

ARMY & NAVY

MODELWORLD

VICTORY

JANUARY 1988

£1.10



● M3 IN THE SOLOMON ISLES

● CHEVALIER GARDES AT AUSTERLITZ

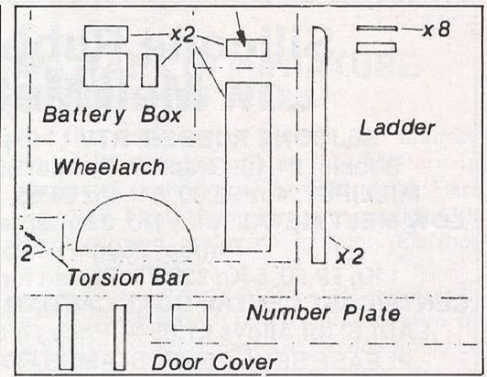
ARMY & NAVY

MODELWORLD

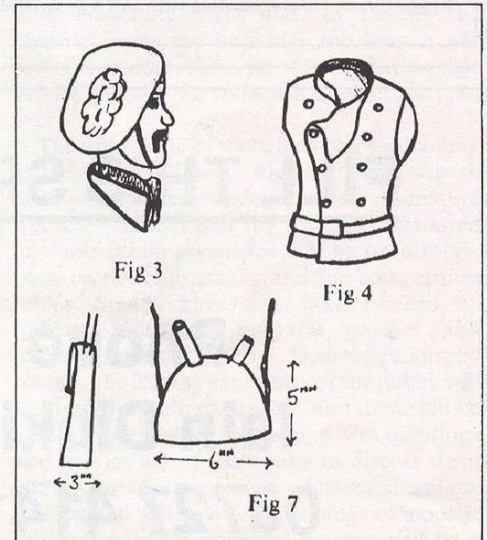
January 1988

FRONTLINES, EDITORIAL	3
20TH CENTURY:	
Opel Telephone Exchange Vehicle	6
Rhodesian Mine and Ambush Protected Vehicles	14
M3 in the Solomon Isles	19
Afrika Corps	25
Ceasefire, Stand down, Brew-up	28
UNIFORMS AND INSIGNIA:	
French Foreign Legionnaire Spain 1937	11
A Short History of the 21st Bombay Infantry (The Marine Battalion) 1777-1903	32
DIORAMA OF THE MONTH:	
A Winter Diorama	22
NAPOLEONIC:	
The Chevalier-Gardes at Austerlitz 1805	38
NAVAL:	
The Hull	34
CLOSE-UP:	
Euro Militaire	29
BOOKMARK	8
DIARY	9
BOOKSERVICE	10
WHAT'S NEW	26
LINES OF COMMUNICATION	35

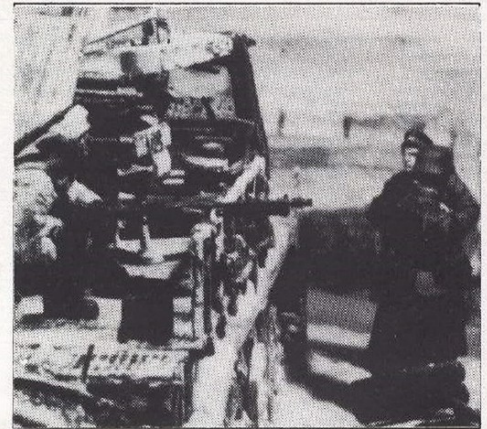
On the front cover: 'The Royal Naval Association Centenary 1973' by Chas Stadden. Prints from the original are available from Stamp Publicity (Worthing) Ltd, 6-8 Marine Place, Worthing, West Sussex BN11 3DW, price £1.00 inc p&p.



