ARMORED CAR

THE WHEELED FIGHTING VEHICLE NEWSLETTER

•Issue #31• 1995 • $3.00

ROYAL NAVY & BRITISH ARMY EQUIPMENT EXHIBITION 1995

Report by Peter Brown

Back to its usual biannual schedule, the latest RN/BAEE event allowed the land and sea sectors of the British defense industry to show its wares to a hopefully appreciative and acquisitive audience of official military delegations. Luckily, I was able to obtain a ticket and thus report on the wheeled AFVs present for *Armored Car* readers.

General opinion of the show was that it was smaller than the 1993 event, both in terms of number of exhibitors and new items present. However, much of the interest is in the more noticeable items, and there were no new Main Battle Tanks, big self propelled guns or the like. There were however some new wheeled armor items, one on display for the very first time.

Short Brothers plc of Belfast, Northern Ireland showed their latest item, the Shorland S600 series. The S600 is a multi purpose vehicle based on the widely used Mercedes-Benz Unimog chassis; to which Shorland have added an armored body in much the same way as they have already done with their successful Land Rover based S500 and earlier series.

Using a larger chassis results in a bigger, squarer vehicle. To date two versions have been proposed, an Internal Security Vehicle or ISV which will have wide applications for police, paramilitary and military use; and a dedicated Infantry Mobility Vehicle or IMV. The IMV version is aimed purely at the military market as a troop carrier, as well as being easily adapted to provide a command, ambulance, air defense weapons carrier or more heavily armed support vehicle.

Both vehicles are very similar. The basic Unimog chassis with its distinctive shape means that the S600 is a high vehicle with a short bonnet, although it is not a forward control or cab over engine design. The box shape steel armored body is very roomy inside, with side and rear doors allowing rapid entry and exit for the crew. Shorts have provided what is in fact a baseline vehicle -each user will no doubt want vision and firing ports, external weapons, radios, air conditioning and a host of smaller features to suit their own needs. Many of these, as well as run-flat tires, night vision aids, global positioning system and appliqué armor kits, are already available.

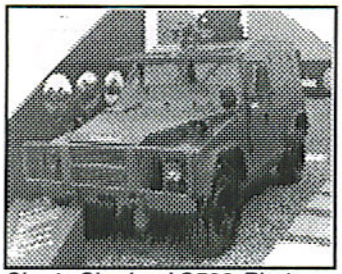
The S600 is already being proposed for adoption with the Australian Army to meet the Project Bushranger Phase 2 requirement, in which case it will be supported by British Aerospace Australia and Daimler-Benz (Australia) dealer network. If this vehicle is as successful as the S500, Shorts will be on to a winner here.

Shorland S600 Specifications

	ISV	IMV
Crew	1+11	1+8
Length	5.6m	5.6m
Width	2.45m	2.45m
Height	2.7m	2.7m
Wheelbase	3.25m	3.25m
Weight	7.5 to 9 tons	12.5 tons
Max Speed	108 km/h	108 km/h
Powr/weight ratio	14 kW/ton	13 kW/ton
Gradient	45 degrees	45 degrees
Range on roads	600 km	1000 km
Fording depth	1.2m	1.2m
Chassis - Unimog U1550L	U2150L	
Engine MB 6cylinder Diesel OM366A Turbocharged		OM366-LA Intercooled turbo
Max torque	540 Nm	660 Nm
Transmission	Daimler-Benz UG365, 8 forward 4 reverse gears	

Axles Portal axles, hub drive, torque tubes. Live front axle, all wheel drive, pneumatically operated differential locks on both axles.

Shorts Shorland S600 IMV. Photo: Peter Brown, Sept. 1995



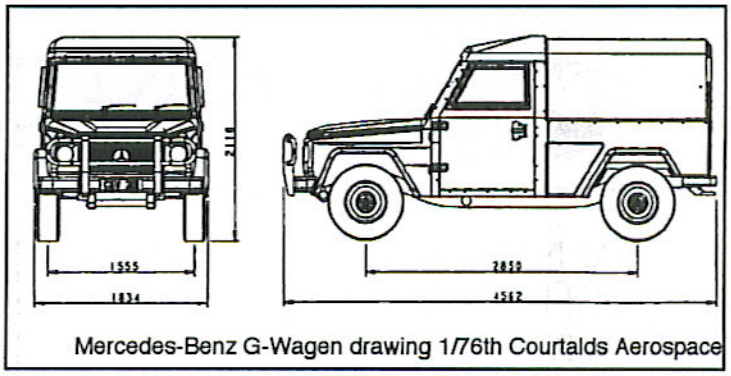
Shorts Shorland S500. Photo: Peter Brown 9/1995

The S500 range, S52 Armored Patrol Car with single machine gun turret, S53 Air Defense Vehicle mounting the Shorts Missile Systems Limited Starburst lightweight multiple launcher, S54 dedicated Anti-Hijack Vehicle and S55 Armored Personnel Carrier are also still very much on the market. Recent events in the former Yugoslavia have meant new sales of S55s modified with a large side viewing port to CNN and France 2 TV networks for filming under fire. All the S500 series are now based on the current Land Rover 110 series chassis with all the reliability and ease of maintenance that implies.

