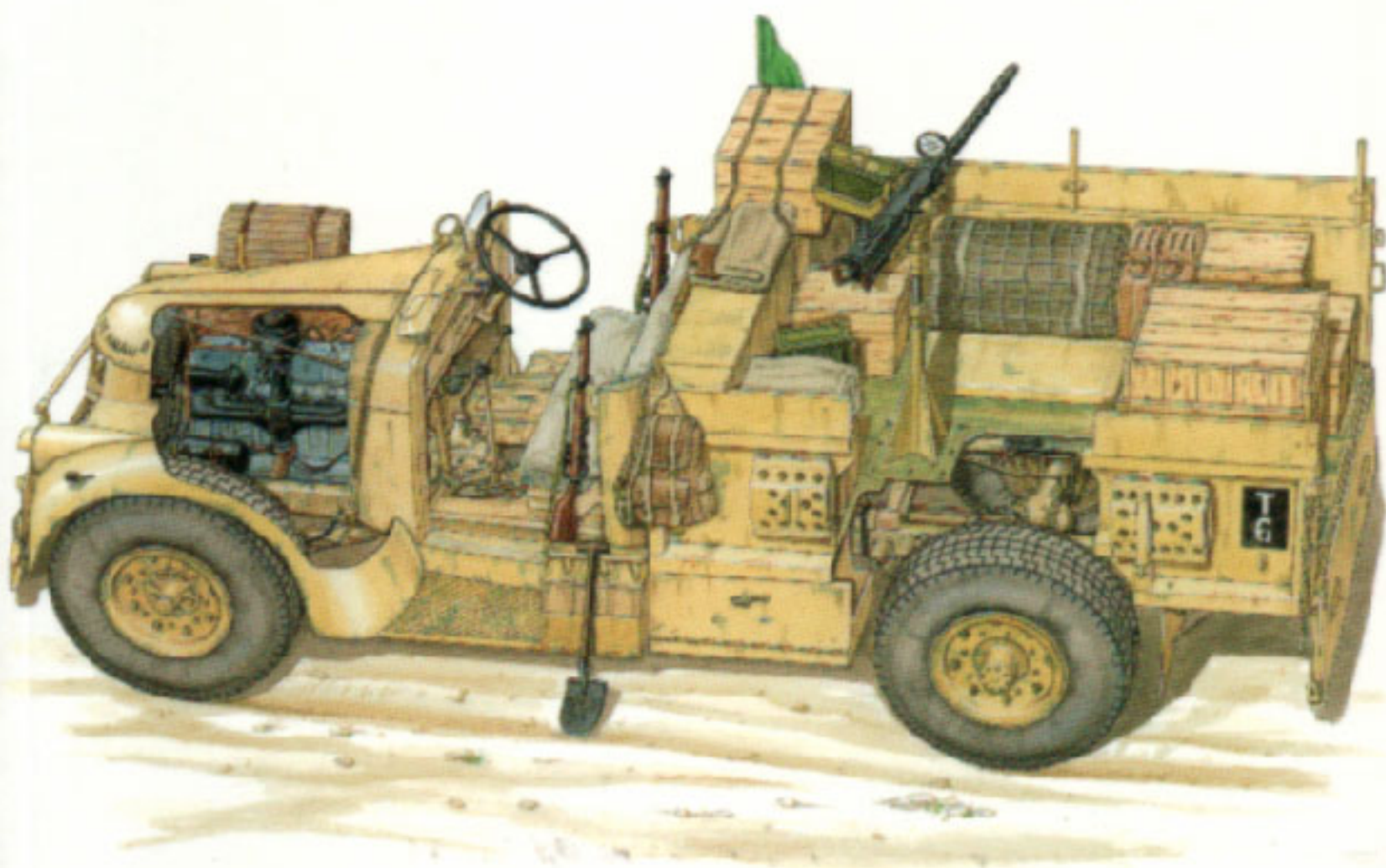


THE LONG RANGE DESERT GROUP

1940–1945



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SERIES EDITOR: LEE JOHNSON

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THE LONG RANGE DESERT GROUP 1940-1945



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Editor's note

The Editor would like to express his thanks to Jim Patch and Maj Gen. D. L. Lloyd Owen CB, DSO, OBE, MC, respectively Secretary and Chairman of the LRDG association, and Adrian Brown. Their assistance in the revision of this title was invaluable. This book is a revised edition of Vanguard 36 The Long Range Desert Group, first published in 1983. The text has been revised and a detailed cutaway of a Chevrolet 1533X2 has been added.

TITLE PAGE When all stores were stowed well forward the Breda had a good arc of fire, and provided a useful 'scorpion-bite' for the rear of a patrol - as a SdKfz 222 found to its cost when it attempted to 'jump' a patrol in close Tunisian terrain in January 1943. Every inch of space in this 1533X2 is used; the normal crew was three men, though in this case the Breda loader makes a fourth. 'Bale-out' haversacks are well in evidence.

THE LONG RANGE DESERT GROUP 1940-1945

INTRODUCTION

'Non vi sed arte': 'Not by strength, by guile'

(LRDG motto; Dr. Frank Edmondson, first LRP Medical Officer)

'In my view the LRDG was the finest of all units serving in the desert.'

(Col. David Stirling, DSO, OBE; founder, Special Air Service)



On 1 August 1945 one of the finest intelligence-gathering units ever formed by the British Army was disbanded by the War Office. Authorised on 23 June 1940, the Long Range Desert Group had been the brilliant product of the vision of Maj. Ralph Bagnold of the Royal Corps of Signals, and the astuteness of a columnist writing for the *Egyptian Gazette*. As a model for what is now commonly known as a Long Range Reconnaissance Patrol unit, the Group can have few equals; yet it would take several minor wars and the ever-present threat of a wider conflict to make the 'powers that be' realise the true value of such a unit, and start the long haul to rediscover the techniques of behind-the-lines reconnaissance and surveillance so hard won by the LRDG on operations from the Western Desert to the Aegean, Italy and Yugoslavia.

Ironically for the men of the LRDG, most countries now have LRRP teams, which are regarded as indispensable to the intelligence collection effort, in situations ranging from counter-insurgency in Vietnam and Africa to the retaking of the Falkland Islands. Yet in 1945 there was no foreseeable future for a specially trained LRRP group, or for that matter for the rear-area disruption operations of the Special Air Service. Perhaps if the LRDG had retained their original title of 'The Long Range Patrols' the War Office might have considered them with a kindlier eye; but to find a unit with 'desert' in its title happily parachuting into Yugoslavia, or directing shipping strikes in the Mediterranean, was a little too much for the tidy-minded bureaucrats.

The entire LRDG history is a fascinating one, best left to larger works than this, and to the pens of the men who shaped it. Here we are concerned with the Group's operations deep in the heart of what is now 'the Socialist People's Libyan Arab Jamahiriya', or Libya for short, while the main Allied and Axis forces racketed up and down the coast, rarely venturing further than 70 kilometres from the coastline.

Tactical reconnaissance into the uncharted desert was not a new idea; strategic reconnaissance, with a flexible communications system and an offensive capability, was. During the fighting against the Senussi in 1916-17 the British Army in the Middle East had the tiny Light Car Patrols of six Model T Fords; however, their endeavours were largely forgotten with the end of the First World War. It was only the enthusiasm of

The first two commanding officers of the LRDG: Ralph Bagnold (above) on one of his desert journeys in 1932, and Guy Prndergast (below) at Alexandria in 1943. Both men rose to the rank of Brigadier. (All photographs are courtesy LRDG Assoc. unless otherwise indicated)



Bagnold, of two other officers from the recently proven and still heretical Royal Tank Corps, and of two like-minded civil servants, with the assistance of the Royal Geographical Society, which kept the torch of British desert exploration alive, so that by the time world war broke out for the second time, most of the special difficulties associated with mechanised movement over the shifting sand seas had been solved – many of them by Bagnold himself.

Concurrent with Bagnold's interwar journeys were those of several Italians and of Laszlo Almásy, a Hungarian. These men would later serve with the Italo-German forces in individual capacities, but not as the nucleus of an 'Axis LRDC', due to the myopia of the Commando Supremo, and the German authorities' suspicion and dislike of 'unconventional' warfare. When the Germans formed 'Sonderkommando' they did so under the direction of the Luftwaffe and the Abwehr for certain specific tasks, the resources being re-allocated when these were complete. Any experience or special expertise gained was thus discarded, and the growth of a possible German equivalent to the LRDC concept prematurely stunted.

THE CONCEPT: EARLY DAYS

The Suez Canal has been a key point ever since it was built. In the First World War, as also in the Second, it was a vital artery of the British Empire and Commonwealth, which the Central Powers made determined efforts to control or sever with conventional forces advancing westwards across Sinai. In 1915 they tried the additional tactic of stirring up the Western Desert Senussi (already hostile towards the Italians, and by extension to their then Allies, the British), thereby creating a war on two fronts. Superior logistics, organisation and tactics by New Zealand, South African and British troops eventually dealt with this threat. In the process, the versatility and power of mechanised transport in war was demonstrated for the first time.

The Senussi retreated to Siwa in October 1916, believing themselves safe from any further attack. In February 1917 General Hodgson's mechanised column, with armoured cars, crossed several hundred kilometres of desert in a few hours, and broke the power of the Senussi for the rest of the war. Advance reconnaissance and convoy escort work by the Light Car Patrols preceded this operation. Formed from elements of the Machine Gun Corps (Motor), Army Service Corps (Motor Transport), Australian and New Zealand personnel, mounted in Ford Model Ts with crews of three and rations for three days, they proved that their vehicles could go practically anywhere a camel could and, more importantly, return with valuable information. Fifteen LCPs were formed; all were disbanded or amalgamated with other units at the end of hostilities. Their records and observations were neatly filed for future reference, and the British Army hierarchy dismissed such wartime 'novelties' from its ken: for surely nothing like it would ever be needed again?



Two of Clayton's trucks during his first venture into Libya, August 1940. Clayton, a civil servant, was summoned from Tanganyika in July, and departed on patrol with the rank of Captain (General List), leading six New Zealanders. The streamlined rear wings of the Chevrolet WBs identify ex-civilian trucks obtained from General Motors in Cairo; the vehicles drawn from the Egyptian Army had flat-section wings. The weapons are .303in. Lewis MGs on 'swan-neck' mountings.

Service in the First World War and later on the North-West Frontier, and extensive post-war desert travel, were harnessed by an intuitive mind and fruitful imagination when Maj. Bagnold wrote and presented a paper on the possible uses of a long range reconnaissance force operating deep into Libya. In November 1939 and again in January 1940 this far-reaching concept was summarily rejected by GHQ 'Middle East', whose hidebound mentality was to bedevil British operations from the start of the war.

Providence smiled on Bagnold in October 1939 by delaying his ship to Kenya, thus passing him under the nose of a good journalist and leading eventually to an interview with Gen. Sir Archibald Wavell, who was beginning to plan for war in the Middle East theatre. The next ten months were wasted for the simple reason that very few officers at GHQ believed it was possible to operate as Bagnold suggested, and no one wanted to initiate cross-border operations into a potentially hostile country before a declaration of war with Italy, for fear of disastrous political and military consequences for the vital Middle East base, then unprepared for war. That Bagnold's proposed unit could get in and out of hostile areas unobtrusively and with the minimum of interference was not appreciated at all until Wavell assumed command.

Once given the chance, Bagnold more than proved his theories. Even though he was not present to see it all, between 26 December 1940 and 10 April 1943 a total of only 15 days passed without a patrol of the LRDG operating behind or on the flanks of the enemy. This remarkable achievement was a tribute to Bagnold's planning and preparation, and to Wavell's greatness in authorising a totally new kind of venture at a

The Ford F30 W/T truck's No 11 HP set fitted in a wooden compartment in the front right-hand corner of the metal body, behind the driver's access involved cropping the whole side of the body - not an ideal arrangement. Note water condenser on running board.



