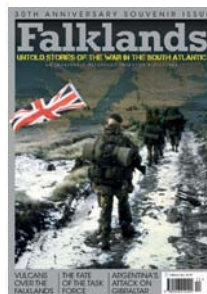


The "88" proved to be an excellent anti-tank gun in France in 1940. By the time it arrived in North Africa it was a feared tank killer, which could knock any Allied tank at distances well over 1000 metres. It again proved its reputation in Russia, where it was the only gun capable of dealing with Soviet T-34/76 medium tanks and KW-1 heavy tanks. The Sd Kfz7 could carry gun crews of up to 12 men in theatre-type seats. 1:76 Scale Model

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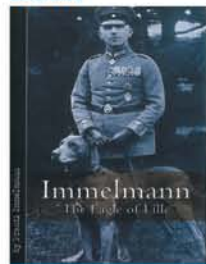


Created by the team behind Britain at War magazine, The Falklands 30th Anniversary Special provides a 132-page timeline of events - in the air, in the sea and on the ground - during the conflict between British and Argentinian forces. Complete with 'then and now' photographs of the most iconic battlesites, original paintings and unique images, The Falklands 30th Anniversary Special tells the story of the Falklands War as never before.

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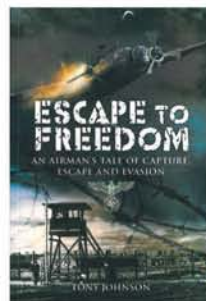


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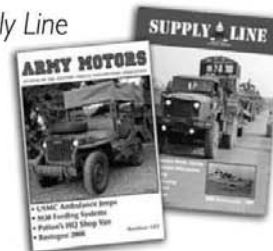
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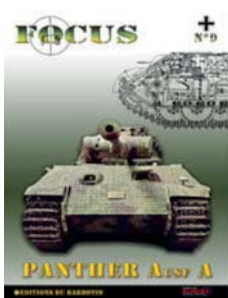


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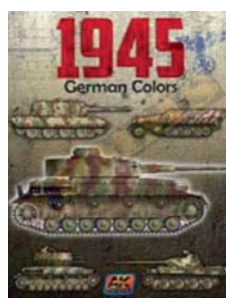
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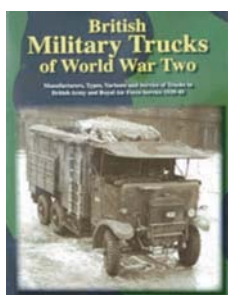
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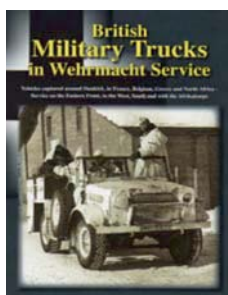
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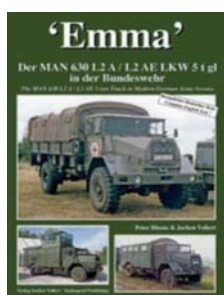
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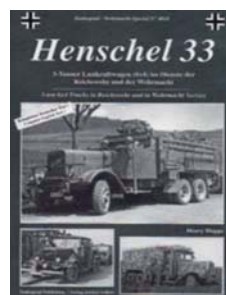
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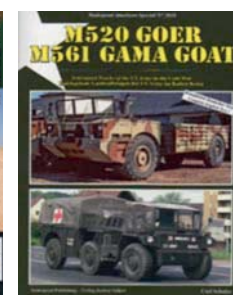
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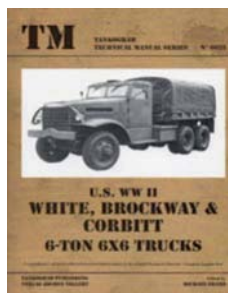
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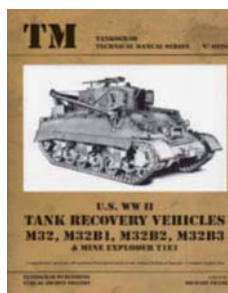
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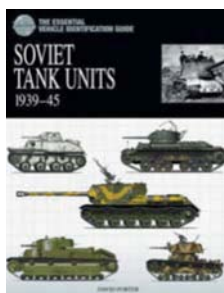
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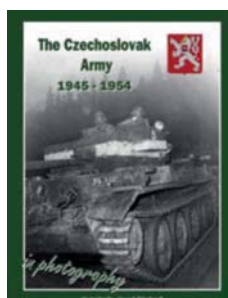
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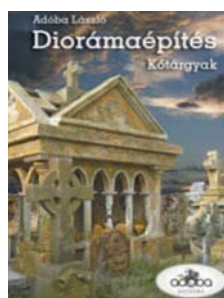
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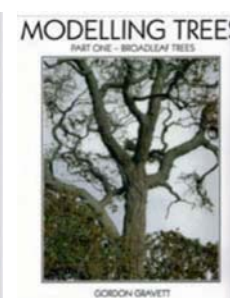
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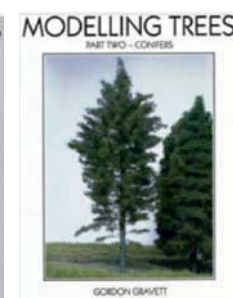
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