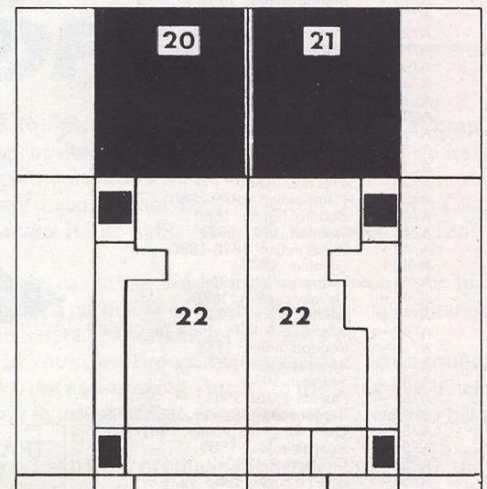
Page 7



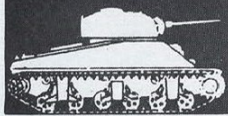
Page 12



Page 22



Page 36



RHODESIAN MINE AND AMBUSH PROTECTED VEHICLES

by J.W. Hopkins

Having spent some years in Rhodesia (now Zimbabwe) I was fortunate enough to take a number of photographs of various mine and ambush protected vehicles of the Rhodesian Army. At the time I had been asked by many friends to do oil paintings depicting these vehicles in action. I never really thought of using these photos for my other hobby, which is wargaming. At the time I was engrossed in the Napoleonic period and had not considered the modern. I realise now that I missed many opportunities to take more detailed notes and photographs of these vehicles.

In December 1985 I read Tim Neates' article in *Military Modelling* magazine on counter insurgency vehicles, and found it very interesting. Then in the same magazine in April 1986, G.M. Calvert of Zimbabwe made comments about the above article which were very relevant. Recently in *Army and Navy* magazine (June 1987), Don Belvin wrote about Rhodesian armour. I found this article of great interest and was impressed with Don's vehicles, figures, helicopter and model of the Bindura Selous Scouts fort. Having appreciated these articles I felt that many wargamers and military modellers would be interested in seeing the variety of larger troop carrying vehicles which were created during the Rhodesian war.

Origins

The Rhodesian Security Services realised that they could not develop mine clearing ploughs, flails and rollers as the NATO and Warsaw Pact Forces or keep clear the multitude of dirt bush roads. This would lead to the destruction of the road surfaces which were bad enough in many remote areas. The terrorist forces were not laying minefields to protect defended positions, but indiscriminately laying mines on any bush roads to halt the movement of all military and civil transport in a concerted effort to bring the economy of Rhodesia to a standstill. The Rhodesians were stumped to find an answer, but find it they did.

The BSAP (British South African Police) were the first to push for mine protected vehicles, as they had numbers of vehicles and personnel operating in remote areas. The army soon appreciated the need for mine protected Land-Rovers, Hyenas and Rhinos but the army needed to protect its larger vehicles in which large numbers of troops would have to be carried.

Development

The evolution of fighting vehicles for the Defence Forces of Rhodesia resulted in an assortment of odd looking monstrosities. Due to sanctions, other procurement difficulties and soaring costs, the Rhodesian Defence Forces were unable to obtain the standard type of military vehicles for the numerous roles required of them.

Due to the nature of guerrilla warfare the civil powers and security forces found that they were sustaining casualties due to ambush and mines, so a body was set up to look into the problems and how they could be solved. Perhaps the most interesting and significant feature of all the vehicles developed was the emphasis on total protection for all the occupants. The protection was both anti-mine and anti-ambush and was so successful that the only casualties which occurred were the result of either speeding or failure to comply with the safety measures within the vehicles.

Apart from the marriage of civilian engineering techniques and military planning, the vehicles represented a totally local manufacture both in material and assembly. One of the main problems associated with mine and ambush protection is the weight of the material used to achieve this objective. A further problem relates to the cost of armour plating (about five times the cost of ordinary plating) and its procurement. A combination of design and positioning overcame the necessity for armour plate, and adequate protection was afforded by cheaper and more easily obtained steel.