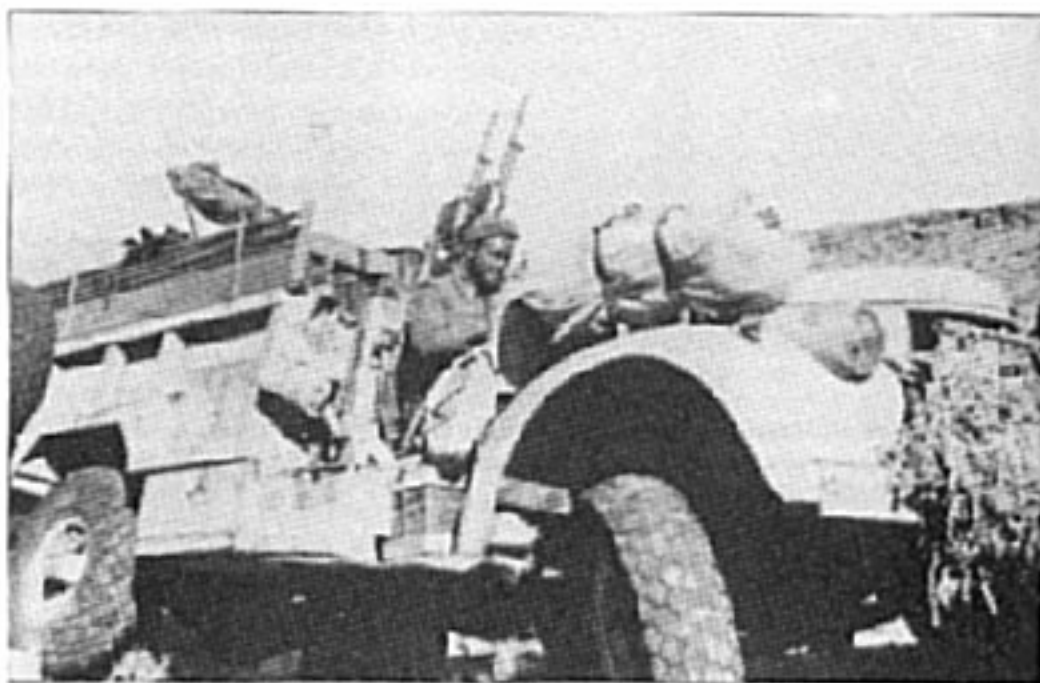
time when he himself had few enough resources to meet imminent enemy attack. With Italy's declaration of war on 10 June 1940, Wavell's most urgent need was for intelligence on the enemy's intentions, probable routes of advance, and forces available. Air reconnaissance was insufficient for this; the codebreaking efforts of Bletchley Park had yet to bear great fruit; and normal ground reconnaissance could only 'keep tabs' on units in the forward area. The new Long Range Patrols would

complete the picture with a sortie into the Great Sand Sea and deep into the Italian rear area to ensure that any nasty surprises being prepared there by way of 'An Dallah would be neutralised.

This reconnaissance was successfully completed by Pat Clayton, one of Bagnold's pre-war desert companions, in 13 days, with the assistance of the Egyptian Frontiers Administration from Siwa. Officially they did not cross the frontier into Italian territory, and were unaware of the patrols' intentions. In reality they were old friends of Clayton, and followed him 'about 25 kilometres' into enemy territory! This sortie, combined with other intelligence sources, confirmed the Italian lack of aggression, and enabled Wavell to advise London that the route of the reinforcement convoy carrying 2 and 7 RTR to the Middle East could be altered to a longer, safer one, leading in the long run to the success of Operation 'Compass' in December 1940. This was an excellent start to build on, and was followed by further reconnaissance and harassing tasks on the Italian lines of communication.

On 17 October 1940 Maj. Orde Wingate arrived in the Middle East with a grandiose scheme for a force approaching a division in size to disrupt the enemy rear area by operations from bases in the Tibesti area, relying on aerial resupply to keep it mobile and independent of conventional logistics. Eventually, Wingate envisioned this force engaging major enemy units and defeating them. This scheme was sufficiently attractive, and hypnotically presented by Wingate, for it to be considered seriously in the UK, and given a hearing at GHQ Middle East, with the proviso 'that their desert man', Bagnold, take a look at it.

Bagnold quickly realised that the 'Wingate scheme' was good in theory, but with little real appreciation of terrain, vehicle payloads, fuel consumption, and the air and ground transport available to a starved Middle East command. He accordingly put up a memo for a 'modified Wingate' based in part on Stage III of his original concept. (Stage I was reconnaissance and harassment; Stage II, expansion of operations to include co-operation with the Free French to gain their recognition as a viable ally, and to show the Arab peoples that the Italians were not the masters in their own annexed territory.) Stage III called for



Chevrolet 1533X2 50cwt W/T truck driven by Tinkler of Y Patrol over typical rough ground in the Harug el Aswad on the way to raid the Hon airstrips late in 1942. The lift-up flap in the body side behind the driver indicates the No. 11 set compartment; a Phillips Type 635 receiver was also carried, to pick up the GMT signal essential for accurate navigation. Two 17-foot support masts for the Wyndom end-fed aerial can be seen strapped in sections at the top of the body side. The radio battery is clamped on the running board ahead of two 2-gal. oil cans. An 'escape' haversack hangs by the driver's side from the whip aerial base. Twin Vickers KO .303in. MGs, and a Vickers medium MG covered on the central pintle and held secure by a strap to the muzzle, would be supplemented by personal weapons and grenades. Camouflaged net is secured to the radiator brush-guard, and a bedroll wrapped in a 'Tropical' coat to the front wing.

the expansion of the LRP into a desert mechanised force with its own integral artillery, light armour and infantry based on portees and 10-ton trucks, an air component for close air support and reconnaissance, all operating as separate entities which only combined for an operation and then dispersed.

The scheme was cogently argued, with verifiable data and conclusions. Many of its arguments were accepted by GHQ, but the cost, in terms of exclusive air support and manpower, was more than they were prepared to pay. The result was that Wingate departed to 'Gideon Force' in Eritrea, and later to raise the Long Range Penetration Brigades, or Chindits, in the Far East on much the same lines as his rejected scheme; and Bagnold implemented a 'modified Bagnold scheme' with the acquisition of 10-ton trucks for desert trials and the formation, in August 1941, of a tiny artillery and tank contingent in the LRDC. Bagnold himself was also 'kicked upstairs' in August 1941 and given the imposing title of 'Inspector of Desert Troops' to plan the raising of further desert LRRP units, with the Group command passing to his second-in-command, Guy Prendergast, RTR. Only the Indian Long Range Squadron resulted from this move before enthusiasm for special units again waned and Bagnold was moved back to his old Signals profession, effectively losing him any further control of deep desert operations.

Bagnold's Stage III concept, though sounder than Wingate's, represented a diversion of effort from what was seen as the major task of engaging and defeating the enemy's main forces in battle. The idea might well have worked on the scale proposed, even though the Group Artillery Section discovered that the portee'd 25-pdr and the tank were too unwieldy for their sort of desert operations.

Whatever the outcome of a 'full Stage III' might have been, the principles of the 'modified Bagnold scheme' with further additions from Prendergast and the Group Intelligence Officer, Bill Kennedy Shaw, served the Group well in the desert campaigns, proving Liddell Hart's truism: 'Surprise is the supreme virtue of warfare, originality

of mind the quality that breeds it.' 'Originality of mind' there certainly was throughout the LRDC, and it is stamped indelibly into all their operations. Coupled with thorough and efficient prior planning and preparation it ensured success and minimum casualties in achieving their objectives. Of the 200 or so operations for which there are records, only a handful failed, and then usually due to mechanical failure, agent recalcitrance, or events outside LRDC control.

T1, T Patrol's Ford 01 V8 pick-up, photographed after hitting a razorback dune at 40mph and 'flying', with spectacular results. Nobody was hurt, but the car had to be abandoned after its stores and equipment had been salvaged. It seems to be painted in the sharp-edged camouflage scheme shown in Plate A2.



PERSONNEL

From practical experience the Group's successive COs – Bagnold, Prendergast, Easonsmith and Lloyd Owen – knew the special qualities needed for patrol work: self-reliance, integrity, adaptability, initiative, and the good humour to mix well with a small group for long, isolated periods of tension or boredom. All this – plus driving and simple mechanical repairs, handling a variety of weapons, operating a radio or navigating. Common enough nowadays, but in short supply in the British Army of 1940, when comparatively few men were trained in these skills, and those were already fully employed, primarily in armour, artillery and signals units.

A far larger proportion of suitable men were available among the Australian and New Zealand formations, whose levels of vehicle ownership in civilian life were high, and simple maintenance commonplace to isolated farmers. Gen. Blamey of the Australians was approached first, in June 1940, but felt unable to co-operate with the project, as he was under instructions from his own government to ensure that his men fought together as the AIF and not dispersed into odd British units. Similar instructions were current in the NZEF; but Brig. Puttick, acting GOC of the NZ Division, saw not only the possibilities of the new unit, but also the potential training value to the underemployed and newly equipping NZ force. So it was agreed in June 1940, much to the COs' displeasure, to release men on long loan from the Divisional Cavalry Regiment and other units with suitable volunteers, provided they were returned at once when needed by the NZEF. This decision was also endorsed by 'Tiny' Freyberg on his arrival in the Middle East, forming a cornerstone for the Commonwealth character of the LRDC which it never lost (indeed, Freyberg's own son joined the Group and was wounded in action with them).

In 1941 Southern Rhodesians serving with British (and later, South African) regiments were recruited into S Patrol. Indians from the cavalry regiments in the Indian motor brigades were used in the Indian Long Range Squadron patrols with British officers and senior NCOs.

The main British units providing men were the Brigade of Guards (on a tour basis; officers and men other than specialists being replaced regularly) in C Patrol; and the Yeomanry regiments of the Cavalry Division, re-forming into the 10th Armoured Division – although here the first call produced a large number of men whom their COs were anxious to dump before re-rolling to armour, causing a two month delay in Y Patrol's formation while the real volunteers were sorted out.

Plans for patrols drawn from Highland, Green-jacket and Home County regimental groupings were frustrated due to manpower shortages, and unit reluctance to part with so many keen volunteers. It was not unusual for a man to drop rank to get into the LRDC, and there was always a long waiting list, as the casualty rate was minimal

Bill Kennedy Shaw, Group Intelligence Officer, in typical Hebron coat and cap comforter, stands with the redoubtable 'Shorty' Barrett, Group quartermaster, who wears a greatcoat and balaclava, in the early morning chill of Jelo, January 1942. In the background is a fully stored Chevrolet 1311X; Indian Pattern 15cwt of Group HQ the distinctive aero screens are erected, and note blown-out spare tyre in the carrier.





'Shooting a dune' during training with a captured Italian Fiat SpA AS37, apparently in its original scheme of grey stripes. Twelve of these trucks, booty from Operation 'Compass', were used upon formation by first B, and later Y Patrol. Although originally issued to enemy Auto-Saharan companies, they proved mechanically unsound when the LRDG put them through their paces with three weeks' stores on board. Training crews seem to have adopted overalls and MT goggles throughout – perhaps because they were continually having to 'get out and get under'!

and rejects few. Individuals did get into the Group in spite of this, often as promotion from the ranks within the Group created vacancies; and most units of the British Army were represented, with a large number from the RIR, who often had more crews than tanks as the result of German armoured superiority.

Once in, a man proved himself on patrol or was returned to unit. Selection was by interview with an experienced patrol commander and an equally veteran NCO. Very few men were later 'RTU' having survived this combination, and the Group as a whole was a very happy and efficient organisation, despite its high turnover of men as they proved themselves and were promoted. Something like 15 per cent of the enlisted ranks became officers and returned to the Group on

commissioning, thus serving in all capacities within the same unit and forming a steady increase in knowledge and experience that was reflected in the regular achievement of difficult patrol tasks.

ORGANISATION AND EQUIPMENT

The original organisation of the LRP called for a headquarters and three patrols, each of two officers, 28 other ranks and four reinforcements, all carried in 11 vehicles. Each patrol was further subdivided into four troops, in keeping with the cavalry training of the majority of the New Zealand personnel. Experience soon showed that a patrol could operate more effectively when split in half, with the smallest sub-unit being two trucks. This experience was formalised in autumn 1941, when the patrol was officially reconstituted as one officer and 15 to 20 other ranks in five or six vehicles. Patrol composition and vehicle types are shown in the accompanying summary.

Four of the specialist sections – Signal, Light Repair, Royal Artillery and Heavy (originally Marmon Herrington Party) – were upgraded or disbanded as shown in the tables. The Air and Survey Sections remained constant throughout the desert campaign, with two Waco biplanes (types ZGC7 and YKC) for the former, and three Ford F30s – later replaced with Chevrolet 1533X2s in line with the rest of the Group during the March 1942 refits – for the latter, with a strength of one officer and four other ranks.

