

ARMORED CAR

The Wheeled Fighting Vehicle Journal

Issue #23

May 1994

Price \$3.00

The French VAB (Véhicule de l'Avant Blindé - Forward Area Armored Vehicle)

by Stelios Markides

At the end of the 1960 decade, the French Army decided that it needed a wheeled armored vehicle for its not so demanding missions. After a competition, the vehicle chosen was the Front Armored Vehicle (VAB) from the Saviem/Renault group. The first deliveries to the French Army began in 1976 and since then more than 3,500 vehicles (including those for export) have been delivered.

The vehicle's armor consists of welded steel plates 8mm thick, which provide the personnel of the vehicle protection from small arms and shell fragments.

The driver is on the left front side of the vehicle and the co-driver/machine gunner on the right. They both have a roof hatch and a side door on each side of the vehicle. The

front window shields and the ones on the side doors are bullet resistant and can be covered with armored shields. At the roof hatch of the co-driver (depending on the model) there is a 360 degree rotating weapons mount (which can accept either a 7.62mm LMG or 12.7mm [.50 caliber] HMG) protected by shields.

The rear compartment of the vehicle can fit up to 10 fully equipped troops, who are boarded through a pair of rear doors. Firing ports with windows and shutters are located on the right, left and tow rear doors allowing the crew to fire from inside. On the personnel version there are also three roof hatches which can be opened from the inside.

The engine, a six cylinder water cooled unit made by MAN, is found in

A pair of Lebanese Army VAB-VTTs belonging to the 6th Armored Brigade. Obtained from France in 1983, these vehicles still carry the original French green. The shield marking is orange and blue, a small Lebanese flag in red-white-red with a small green cedar tree is visible on the front plate. Photo: Moustafa Assad



the center of the vehicle on the left side. There is a small corridor which connects the front and rear compartments just to the right of the engine compartment.

The VAB has a three speed gear box with selection for five forward and one reverse gear. The driver can lock all four wheels allowing only forward motion, or unlock the back wheels giving the vehicle front wheel drive, or engage all wheels for four wheel drive (six in the case of the 6x6 model).

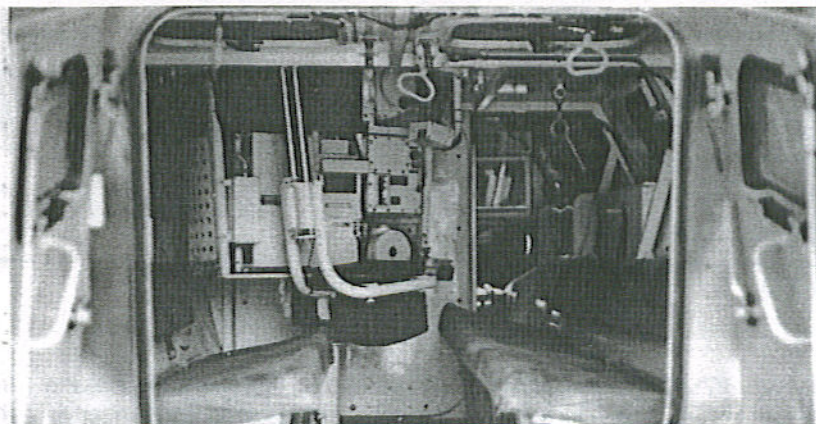
The VAB comes in two (4x4) or three (6x6) models, and uses independent suspension with hydraulic shock absorbers at each station. Wheel pressure is adjustable according to the terrain and each tire is made up of cellular rubber, enabling the vehicle to move for about 100km even after the tire has been punctured.

The VAB is capable of amphibious operation although not all vehicles are fitted with the twin waterjet propulsion units. It can also be fitted with an NBC (Nuclear-Biological-Chemical) protection system, as well as air conditioning if required.

Many versions of the VAB have been completed including the VAB VTT (personnel carrier), VAB VCI (with a 20mm cannon and 7.62mm LMG, VAB PC Command, VCAC MILAN anti-tank missile carrier, first aid vehicle, etc. Besides service with French forces (lately in support of UN Operations in Bosnia), VABs have been operated by the Central African Republic, Cyprus (Greek Cypriot forces), Ivory Coast, Lebanon, Mauritius, Morocco, Oman, Qatar and the United Arab Emirates.

Suggested further reading:

- Jane's AFV Recognition Handbook, Christopher Foss, Jane's Pub. Co. Ltd, Great Britain.
- Jane's Armoured Personnel Carriers, Christopher Foss, Jane's Pub. Co. Ltd, Great Britain.
- NATO Armoured Combat Vehicles, Simon Dunstan, Arms and Armour Press, Great Britain.
- Wheeled Armoured fighting Vehicles in Service, B.T. White, Blandford Press, Great Britain.



Above: The rear compartment of a Greek Cypriot National Guard VAB VCI. The interior is white, and the passage to the front of the vehicle is visible on the right. The suspended seat is part of the 20mm cannon turret mechanism. Photo was taken in 1993. Photo: Stelios Markides

Right: Front and rear views of the same vehicle (serial #2253). This Greek Cypriot vehicle is a VAB-HOT MILAN. The color of the vehicle is a stone base, with medium green overspray. Vehicle has been freshly painted so there isn't too much fading. Photos were taken in 1993. Photo: Stelios Markides