The Big Daddy project

Some of the early attempts at mine protection looked crude and vehicles such as the old Bedford RL, which was the mainstay of the Rhodesian Army transport in the early 60s and early 70s had many improvements added. The army created the Bedford Big Daddy, which had water poured into the tyres, as it was found that this reduced the high pressure blast of a landmine detonation. Rhodesian WW2 experience and British experience in Aden and Cyprus had found that by sandbagging the driver's compartment and cargo area, this would prevent any loss of life. Sand, as you know, is heavy, but when water in the form of rain is added this would increase considerably. So the Rhodesians used plastic bags, and to protect the bags from damage, conveyor belting obtained from various mines was used to cover the bags. Also conveyor belting was fixed in position in double layers in the wheel arches below the driver's compartment. Shoulder straps were added to the centre line seating

arrangement for all the crew and passengers, and a hole was cut in the top of the cab roof to stop cabin pressure build up. Many RLs had doors removed, and in time the cab floors were supplemented by half inch (10mm) steel plate.

Later during the war many Bedford RLs were fitted with angled plate bucket compartments. Roll bars and wire cutting devices were also fitted to some of these vehicles. Many adaptations may have been added by various units, so there may have been a variety of designs.

Towards the latter part of the war many other newer types of GS vehicles also had the Big Daddy project additions. Vehicles such as the Bissen, Isuzu and Rodef 4,5 (Mercedes-Benz LA 911 4x4 4500kg truck). These vehicles were called Rodef because the army had quantities of letters from Bedford vehicles and needed to disguise the origins of the vehicle purchases due to sanctions.

The Puma

These developments were not enough and due to ambush casualties it was decided that crews and troops needed ambush protection, thus improved vehicles had higher sides with weapon slits.

The Puma was designed by the late Captain Terry Crow of the Rhodesian Army. Three-eighths inch mild steel was used to construct the sides, and angles so as to deflect small-arms fire. The five ton chassis of Isuzu and Nissan manufacture were used at first by the police with a one man armoured cabin, and later a two man armoured cabin was developed for the army. The two man cab allowed for an extra man to look for ambushes and landmines. Windscreens were made of 40mm armour plate glass and the angled bottom of the vehicle was made from three-eighths mild steel. Again the wheels were filled with water. All troops faced outwards and seats were fitted with seatbelts. Along the angled walls in front of the troops were bins along the whole length of the vehicle to stow and safely secure packs and spare equipment.

The Crocodile

The successor to the Puma was the Crocodile which was based on the same chassis, but this vehicle had a complete armoured body using the same materials as the Puma. As can be seen from the photographs, the sides were higher and were provided with rifle ports which opened inwards and downwards for ease of firing weapons.

The Puma was difficult to manufacture due to the varied angles in the body of the vehicle, and the different compartments. In the

Crocodile this was done away with, and the same shape ran through the entire length of the vehicle and thus the construction was made easier. The Puma and Crocodile were far cheaper to repair after mine detonations than the Bedford RL series. The army added side trap doors, as they did not like the idea of a single exit at the rear which the enemy could concentrate fire upon. I do not believe that side doors were added to the Crocodile as I never saw any with such an adaptation but the Rodef 7,5 (Mercedes-Benz chassis) which was used by regular army units towards the end of the war did have side trap doors.

The Hippo

In Peter Stiff's book, *Taming the Landmine* (1986, p.93) he states that the Hippo was developed for the South African Police on Bedford RL chassis. The Rhodesian Army did not buy these vehicles as it was claimed the country could not afford them. In 1979, I took photographs of this vehicle in service with the 6th battalion of the Rhodesia Regiment and can only assume they had been bought or were on loan from South Africa. The V-shaped hull was disguised by the addition of screens which may also have helped to deflect small-arms fire. These vehicles did not have a great deal of room inside, and the troops sat with their backs to the bodywork facing inwards.