The Provisional War Establishment in July 1940 allowed for 11 officers and 76 other ranks with 43 vehicles. In November 1940 it was decided to double the strength of the unit, and the revised establishment allowed for 21 officers and 271 other ranks, consisting of an HQ and two squadrons each of three fighting patrols equipped with a total of 90 vehicles. This doubling commenced on 5 December 1940 with the arrival of the Guards (G) Patrol, followed by the Rhodesian (S) Patrol in January 1941 and the Yeomanry (Y) Patrol in March 1941. The sixth patrol was never formed, the authorisation being used to form the Royal Artillery Section.



By March 1942 the Group had grown to its full strength of 25 officers and 324 other ranks, of which 36 were Signals and 36 were Light Repair personnel, together with 110 vehicles. When formed, the Indian Long Range Squadron (ILRS) consisted of seven British officers, nine British other ranks, three Indian officers and 82 Indian other ranks, formed into an HQ and two patrols each of two half-patrols, with 35 vehicles basically identical to those of the LRDC, although the armament differed.

The Patrol was the basic unit of the Group, and members of the patrol moved between the two halves as required and used the vehicles similarly. On special operations extra vehicles, such as a second radio truck, might be required, and this would be drawn from Group HQ Signals. While normally operating statically in a forward base, the Group and the detached squadron HQs were, nevertheless fully mobile, each section – Signals, Light Repair, Stores and Offices, etc. – having its own complement of vehicles.

On formation the LRP had to make do to obtain its own vehicles, there being none suitable in the British Army inventory. Bagnold was quite clear in his mind as to what he required, which was a light 30cwt, 4x2 commercial truck. The best available was the Chevrolet WB 133in. wheelbase 30cwt 4x2, of which 14 were purchased from the Egyptian branch of General Motors. Another 19 of a slightly different type were extracted from the Egyptian Army, enough for ten for each patrol and three for the HQ. Four Chevrolet 15cwt were acquired, but after trials were found to be unsuitable; so seven Ford V8 01s were issued as scout cars – three for the patrol commanders and the remainder for HQ. Four 6-ton Ford/Marmon Herrington 6x6 heavy trucks came from The Southern Mediterranean Oil Company to provide the load-carrying capacity. It was thus equipped that the Group set forth upon its adventures.

Following the six-week expedition to the Fezzan and Chad in January and February of 1941, after 7,200 kilometres of some of the worst going in the world, the trucks were in need of urgent replacement. Again

Essential to Group planning was the logistic capacity of the Heavy Section seen here at Siwa in March 1942. Its original lift of about 40 tonnes grew to well over 100 tonnes by the end of the campaign. At the extreme left are two Lancia 3RD 6-tonners captured at Jalo in January 1942. Foreground and back-ground are two White 10-tonners, of four named *HECTOR*, *HERMES*, *HEPPO* and *HERCULES* and tactically numbered HS/2 to HS/5, which were the mainstay of the Group's heavy lift capacity. Immediately behind and beyond the nearest White are two Chevrolet 1311X3 1P 15cwt, and at the extreme right probably the last of the original Ford 01 V8 pilot cars. The Section was entirely self-contained, with its own 30cwt radio truck, operators, fitters, medical orderlies and navigators, and was consistently up-rated. The four original 6-ton Ford Marmon Herringtons were replaced by 10-ton Whites, then Mack NR 9s, then ten, and later 20 Ford F60 CMP trucks – at which stage the Section was split into the Rear Element with NR 9s and the Forward Element with F60s.

there was nothing suitable to be had, so in March 1941 70 Ford F30 4x4 30cwt were pressed on the Group. These were much heavier than the WBs due to the weight of the driven front axle, transmission and transfer gear box, and used twice as much fuel, thus drastically cutting the patrols' effective range. The radiator grills and bonnets of these Fords were removed to assist cooling, which became a distinctive feature of the type. Prior to the Fords being issued, and while S and Y Patrols were fitting out, they were issued in turn with 12 Italian Fiat Spa AS37 light trucks to enable them to train. Designed for desert work, they proved to be mechanically unreliable but served a useful training role. By the end of the year the Ford V8s had also worn out, and in October 1941 eight Ford 8cwt W/T & PU trucks were issued. Nothing else is known about these vehicles, but they are believed to have been Ford F8 4x2 CMP types with the Number 12 cab.

In December 1941 25 Chevrolet 1311X3 Australian-assembled Canadian Pattern 15cwt 4x2s fitted with the Indian Pattern body were obtained from India in lieu of a similar number of CMP 4x4 15cwt earmarked for the Group but not wanted by them.

In March 1942 the long-awaited consignment of 200 specially ordered Canadian Chevrolet 1533X2 4x2 30cwt with an open cab, full-width screen and the Goffredson 4BI steel ammunition body arrived. The windcreens had to be replaced with aero screens; radiator condensers, gun mounts, various brackets for sun and aero compasses, sand mats and channels had to be fitted; the body sides were raised with wooden planks, and in the case of the W/T trucks, special compartments were built.

Hreda 20mm guns also replaced the Bofors. This vehicle remained the mainstay of the Group until the end of the campaign.

In the spring of 1942 a Willys MB 5cwt jeep was abandoned by the SAS; this was recovered by G Patrol and later repaired. In July a further six were issued as pilot cars, followed later by yet more. The severe loss of vehicles during the September 1942 raids resulted in G and T Patrols being re-issued with the previously discarded Ford F30s. The patrols were now re-organised on a basis of two Willys MB jeeps and four 30cwt trucks, a mixture of Ford F30s and Chevrolet 1533X2s. This configuration remained until the Group re-formed in Alexandria in April 1943 for an entirely different role.

The Heavy Section quickly lost the Marmen Herringtons; these were replaced by four 10-ton 6x4 Whites from 286 L-of-C Company, RASC. In the spring of 1942 these were in turn replaced by four Mack NR9s with soft-top cabs. From March 1941 the Group HQ was issued with Fiat Spa W/T, Workshop and Office trucks. These vehicles have not been identified.

The patrols were originally issued with ten Lewis Mk. I MGs, four Boys Anti-Tank rifles and one 37mm Bofors to give them a good weapons 'mix' suitable for both ground action and anti-aircraft work. Bren guns would have been desirable, but there were none available for issue to an as-yet unproven unit, and the infantry battalions were themselves short of this standard

Close-up of one of the Whites early in 1941. On the original print the tailgate marking of the truck at far right can be seen to be 'HS' over '3' in black on a white patch, identifying HERMES; no WD numbers are visible, and the only known example for a White is 126605, lost to enemy action in March 1942. The archaic-looking Indian Pattern topees were soon discarded for more sensible headgear by most personnel.



SUMMARY OF ORGANISATION

1) Long Range Patrols, August 1940

HQ
Marmon Herrington Party
R Patrol (*Supply*)
T Patrol (*Fighting*)
W Patrol (*Fighting*)

Through personnel shortage, one patrol normally remained at base and made up the number of the other two.

2) Long Range Desert Group, 5 December 1940

HQ
Heavy Section
R Patrol (*Fighting*)
T Patrol (*Fighting*)
G Patrol (*Fighting*)

Title change and doubling of strength took place 5 Dec., when G Ptl. joined. W Ptl. was disbanded, its equipment went to G Ptl., its personnel brought R and T Ptl. up to strength.

3) Patrol Organisation, December 1940

Right Half-Patrol:
A (HG) Troop (Green):
(1) Ford 15cwt. pilot car, OC.
(2) Chevrolet 30cwt, W/T & navigation.
B Troop (Black):
(3) Chev. 30cwt patrol sergeant.
(4) Chev. 30cwt, W/Op & fitter.
(5) Chev. 30cwt, medical orderly & fitter.

Left Half-Patrol:
C Troop (Yellow):
(6) Chev. 30cwt, corporal, Troop leader.
(7) Chev. 30cwt, Bofors 37mm A/T.
(8) Chev. 30cwt.

D Troop (Red):
(9) Chev. 30cwt.
(10) Chev. 30cwt.
(11) Chev. 30cwt, 2 i/c Patrol.

4) Long Range Desert Group, January– March 1941

HQ
Heavy Section
A Squadron: G Ptl. (5.12.40), Y Ptl. (9.3.41)
RA Section (21.3.41)
B Squadron: R Ptl., T Ptl., S Ptl. (31.1.41)

(Now in two squadrons, the Group has a Royal Artillery Section in place of the authorised sixth patrol. On formation S Ptl. was equipped, for training only, with Italian Spa. AS37 30cwt. trucks; these were handed on to Y Ptl. upon its formation. In early March the Group's Chevrolet WBs were replaced by Ford F30 4x4 30cwt.)

5) Patrol Organisation, March 1941

Right Half-Patrol:
A (HG) Troop (Green):
(1) Ford 15cwt. pilot car, OC.
(2) Ford 30cwt, W/T & navigation.

B Troop (Black):
(3) Ford 30cwt, patrol sergt.
(4) Ford 30cwt, W/Op & fitter.
(5) Ford 30cwt, med.ord. & fitter.

Left Half-Patrol:
C Troop (Yellow):
(6) Ford 30cwt, corporal, Troop leader.
(7) Ford 30cwt, Bofors 37mm A/T.
(8) Ford 30cwt.

D Troop (Red):
(9) Ford 30cwt.
(10) Ford 30cwt.
(11) Ford 30cwt, 2 i/c Patrol.

(In April Y Ptl. lost both officers, and G Ptl. over half its vehicles. Remaining officers and trucks were spread between both patrols, which retained their identity: on 9.6.41 A Sqn. was re-organised into three half-patrols named Y, G and a temporary H Ptl., formed from the remainder of Y and G Ptl. On 25.6.41 Sqn., HQ, Y and G Ptl. were withdrawn to Cairo for refit becoming B (Detached) Sqn. The new A Sqn. – R, T and S Ptl. – was administered by Group HQ.)

6) Long Range Desert Group, September 1941

HQ
Signal, Light Repair, RA, Air. Survey,
and Heavy Sections
A Sqn.: R Ptl., T Ptl., S Ptl.
B Sqn.: G Ptl., Y Ptl.; 9.6.41–25.8.41, H Ptl.

**7) Long Range Desert Group,
Autumn 1941**

HQ

Signal, Air, Survey and Heavy Sections

Light Repair Squadron

A Sqn.: R Ptl. (R1, R2), T Ptl. (T1, T2),

S Ptl. (S1, S2)

B Sqn.: G Ptl. (G1, G2), Y Ptl. (Y1, Y2)

(Light Repair Section has become a squadron; RA Section is disbanded, most personnel being absorbed. Patrols are doubled in number by halving in size, the 2 i/c commanding the second half-patrol.)

8) Patrol Organisation, Autumn 1941

1st Half-Patrol:

- (1) Chev. 30cwt, pilot car, OC.
- (2) Ford 30cwt, W/T & navigation.
- (3) Ford 30cwt, patrol sergt.
- (4) Ford 30cwt, med.ord.
- (5) Ford 30cwt, fitter.

2nd Half-Patrol:

- (6) Ford 30cwt, OC.
- (7) Ford 30cwt, W/T & navigation.
- (8) Ford 30cwt, patrol sergt.
- (9) Ford 30cwt, med.ord.
- (10) Ford 30cwt, fitter.
- (11) Ford 30cwt, Bofors 37mm A/T
(attached to whichever half-patrol
needed it for a given operation)

9) Patrol Organisation, March 1942

1st Half-Patrol:

- (1) Chev. 30cwt, OC.
- (2) Chev. 30cwt, W/T & navigation.
- (3) Chev. 30cwt, patrol sergt.
- (4) Chev. 30cwt, med.ord.
- (5) Chev. 30cwt, fitter.
- (6) Chev. 30cwt, Breda 20mm A/T-A/A.

2nd Half-Patrol:

- (7) Chev. 30cwt, OC.
- (8) Chev. 30cwt, W/T & navigation.
- (9) Chev. 30cwt, patrol sergt.
- (10) Chev. 30cwt, med.ord. & fitter.
- (11) Chev. 30cwt, 20mm Breda.