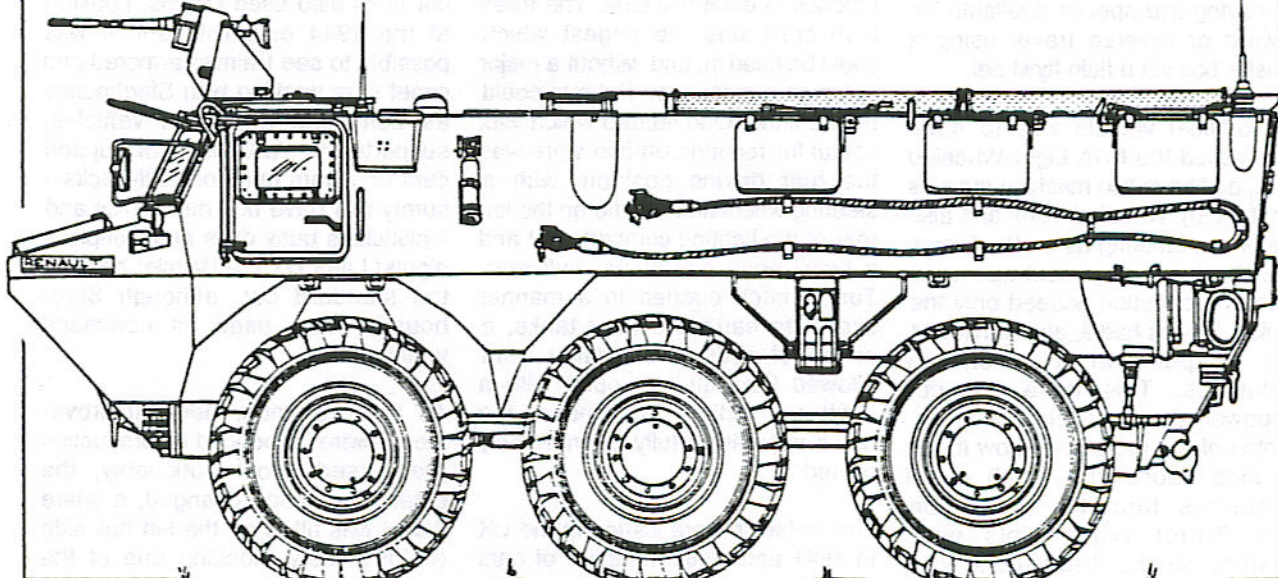
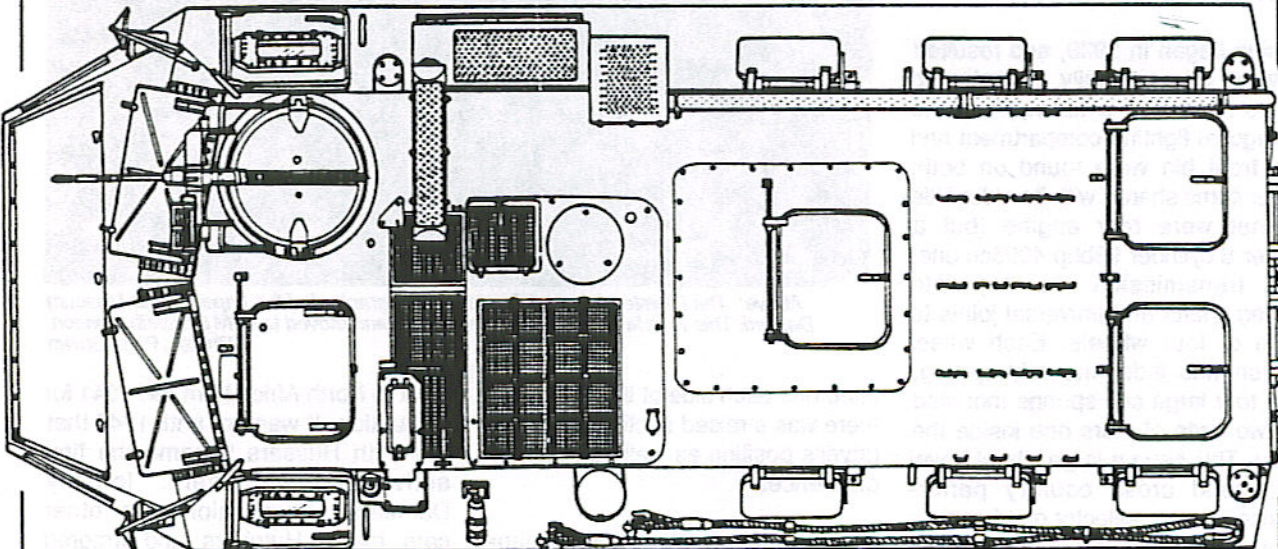
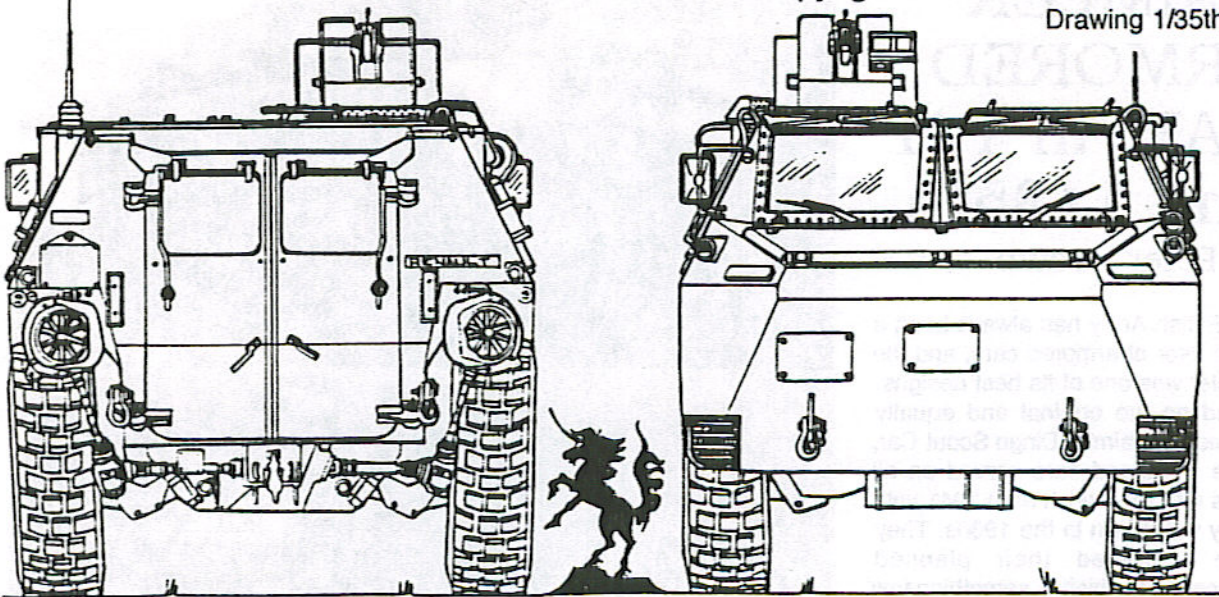
Below: A standard VAB-VTT in use by the Greek Cypriot National Guard. This vehicle is the same type as that used by the Lebanese Army, but shows much less wear and tear. The weapon mounted above the co-driver's position is the M2 .50 caliber HMG. Photo was taken in 1993. Photo: Stelios Markides



Renault VAB-VTT 6x6

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Drawing 1/35th



THE DAIMLER ARMORED CAR in 1/1 and 1/35th by Peter Brown

The British Army has always been a major user of armored cars, and the Daimler was one of its best designs. Based on the original and equally successful Daimler Dingo Scout Car, these advanced cars served on all fronts with the British from 1941 until finally withdrawn in the 1960s. They even outlasted their planned replacement, which is something few AFVs have achieved.

Design began in 1939, and resulted in what was basically an enlarged Dingo fitted with a turret, even the hexagonal fighting compartment and hull front bin were found on both. Other items shared with its older little brother were rear engine (but a bigger 6 cylinder 95bhp 4095cc one) and transmission via separate driving shafts and universal joints to each of four wheels. Each wheel station was independently sprung, with four large coil springs mounted as two units of pairs one inside the other. This gave a large wheel travel and good cross country performance. The preselector gearbox was another Dingo feature, the armored car having five speeds available for forward or reverse travel using a transfer box via a fluid flywheel.