There were also a number of other Land Rover based armor items at the event. Land Rover themselves showed their own basic vehicle in specialized Multi Role Combat Vehicles and Special Operations Vehicle configuration, with various combinations of weapons from 5.56mm machine guns up to anti tank missile launchers, but their literature also shows the Courtaulds Aerospace range of protection sets. These include the CAV100 which fits the basic Defender range and looks very much like a normal Land Rover; but their composite bodywork offers protection against small arms fire. They were more than happy to show photos of a vehicle which had run over a TMA-4 land mine in Bosnia. While the front axle and engine compartment were badly damaged, the crew compartment was intact and the occupants escaped serious injury.

Similar protected vehicles on the basic Land Rover are also produced by Glover Webb Limited, now part of GKN Defence. These take a wide range of forms, from police riot vehicles to military patrol vehicles with and without turrets. Just to give more variety, Penman Engineering Limited produce their own range, both on 4x4 chassis as the Skirmisher and the 6x6 Hussar.

As well as the more noticeable range of vehicles, all three companies offer protected vehicles which are to say the least unobtrusive. Based on either the utility 90 or 110 series Land Rover or the more up-market Range Rover or Discovery series, protection can be offered while the outward appearance of the vehicle remains almost unaltered. Luckily, the current trend of fitting tinted glass on civilian vehicles helps this, even the distinctive green shade which armored glass has now, looks much like a designer addition. Even if you don't favor Land Rovers, you can still have a protected 4x4. Courtaulds now produce an armored version of the Mercedes Benz G-Wagen as the CAV201.



Mercedes-Benz G-Wagen drawing 1/76th Courtalds Aerospace

One problem with adding protection, even to a robust chassis, is that the vehicle can become overloaded. This affects the springs and can result in a poor cross country performance. Penman have teamed up with Australian company Kinetic Limited to offer a solution to this problem which offers other intriguing benefits. The system is basically a variable geometry suspension which allows 30% greater wheel travel and also enables the vehicle suspension to be adjusted to run on difficult side slopes. It can also be used with the vehicles stationary to level the body for use for observation or as a weapons platform. Basic vehicle handling is also improved both on and off roads. Displayed on a Land Rover, the system is applicable to a wide range of off road chassis.

Moving back to specially designed armored cars, also shown were a range of vehicles marketed by Alvis Vehicles Limited. These included the small fast attack and scout vehicles, the Acorn and Scarab, and the rugged

Alvis Acorn/Scarab Specifications

Crew		1+2
Length		3.6m
Width		2.1m
Height		1.74m
Wheelbase		2.1m
Weight		6500 kg
Gradient		70%
Speed		110 km/h
Range		500 km road, approx 350 km cross country
Engine	6 cyl	Mercedes-Benz 352N Diesel
		5.675 L 85 kW
Gearbox		Daimler Benz 717.801 4 speed

Scarab Photo: Peter Brown, 9/1995.

Alvis 4 and Alvis 8 series of utility vehicles.

The smaller Acorn and Scarab range make ideal patrol and weapons carrying vehicles, their small size makes them air transportable. Uses are limited more by imagination than any other factor, making them ideal for paratroop or other special forces. A major feature is resistance to mines, which betray their links with South African vehicles (which themselves use methods developed in former Rhodesia). The monocoque hull is resistant to 5.56mm and 7.62mm fire, but protection can be increased.

Alvis 4/Mamba.
Photos: Peter Brown, 9/1995.

Based on the South African *Mamba* series produced by Reumech Sandock, (and more conventional in appearance) are the Alvis 4 and 8 range which use a Unimog chassis as the basis for a mine resistant, ballistically protected personnel carrier; as well as being offered as a weapons carrier. The basic 4 shown would not look out of place in any urban scenario, and would be ideal for patrol work with peace keeping forces. It has been used as such by British units in Bosnia. Visibility through its large windows is excellent. This is the short wheelbase version, the 8 is slightly larger. Both offer good protection, being resistant to 17.5kg of TNT under each wheel or 10kg exploded centrally under the hull, a 30kg charge at 5m, fire bombs and 7.62mm or 5.56mm ball ammunition all round, including the windows on the 8, while the 4 claims resistance to 7.62mm AP rounds.