Rodef 4,5 and 7,5 MAP TCVs (mine and ambush protected troop carrying vehicles)

In the last years of the war, new MAP TCVs were developed for the army. The Rodef 4,5 MAP was a fully protected vehicle but a proportion of its sides were lower than the Crocodile. The engine compartment and body were shorter than the Crocodile, but of a better design. The angled plate body was on a Mercedes-Benz LA 911 4x4 4500kg chassis and was used by all regular units of the Rhodesian Army. There are many photographs of these vehicles on operations in Mozambique with the Selous Scouts in Peter Stiff's books.

Specifications for the Rodef 4,5 MAP TCV were net weight 7595kg, front axle weight 3850kg, rear axle weight 3760kg, width of body 2.28m, width of wheelbase 2.26m, length of body 6.60m, length of wheelbase 4.19m, height of vehicle 2.90m, road speed/tar 80km/h, road speed/other roads 60km/h, built up areas 50km/h.

The Rodef 7,5 MAP TCV

The Rodef 7,5 MAP TCV was very similar to the Crocodile but it had side opening trap doors and a much shorter engine compartment. The roll bars were also much shorter, which made movement within the vehicle more difficult. Specifications for this vehicle were as below, net weight 9290kg, front axle weight 3630kg, rear axle weight 5655kg, width of body 2.28m, width of wheelbase 2.31m, length of body 7.19m, length of wheelbase 4.22m, height of vehicle 2.84m, road speed/tar 80km/h, road speed/other roads 60km/h, range 600km, crew: one driver, one commander and 16 troops.

Vehicle safety procedure

These developments provided many thousands of protected miles in TCVs, which were later referred to as MAPs. As has been previously stated, seldom are many injuries sustained in a land mine blast when a combination of three

- a Travelling at the correct speed on all road surfaces and under all conditions.
- b all passengers and drivers properly strapped in with safety belts, and
- c no loose objects left lying on the floor of the vehicle, e.g. mineral bottles, tools, etc.

Speed was a crucial factor in keeping casualties down, as it was found that a vehicle hitting a mine would double its speed. Thus all vehicles on dirt tracks were limited to a speed of 60km/h. Safety belts with quick release mechanisms became standard in all military vehicles. If troops were not strapped in, casualties would occur due to mine blast, and in some cases the mines had been boosted.

It was considered that at least 75% of all casualties were created by loose objects inside a vehicle, so all packs and equipment were provided with space to be stored away. All troops had to wear their light webbing and have weapons held at the ready.

Vehicle anti-ambush procedure

This was of great importance, as was the preparation of vehicles and troops before a convoy. Machine-guns were positioned to best advantage throughout a vehicle. Each vehicle would have a commander which would not be the driver. Each vehicle would have a mine and ambush sentry positioned in the front cab with the driver. This sentry was responsible for looking for ambushes and mines and would be replaced every half hour. Rifles would be pointed out through ports and held at the ready. Certain soldiers would have had rifle grenades (32 Zulu) two or three either side of the vehicle. The vehicle sentry could also throw white phos either side of the vehicle on entering an ambush. Anti-ambush procedures were rehearsed, and there were numerous ways of dealing with ambush situations.

Immediate action drills

The danger zone is the area where terrorists can bring effective fire upon the security forces. During an ambush every effort must be made to get clear of the danger zone, so as not to allow terrorists the ground of their own choosing. Thus when vehicles were fired upon, the troops would go through the following action:

- a Drivers do not stop, but attempt to get through the killing ground.
- b Vehicle sentries drop phos' grenades, troops fire 32 Zulu rifle grenades and rifles at enemy position.
- c Vehicle clears killing ground and vehicle commander will order debus left or right. Troops debus behind the vehicle, form up and carry out offensive action. Return fire and begin sweep towards enemy position.
- d Following vehicles will stop before killing ground, troops will debus, either forming a sweep line or stop line depending on the situation.
- e If the driver is killed and vehicle stops in the killing ground, troops will debus and fire at the enemy position immediately, the vehicle sentry giving covering fire. Troops will then provide covering fire for sentries to debus. Vehicle commander will then gather all fit men and assault enemy position. The wounded are left until after the assault.