The original vehicle was to have been called the BSA Light Wheeled Tank, and have two machine guns as per the Guy Wheeled Tank and also four-wheel steering as on the Dingo. This steering arrangement was never fitted in production, indeed only the earliest Dingos had it, and armament was a 2pdr gun even on the prototypes. This gave the car firepower similar to current tanks. Photos of the prototype show it had no side doors and small detail differences from the production cars. Turret vision slots were different, smoke dischargers were



Above: The Daimler Armored Car Mk I photographed at the Imperial War Museum Duxford. This vehicle has since been repainted and moved to IWM Lambeth, London. Photos: Peter Brown

fitted one each side of the turret, and there was a raised section above the driver's position as well as headlight differences.

Production vehicles had escape hatches in each hull side. The three man crew was the largest which could be fitted in, and without a major redesign a more powerful gun could not be fitted. One feature which was useful for reconnaissance work was the rear driving position, with a steering wheel and throttle on the left rear of the fighting compartment and a small peep slot in the hull rear. Turret hatch opened in a manner similar to early Crusader tanks, a series of rods and torsion bars allowed the hatch to open with a cantilever action. This meant the hatch was either fully open or fully closed.

First vehicles were issued in the UK in 1941 and small numbers of cars

went to North Africa from mid 1941 for evaluation. It was not until 1942 that the 11th Hussars became the first active service users. Initially Daimlers served alongside other cars, mostly Humbers, and armored car units also used Dingos. Looking at the 1944 establishment, it was possible to see Daimler armored and scout cars working with Staghounds as command and AAA vehicles, supported by AEC Matador support cars or 75mm guns on half-tracks - surely this gave unit mechanics and logisticians busy days and sleepless nights! Later on, the Daimler became the standard car, although Staghounds were used as command vehicles.

As was common, detail improvements were introduced as production progressed. Most noticeably, the external stowage changed, a spare wheel was fitted on the left hull side (unfortunately blocking one of the

side escape hatches) and later a rack to carry two sand channels on the right side. I have never seen these used for their original purpose in photos, and indeed cars in North Africa and Sicily often carried a rack for petrol or water cans on the hull side with the sand channels being carried at the front of the hull, while a sun compass bracket could be fitted on the right side of the turret. An external condenser can was carried in hot climates.

It was planned to replace both Daimler and Humber armored cars with the Coventry, designed and built jointly by both manufacturers. In the event, more Daimlers were built. Mk II cars had a more rounded gun mantlet, the older 'Mounting, 2pdr and Medium BESA MG No 4 Mk II' with its square ended mantlet being replaced by the 'No 10 Mk I'. There was now an escape hatch above the driver, the left hand side door was eliminated, while improved engine cooling meant armored louvers over the whole hull rear plate and only two covered slots in the horizontal engine cover instead of four (oddly, the prototype seemed to have had this later arrangement) as well as a number of mechanical improvements.

Post war, both marks remained in service, many photos even show both in use in the same unit at the same time. The only changes made were the replacement of the 4" smoke bomb throwers with sets of six barreled dischargers as used on many British AFVs of the period.

Surviving vehicles are highly prized among UK vehicle collectors, while Mk Is are on display in the Imperial War Museum in London and the Museum of British Road Transport in Coventry, and a Mk II at the Tank Museum in Bovington.

Basic Statistics

- Length 13' 2.5" (hull only 13')
- Width 8' 10"
- Height 7' 4"
- Ground Clearance 1' 4"
- Wheelbase 8' 6"
- Wheel Track 6' 6"
- Tires 10.5 or 11 by 20
- Approx Weight 6.75 tons empty
7.75 tons in battle order
- Bridge Class 7

- Speed 50mph
- Range 205 miles
- Forging depth 4' prepared
- Armament 2pdr gun with 52 rounds
7.92mm BESA with 2,700 rounds
.303 Bren AA with 500 rounds
Thompson with 200 rounds or or
Sten machine carbine with 300 rounds

2 x 4" smoke dischargers or (postwar) two sets of six barrel smoke grenade launchers

- Armor
16mm turret front & mantlet, hull rear

14mm hull front & turret sides

10mm hull sides

8mm turret & hull top

7mm hull floor

- Radio No 19 set
- Serial Numbers

The prototypes were F10472 Light Tank Wheeled Experimental Daimler, and also F16354 Tank, Light, Wheeled, BSA Daimler.

Production vehicles were -

F19919-20418 500 Mk I

F117215-117714 500 Mk I

F207288-208187 900 Mk I

F208190-208689 500 Mk II

F339201-339800 600 Mk II

originally, this order was later reduced to only 294 cars.

Note - the 'gap' of F208188-9 was for Coventry prototypes, and the subsequent numbers to 208688 were to have been used for Coventry's.

Post war, from 1948 cars were renumbered in the new style. Batches were in the range 75ZR40 to 90ZR91, although there were large gaps in the allocation of numbers, and also numbers in the ranges --ZU-- and --ZV-- ranges which may have been allocated when the vehicles were overhauled.

Chassis numbers were from AC1 to AC2694, and may not have followed the exact same sequence as the more visible serial number.

Variants

Apart from the prototypes and the two marks, I can find few variations other than unit modifications and an oddity.

Some cars had the 2pdr replaced by a 3" howitzer, following the then current tank policy of CS or Close Support vehicles. These cars do not seem to have seen action, units used either 75mm guns on half-tracks or other types of car. One Daimler in the Middle East was fitted with a high angle mounting for the 2pdr and BESA, this was a one-off.

Most units used the vehicles as issued, not only as armored cars but as homes, so often carried large amounts of stowage. This was draped over and fitted to the mudguards and engine covers, turrets were left clear and usually space left to allow a good view through the rear driving lookout. The Inns of Court Yeomanry overcame a lack of scout cars in 1944 by taking turrets and mudguards off some of their cars. A Bren gun was carried as anti aircraft protection, together with the PLM mounting to allow it to be used from under armor, although I have never seen photos of either fitted. 11th Hussars fitted a Vickers Gas Operated Observers Gun (the K as used on SAS jeeps) to the turret top of some of their vehicles in Europe, and from 1944 many cars were fitted the Littlejohn tapered bore extension which with special ammunition improved the performance of the 2pdr.

The oddity is a series of documents in the Public Record Office in Kew, London, concerning a Mk III car. I have yet to read these, when I do I will be able to end my suspense and yours...

*Below: The same Daimler Armored Car Mk I photographed at Duxford (serial # 117637), but now repainted at IWM Lambeth, London.
Photo: A.E. Peacock (Feb 1993)*



References

Here the lack of literature shows. Most references to the Daimler are as part of total histories of British armor. For the fine detail, try a letter with IRC or SSAE to the Librarian, Tank Museum, Bovington, Dorset, BH20 6JG, England, and see what they can supply from their archives in the way of stowage diagrams etc. The only decent reference is my old favorite, Allied Military Vehicles, Collection No 1 from Brooklands Books, Cobham, England (ISBN 0-907-073-778) This is a collection of reprints from contemporary auto magazines, and includes some great detail photos and drawings of the Daimler Mk I and useful text, as well as data on the Dingo and other armored cars.