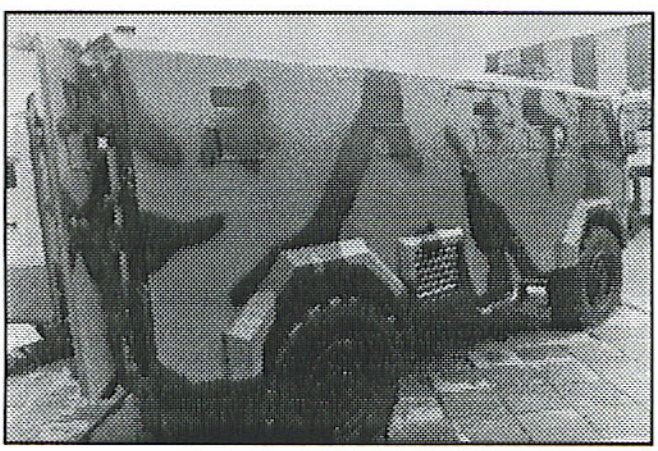
More international cooperation was shown on the GKN Defence stand. This company markets the Mowag Piranha - perhaps best known as the USMC's LAV series, built in Canada by General Motors - GKN having the mortar carrier on display. This is one of many different variants which this chassis has been used for.

The 81mm mortar (the one fitted was the Royal Ordnance type which is in service around the world including the United States) has all round traverse and ample room for crew and ammunition. GKN also offer the vehicle in other forms, including the AC Delco 25mm armed turret with external TOW missile launchers (as fitted to their tracked Warrior APC for export). It is also offered with a one-man turret of GKN design, mounting a 7.62mm or .50 caliber heavy machine gun.

This same turret can also be fitted to other light AFVs including GKN's own Simba and the Glover Webb (now part of GKN Defence) Tactica range of vehicles. Simba is in production in the Philippines, but the vehicle on show was fitted out as a police riot control vehicle with folding side screens and a barricade remover on the front.

New to me was the Tactica range. Offered as both normal - i.e. bonneted - or forward control, cab over engine body styles, the range of options and uses is many and varied. Specialist water cannon, VIP transport and bomb disposal vehicles are current options, as well as person-

Glover Webb Tactica (cabover) [left], and GKN Piranha Mortar Carrier [below]. Photos: Peter Brown, 9/1995.

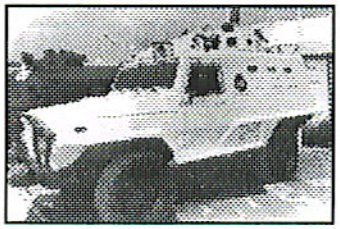


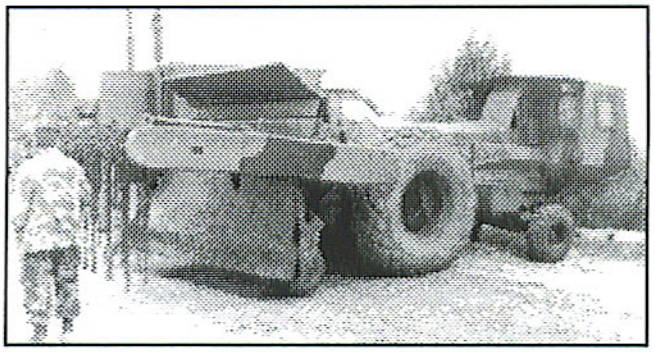
nel carrier, patrol, command and ambulance variants.

Glover Webb also offer a range of armored cars of another form, as mobile banks, bullion and cash transporters. While not what the military would call armored cars, they are nonetheless a vital part of modern financial life. The basic vehicles can also be configured to carry VIPs and prisoners in transit.

If there was to be a contest for the Worlds Ugliest Wheeled AFV, or for that matter any AFV, the Aardvark JSFU Mark 3 would probably be so good a candidate that it would win no matter what else entered! Often known simply as Aardvark, its full and correct name is Joint Services Flail Unit and it is designed to beat a path through minefields. Originally offered as a half track, it can be produced in an all wheeled form. The driver sits in a cab at the back of the vehicle, as far from the rotating flails as possible, and is well protected from fragments by armor plate including a large plate just behind the flails. The large front tires are filled with "Tyrefill", which gives them some resistance to fragments at the price of reducing their overall maximum speed.