Counter attack

No troops have entered the danger zone. Convoy commander or vehicle commander will launch an immediate attack with machine-guns

When troops are out of the killing ground with a vehicle ahead. Either vehicle could assault, and this would have been decided by the convoy commander in his orders.

Troops are split with a vehicle in the killing ground, the rear vehicle's troops will assault the enemy position.

Scout car action

Best action is for scout cars or armoured cars to advance and engage the enemy position.

- a Scout cars or armoured cars give good covering fire for a flank attack by troops.
- b Scout cars or armoured cars give protection to troops caught in killing ground, and pre-arranged signals can be given to troops to fire.

Command and control

Vehicle commanders must be clear in their responsibilities in their counter-attack plans, and these must be laid down in orders prior to moving off. Rehearsals should be carried out prior to moving off.

Vehicle-borne immediate action drills with 7,5 MAP TCV

If enemy position is sighted before entering the killing ground, 7,5 MAP TCVs advance off the road into extended line and sweep through the enemy position. Troops fire throughout the assault. Clear bridges, obstacles or features with troops on foot. Any gates etc., should be cleared by assault pioneers if available.

All of these factors, when combined, created a situation in which less severe casualties were sustained through mines or ambush by the defence forces of Rhodesia.

Camouflage

During the war vehicles were usually camouflaged in a disruptive pattern of dark blue green, (for painting models I mixed Humbrol 76 uniform green, HB13 azure blue and HP3 German camo medium green in equal quantities. Add more HB13 to get a faded effect) and buff/sand (I mixed Humbrol 93 desert yellow, 24 matt yellow, and a touch of 76 uniform green) which usually faded in the sun and the dark green blue took on a more distinct light blue green tint. At the end of the war the camouflage colours were changed to dark earth and dark green on all new vehicles and all older vehicles as their old coats of paint needed refreshing. The Zimbabwe National Army, I would assume, still use many of these vehicles with the dark earth/dark green camouflage. G.M. Calvert of Zimbabwe in his article in *Military Modelling* mentioned dark earth/dark green camouflage in 1978 being Methuen 37 for earth and 25 F4 for green.

Vehicle markings

The various regular and TA battalions had brigade and arm of service signs on the majority of vehicles denoting the brigade area and unit concerned. 1 Brigade (Bulawayo) was a red shield with the profile of a black elephant's head in the centre facing to the left. The shield was bordered by a thin black line; 2 Brigade (Salisbury) was a green shield, with a white bordered edge with white rhino head profile facing to the left; 3 Brigade (Umtali) was a chocolate brown shield with buffalo head; 4 Brigade (Fort Victoria) was a medium blue shield with coloured tiger's head. The shield was bordered by a thin yellow line.

The arm of service flash in this case was a



Bedford MK (4x4) 4000kg GS truck, purchased or on loan from South Africa. I believe this was taken in 1978 and belonged to 2 RR.



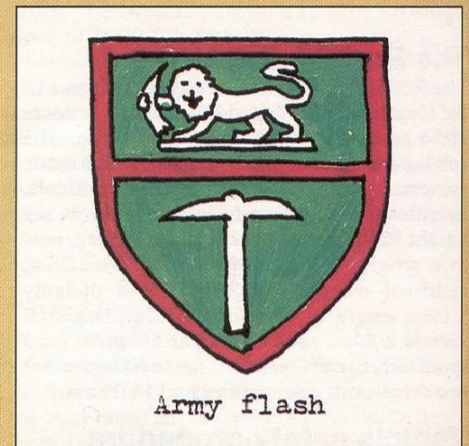
I Brigade



3 Brigade



Army Puma showing protected cab and cargo body. Behind the Puma is a Nissan GS truck and both these vehicles were photographed at the School of Infantry, Gwelo. Crew: 12 troops, one driver and mine/ambush sentry. There was a version of the Puma which was fitted with drop sides, but in practice these were rarely used. This vehicle had a different cab to the normal Puma.