Models

To date in 1/35th scale, three models have been produced. The oldest is the Sovereign one of a Mk I, while in February 1994 Accurate Armour released separate kits of the Mk I and II. With wheeled armor not as popular with manufacturers as its tracked counterparts, we have a rare case of choice. I bought a Sovereign kit some time ago, and when I got the Accurate Armour one I decided to build both and compare notes.

The Sovereign Kit

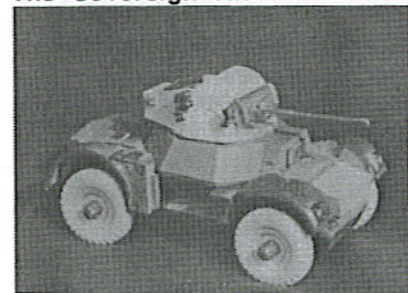


Photo: Peter Brown

Distributed via Historex Agents, 3 Castle Street, Dover, Kent CT16 1QJ, England, and priced at £28.50. Carriage etc will vary as to where in the world you are. Master by John Tassell if I recall correctly.

Taking the model out of the box, it looked ok. Hull, turret and wheels are resin, most of the remainder is white metal. As this remainder included the mudguards, we have a very heavy model, which needs strong white metal suspension units to carry the weight. There are mold lines across

the glacial plate and hull rear, as well as along the junction of the two angles of the fighting compartment sides, with care these are easily removed. I found the rear driver's lookout clogged with resin but soon cleared it. There is a large molding 'plug' on the underside of the hull which was sawn and sanded off, the sink hole that left was filled and sanded. Other legacies of molding were plugs on the rear of the resin hull front bin and the back of the turret, which were soon removed.

The white metal parts were fairly clean, apart from one large blob on the inside of the front mudguards. I also filed the rear of the gun mount to get a better fit. Some of the metal parts, such as the radio aerial bases, are very finely molded.

Assembly was fairly easy, although the instructions were not very good. The turret was straightforward, the hatch can be fitted in the open position but then you will need to detail the interior. Main problems elsewhere, the front and rear suspension units each consist of four parts common to each wheel station and two which are different. The differences are that those on the front have a small round section on the outer edge which allows the wheels to be set 'steered'. This is not clear from the instructions, neither is the sequence of assembly. I finally assembled the front wings to the hull, then the assembled suspension units, then the rear suspension and rear wings. I also reinforced the joint of the suspension units with a small piece of stiff wire (paperclips are good for this) and would recommend at least one such addition and perhaps two per unit. Holes need to be drilled out and the fittings for the springs shortened to fit. Wheel hubs are also different for front and rear, but overall the parts clip together. Alas, when it was all fitted up, the front wheels leaned outward at an impossible angle. To correct this, I chopped the upper fitting down, and carved and drilled it by eye to improve the sit. This meant the small shaft from hull to hub had to be chopped down. Straight from the box, the wheel track is too wide at a scale 7 feet which stands correcting.

Other than that, the hull front bin was

too narrow, and there is no bracket for the spare wheel which must be expected to hold itself on a la Verlinden. Anyway, early Mk I's did not have them. Gun barrel looks very thick and long, stowage is limited to one shovel, a jack and two oversized Methyl Bromide fire extinguishers. The two 4" smoke dischargers on the turret side have a barrel but no firing mechanism.

Included in the box was a scale plan, marked as 1/35 but far too small. Enlarging it on the photocopier I found it acceptable but not perfect, the proportions of length to height to width being a little awry. Checking my sources, I found the whole vehicle too narrow by at least 2mm which spoiled the overall appearance of the model, and this seems to be the fault of the mudguards. Correcting this can be done, either by cutting then longitudinally and adding a spacer, or by additions to the outer edge which is fairly easy as the Daimler has a prominent lip there. Rear mudguards are also not quite the right shape.

Overall, if the front wheels fitted better, the mudguard problem could be overlooked without the model looking too wrong. I would also extend the turret front forward by about 1mm, as it is not quite the right profile. More stowage and a wheel bracket would improve things, but the result straight from the box is disappointing to say the least.

The Accurate Armour Kits



Photo: Peter Brown

Both K57 Daimler Mk I and K58 Daimler Mk II cost £49.75 plus postage etc. dependent on your location from Accurate Armour Limited, Units 15-16 Kingston Industrial Estate, Port Glasgow, Renfrewshire, PA14 5DG, Scotland. This is the address on the instruction sheet, the box show their older one. I trust the British Post Office to find them with either address. As I cannot afford

both kits, I bought the Mk I and the comments following apply to that kit. The instruction sheet mentions that the II has the necessary parts to account for the differences between marks, and also post war style smoke dischargers.

This is a typical example of Accurate Armour's current output. Mastered by Jon Bottomly, it is a fine model. It consists of a resin hull including mudguards, a fine piece of molding, hollow turret with a No 19 radio set molded into the rear, various resin parts and lots of white metal ones, plus an etched brass fret for fine items. Weld lines are well represented, and construction is generally easy, a tribute to thoughtful design and molding ability.

Before you buy this kit, be advised - there are many small parts on it. Notably, the suspension may pose a threat to your marriage, eyesight, health, hair or pet, but a calm approach and careful assembly results in a faithful representation of what is a fairly complicated original.

Some cleaning up is needed, and several parts needed to be sawn from their carrier blocks. No serious bubbles presented themselves, and apart from the underside of the hull which needed the same sort of filing and filling as the Sovereign kit, the model was soon ready for construction.

Wheels are connected to the hull on one main molding, comprising support bracket, wishbones, drive shaft and hub. These are the same for each wheel station, and only need careful removal of the carrier before fitting. In order to strengthen things I fitted a short length of paperclip metal between hull and unit, and another between unit and wheel hub. As my model may well travel to the odd show, I would prefer to do this than risk separation. One point of the kit I was not totally pleased with was the springs. They are not as well defined as might be, and can still be seen when the model is finished. They are acceptable however.

Assembly is helped by photos of a part assembled model shot from suitable angles, and all that is

needed is to follow these. The various linkages to the shock absorbers are complex but manageable, and I would prefer more information on which steering arm was which. Also, watch out when you take the wheels off their carriers, best to mark them in some way as each is different!

Turret assembly is easier, again take care though. An optional Littlejohn adapter is included, which will need careful fitting to the standard barrel. I would prefer to have had two separate barrels here, one with and one without the adapter. The smoke dischargers are of the pattern which used a .303" Lee Enfield rifle breech (the No 1 Mk I type, not the later and simpler No 3 Mk I) and detail is superb.