Whilst not displayed for its own sake, the Piranha, with a Mowag badge, appeared on the British Aerospace stand as a control vehicle for their Jernas anti aircraft missile system. BAE are also still promoting their 120mm breech loading mortar on Piranha, although it was





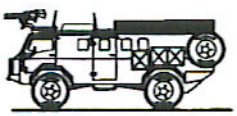
Glover Webb Tactica (bonneted) (above) and the Aardvark (right). Photos: Peter Brown, 9/1995.

displayed at this event on an M113 series chassis.

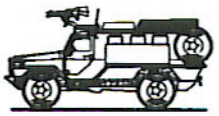
Also of wheeled AFV interest, the Helio Mirror Company produce a range of small one man turrets with weapons ranging from rifle caliber machine guns to 20mm and 25mm cannons. The example on show was not fitted to a vehicle, but their products can be adapted to a range of vehicles which can offer a 1.2m turret ring diameter. The same company also produces a variety of periscopes and vision devices, as well as smoke grenade launchers.

Looking back at the event, there was a lot for the wheeled vehicle enthusiast to see. As well as the vehicles described here, there were other cross country designs like the Supacat 6x6 which is now marketed by Alvis and used by British airborne forces, and the similar Scot-Track Glencoe and Glenalmond multi-wheel vehicles. Not strictly armored cars, they could well be protected and used as such.

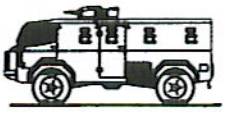
Perhaps the range of wheeled vehicles shows that the world's armed forces now face a different set of circumstances, with a need to send rapid reaction and peace keeping forces around the world. Tracked vehicles get



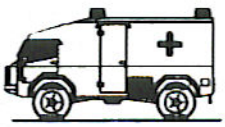
LONG RANGE PATROL VARIANTS
Machine gun. 9 men plus equipment for extended patrols.



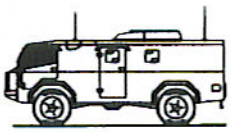
ARMOURED PERSONNEL CARRIER (APC)
14 seats.



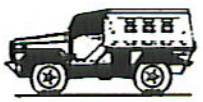
ARMOURED PERSONNEL CARRIER
Turreted variant. Machine gun.



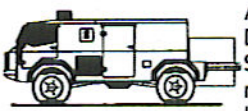
ARMOURED AMBULANCE
4 stretcher patients, driver, commander and 2 medical orderlies. High roof for medical orderlies to stand.



ARMOURED COMMAND
Separate rear-mounted generator to power communications equipment. Powered antenna masts.



ARMOURED PATROL VEHICLE
10 seats.



ARMOURED BOMB DISPOSAL (EOD)
Side ramp remotely deployed robot. Rear extra heavy 'bomb blast' wall. Rear mounted 'bomb tub'. Crew of 2.

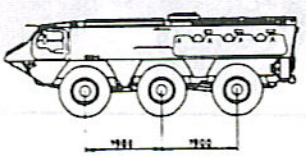
Glover Webb Ltd., Tactica Family of Vehicles.
Drawing: Glover Webb Ltd.

heavier with each new generation, and as well as being too threatening for many roles they are hard to maintain, and often not suitable for patrol work. Wheeled armor may well be at the beginning of a new era, lightweight composites offer a high degree of protection to standard cross country chassis already in service with police and military forces and thus easy and cheap to acquire and operate.

Many companies offer very similar - at least in outward appearance - designs, which offers potential users a choice of suppliers, and also the chance of playing one off against another no doubt. Despite this, there is also an increasing trend towards company mergers and cooperation. Already, Glover Webb have become part of GKN, and several other large UK companies have links with overseas manufacturers, such as BAE and the French GIAT group.

The other widespread trend is towards license production, as seen by GKN producing the Swiss Mowag Piranha range. Vehicle spotters around the world will find it increasingly difficult to be sure exactly where a vehicle comes from, and more and more minor variations will keep us guessing, if not happy, for years to come.

WORLD FIGHTING VEHICLE NOTES



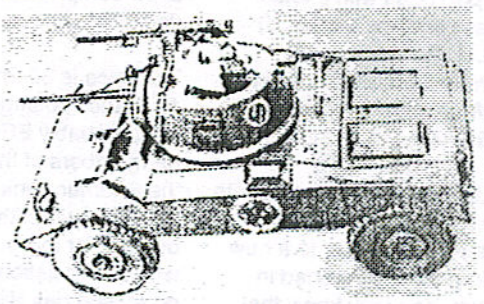
Sweden has taken delivery of at least three Finnish SISU XA-180 6x6 armored personnel carriers. The Swedish operated vehicles were photographed during an exercise of the Nordic UN Battalion (UN NORBAT 2) at Ravlunda, Sweden in March of 1995 (*PANSAR* #2 1995). The first production XA-180s were delivered to the Finnish Army in the early 1980s..