Army flash

Rear view of the Crocodile towing a stores trailer. Note the water tanks behind the rear wheel and the rear doors with rifle ports.

Rodef 4,5 MAP TCV in 1978 showing the low sides as compared to the Crocodile. The driver and mine/ambush sentry's cab shows the cab hatch in the open position. All MAP vehicles had this type of light metal hatch to allow the release of cabin pressure build-up after a mine detonation. Note the arm of service flash which shows this is a services training school vehicle which was in Bulawayo.



2 Brigade



4 Brigade



Front view of Hippo. Note machine-gun mounting, and what I can only assume is a wire cutter or deflector.



A Coy



B Coy



C Coy



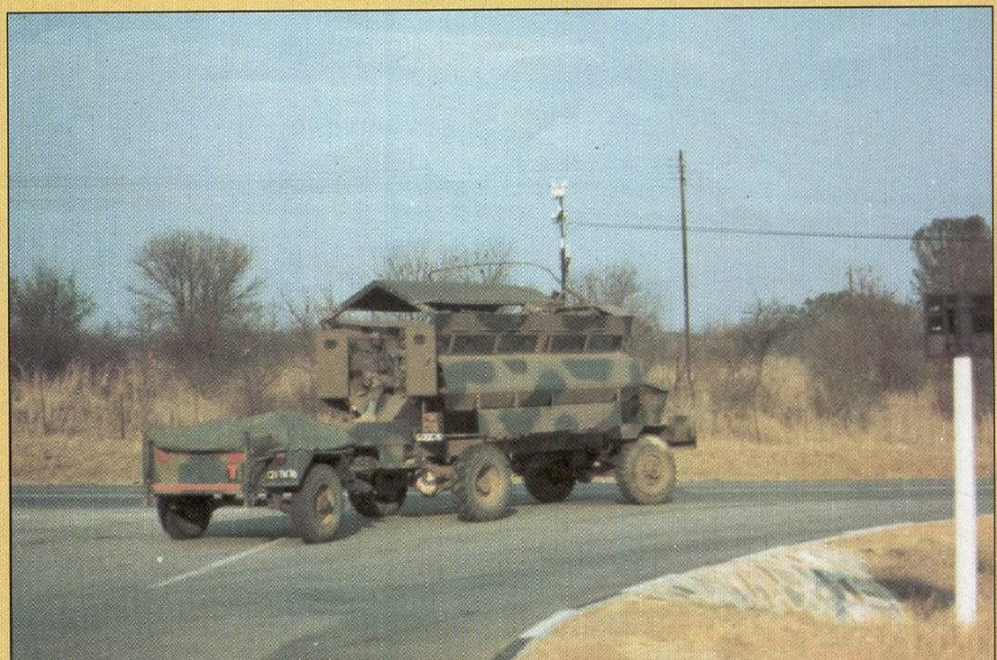
D Coy



Sp Coy



HQ Coy



Hippo of 6 RR deploying to the bush. Note camouflage, canvas cover, back step and side screens. Crew: 10 troops, one driver and

regular and TA battalions were given a unit serial number usually of two digits starting with 1 to denote 1 Brigade and the second digit depending on the unit or seniority of the battalion or unit in the brigade. I believe the 2nd Battalion Rhodesia Regiment would have been 13 on a red square, and 6 RR would have been 14 on a red square. 2 Brigade was a green square with white numbers; 3 Brigade was a brown square with white numbers. Thus the 1st Battalion Rhodesian African Rifles was 11 in black on a red square. The 2nd Battalion Rhodesian African Rifles was a 41 in yellow on a medium blue square. Essexvale Battle School was 10 in black on a red square with a white strip above, in which was written in black 'BATTLE SCHOOL'.