The Mk I kit offers both early and late stowage, or without and with spare wheel and sand channel carriers on the hull sides. The intermediate type with wheel but without channels on the side and with simple brackets on the hull front can be made from the kit parts. The best part of the brass fret is the radio aerial 'cage', something no period British vehicle should be without. One word of caution here, I would cut this part off first if I made another of this kit, otherwise subsequent cutting can distort it.

Also made of brass are the spare wheel carrier, mounting bracket for the sand channels and the channels themselves. These require only care to make up, the half-etched lines make them easy to fold to shape. A layout diagram of the fret makes it easy to find what is what, and this part of the kit is a mini masterpiece in itself. Brass wire for handles and mirror mountings is included.

The only thing missing seems to be a small bracket on the rear face of the turret roof which supported turret hatch when opened. This is hidden when the hatch is open, you will need to make up some sort of interior detail if you depict the vehicle this way as a lot is visible when the turret is opened up.

With a little care, a very good representation of the car can be produced. All that is needed for a

perfect replica are a few brake and other cables, watch all the small parts though!

Finishing

With a quarter century of service in various armies and conditions, there is little limit to how you can finish the kit apart from your imagination and references. Details of wartime colors and markings are included in each kit, but no decals. I found British Tank Markings and Names by B T White (Arms and Armour Press, London, ISBN 0-85368-222-4, published in 1978 and sadly out of print) a useful reference for markings, but actual finishes may well come from photos of cars in service. Why not try one as per the Belgian Armored Car Squadron in late WW2, contact Georges Mazy at the Tank Museum, Musee Royal de l'Arme, Parque du Cinquantenaire 3, B-1040, Brussels, Belgium with IRC or similar with a request for details of the articles on that unit published in Tank Museum News, or contact likewise the Canadian Armour Modellers Association at PO Box 312, Brampton, Ontario L6V 2L3, Canada, and ask for details of their magazine RAM with Barry Beldam's articles on the Daimler which included details of Canadian markings.

In post war use British cars were mostly painted gloss Bronze Green and were generally less cluttered than wartime vehicles. I also found references to them still in use in India in books dating from 1970 - photographic evidence to us all via the Editor, please!

Thanks to -

The staff at the Library of the Tank Museum, Bovington for access to their material on the Daimler, and Andy Hutcheson and the Military Wing of the Duxford Aviation Society for access to the IWM Daimler I.

And finally....

To sum up, if you want a 1/35th Daimler, the Accurate Armour version is a far better model. It is harder to make, but better detailed and more accurate straight out of the box. Alas, it is also more expensive, but it has that (not quite) priceless quality, quality...

For Your Information

Corrections and additions to previous issues. The photo of the Freikorps Putilov-Garford in issue #20, page 12, should have been credited to Berthold Heinrichs, not Thomas Anderson, sorry Berthold.

The Panzerwagen Erhardt drawing on page 10 of issue #22 first appeared in *Tankette* Vol 18 #6, and should have been credited and copyrighted © 1983 to Mick Bell, my apologies to all for the confusion (Info via John Baumann).

News from around the world.

Vehicle transfers:

Bosnia-Herzegovina. As of the end of 1993, Bosnian Muslim forces had at least one of the Croatian built 6x4 armored buses in operation (see AC #9 page 5).

Estonia. As of mid-1993 the Estonian Army had three BRDM-2s and an unknown number (probably less than 50) of BTR-70s and BTR-80 APCs.

India. The Ministry of Defence, New Delhi (India) ran an ad in *International Defense Review* 1/1994 in which they were offering surplus armor for sale. Among the vehicles offered were 155 Czech/Polish SKOT APCs, 56 BTR-60 APCs, and 21 Nissan Armored Cars. (Does anyone have any idea as to what the Nissan armored cars look like, and where the bodies were fitted? -ed)

Latvia. As of the end of 1993, the Latvian Army Airborne Reconnaissance Battalion based at Suzi fielded two BRDM-2. At least one vehicle had been painted in a multicolor scheme (from the looks of it with spray cans of paint) and carried an outlined shield with a diagonal bar, and three stars above the shield on the turret. An additional 13 SKPF m/42 APCs were also transferred from the Swedish Army. The vehicles are probably the modernized version with the rear overhang removed, overhead cover added and single low-profile tires all around rather than the old dual wheel system at the rear.

Lithuania. As of mid-1993 the Lithuanian Army had on hand ten BTR-60 APCs.

Mexico. Besides the French built Panhard ERC 90 Lynx (same

Hispano-Suiza 90mm turret as on the AML-90) which have been in service for some time, U.S. supplied HMMWVs (some with locally fitted armor plate), and Panhard VBL Scout Cars (ordered sometime in the mid-80's) were observed during the fighting in Chiapas during early 1994. To prepare for the possibility of further civil unrest, the Mexican government is reported to have bought 18 Commando V-150s

(specially fitted with water cannon and anti-barricade devices), for some \$500,000+ each; as well as at least two Cobra Riot Control Vehicles from Custom Armoring Corporation. Each Cobra is fitted with a water cannon and a 2,000 gallon tank. (via James Loop)

Nicaragua evidently sold its 12 BTR-60s to Peru sometime in 1992, some 50 BTR-152s and 24 BRDM-2s were retained. It is unknown how serviceable the remaining equipment is.

U.S.A. Besides the 55 HMMWVs that were upgraded with additional armor protection for use in Somalia, the U.S. Army would like to buy and additional 901 of the vehicles (enough to equip the U.S. contingency force - which now includes the XVIII Airborne Corps, Fort Bragg North Carolina, and the 1st Cavalry Division, Fort Hood, Texas). The new armor package has floors able to withstand four-pound land mine blast, side paneling to protect against 7.62mm armor-piercing rounds, and armored roofs effective against an airburst 155mm artillery round from 60 meters away. The current up-armored HMMWVs have no floor or roof armor and are only protected against shell fragments by the side paneling. (via James Loop)

Identification question. Can anyone identify the Indian Army vehicle shown on this page? It was evidently in service with the Indian Army in Kashmir as of December 1989. It looks a lot like a cross between a Shoreland and a Ferret.



from the photo it appears to be a 4x4 two or three man vehicle with the engine in the front and a Ferret type turret fitted to the fighting compartment. Could this be one of the Nissan vehicles mentioned above. (Photo via John Loop).

New releases in the U.S. from Marco Polo Imports. Mich Miller sent along the following update of model releases of interest to AC's readers. To be released in May and June:

DML

- German Volkstrum, Berlin 1945 includes 7.92mm VG1-5 semiautomatic rifle and photo-etched eyeglasses. Price \$6.98.

- Red Devils, Arnhem 1944 British WWII airborne forces with berets. Price \$6.98.

- Panzer IV J (Late) SdKfz 162/2 includes three sheets of photo-etched parts. Price \$29.98.

Ironside

- Injection molded M4A1 HVSS Sherman, reissue. Price \$59.98.