LETTERS

VIDEO FROM BRAZIL. I'm still working on expanding my hobby collection, and I now have a five hour video showing the Brazilian Army in action. This is a terrific color video showing the troops of all branches of the Brazilian Army, including tanks and AFVs. My offer is simple, I collect 1/76th and 1/72d scale kits and soldiers of WWII only; tanks, AFVs, armored cars, artillery or soft skins. I will swap a copy of the video for five kits. I also have a booklet I put together on "Armored Vehicles and Weapons of Brazil" which is available for trade. **Fernando Costa de Sousa, Rua Major Gondim 259A, Venda Da Cruz - Sao Goncalo RJ, CEP 24411-110, BRAZIL.**

TRADE. Model kits including rare and new made in the ex-USSR in any quantity. Guaranteed workmanship and you have a good bargain. New Russian kits: T-18, SU-76, BA-20, BA-20M, T-38, Kosmoletz tractor, SU-122 and many others. Also books and magazines. Send address for large free list. Please write: **EDUARD KATSCHKO, 340048 DONETSK P/BN800, UKRAINE.**

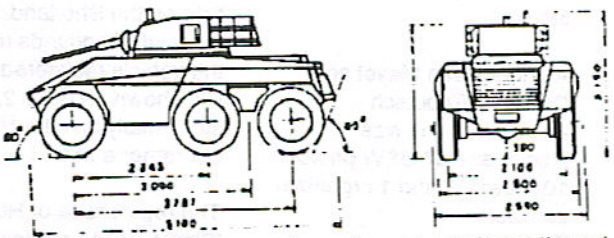
DAF M39 Model. I would like to inform you that I produce a DAF M39 model in 1/76th scale. The body is in resin, while the turret, wheels and weapons are cast in metal. If



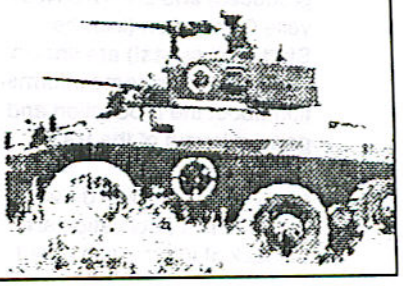
CRR M-8 Brasileiro and the CBR MB-1 Cascavel-37

Fernando Costa de Sousa

The **CRR** project was produced by the (Brasilian) Army Engineer Institute (IME) during 1968, and was a 4x4 version of the WWII M8 Greyhound armored car. Power was supplied by a Mercedes Benz 6 cylinder OM-321 engine producing 120hp @ 2800 rpm. The vehicle retained the original M8 turret with 37mm cannon and .50 caliber HMG. Tested against the Cascavel (which proved to be a superior vehicle), the Brasileiro project was dropped after the completion of only the one prototype.



While the Brasileiro wasn't continued, work continued on the Cascavel with the introduction of the **CBR MB-1 Cascavel-37**. By the 1960s the original M8s were wearing out and some sort of replacement was urgently required. Built by Engesa, the Cascavel-37 used left over turrets from surplus M3A2 "Stuart" light tanks mated to a new hull. Produced in two versions, the first production run ran 16 vehicles, with a second run of 50 which included improved automotive components.



you readers are interested in ordering some of my models, they should ask for my list and p&p rates with a letter (please enclose two IRCs). **M.G.M. Modellbau, c/o Michael Gohres, Sachsenstraße 9, 47441 Moers, GERMANY.**

V.A.B. booklet. I would like to draw your attention and that of other enthusiasts to a new book recently published in France. You may know that the Association of the Friends of the Musée des Blindés de Samur publishes a magazine two or three times a year. It is entirely in French and interesting, while not as food and deeply researched as the *Tank Museum News* from the Bruxelles Tank Museum. A few months ago, the Musée des Blindés, helped by the Friends, published a booklet titled Mili doc #1, first of a series.

The booklet is devoted to the V.A.B. or Véhicule de l'Avant Blindé (already shown in Armored Car). Here are the statistics:

Authors: Jean Mayet and Capitaine Tributsch
44 pages, A4 in size
2 color and 67 B&W photos
10 drawings and 1 organization table
French text

It is a nice account of the development of the VAB, its contemporaries (Berliet and Panhard) and its variants. The various versions are detailed in words and pictures (I counted 27 variants). Then the Véhicule Canons Saviem (not produced) and the VAB Nouvelle Génération (like the Start Trek series!) are shown. Finally, there is some information about the production and general layout of the VAB.