(Ford 30cwt replaced by Chevrolet 1533X2s in March 1942.)

**10) Long Range Desert Group,
Summer 1942**

HQ

Signal Troop

Light Repair Sqn.

Air and Survey Sections; Heavy Section

(Rear Element, Forward Element)

A Sqn.: R Ptl. (R1, R2), T Ptl. (T1, T2),

S Ptl. (S1, S2)

B Sqn.: G Ptl. (G1, G2), Y Ptl. (Y1, Y2)

(Heavy Section now has Forward element of ten, later 20, CMP Chevrolet 3-ton trucks.)

**11) Long Range Desert Group,
Autumn 1942**

HQ

Signal Troop

Light Repair Sqn.

Air and Survey Sections;

Heavy Section (Rear Element, Forward Element)

No. 1 Demolition Sqn. (10.12.42)

Indian Long Range Sqn. (25.12.41):

PtIs. Ind. 1, 2, 3, 4

A Sqn.: R Ptl. (R1, R2), T Ptl. (T1, T2),

S Ptl. (S1, S2)

B Sqn.: G Ptl. (G1, G2), Y Ptl. (Y1, Y2)

(No. 1 Demolition Sqn., better known as 'Popski's Private Army', was the outcome of the Group's Sabotage Ptn., originally authorized in early 1942 but never actually formed; the 'PPA' later went their separate way. This organisation pertained until March 1943 when the Group was withdrawn to the Doha to re-equip for operations in the Dodecanese, Greece, Albania, Yugoslavia and Italy. The only exception was G Ptl., which after further heavy loss in Nov. 1942 had to combine the half-patrols into a composite patrol.)

12) Patrol Organisation, autumn 1942

Standard Half-Patrol:

- (1) Willys jeep, OC.
- (2) Willys jeep, patrol sergt.
- (3) Chev. 30cwt, W/T & navigation.
- (4) Chev. 30cwt, med.ord.
- (5) Chev. 30cwt, fitter
- (6) Chev. 30cwt, Breda 20mm.

section weapon. One Lewis in each patrol was soon replaced by a Vickers .303in. medium MG, and this proved so good for sustained anti-aircraft fire that two more Lewis guns were replaced by them. Shortage of cooling water was overcome by filling the water jackets with Hypoid oil. With the March 1942 change of vehicle and the previous autumn's halving of the patrols, each was now equipped with five Lewis, one .303in. Vickers medium, three .303in.

Vickers KO, two .5in. Vickers and one 20mm dual-purpose Breda, thus giving the patrols more firepower than the original patrol of twice the strength. In July 1942, as a trial measure, three .5in. Browning HB Air Pattern MGs were issued and proved highly successful, a total of 26 of the Mk. IV versions being eventually issued. Two-inch mortars were carried by the patrols from the outset, but these were only used once, during the attack on the fort at Murzuch. Three-inch mortars were promised but never materialised. The EY grenade-launching rifle was also carried, but again this appears to have been used only once, by Y Patrol. Personal weapons consisted of the revolver No. 2 Mk. I, Lee Enfield Rifle No. 1 Mk. III, and the Thompson sub-machine gun. The weapons of the Artillery Section are in an accompanying caption.

The Lewis and Vickers KO were mounted on local pattern swan-neck mountings that could be fitted into sockets, three each side of the truck body and one each side of the cab. Those vehicles equipped with the Boys A/T Rifle were fitted with a steel bridge across the body top with a vertical socket in the centre. The 37mm Bofors was mounted on a vertical pivot made from a heavy truck front wheel spindle and roller bearing. This spindle was carried on a steel trestle bolted directly to the chassis. The standard steel body with the necessary hole cut in the deck was then replaced. The Vickers and Brownings were fired from a pillar mount at the centre rear of the body. The Breda 20mm used the carriage turntable with the three trail legs removed, and was bolted through the rear deck onto the chassis.

By the time the ILRS was formed Bren guns were freely available, and so they were supplied to this unit together with the Boys A/T Rifle; the heavy weapon was at first the 47/32mm Breda, and later the 20mm Breda.



March 1941 saw the addition of the Royal Artillery Section to the LRDG, for extra firepower when harassing solidly built Italian forts. Equipped with a light OP tank and a 4.5in. howitzer (later replaced by a lighter 25-pdr.) carried portee on a Mack NR 4, the Section was used only once during 'Crusader'. Though effective, the portee constantly had to be dug out of soft sand due to its great weight. The whole idea was judged faulty in view of the Group's special advantages and limitations, and the Section was disbanded. No photos have been found of the Section's portees; this shows a similar arrangement on trial at a base depot. The LRDG vehicle had the winch mounted between the chassis and the interior racking of a 25-pdr. limber, which was built onto the front of the body over the spare wheels; the tilt frame extended rearwards to cover the gun muzzle; and the loading ramps on the side were stowed internally and replaced by sand channels. The light tank - probably a Mk. VI, though this is not entirely clear - was porteed in the same way. (Conniford)

COMMAND, CONTROL AND COMMUNICATIONS

From the very outset it was established that the LRP (and later LRDG) was a GHQ unit under command of the Deputy Director of Military Intelligence through the GHQ General Staff, Intelligence (Research) branch, altered after October 1940 to that of the Director of Military Operations through the General (Raiding) branch - a military cover

name for Special Operations Executive activities in the Middle East from October 1941. This meant that the operational role of the Group was the responsibility of the highest authorities in the theatre, theoretically ensuring the optimum use of valuable personnel and their scarce equipment on behind-the-lines tasks most likely to provide confirmation for other GHQ intelligence sources, and to damage vital areas of the enemy logistic, communications, command or control network in conjunction with other strategic forces.

Control of the detached squadrons was devolved to the Western Desert Force, later 8th Army, as the highest field formation headquarters with a need for the capabilities of a long range patrol unit. Group HQ also came under 8th Army command when major operations were planned requiring very close liaison and quick response. GHQ control was still retained for certain tasks, and the Group reverted to GHQ command as soon as 8th Army operations made this possible.

Co-ordination of conflicting priorities from GHQ and the field formation were sorted out by Group HQ. LRDG liaison officers, later attached to both HQs, acted as advisers to their respective commanders on the best use of the Group's limited resources. It took an appreciable time for the HQ Staffs to realise the Group's full potential and to employ them properly. 1941 saw the LRDG misemployed on short range reconnaissance more suited to armoured car units, with consequent losses in vehicles and wounded. Group HQ and three patrols were also tied down for the summer to the defence of Kufra and its outlying oases, all strategically placed on the inner flank of the British positions, as a possible airhead for action against the Nile, there being no other unit then available. The ILRS also suffered from being used for limited reconnaissance by Reestorce until they managed to 'break out' and get themselves properly attached to the Group in October 1942.

A mixture of LRDG vehicle types, negotiating heavy dune formations. Left, a Heavy Section Ford F60; right foreground, a Chevrolet 1311X3 pilot car with covered Vickers KO visible, and probably a Lewis as well. Aero screens are half-erected. Sand channels hang from the sides of the 3-tonner. At the top of the dune are the Medical Inspection Room Mk. I, and the distinctive humped shapes of two Chevrolet 1533X2 patrol trucks, with covered MGs visible on pintles beside the front seats.



Once the major misconceptions had been overcome the Group could concentrate on evolving rear area operations and co-operation with other organisations with similar interests. In this way the LRDG also became a guaranteed courier service for the Inter Services Liaison Department (A Middle-East cover name for the SIS); the Western Desert Liaison Officer of G(R); A Force deceptionists, including M19 N Section men intent on setting up escape and evasion 'ratlines'; G(R) sabotage teams; odd bodies from units needing additional desert experience or an insight into LRDG methods; Middle East Commandos trying to export their brand of violence from the sea flank to the desert one; Libyan Arab Force Commandos under 'Popski'; and finally, L Detachment, Special Air Service Brigade and the Special Boat Service until they obtained their own transport, air insertion having proved unreliable for contiguous assignments supporting main force operations. The desert became rather 'crowded' with so many agencies seeking assistance, while others 'ploughing their own furrow' often required Group assistance to get them out of an unpleasant situation. This led to GHQ ruling that the LRDG were to co-ordinate all deep desert operational planning, so relieving the muddle.

Administration and pre-planning were impeccable, whether by Group or detached Squadron HQ. Tasks from GHQ, the WDF or 8th Army, once collated by Group or Squadron HQ, were passed on to the affected squadron or patrol in the form of an instruction stating the objective, start and completion times, and the vehicles, personnel, rations and equipment needed to do the job. This format left the 'mission profile' open to the patrol commander, who could then produce his own plan to suit the local conditions and known enemy deployments.

Patrols were sometimes puzzled by the jobs they were asked to perform; but seen against the background of many contingency plans considered by the Joint Planning Staff at GHQ Middle East, who explored projects in sufficient detail to recommend acceptance, re-casting or discarding to fit events, unexplained patrol tasks become clearer. Patrol reports were often included in GHQ deliberations, and

Plotting a fully laden vehicle while descending a dune meant hours of backbreaking work to right and restore the truck; here, the left-hand 1531X2 has just been put back on its feet, with the additional help of an Arab agent taken in by the patrol. A third of the load was petrol, at first in British 'flimsies' and later in the sturdy 'jerrican'. At right is the patrol heavy weapons truck mounting a dual-purpose Breda 20mm anti-tank/anti-aircraft cannon; the straight-edged camouflage may be in sand and slate, or Portland Stone and Black.





When all stores were stowed well forward the Breda had a good arc of fire, and provided a useful 'scorpion-onite' for the rear of a patrol – as a SdKfz 222 found to its cost when it attempted to 'jump' a patrol in close Tunisian terrain in January 1943. Every inch of space in this 1533X2 is used; the normal crew was three men, though in this case the Breda loader makes a fourth. 'Bale-out' haversacks are well in evidence.

the decision to implement a particular option or abandon it often hinged on the findings of a patrol given a brief limited to what they needed to know to preserve security.

Communications

Proficiency in long range signals was at the heart of the Group's ability to carry out their assigned operations. When other units were struggling with the desert's strange atmospherics just to keep in touch, the patrols were happily working a base station several hundred kilometres away on No 11 High Power sets with six-foot rod aerials, these sets having been designed for a range of 15 kilometres! Even greater distances were accomplished with end-fed Wyndom aerials slung between 17-foot wooden poles. The key was excellent training, and highly competent Morse operators at both ends of the net.

Operators were originally drawn from the NZ Divisional Cavalry and Royal Corps of Signals personnel with experience of Merchant Navy or the Marconi Company long range Morse procedure. Later operators were selected from the Irregular Warfare Operators School, which trained other SOE operators for similar clandestine signals work. Finishing touches were administered by the Group's Signals Officer, who maintained an exacting standard: for if a patrol could not transmit quickly and accurately it was useless. Equally, if the base could not pass traffic properly the efforts of the patrols would be wasted.

Signals equipment included the No. 11 HP set for the patrols, and a Phillips Type 635 receiver for the GMT navigation time check – and to listen to the BBC News, and 'Lili Marlene'. The communications base was at first static in Cairo, but was later made mobile in box-bodied vehicles, although a rear base set was always maintained at GHQ. Base radios were the RAF Type 1082/83GP at the Citadel, later replaced by the more powerful captured Italian Type A350/1 often used in Italian Divisional HQs. All traffic was CW (continuous wave or Morse) with voice used only for inter-unit contact such as was required between patrols and the SAS commander in Operation 'Bigamy'. The Group as a whole used a system whereby frequencies were changed twice daily with the call sign altering at the same time. The same frequencies were never used more than twice a month, and all patrols were supposed to give three daily calls: early morning, midday and evening, or at any time in an emergency, the base station maintaining a 24-hour watch while patrols were in the field. This proved cumbersome for the patrols, and they were later allowed to come up on the net at any time, but at least once a day.

The Group net used code and Morse procedure which simulated the many commercial stations still carrying on business around the Middle East to escape the highly efficient attentions of both the Italian, and later the German Signals Intelligence and Direction Finding units; these had very little trouble in 'cracking' the normal British low grade field codes and cyphers, until the system was tightened up after July 1942 following the capture of the 2nd Staffel of the German NFA Kompanie 621 with many of its documents at Tell El Eisa.