- R35 4.7cm SPG injection molded, resin and metal. Price TBA.

- 4.7cm PAK(t) auf Pzr I injection molded. Price TBA.

- Renault R-40 injection. Price TBA.

Military Vehicle Rally/MAFVA Nationals '94. The annual Military vehicle Rally will take place at Imperial War Museum, Duxford on Sunday the 7th of August 1994, in conjunction with this years annual Competitions and Model Show of the Miniature Armoured Fighting Vehicles Association (MAFVA). This will allow

visitors to see both full size and scale models of all types of military vehicles, as well as being able to see the rest of the Museum. Model traders will be there to offer kits and accessories to enthusiasts and public alike. For information send an SASE to Paul Middleton, 39 The Leas, Baldock, Herts SG7 6HZ, GREAT BRITAIN.

Source for AL-BY Miniatures. Just had a chance to go through the latest AL-BY price list and there are lots of resin kits that will be of interest to AC readers. There are too many kits to list them all, but a random sample includes in 1/72d, the Staghound, M20, Soviet BA-64B, Italian AS 43 Panhard 178 and German SdKfz 231 and Laffly 80. A 1/35th Panhard 178 in three different versions is also offered. For further information and price list write to: Alain Laffargue, AL-BY Miniatures, BP 43, F-82400 Valence D'Agen, FRANCE.

Motor Scooter Madness. For you two wheel military vehicle fans out there, I just received the fourth issue of the Military Cushman Club newsletter, and they keep getting better all the time. Material is mostly on the Cushman series of scooters of course, but other machines are covered as well, including the Cooper War Combat Motor Scooter, and some Italian machines. For more information or a sample, write: Larry "Airborne" Powell, 129 East 13th, Junction City KS 66441 USA.

Mid-East Newsletter. For those with an interest in the volatile part of the world, I recommend that you subscribe to Civil Wars, the publication of the Lebanese Modellers Society. Don't expect smooth/slick reproduction, but you will receive information and background your not likely to find anywhere else. Subscriptions are £11 for the UK, \$17 for the U.S. and \$24 (in US Dollars) for Australia and New Zealand (checks should be drawn on a bank with a branch in Lebanon and made payable to Moustafa Assad). You also might write and see if a trade can't be worked out for model kits as modeling supplies and publications are almost non-existent in Lebanon. Write: Civil Wars, c/o Moustafa Assad, PO Box 246, Sidon, LEBANON.

Letters

Clarification on the Reconnaissance Corps. It was most kind of you to publish the brief history of the Recce Corps (see issue #21 page 3). (Incidentally, as you know, we are two nations divided by a common language. You might find it quaint, but the short-form we apply to the title of the Corps is Recce, pronounced so as to rhyme with "Becky". I know the U.S. forces short-form the word to Recon. Going on a recce, meaning going for a look-see, is now common parlance this side of the ditch).

As soon as circumstances return fully to normal I intend researching an aspect of armor, as applied to the vehicles we of the 43rd Regiment used when campaigning, which I think might well be of interest to AC readers, and I look forward to sending an article about it in due course. **M. McEwen Charlsh, 132 Park Ln, Carshalton, Surry SM5 3DT, GREAT BRITAIN.**

(As the editor I do tend to use common American military jargon... having spent 23 years in the U.S. military it's been drummed into my head... but in the future I probably will tend to use more of the expressions or abbreviations common to the country or military unit being written about. I can always include a short note of explanation if necessary, but I think that AC's readers [in 25 different countries at last count] won't be too confused. Also I'm really looking forward to Mac's next article.)

Corrections and additions to the Irish Ford Mk VI drawing and article (see issue #20 page 1). During my research I have been fortunate in having access to an existing example (of the Ford Mk VI) at the Cavalry Depot in the Curragh. While it was nice to see an example of an Irish vehicle appearing in a foreign publication I must point out some inaccuracies in the drawing.

Starting at the front:

- The lamps are too small - they should be at least 30% larger.
- The paneling in front of the driving

compartment should be at least 10% longer and the top more horizontal. This shortens the engine compartment and gives a greater slope forward.

- The driving/fighting compartment should be at least 10% longer and the rear piece of the side armor plate should be angled at 75 degrees.

- The rear piece of armor plate containing the rear door should be at an angle of 70 degrees.

- The gun mount is too large - it does not extend the whole height of the turret, it starts about 1/10th below the top and ends about 1/5th from the bottom.

- The hatch surround is too high. It should be only 1/3rd the height shown.

Unfortunately your drawing does not give the squat impression of the real vehicle.

As to the article, the details of the Congo service are correct and came from the January 1976 issue of *An Cosantoir*. The earlier history of the Fords has been taken from 'Armoured Fighting Vehicles of the Army' by Dennis J. McCarthy which appeared in the May and June 1981 issues of *An Cosantoir*. I think it is important to show sources for the benefit of modelers or those interested in the history and development of a particular subject. **Anthony Foley, President, Irish Model Soldier Society, 8 Beaufort Villas, Rathfarnham, Dublin 14, IRELAND.** (This is why I publish AC, so we can share information and try to reduce errors, thanks Anthony. - ed)

UK small scale modeling production scene. On the Spanish Civil War theme, Vincent Weyer is now producing a Bilbao armored car as part of his WA series of 1/72d scale resins that cover a host of armored cars. The model comprises some 28 parts and fits together quite well. Other vehicles in the range are the Kfz 13/14, DAF M39, 1915 Rolls-Royce, 1915 Garford and the 1906 Charron. These are highly recommended at a cost of £7-8.

More Spanish improvised armor in model form is available from SDD Models who now make 5-7 different resins. I have not personally

inspected the SDD Spanish models, primarily aimed at wargamers of this period. I understand that the masters were scratchbuilt by Rolf Hedges.

Brian Cunniffe has launched "El Aficionado" a newsletter for those enthusiasts interested in the 1936-39 Spanish Civil War. It will cover all manner of subjects, not just AFVs. The first issue is free to those who provide a SASE or IRCs direct to him at: 9 Alderwood, Chineham, Basingstoke, Hants, RG24 0TU, GREAT BRITAIN.

Mike Papworth, another white metal 1/76th manufacturer (36 Rosedale Road, Kingsthorpe, Northampton NN2 7QF, GREAT BRITAIN) also produces a Spanish AFV, perhaps No. 6? for £7, others may follow.