In my eyes, the only drawbacks of this publication are the lack of information about the use of the vehicle, either in French or foreign service. The pictures are good and show complete vehicles and details of various versions.

The price is 30 Francs, plus 10 Francs postage in France (and probably EEC countries) for members of the Friends of the Saumur Tank Museum. I don't know that the price is for others. For more information write: Association des Amis du Musée des Blindés, Hotel du Commandement, 1 - place du Chardonnet, 49409 Saumur Cedex, FRANCE.

I can recommend this booklet to everyone interested in wheeled AFVs or modern military vehicles. **Jacques Jost, 2, rue Beau Site, 57540 Petite-Rosselle, FRANCE**.

Updates on the Shorland and Hornet. I have just been shown some pages from Armored Car issues #29 and #30 and wish to make some minor corrections is I may (for the sake of historical accuracy). The first concerns the article on the Shorland. I own two early Shorlands (including the vehicle registered '3547 PZ' shown on page 2, which incidentally is not a Mark II, but rather a Mark I.

The repurchase of Humber 'Pigs' FV1611 relates to the British Army requirements for internal security after the riots of August 1969. Prior to this the royal Ulster Constabulary (RUC) already had Humber 'Pigs' as newsreel footage of the time shows. But even earlier than this they had the soft skinned 'Pig' FV1609 (A) and even Dingos!

The original design and manufacture of the Shorland by Shorts Brothers and Harland was not in Belfast, but at their General Engineering division, Glen Works, Newtonards.

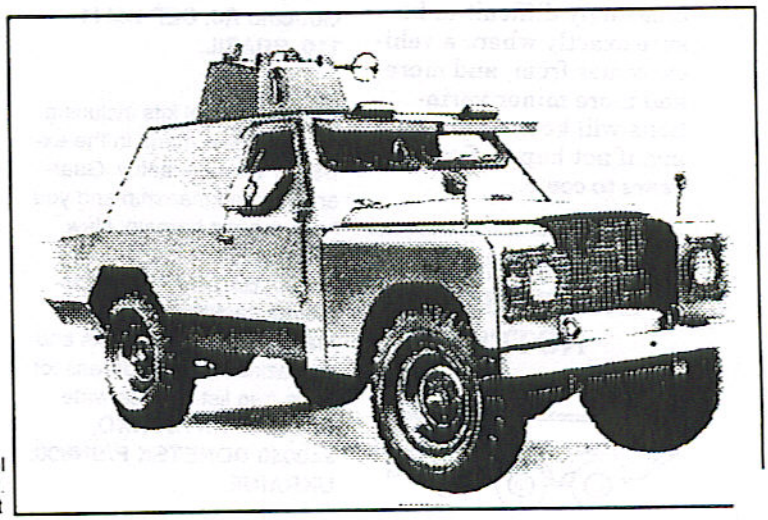
I agree with Peter Brown, the armor on the Shorland was steel, not Makrolon. I might add that the name Makrolon is often misused to describe almost any non-metal armor. The VPK (Vehicle Protection Kit) fitted to thin skinned vehicles in in fact GRP (Glassfiber Reinforced Plastic). Makrolon, it is said, was used for visors and riot shields (having originally been developed for astronauts' visors). However the floor of the Shorland is made of GRP.

Shorland fitted with Vigilant was not developed for the British Army, it was a private venture by Shorts which never went into actual production. The British Army had only grudgingly accepted Vigilant into service as an infantry weapon and latter fitted them to Mark 2/6 Ferret. Shorts development of their Vigilant Shorland seems to have been complete by 1968 which would have been of no interest to the British Army as they already had the 2/6 Ferret and in 1969 Mark 5 Ferret with Swingfire went into service.

Regarding Shorland Vehicle recognition Features, if the headlights are mounted in the grill, i.e. the normal place for a Series IIA Land-Rover, then it was a prototype; such as the flat sided early prototype mentioned with registration number '4471 AZ'. This is not a military number, but a normal Belfast registration of the period 1960-61. To afford better engine protection the headlights were moved to the fenders which happened on very late prototypes and the production Mark I and Mark II. There is no way of telling the difference externally between a Mark I and Mark II. These vehicles issued to the RUC would have had civilian numbers like mine '3547 PZ'.

It was not until the British Army requisitioned these vehicles that they would have received a military number in the **BT** series.