I have evidence that the artillery had 121 in white on a red over dark blue square. I believe this correct, but would be happy to hear from anyone who knows more. Supporting arms such as engineers, services and artillery, etc., would carry the colour of their units instead of an arm of service flash as described above. This method was also once used by the British Army.

In most cases army troop vehicles would not carry any brigade signs or arm of service flash. Some army troop vehicles did carry the army flash in place of the brigade flash which was a dark green shield with the lion and tusk in the top half and a pick in the bottom.

Regimental tactical markings

In the infantry battalions vehicles would in some cases carry tactical markings. In 1 RAR and 2 RAR this was the case, and they were placed either side of the cab on truck doors or below the driver's window of MAP TCVs.

I believe HQ company was a red H and all the other tac marks were painted in red. When on operations these markings would be covered with mud so as to conceal the identity of the unit concerned.

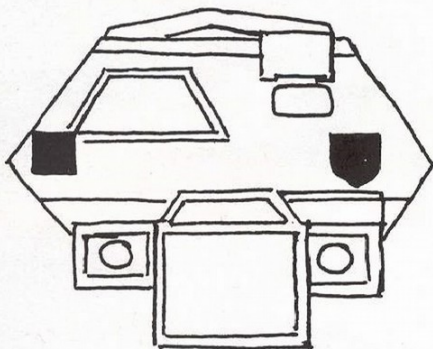
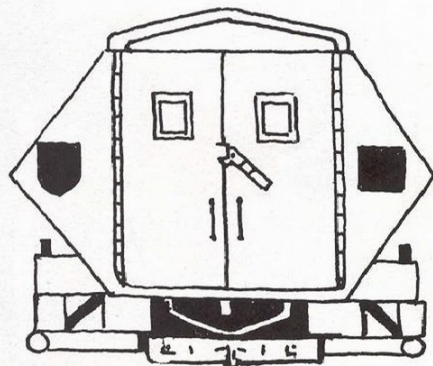


Diagram showing the layout of brigade and arm of service flashes on a 1 Brigade vehicle 1 RAR.



Rear view

Army organisation

To understand the brigade, army and arm of service organisation of markings, a plan of the organisation of the entire army would help.

Army Troops

- 1 RLI (Rhodesian Light Infantry)
- Selous Scouts
- Grey Scouts (3 Sqns)
- I.P.O.U.
- 1 & 2 RDR (Rhodesian Defence Regiment)
- 1 RIC (Rhodesian Intelligence Corps)
- 1 Rh ACR
- 1 Fd Regt & 1 med Bty
- 1 Engineer Regt
- 1 Sigs Regt
- 1 & 2 Medical Corps

Training Units

- Depot RAR – (Balla Balla)
- School of Inf – (Gwelo)
- SME – (School of Military Engineering, Bulawayo)
- S Sigs – (School of Signals – New Mansford, Bulawayo)
- STS – (Services Training School, Llewellyn Barracks, Bulawayo)
- Depot Rh AEC
- ITD (DRR)
- CTD
- Depot RhAC – (Salisbury, all training for tanks, etc.)
- Depot RA – (Training Bulawayo)
- SMI – School of Military Intelligence)

1 Brigade – (Bulawayo)

- 1 RAR
- 5 RAR* (proposed)
- 2 RR TA
- 6 RR TA
- 1 Eng Sqn
- 1 (Bde) Sigs Sqn (Brady Barracks – Bulawayo)
- 1 Maint Coy
- 1 Pro Pl (M.P.)
- 1 & 4 (Indep Coy RAR)