No patrol was ever compromised through the 'cracking' of its own coded signals, except for the incident at Gebel Sherif in January 1941 when T Patrol was ambushed and all the encoded communications instructions were captured before they could be destroyed. Fortunately the rest of the patrol knew this was a possibility and managed to get through to base 'in clear'. Identification of the real base station through spurious Italian transmissions was achieved by operators 'fist', and a descriptive 'question and answer' session between the T Patrol operator who had worked in the Citadel radio room, Cairo, and the Citadel operator who correctly answered such questions as the colour of his four walls.

Forewarned by Axis radio claims to have destroyed British patrols in his area of operations, Bagnold had devised a clever substitute code based on the regimental numbers of the Guardsmen in G Patrol. Instructions on the use of this were sent, again 'in clear' through the Italians' best deception efforts, and enabled the patrol to change frequencies, send a full situation report and receive further instructions without further opposition.

Another type of compromise was not of the LRDG's making, but the result of German penetration of the Middle East American Military



Sand channels, devised by Bagnold, were vital equipment, and patrols soon became highly proficient at 'unsticking' vehicles in a hurry – for lack of mobility meant death if caught in the open by enemy aircraft. Here an F30 is towing a 1633X2 up sand channels; as usual, the bulk of the load is petrol, closely followed by spare tyres. Note Vickers medium machine gun on central pillar mount, shrouded in canvas, and additional Vickers KOs each side of the cab.

Attaché's 'Black Book' code and a signal to America which referred to the joint LRDC/L Detachment instructions to support the Malta convoy operations 'Harpoon' and 'Vigorous'. The Germans formed quick-reaction forces to meet these attacks, and alerted the airstrip protection units. Despite this, and an added slice of luck for the Axis when one of the ex-361 Afrika Regt. soldiers recruited into the Special Interrogation Group decided to 'turn his coat back again' and betray the Free French SAS team being guided by the SIG onto an airstrip, the SAS teams were inserted and extracted by the LRDC without hindrance. The SAS experienced vigorous follow-up action only after they had done their job with the exception of the betrayed French, who were practically wiped out – which proves just how good both units were at their respective tasks.

Principles and Procedures

Long term operations within enemy-held areas develop a unique set of military reflexes, and a radically different attitude of mind to that appropriate to 'normal' soldiering. If conventional operations in the desert can be likened to fleets at sea in well-charted waters, rear area activities are more akin to sailing tiny boats in uncharted ones, far from any possible assistance.

When Bagnold formed his unit he already had many years of experience of expeditions into the unmapped desert, based solely on whatever resources he and his friends could provide for themselves. If anything went wrong they had to get out of the situation on their own. No radios were taken, and there was certainly no desert rescue service to pick them up, even supposing they had carried one. It was but a short step to apply this sort of self-reliance to the additional problems posed by an active enemy.

The basic principles laid down by Bagnold in his Training Notes, and further developed by Prendergast and the officers and men of the Group, are so sound that they hold as good today for behind-the-lines work as they did in 1940. In effect they wrote the 'first editions' of the many manuals and 'standard operating procedure' in use by the Special Forces and LRRP units of all nations today.

All Group principles were evolved to neutralise the natural hazards of desert travel and to limit the enemy threat, from the air and on the ground. It was found from experience that intelligence-gathering and offensive operations were best separated, as enemy reaction to an

incident stirred up a hornets' nest which could easily flush out any intelligence operations running unobtrusively in the same area. For this reason patrols did 'beat ups' only on their way home from intelligence jobs, and GHQ tried to keep SAS attacks away from the LRDC surveillance positions, giving each unit defined operating zones and times.

As the Group expanded it maintained a balance between intelligence-gathering and offensive capability within each patrol. Every operation was given a tailored mix of specialist vehicles and personnel based on the standard

Patrols carried everything needed for operations and for comfort stowed in the backs of their trucks in logical order, like a ship at sea. This Chevrolet 16332X2 W/T truck of the Indian Long Range Sqn. has its tarpaulin rigged as a comfortable 'bivvy' during a midday halt. The short 3-ft. whip aerial indicates that the signaller is trying to communicate with a base not too far distant.





patrol organisation. In practice this might mean, e.g., leaving a heavy weapons truck behind and replacing it with another radio vehicle. Rations and ammunition loads were also based on standard amounts adjusted according to the particular task. (Bagnold is officially credited with the idea and development of the balanced ration pack of so many men for ten days, or ten men for one day, etc., now basic to all military planning.) Trucks were handed over to the Light Repair unit as soon as a patrol returned, to ensure that vehicles were always ready to go out again at short notice. If really urgent, patrols would take out whatever trucks were needed regardless of whose patrol they might officially belong to. Essentially the trucks were specialist equipment issued to cope with particular problems, grouped for organisational and administrative convenience into the patrol structure.

Patrol movement was controlled by flags and hand signals when it became necessary to depart from the intended route, on a breakdown, or in the event of enemy action. Trucks travelled on as wide a front as possible to increase their chances of keeping moving on unstable terrain; if one vehicle became bogged the others might still get through, and be in a position to assist the stricken truck. The fitters' vehicle always travelled at the rear to deal with any serious mechanical failures. Dispersal also reduced vulnerability to air attack and gave less of a 'signature' trail for searching aircraft.

Patrols made the best speed possible, commensurate with the 'going' – on good, flat scrub this could be up to 96km/h with the lighter pilot car ranging ahead to select the best route. Straight runs were limited to about ten kilometres separated by right-angled jinks of around two kilometres to confuse aerial search. Similarly, approaches to dumps or rendezvous were concealed wherever possible by movement over hard

Ford F30 crew taking cover from an imminent air attack, 1943. Guns are still covered and secured, but can be brought into action quickly if the strike proves particularly troublesome. It was well-proven LRDG procedure not to fire before the enemy: many enemy aircraft broke off their attacks when the lack of reaction misled them into thinking that they were dealing with Axis personnel in captured British vehicles. The stretcher on the body side shows that this truck is carrying the patrol medical equipment, and is certainly not a vehicle to risk unnecessarily.

ground which left no tracks, or by laying false trails in their vicinity if this was not possible.

Air sentries gave warning to halt or slow down on hearing or sighting aircraft, for stationary or slow-moving objects are hard to identify in the desert from a fast-moving aircraft. Good camouflage, discipline, and effective paint schemes on the trucks meant patrols were often overflowed without being sighted. Equally, patrols in lying-up positions (LUPs) while on a 'road watch' or waiting to take the offensive at night would often be bypassed by enemy units, so expert were they with netting and local foliage (a classic example of this is G1 on the Mardunia-Notitia inland track in November 1942. The entire patrol, in poor cover with the Wyndom aerial up and the set operating, was passed by a German motor-cycle, staff-car and truck in convoy within 400 metres, and provoked no reaction).

Immediate action if a patrol was spotted from the air was to try and look as much like an enemy unit as possible: waving at the aircraft, sometimes displaying a swastika on a circular wooden disc (the other side had an equally prominent RAF roundel!) or having the trucks marked with the white beutezeiche (booty mark) stripe carried by the DAK to indicate captured British vehicles in German service. Clothing was also deliberately nondescript for the same reasons.

If none of these measures convinced the aircraft, the crews would wait for the strike to develop before scattering from the run-in track. Done at the right time, this caused the pilots to miss. Faced with the concentrated fire of the unaffected trucks, single Italian aircraft usually failed to press the attack.

The attentions of the RAF could be just as disconcerting and the pilots hard to convince. Ground-to-air identification panels and red and

Too many tyre blow-outs could cause a patrol to abort, even with the generous allocation of spares carried by LRDG trucks. This Y Patrol 1533X2 is missing the spare usually carried on the nearside running board above the POL cans; but two are carried in the rear body, and a third complete with spare wheel is wrapped in tape and mounted on a bracket in front of the radiator. Armament is the usual Vickers KO on the scuttle, and a .5in. Browning on the central pillar. The name **COCK O' THE NORTH** and tao-mark 'Y' over '12' are black and white; the tao-mark would be repeated on the rear body panels on both sides, and on the tailgate, but the name was painted on the nearside bonnet only. The WD number L4616001 would be in black, centrally on the front bumper.



white chequered sand mats were carried by all patrols, as well as coloured signal flares and smoke candles to give agreed recognition signals, which also covered inter-patrol and other ground force contacts. Unfortunately, with the enemy employing so much captured British transport, patrols crossing the forward edge of the battle area were often treated as fair game, and two men were killed by a 'friendly airstrike' during Operation 'Crusader' even though recognition signs were displayed. This just had to be accepted as another of the hazards of their special work – as was 'contact' with other Allied patrols, with many fireworks but fortunately no injuries, during the operations under Cyrenaica Command in 1941.

Not all enemy aircraft had efficient radios to call for additional air or ground forces while they kept a patrol pinned down, and some had none at all; so once their weapon load was expended, or they thought better of the attack due to the weight of fire thrown at them, patrols could slip away into a LUP and avoid the follow-up sent over when the enemy reached his home base.

Ground-strafting was usually more effective than bombing, and a good strike on the mobile petrol tank represented by a fully-laden truck would set fire to the lot. Crews from damaged vehicles were picked up by the others, and any weapons or stores salvaged then and there under covering fire if the situation was 'sticky', or as soon as the enemy had gone. It was rare for a truck to be totally written off; fire could be extinguished quickly with sand, and the fitters' vehicle carried enough spares to fix most damage short of major assembly failure. The Group was loath to abandon any of its specially fitted vehicles, and there are many instances of trucks being cobbled together by skillful fitters, or lashed back-to-back in order to get them home. If any had to be abandoned the position was recorded and an attempt made at recovery later.

No man was ever willingly left behind following enemy attack. Around 20 men who were abandoned, due to particular circumstances, made successful immediate evasion or escapes, some of which involved remarkable forced marches of hundreds of kilometres with very little food and practically no water (about ten per cent of the men who were shipped back to camps in Italy also escaped). Patrols worked on a series of RV's designed to cope with enemy action breaking up their formation. The first type was used in transit and was back along the line of march, usually the site of the previous long halt to eat or call base: men and vehicles would make for these if scattered after a 'contact' or natural causes such as a sand storm. Crews had individually made up 'bale-out' haversacks with essentials and a waterbottle slung near their normal stations, which they could, theoretically, grab as they went over the side. Few men who did 'abandon ship' in a hurry ever managed to do so, and most had to recover what they could after an attack: a lesson for the future well learned by the SAS, who have since developed the 'belt order' to cater for this eventuality.

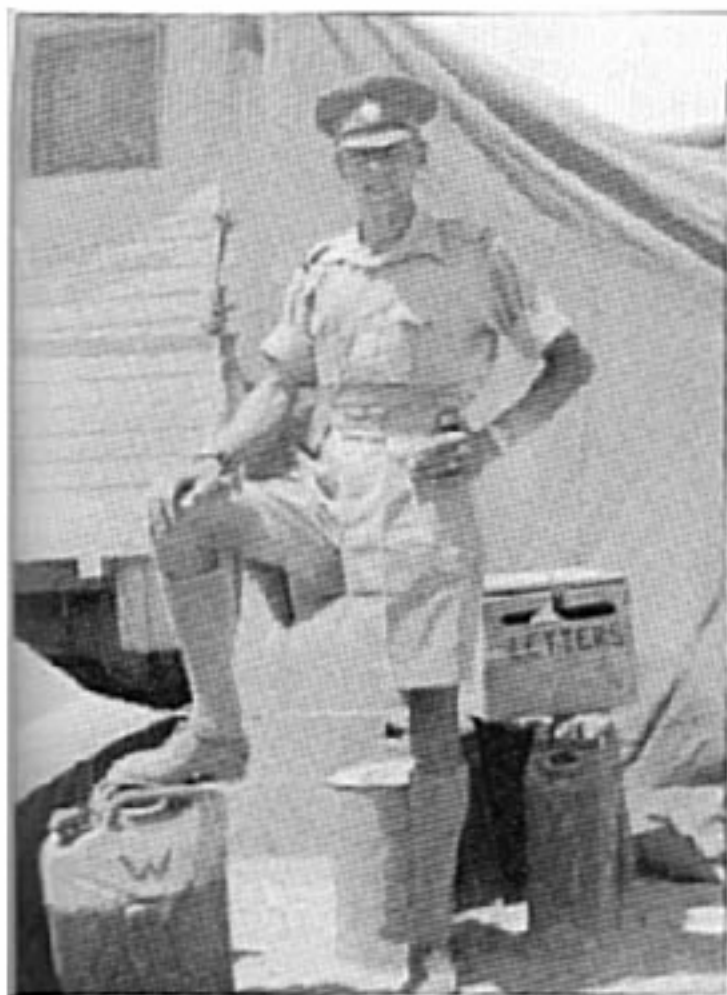
Dismounted men cut off during a raid were often assisted by Arabs, some of whom worked for



While each patrol carried a medical orderly, the Medical Officer ran a small hospital or receiving station at Group HQ, for short-term complaints, and for holding serious casualties for evacuation. The MO also had a mobile Medical Inspection Room for treating patients away from a fixed base; the Mk. I, with a canvas tilt, and the wooden-bodied Mk. II which succeeded it, were built by Group personnel to the MO's specification. This is the Mk. II, on a Chevrolet 1311X3 IP 15cwt chassis; the WD number was L49448, and it carried the tac-mark 'HQ/3'.