Most Mark 3 Shorlands were based on Series III Land-Rovers with the recessed headlights in the fenders, howeve a few of these Shorlands were built on late IIA Land-Rovers which by then had the Series III type of headlight arrangements. Most of MOD's Mark IIIs were issue to the Ulster Defence Regiment (UDR) and received military numbers in the **FL** series.



(Right) Armored Patrol Truck, Shorland Mk III. Photo: via Jochin Vollert

The Mark 4 Shorland was not based on the Defender, but was the Series III 1 ton chassis fitted with a V8 engine. So there is no way of telling that externally, except by the time the Mark 4 was available the turret mounted smoke dischargers changed from a pair of triples to a pair of quadruples.

Watch for an article by me to correct misconceptions and provide unpublished data on Shorlands. Due out in Tank-TV soon! *(Tank TV is available from: Peter Cooke, 47 Rolleston Street, Wellington 6002, NEW ZEALAND -ed)*.

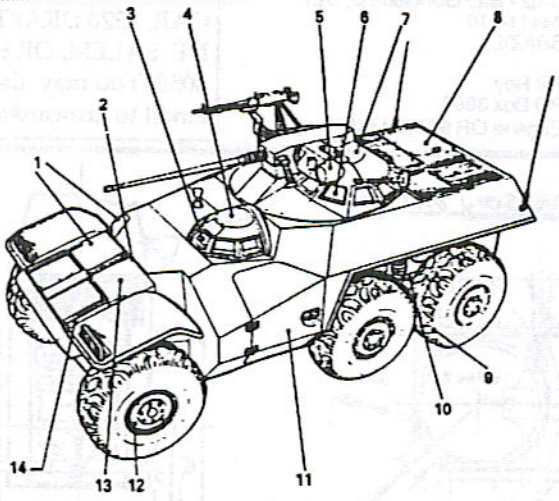
'FV1620 Hornet'. I have extensively restored a Hornet and regularly display it. As a member of the Old Comrades Association of the royal Armoured Corps Parachute Squadron I have had opportunities to gain information from those that used Hornet /Malkara. I have also been in touch with employees of Fairey Engineering and subsequently BAC who were responsible for commissioning the missile system into Hornet. I have also drawn on official technical data.

Comments. The Humber 'Pig' was designated FV1611 not FV1601. Hornet was in service for more than 'only a few years'. It was in 1952 that the British Government drew up the requirements for a HESH anti-tank missile which was to become 'Malkara'. Originally 18 missiles were intended to be carried in and launched from a Centurian chassis. Requirements changed and design of an airportable launcher based on the Humber 1 ton was started in 1959. It entered service as intended in 1962 with Cyclops Squadron, 2 RTR, then in 1965 with the 16th Parachute Brigade. It went out of service in 1969, being replaced by Swingfire on Mark 5 Ferret, and not as stated by Mark 2/6 Ferret with Vigilant. The 2/6 was already in service and served together with Hornet in the RAC Parachute Squadron.

Most published photos of Hornet show the famous shot of a Malkara being fired near Lulworth. However this was a very early prototype which lacks a number of features from the in-service vehicle. In fact the drawing (issue #30) that must have been based on this prototype indicated 14 areas where modifications were yet to take place. It is unfortunate that the top drawing shows a missile apparently in flight in front of the Hornet, as the launching arms are in the travel position it was not possible to fire the missile from this lowered position. *(Actually it just happened that I pasted the missile in that spot because it fit! -ed)*.

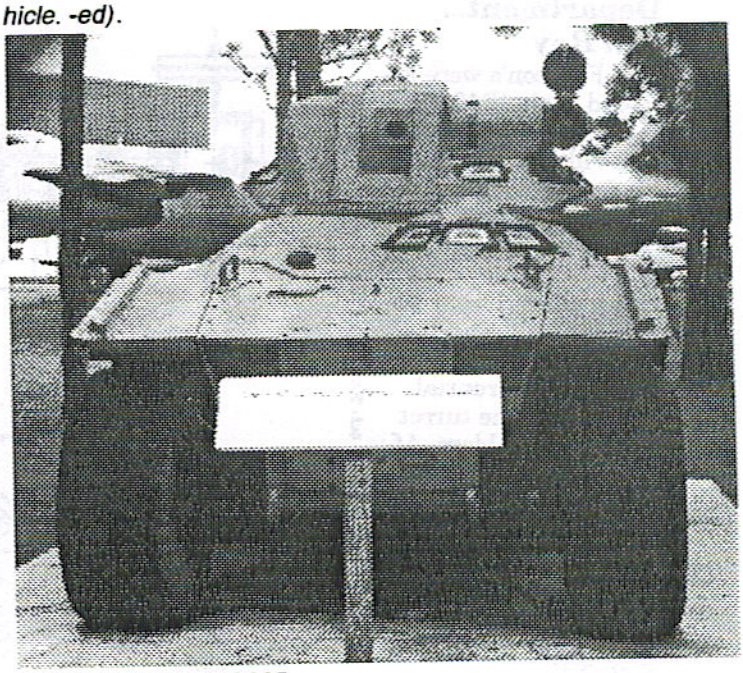
The larger drawing shows the main support arm lowered on it's supporting plinth, yet the missile nose and upper wing are drawn higher than the level of the roof. In fact, the highest part of the nose should be about 8 inches below the level of the roof. The front slope of the lower wing should be about parallel to the rear slope of the vehicle. It could not be that the missile tilt hydraulic ram is not fully extended because the hydraulic switching is such that the ram is either fully extended or completely withdrawn.