Model maker Tommy Atkins has now released his excellent white metal AEC armored car. Peter Bailey and myself were treated to a guided tour of his workshop in the latter part of 1993. We cannot praise this 1/76th range enough. On the short list of future projects are the following: Ursus wz 29 and 34, BA-20, Landsverk L180/181, Deacon, Tatra oa 30 (T72), Morris CS8 and Morris Recce Car (Mk I or II) as well as the Hungarian Csaba and Dutch M39. (Kerry Brunner, 1152 Kavanaugh Place, Wauwatosa WI 53213 USA, is the U.S. distributor of Atkins' models -ed)

Finally I managed to obtain Janusz Magnuski's super "Samochody Pancerne Wojska Polskiego 1918-1939" which roughly translates as Polish Armored Cars between those dates. This work, published last year. The text is in Polish but there is a whole host of new photographs showing all the well known cars alongside some of the rarer beasts. This book not only features the pre-WWII armor, but others from WWI and even several inter-war armored cars as well. My copy retailed for just under £10 and I consider it an absolute bargain. By now it should have reached most outlets abroad, but I'm sure one can still be obtained through the pen-pal network. John Baumann, 102 Clockhouse Lane, Collier Row, Romford, Essex RM5 3QT, GREAT

BRITAIN.

Request for assistance. I am looking for photos and details of the "Nashorn", as well as the PzKpfw 38 (t) series of vehicles. Masahiko Saito, 81-1 Motomachi, Shlbukawa-Shi, Gunma, 377 JAPAN. (I'm sure some of our readers have an interest in tracked vehicles as well as armored cars. - ed)

For sale or exchange. I have for exchange many types of tanks and armored car models, magazines, and books produced in the ex-USSR, including some models that are still rare in the west. Please write: Eduard Katschko, Universitetskaya 71-39, 340048 Donetsk, UKRAINE.

Model builder. Russian model maker willing to build original plastic/metal models to order. 1/35th scale, fully detailed and painted. For further information write: S.V. Voycehovich, Oktybrskaya Street 39-59, 241000 Brynsk, RUSSIA.

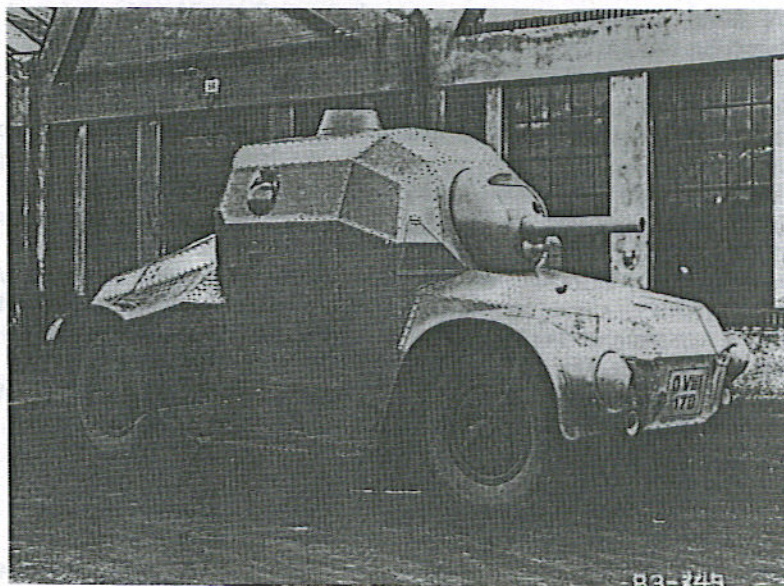
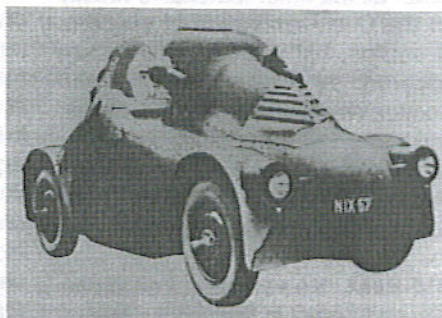
Pen pals wanted. I am interested in collecting plans of armored cars and other armored vehicles from around the world; from the first to the latest. I'm hoping to make contact with other collectors/modelers. Write: Dick Noakes, PO Box 605, Wembley, Perth 6014 WA, AUSTRALIA.

Right: Czech OA vz 25 PA-2 Photo via: Ulrich Rohrbach. Below: The OA vs 29 with 75mm cannon. Photo via: Randy Harvey

(Fellas, I think I need to take a small amount of space for a disclaimer. Now that AC has truly been international for several years we have a wide readership and breath of interest. I run personal notes in the letter column as a convenience to readers and with the belief that what people write is done so in good faith; there are no guarantees! Whatever agreements, exchanges or correspondence you have among yourselves is strictly between yourselves. - ed)

An up-gunned "Turtle". I'm forwarding a copy of a photo of an armored car I found while going through a bunch of my old papers. It was sent to me a few years ago along with some photos of a Panzer 38 (t) Hetzer. My guess is the armored car photo was included by mistake as there was no information on the vehicle included, and I have since forgotten who I received the photo from. Any ideas what this vehicle is? Randy L. Harvey, 145 W. Whitney, Sheridan WY 82801.

(What Randy has come up with is the Czechoslovakian Skoda OA vs 29.



This vehicle was a PA-2 Zelva (Turtle) armored car reworked in 1929 to mount a 75mm cannon. The hope was to produce a close support vehicle, but the new design proved to be too heavy and slow to be of any use. Evidently only the one prototype was built. The vehicle it was built on, the PA-2, was fairly successful with 12 being completed. These cars served with the Czech Army from 1925 until sometime around 1935, when three surviving cars were sold to Austria where they served with the Vienna police. One of the Austrian vehicles may have survived until 1945. I have reprinted Randy's photo, and a photo of the standard PA-2 for comparison. A couple of references for the OA vs 29 are: Development of Armored Cars in the Czechoslovakian Army 1919-1938, by Charles Kliment, *AFV-News* Vol 5 #1, January 1970 and *Photo History of Armoured Cars in Two World Wars*, by George Forty, Blandford Press 1984. -ed)

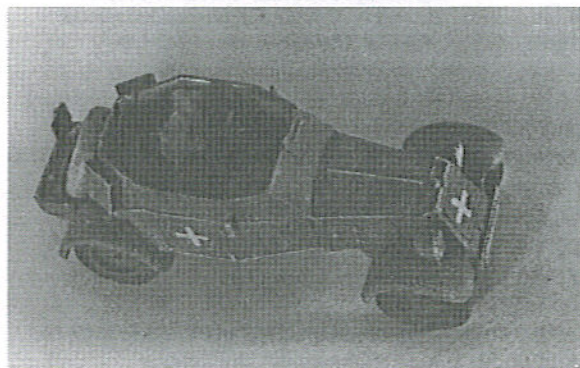
Reviews

MMS Classics Kfz 13 Reviewed by Joe Morgan

The Kfz 13 was the result of a specification issued by the German Army in 1932 for a light armored car, and began to come into service in 1933. It was a stopgap design meant to fill the void until purpose built vehicles could come on line, but they ended up serving until late in 1941 before being relegated to training duties.

This kit is a departure from the norm for me; I've never built anything in this scale or an all metal kit. Opening the bag revealed the main challenge:

Photo: Joe Morgan



the size of the parts would be a test of my half century old eyes! I built the whole thing under my magnifier lamp.