Members of Capt. Alistair Guild's R Patrol illustrate the informality and variety of dress adopted on operations. Sun glasses and MT goggles were issued to all patrols as very necessary protection.





On patrol the water ration was one gallon per man per day for all purposes, and the average patrol lasted three weeks – reason enough for the scruffy appearance of personnel on operations. However, they could be as clean and soldierly as any other unit when conditions allowed, as shown by this photo of the first Group Sergeant Major, WO1 'Jim' Panfold of the Goldstream Guards, who was also a first class patrol NCO.

N Section – the agency controlled by A Force, who were, among many other things, responsible for the rescue of Allied personnel from behind enemy lines and had themselves originally been delivered to their operating areas by the Group.

LRDG men are supposed to have carried 'blood chits' – notes in several languages, one of which the rescuer might be able to understand, promising payment for the safe return of the bearer; but if they did, they were few and far between. The majority of men were helped by local Arabs because of their hatred for the Italians and their allies. If they were handed on to an N Section 'ratline' it usually came as a surprise, for very few crews were briefed on the existence of such an organisation – perhaps because it was only just getting into gear in 1942 and coordination between the various clandestine agencies was not well developed until later, when details of RV areas and friendly Arab families were passed on to all clandestine forces likely to need this information when planned operations fell within N Section network locations.

In addition to the 'rally RVs', patrols on the standing 'road watches' had 'approach RVs' for each position which gave a navigation check and concealed access to a LUP. Incoming patrols would begin relieving the outgoing patrol at night. While the patrol commanders did a handover-takeover the first pair of observers plus one man from the new patrol were taken to their OP by a guide, who then backtracked with the old team and the additional man. The new man then knew the route both ways and could guide in his own surveillance teams.

When acting as 'mother ships' or guides for other units, primarily L Detachment, SAS Brigade, LRDG patrol and raiding force commanders would agree on drop-off and pick-up points (DOP and PUP). If possible these would be at different locations to reduce the risk of compromise and a nasty surprise later. Passwords would be set, and 'cut-off' timings sorted out for the insertion and extraction. Neither party expected the other to remain at a PUP after the agreed times (although the patrols often did so with additional precautions), for a 'no show' possibly meant operation 'blown' and the likelihood of a hunter force mounting a cordon and sweep to collect any other marauders still in the area. Patrols later tried to lay off an RV and watch it from cover after the first few SAS raids had proved successful and raised the enemy alert state. That way they could see without being seen, so reducing the chances of being 'bounced'. Passwords were kept simple so as not to be forgotten in the stress of the moment, with dire results (David Stirling himself did so on one raid, and was promptly shot at close range by an efficient S Patrol sentry. Fortunately for the SAS idea, he had forgotten to put a round up the 'spout').

Normal injuries were dealt with in the field by one medical orderly per patrol, with training by the Group doctor to the modern equivalent



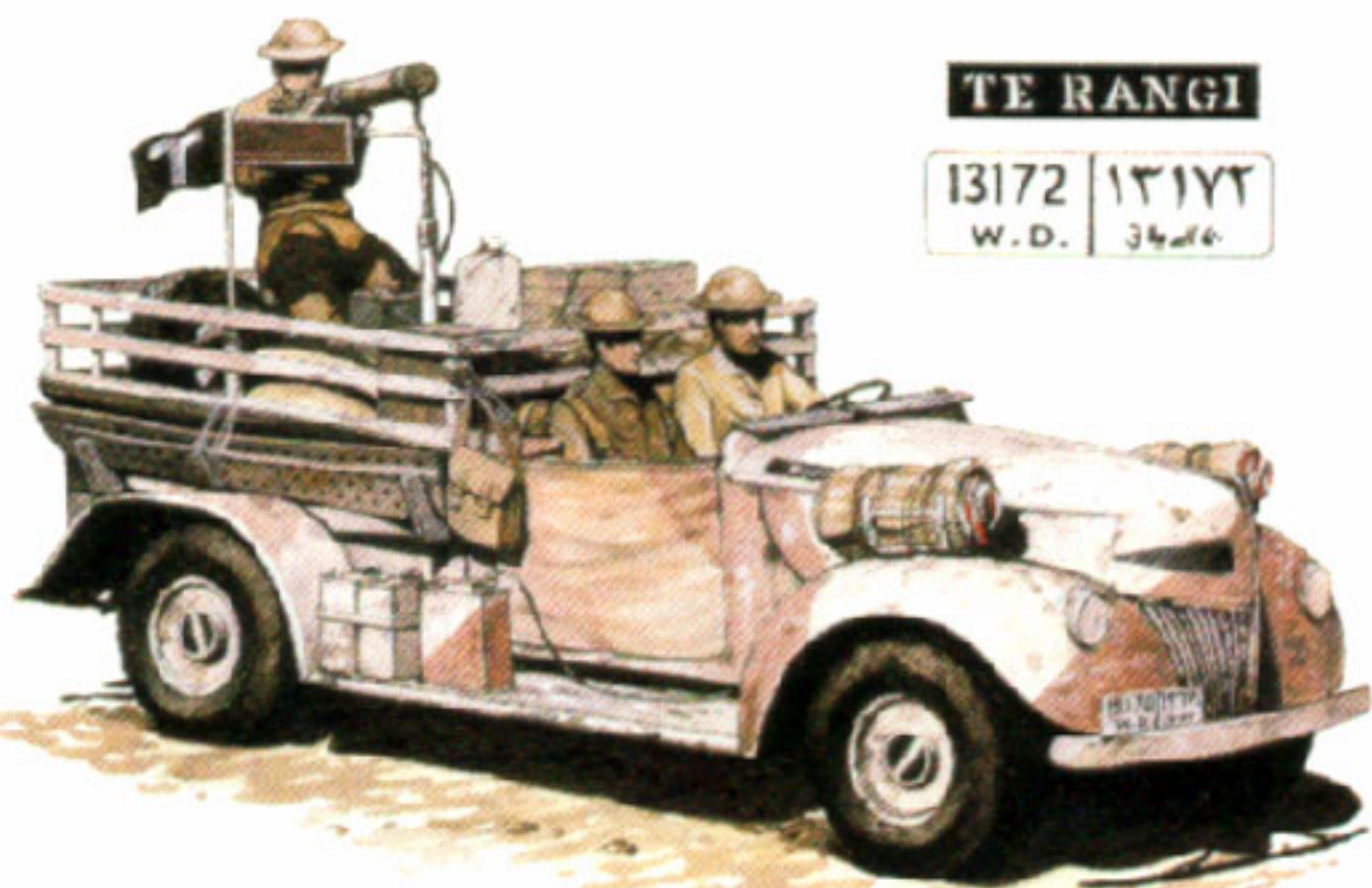
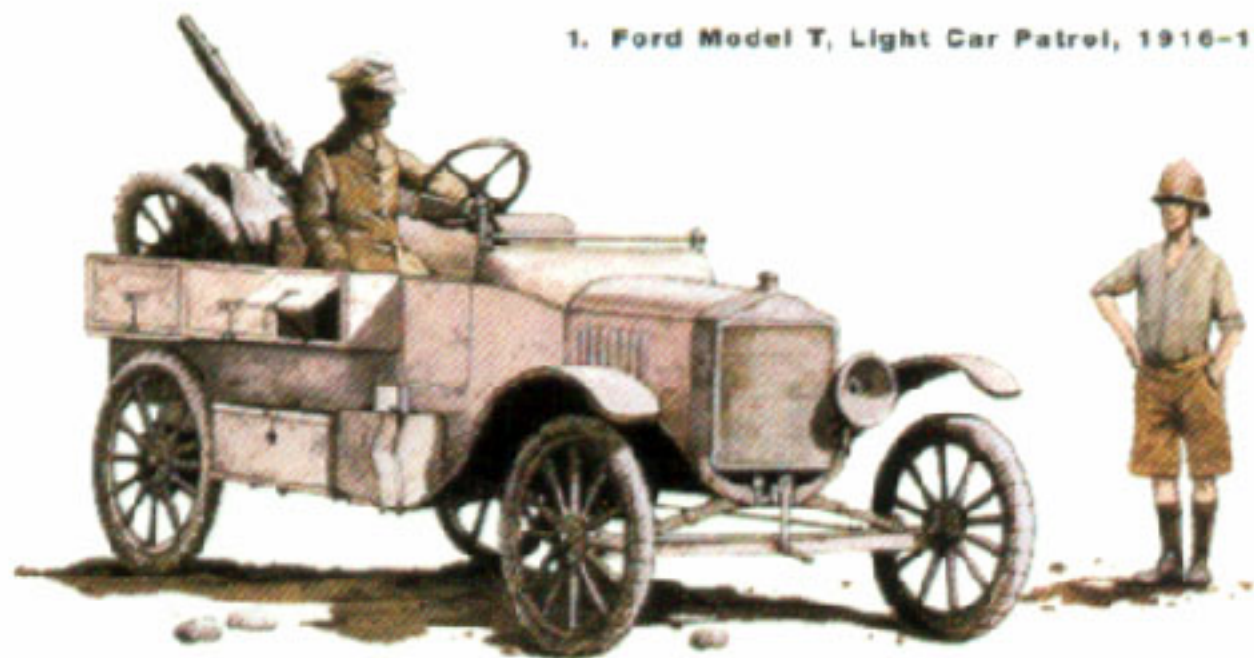
of 'paramedic'. Patrols in the early days were reluctant to take a non-combatant, and doubted if they could do anything worthwhile when a doctor's skill was really needed. By the end of the campaign the orderlies had proved their worth; they were carrying weapons, because there are no niceties in a rear area 'contact', especially at night; and could pick and choose the patrols they went out with. The LRDG doctor operated a small hospital at the Group FOB, only going out on major operations such as 'Deported' and 'Caravan' with the detached Squadron HQ or equivalent, or when his specially built ambulance was required to bring in a badly injured man and there was no airlift available. The patrol orderly coped with most injuries, and could obtain additional advice by radio.

Each patrol was equipped with a radio and had one fully trained signaller, with possibly a trainee or other signals-qualified personnel among the rest of the men. All traffic was passed in code, and the same message was never sent twice without re-encyphering. Signals were destroyed every twelve hours when in the field, and all working papers were destroyed after use. Codes and encyphered signals instructions were carried in the patrol commander's 'black box', which never left his reach (this was supposed to be a secure container, but for convenience it was often a very battered leather briefcase). Radio controls were always set to zero after every transmission so that capture of the radio truck, even with the papers destroyed, would not also lead to compromise.

Patrol commanders and their seconds-in-command travelled in separate vehicles to ensure good control, and to prevent the loss of it if one or the other was killed. For the same reasons the radio operator and first patrol navigator were in a third vehicle, and there was a check navigator, and possibly another signaller of sorts, in yet another truck, so

The welcome accorded to the crew of a Y Patrol truck by local Arabs as they prepare to 'set up shop' in a tying-up position far behind enemy lines. The tribesmen in the LRDG's regular Cyrenaican operating areas were almost always friendly, due to the brutality of the Italian annexation of Libya. They often provided information on the enemy, or limited shelter for Allied escapees and evaders, at risk to their own lives: an attitude encouraged by small gifts such as tea and flour. A few were recruited as long-term agents, overseen by British officers and NCOs of the ISLD or N Section, who were inserted for long periods behind enemy lines by the Group. Tunisian Arabs were more hostile, actively hindering LRDG operations by 'fingering' locations to the enemy, and even on occasion by actual ambush.