The quoted length is 16.56ft, this is misleading as it suggests that this is the length of the vehicle with the missiles in the position drawn. The cor-



Photos: Daniel Jackson, Drawing Lockheed

Air Force armored car. Enclosed are some photos from the Air Force Museum down on the pan handle/gulf of Florida *(Tyndal AFB? -ed)*. I'm not sure just what type of vehicle it was. **Daniel Jackson, PO Box 2004, Lake City FL 32056-2004**. *(It's a Lockheed XM-800 Armored Scout Vehicle, circa 1972-73. Part of the Twister series, several XM-800s were built for testing by the US Army. Evidently at least one made it into USAF hands and became an Explosive Ordance Disposal vehicle. -ed)*.



rect overall length is 17ft 7 in, however for air transport it was possible to free the launcher arms from their tipping rams so they were nearly vertical thus decreasing overall length by some 20 inches.

The description of the crew is misleading. The commander is in fact the missile controller, the driver also loads replacement missiles as does the radio operator. Whilst loading takes place the commander folds his sear down to turn around to operate the radios which were C42 and B47.

The range was stated as 300-3000 meters. In fact the minimum range was 360 meters, the maximum range for the Mark I missile was 2190 meters and for the Mark IA 4030 meters. The warhead weight was stated as 59.9 lbs, this varied according to the type of missile head used. The operational warhead was 56 lbs., the practice head was 53.2 lbs and the parachute head 52 lbs.

I hope this puts the record straight on my favorite two vehicles. **Clive Elliott, Fairlands Farm, Landford Wood, Salisbury, Wiltshire SP5 2ES, GREAT BRITAIN.**

SUBSCRIPTION RATE: $18.00 (US) for six issues everywhere in the world. Check or Money Order should be made payable to: ARMORED CAR or David R. Haugh. You may send cash at your own risk. Write: ARMORED CAR, 4520 DRAKE CT NE, SALEM, OR 97301-3058 U.S.A.

BACK ISSUES: Please as some issues are now out of print, and many have a very limited number left (five or less) and will not be reprinted.

REQUEST FOR ASSISTANCE: Readers are asked to support *ARMORED CAR* by submitting material for publication. A contributor's subscrip-tion will be extended by one issue for each use. Copyright can be listed in the contributor's name if so requested, otherwise all material is copyright to ARMORED CAR and no reproduction in whole or part is authorized without written permission from the publisher.

I came across this photo of an SdKfz 234/4 photographed after the fall of Berlin in 1945. Since photos of the cannon armed version are relatively rare I thought I'd share it with the group. -ed

Contributors to this issue include:

Peter Brown
8 Saddle Close, Colehill
Wimborne, Dorset BH21 2UN
GREAT BRITAIN

Fernando Costa de Sousa, Rua Major Gondim 259A, Venda Da Cruz - Sao Goncalo RJ, CEP 24411-110
BRAZIL

Bill Roy
PO Box 3695
Eugene OR 97403 USA

- David R. Haugh, Editor-Publisher
- Bryce P. Haugh, Circulation

Here it is, the new, new address for *AC* , please write to: ARMORED CAR, 4520 DRAKE CT NE, SALEM, OR 97301-3058. You may also send email to armcar@aol.com

From the "It's been done" Department... Bill Roy

Yes, Fordson's were armored. This 1940 version was designed by Leo Villa, racing mechanic for Sir Malcom Campbell. Steering was positioned to the right, and the engine could be crank-started from inside the hull. The BREN gunner stood behind the differential and turned the turret with his shoulders. After testing at Fanrborough, the design was rejected. (Two photos of the armored Fordson appear in Bart Vanderveen's "Armour on Wheels to 1942" if you can find a copy. -ed)