Every one of the thirty parts had to have some cleanup done on them, but it was a matter of seconds for most, the white metal responding easily to a file or sharp knife. I spent no more time at this than I would have cleaning an injection molded plastic kit. After this process all the parts fit quite well. The body halves were especially nice; the seam fell along the hood and the "real" body line, so only a tiny bit of filling with Zap-A-Gap was necessary.

The instruction sheet was clear and explicit; it's better than a lot of sheets from "cottage" manufacturers I've seen. No order of construction is given so I started with the running gear. I painted the bottom of the chassis (with Pactra acrylic panzer gray I mixed myself) and the wheels and tires. I mounted them to their axles before gluing them to the springs. One wheel was up in the air when I turned the car over, but just a little pressure fixed that. Some people will want to add a driveshaft and exhaust pipe; a bit of wire would so fine for both.

I then completed and painted the interior before gluing on the top of the body. There's a mounting post to locate the machine gun mount, but no corresponding hole in the bottom of the mount. A .050 drill bit fixed that; I assembled the whole mount before installing it in the car (put the ammo boxes in first).

On the exterior I painted the German crosses freehand and they look like it; decals or dry transfers would have worked better than my attempt.

The finished model looks OK, although it seems to sit awfully high off the ground. I spent a Sunday afternoon building and painting this kit, about six hours. It scales out quite close to the specifications. I'd definitely recommend it, especially for

those that work in this scale regularly.

The Adler MG-Kw Scout Car Kfz 13 (Kit #930) is available from: MMS Models, 26 Crescent Rise, Luton, Beds LU2 0AU, GREAT BRITAIN. Write for price and list of other models in this range.

Oddballs Armour and Artillery Stoewer Type 40 Field Car in 1/76th scale Reviewed by Edward Bernardo

I like odd vehicles and when our editor asked if I wanted to review this kit, I jumped at the chance; not knowing what I was getting into. When I received the kit I was shocked! A 1/76th kit, OH NO! there goes my eyesight (as you can tell the reviewer is strictly a large scale armor builder).

To my surprise when I opened the box I found a very detailed resin kit with just under 20 parts. The body is one piece and has very good molding with the usual small air bubbles, but not much problem to handle. My kit had no instructions which I did not need as it is a rather simple to build.

I did have some problem with the mounting of a wheel which had a large air bubble on the back side that deformed the mounting piece. With a round file and super glue with accelerator the problem was nicely handled. What I find quite nice about this kit is that you can assemble it with the top up or down and with the side windows up or down. I chose to build my version with the top down as well as the windows down. I had fun building the kit and didn't suffer eyestrain. I highly recommend this kit. For further reference and a history of the vehicle I would recommend, German Personnel Cars in Wartime by Reinhard Frank, published by Schiffer Publishing Ltd.

(Oddballs Armour and Artillery ceased production for a few months and was supposed to be picked up and reissued by another manufacturer, check the English modeling magazines such as Military Modelling for a new source. -ed)

Three reviews from Peter Brown

UNITAF in Somalia - Vehicles of Restore Hope Forces by Barry Beldam. Published by Concord Publications Company, Hong Kong. Softcover, ISBN 962-361-914-6. UK price £7.95

Some nineteen nations sent forces to Somalia. Among them was Canada, and one of their soldiers there was Barry Beldam. As a vehicle enthusiast, he took his camera and together with a sharp eye produced this collection of photos of a wide variety of armor, both wheeled and tracked. Some wise people say that tracked armor should not be used for peace keeping, as all tracked vehicles are 'tanks' and tanks are for wars; but many nations lack good wheeled vehicles for these small, brush fire operations.

There are enough countries that do use wheeled vehicles to make this a book which modern wheeled armor fans will enjoy. As might be expected, we have many shots of Canadian Cougar, Grizzly, Husky and Bisons in various roles, most of which cry out to be converted from your favorite LAV kit. In addition, we see French Panhard AMLs and M3s in use by various armies; the latest Italian Centauro 8x8 with 105mm gun, which must be the meanest wheeled AFV about today. Its smaller Fiat 6614 cousin; Botswanan vehicles including Cadillac Gage Commandos and Israeli built fully enclosed Ram APCs and softskin Command cars. Egyptian Fahds, USMC LAV-25s, and even Zimbabwean Crocodile APCs, plus a full range of softskins from field cars through HMMWVs to tank carriers.

There are too many black and white shots to count, and a whopping sixteen of the 86 pages are in color. Even better, the captions point out many small points and marking details which only a modeler would look for and find. Although some vehicles are in UN white, many are in their normal 'home' color schemes, giving us a great opportunity to see some otherwise unseen schemes. Inevitably, some vehicles would benefit from a few more views, but

for value, quality and range, this is a hard book to beat.

Accurate Armour 1/35th Decal Set DE06 UN Letters & Markings. UK price £5.75

With the UN increasingly committed in many parts of the world, many of you modelers will want vehicles in their markings. Fine, schemes are simple enough, plain white with UN in various locations. White paint is easy, but the letters are more of a problem unless you want to scrap most of a sheet of rub-down letters!

No need to now, as Derek Hansen's team have saved the day. This set of rub-down markings contains UN white logos on a blue ground, with eight each of two sizes, 10mm across and 4.5mm across. These are used on some vehicles or else as flags. The UN letters contain three styles, equivalent to a Helvetica typeface as both solid and with gaps as stenciled, one set of four each in 10mm, 6.5mm and 4.5mm high letters, and a more artistic Courier like typeface, again in sets of four in 7mm, 5mm and 3.5mm high letters. One or more should fit your desired model, the Helveticas are fine for British or Canadian with the others for Russian for example.

Vehicles often have tactical markings and national insignia as well, but this set will provide a good basis for most purposes. As I write this, British TV shows Saxon APCs on their way to serve in the former Yugoslavia, and there have been, are and no doubt will be other areas where the UN will be represented.

Armes Militaria Hors-Serie No 5 Operation BARBAROSA by Yves Buffetaut. Histoire et Collections, Paris, France. Softcover, Numero d'editeur 2-908182. Price 69FF or \$19.75 in Canada.

This French series covering WW2 campaign by campaign is printed to a high standard, and has a good choice of photos in black and white and some color photos, together with color drawings to show vehicle schemes and markings.

All the text is in French, but the pictures are good in any language.

There are a few armored car shots in this book, an SdKfz 263, and a couple of the BA-10M including one in German use, both vehicles having color profiles. There is also an ex-Belgian armored 4x4 based on a Ford/Marmon Herrington chassis in German use as a command car. What does make this book a find is one shot of an Austin armored car, with pneumatic types and extended front mudguards, ko'd in 1941. A new one on me, and another of the few designs which saw action in two world wars. Maybe not worth the full cost of the book, but worth knowing about?

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