1. Ford Model T, Light Car Patrol, 1916-17



2. Ford 01 V8 15cwt. T Patrol pilot car;
March 1941

ROTOWHERO8300
W. D. AT-2
28-416**T**
3**TE-HAI****R**
2**WAIKAHA****W**
8

1. Chevrolet WB 30cwt R Patrol W/T truck;
March 1941

2. Ford F30 30cwt, Y2 Patrol;
Operation 'Crusader',
November 1941

ARAMIS

4406012



1. Ford F3D 30cwt
with QF 37mm Bofors A/T,
Y Patrol; June 1941



L R D G

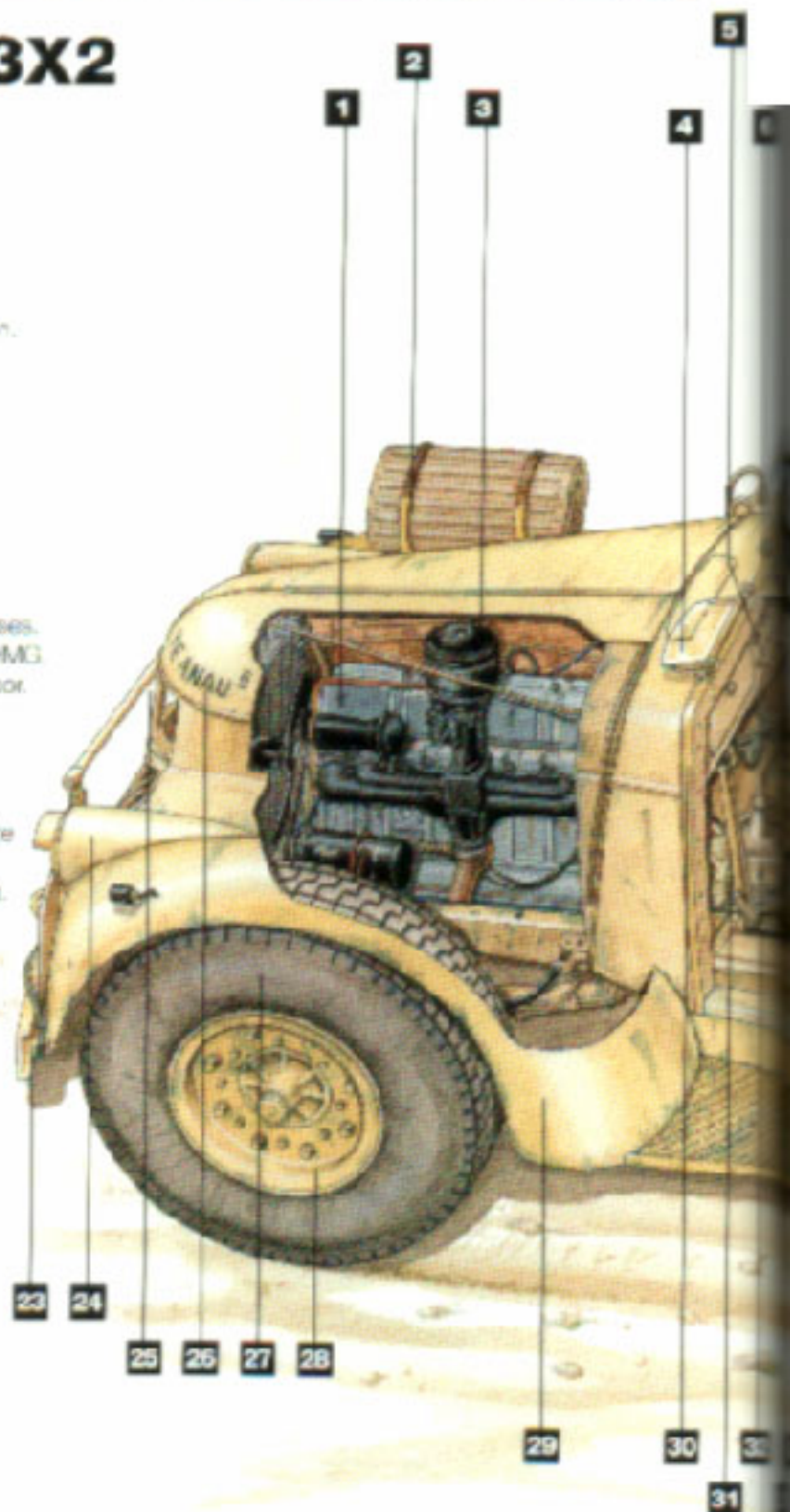


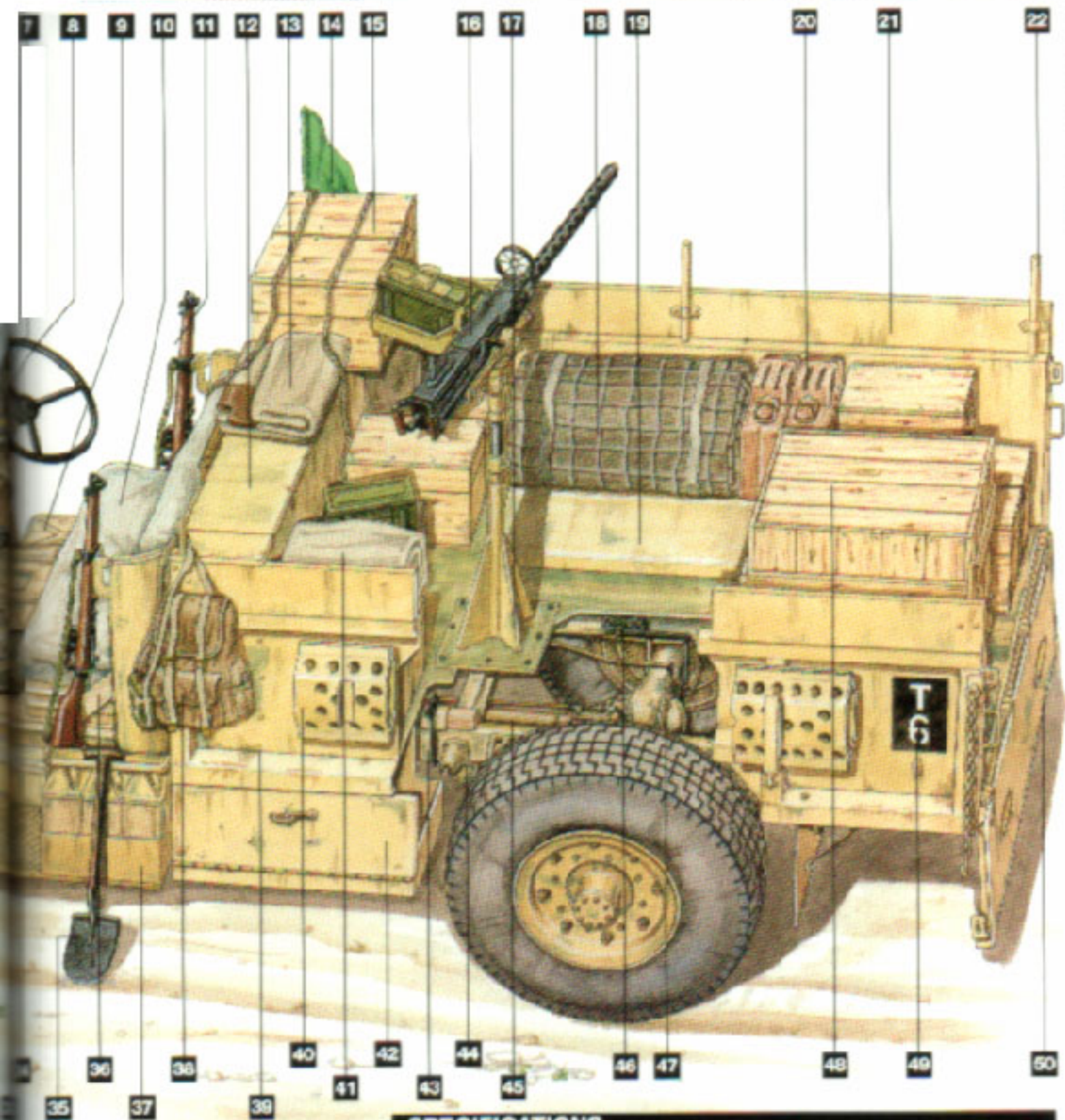
2. WACO ZGC-7, AX497;
Air Section, June 1942

CHEVROLET 1533X2

KEY

- 1 216in. straight six Chevrolet engine.
- 2 Canvas and bamboo sand mat in cradle.
- 3 Heavy duty oil bath air filter.
- 4 Aero screens.
- 5 Toggle light switches, plus choke, throttle, and ignition.
- 6 Water condenser for re-cycling radiator coolant.
- 7 Round military style gauges.
- 8 Bagnold sun compass.
- 9 Toolbox bolted to running board.
- 10 Bench seat above petrol tank.
- 11 Mk. II SMLE rifle in clip.
- 12 Wooden lockers built into front of body.
- 13 'Coat Troop', for cold desert nights.
- 14 Patrol flag.
- 15 4 gallon petrol cans, 'flinsees', in wooden packing cases.
- 16 Main armament — in this case a .5in. Browning AP HMG.
- 17 Gun mount bolted to body crossmembers through floor.
- 18 Cammo netting for truck concealment.
- 19 Wheel arches.
- 20 Captured German jerrycans for petrol and water.
- 21 Wooden 'greasy boards' to raise load level.
- 22 6 tubular uprights to attach 'greasy boards' and locate moveable gun mounts e.g. Lewis, Vickers 'K' etc.
- 23 Heavy duty front bumper slung with tow chain / cable.
- 24 Black-out headlights.
- 25 Brushguard.
- 26 Truck name — in this case 'TE ANAU II' Moon for 'The Wanderer'.
- 27 10.50x16 sand pattern tyres.
- 28 Standard 5-bolt military spit rims.
- 29 Widened fenders to cover heavy duty axle and wide tyres.
- 30 Flat faced cowl.
- 31 Handbrake lever.
- 32 4-speed gearbox.
- 33 Change over for 2-speed axle.
- 34 Battery compartment (6-volt).
- 35 Shovel.
- 36 Cab support.
- 37 Carrier for 3, 2-gallon petrol cans, bolted to running board.
- 38 Bale-out rucksack.
- 39 Goffredson 481 steel ammunition body.
- 40 Sand channels carried in brackets on body sides.
- 41 Bedroll.
- 42 Underslung storage boxes (1 each side).
- 43 'U' bolts attaching body to channel section chassis.
- 44 Heavy-duty springs for increased loading.
- 45 2 part open propshaft with centre bearing.
- 46 Lever-arm shock absorber.
- 47 2-speed Eaton axle.
- 48 Tin rations (Compo) in wooden crates.
- 49 Patrol letter and truck number.
- 50 Drop-down tailgate with securing chains.





SPECIFICATIONS

Mechanical Data

Engine Chevrolet 6 Cy Valve in head
 Displacement 216.6 cu in.
 Horsepower - S.A.E. 29.4
 Maximum Brake H.P. 80 at 3400rpm
 Torque - Ft Lbs 170 at 1200rpm

Clutch

Type Single Dry Disc
 Diameter 10.5 in.

Transmission

Type 4 Speed

Rear Axle

Axle ratio Low 3.81 to 1
 High 5.33 to 1

Chassis

Wheelbase 154 in.

Capacities

Engine 8 gals.
 Air Cleaner 1 1/2 pts.
 Transmission 4 1/2 pts.
 Rear Axle 1 pt.
 Cooling System 13 gts.
 Fuel Tank 11 gals.