2 Brigade – Salisbury

- 4 RAR*
- 6 RAR*
- 1 RR TA
- 5 RR TA
- 2 Engr Sqn
- 2 (Bde) Sigs Sqn
- 2 Maint Coy
- 2 Fd Amb Coy
- 2 Pro Pl
- 1 RLI
- 2 (Indep Coy RAR)

3 Brigade – (Umtali)

- 3 RAR*
- 7 RAR*
- 4 RR TA
- 8 RR TA
- 3 Engr Sqn
- 3 (Bde) Sigs Sqn
- 3 Maint Coy
- 3 Fd Amb Coy
- 3 Pro Pl
- 3 & 5 & 6 (Independent) Coy RAR

4 Brigade – (Fort Victoria)

- 2 RAR
- 8 RAR*
- 9 RR TA
- 10 RR TA
- 4 Engr Sqn
- 4 (Bde) Sigs Sqn

- 4 Maint Coy
- 4 Pro Pl

Special Forces

- HQ Special Forces
- 1 SAS (3 Sqns)
- Selous Scouts

HQ Selous Scouts responsible for admin.
14,000 auxiliaries came under special forces SFAs.

Vehicle allocation

Vehicle allocation to different units in the Rhodesian Army would have depended on the availability of certain types. Regular units had the newer vehicles and not a variety of older vehicles as would the TA units. A list of equipment and vehicles for a regular company would have been, 1 bicycle, 7 x 1 ton trailers, 1 fuel trailer (Diesel – 2000 litres), 1 x water trailer, 2 x 4,5 Rodef GS (with two large 4 wheel GS trailers), 1 x 2,5 LAD (Light Aid Detachment), 8 x MAP TCV 7,5 (2 per platoon and 2 for Company HQ).

In conclusion it should also be noted that many other types of vehicles had armoured cab adaptations fitted. Wreckers, ambulances, horse carrying vehicles, artillery tractors, lowloaders, articulated lorries and a multitude of other specialised vehicles had these safety factors added.

There were probably many types of other MAP vehicles created by individual units which were never put into full scale production, but served a purpose. Some of these vehicles can be seen in the books written by Peter Stiff and Barbara Cole.

I have tried to show all the main types of mine protected and mine and ambush protected vehicles which were used to carry large numbers of troops of the regular army and TA units. It has been difficult to give any dates or more details on markings and thus I look forward to any responses from individuals who can remember the arm of service markings or other details of other units in the 2, 3 and 4 Brigade areas. For those wargamers and military modellers interested in the Rhodesian period I hope this article has given them a wide variety of information on a war which has been forgotten.

Bibliography

- Stiff, P. (1986) *Taming the Landmine*, Alberton, RSA Galago Publishing (Pty) Ltd.
- Lt. Col. K.J. Busby, ZRAEC, *The Army's Fighting Vehicles No. 10, 15th February, 1980*, Assegai, volume 19.
- Stiff, P. (1984), *Selous Scouts*, Alberton RSA, Galago Publishing (Pty) Ltd.
- Lovett, J. (1977) *Contact*, Salisbury Rhodesia (Harare, Zimbabwe), Galaxie Press (Pty) Ltd.
- Moorcraft, P.L. (1981) *Contact II*, Johannesburg, Sygma Books (Pty) Ltd.
- Stiff, P. (1982) *Selous Scouts Top Secret War*, Alberton RSA, Galago Publishing (Pty) Ltd.
- Barbara Cole, (1984), *The Elite. The story of the Rhodesian SAS*, Amanzimtoti, Three Knights Publishing.
- Perrett, B. (1984), *Mechanised Infantry*, London, Osprey Publishing Ltd.
- Moorcraft, P.L. and McLoughlin, P. (1982) *CHIMURENGA, The War in Rhodesia 1965-1980*. Marshalltown RSA, Sygma Books (Pty) Ltd.
- Abbott, P. and Botham, P. (1986), *Modern African Wars (I): Rhodesia 1965-80*, London, Osprey Publishing Ltd.