LOUISE

A N
D
O 4
S

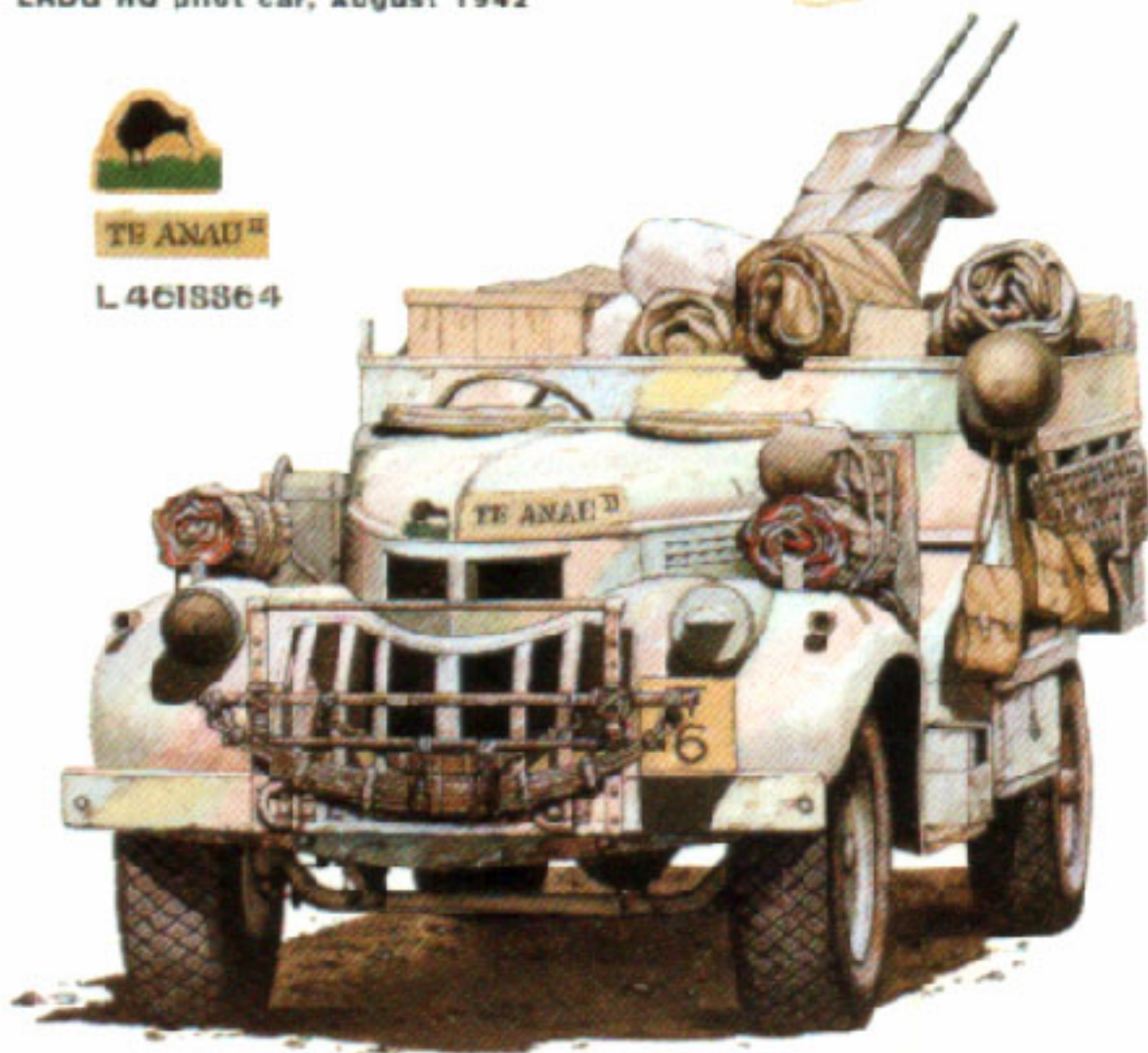


1. Chevrolet 1311X3,
India Pattern 1942, 15cwt;
LRDG HQ pilot car, August 1942



TE ANAU

L 4618864



2. Chevrolet 1533X2 30cwt;
T1 Patrol fitter's truck;
Operation 'Caravan', September 1942

1. Chevrolet 1533X2, 30cwt,
R Patrol; road watch, March 1942

ROTOWARO

RIO



2. Willys MB Jeep, G Patrol pilot car;
December 1942



1. Sgt. S. Rose, S Patrol, Summer 1942
2. Pte. A. Tighe, T Patrol, January 1941
3. Lt. D. Barrett, LRDG HQ, August 1941
4. Capt. D. L. Lloyd Owen, Y Patrol, November 1941
5. Cpl. L. H. Brown, T Patrol, Winter 1941

N. L. Lyle

spreading the patrol skills throughout the formation. Every truck was equipped with either a sun, airo or magnetic compass, and all carried maps of their transit and operating areas so that they could get home independently if necessary. Every man was required to know the patrol RVs, their current location and direction of travel when on the move, and no man was ever supposed to be left on his own out of sight of a landmark by which he could collect his bearings.

When on 'road watch' a summary of the daily traffic was sent each night, and a longer detailed signal was transmitted when well away from the LUP after having been relieved (three patrols were always committed to the 'road watch' task: two in transit either way and one on the road. A fourth was sometimes on standby if it was thought there might be problems with the relief). Immediately on return to base the patrol commander had to write up a detailed report complete with all survey information, 'road watch' vehicle counts and any incidents, for typing by the orderly room. This was then flown out to GHQ for incorporation in their Intelligence summaries.

Patrol range or endurance was extended by forming dumps from supplies uplifted by the Heavy Section, or left behind by ordinary patrols with a limited task such as inserting a couple of agents. This additional facility was often made use of by the ISLD or A Force to resupply their own teams, and, if we are to believe his account, helped to replenish Almasy's Sonderkommando on their way home during Operation 'Salam'.

The LRDC spilled over with the inspiration of men, mainly wartime recruits but with a good leavening of Regulars, who looked at things from a new angle and sought different ways of achieving old ends. Some worked, and have been described here, others didn't, or were before their time. One such was the suggestion on the eve of 'Crusader' that patrols should act as Forward Air Controllers, and call in airstrikes on anything worthwhile located by the 'road watch'. The RAF appear to have shown no interest in this, a technique which was to become standard practice by LRDC and other units operating with fighter 'cab ranks' later in the war. Instead they flew their old battlefield air interdiction missions with variable success.

OPERATIONS

LRDC tasks can be categorised roughly as follows:

- (a) reconnaissance, long and short range, preparatory to action by another force;
- (b) intelligence gathering and survey, giving long term checks on enemy movements, reinforcements and logistics, and improving the mapping of areas likely to become the scene of future main force operations;
- (c) pathfinding and courier work for overt or clandestine organisations without the same facilities for desert travel as the LRDC, or needing

specialist navigation and knowledge to insert or extract them in positions behind the enemy lines;

- (d) direct action on lines of communication, installations and transport. This could vary from small harassing attacks, ambushes and minelaying by patrols, either singly or in concert, to major raids with additional support from other unconventional forces.

Each patrol sortie might contain elements of all four types of activity, pre-planned or introduced as events dictated change (the chronology shows how the LRDC and special forces of all kinds fitted into the main events of the desert war).

With the arrival of the DAK in the desert theatre, leading to an almighty shake-up of British ideas and the imposition of a 'race meeting' character on the conduct of the desert war, patrols might mount from one base and find themselves returning to another as the front lines saw-sawed up and down the coast in response to Rommel 'nipping back for more petrol', as the wags of the day had it (the accompanying map illustrates the point).

Patrol operations were so numerous that it is impossible to describe them all in a work of this kind; even were it practical to do so there would be very little value in it, because by their very nature they all tend to have the same characteristics: long periods of inactivity and boredom, punctuated by short bursts of violent excitement before relapsing into passivity again. Accordingly, summaries of the typical features and highlights of each operational category will be described.

Reconnaissance

All patrols included 'going' information as a regular feature of their reports whenever they traversed new ground. This was collated by the topographical branch at GHQ. As might be expected, Bagnold had a large hand in developing the concept of 'going' (now so familiar to all map users in difficult country) and its accurate portrayal. 'Going' details supplied by the Group were used in the planning of Operations 'Crusader', 'Acrobat' and 'Buckshot', among many others, and although the latter two operations were scrapped the information was retained and later utilised for 'Guillotine'.

Enemy unit identification was obtained on many occasions from prisoner interrogation and captured documents, although by definition this kind of information was most often forthcoming when LRDC units were misused for short range duties. Strategic information, from the same sort of sources, was gained when patrols infiltrated well into the enemy rear areas. An ingenious example of this was Clayton's reconnaissance of 'Uweinat, where it was impossible to approach unseen in vehicles close enough to get the details required, and a military foot patrol would be unlikely to survive the climate, even supposing it could have been covertly inserted. Clayton therefore shipped a camel and two trustworthy Arabs in his trucks across the hundreds of kilometres between the LRDC base and the target; dropped them off; collected them a week later from an undisturbed RV, and returned home with a complete report, having left the Italians peacefully unaware of the penetration.



'Road Watch' - covert surveillance of enemy main supply routes - was a dangerous and exacting job. Two men at a time manned positions for 24 hours, noting every item of enemy traffic. At night they either closed up to the road, or relied on sound and silhouette. Rations and water bottles were buried alongside the men to keep cool and out of sight. Weapons were not always carried, the idea being that if surprised dirty, scruffy and unarmed they could pass themselves off as escapees or evaders from an overrun unit. The rest of the patrol would then have a chance of moving the road watch elsewhere without interference. Observation was usually by binoculars or telescope from a prone position behind any scrap of bush or in a convenient hollow; very rarely was visibility from a distance good enough to allow standing back slightly from the road and erecting some overhead cover from the elements.

Intelligence gathering and survey

'Reconnaissance' naturally flows out of 'intelligence' in a feedback process which is self-generating once its objective is defined. Prendergast had the idea of maintaining surveillance on the limited enemy supply routes along the coast, when patrol reconnaissance missions demonstrated the feasibility of continuous clandestine access and the viability of reporting unmolested from the enemy's back yard. The concept appealed to GHQ Middle East as a potential 'window' into the enemy 'larder'; and, dare we say it now, as a plausible reason by which the enemy, if they discovered it, might explain curious British advance knowledge of their strengths and plans which actually came from their own decyphered C38m and Enigma

coded transmissions. 'Ultra intelligence' (the code name for intelligence derived from 'cracking' the enemy cyphers on a continuous basis) was fortunately never 'blown'; and the LRDG 'road watch' gave invaluable collateral, often quoted in signals between Cairo and London at the highest levels, when the intelligence staffs and operational planners came to weigh up Rommel's capacity for offensive action. The fact that his capabilities and intentions were misjudged does not reflect in any way on the LRDG achievement.

The reporting system and values might seem crude by today's standards. Photography was not used, partly due to the problems of concealment and the limitations of existing technology in the inexperienced hands of troops with more on their minds than getting their exposures right, and partly because the idea had yet to be properly explored as an intelligence-gathering medium. An example of the possibilities was demonstrated on the 'road watch' in March 1942, when an AFPU cameraman, taken in as part of an inspired 'public relations' exercise, took excellent still and cine film of enemy transport in broad daylight and without discovery. The results were turned over to GHQ Intelligence in Cairo, who were fascinated by this new toy and asked for suggestions as to a simple patrol camera. The Leica was recommended, but nothing definite seems to have come of this, except that some LRDG men remember being issued with cameras and film to take 'anything of interest'. Photos 'of interest' were taken with these, and privately owned cameras, but they are all of the Group and its doings, with scarcely any of the enemy!

An average 'road watch' final report runs to dozens of closely typed foolscap pages, ready for further refining and analysis by GHQ Intelligence after the first highlights had been selected by the patrol commander in the field and the Group Intelligence officer at the FOB. Even when the surveillance reports recorded minimal traffic they confirmed the plight of the Axis forces, in that they had to use all their load-carrying capacity in the forward areas just to maintain themselves in action without worrying about future replenishment. Boring though the job was, the returns gave a unique check on the enemy only otherwise obtainable through Ultra, with the advantage of being regular

and 'LRDG guaranteed', whereas Ultra could be patchy or uncertain. Added together and mixed with Y Service (tactical signals intelligence) and ISLD reports, they formed a whole greater than the sum of its constituent parts.

The Group also co-operated with the A Force deceptionists, for instance in dropping 'doctored' boxes of Italian machine gun ammunition on the supply routes to Italian outposts as if they had carelessly fallen from a convoy. In the specially stage-managed Operation 'Bishop', S2 Patrol contrived to make a hasty withdrawal from an LUP after being spotted by an enemy aircraft, leaving their site in disarray, complete with a fake map, suitably annotated with new reconnaissance information, to add verisimilitude to the cover plan for 'Crusader'. A meticulous hand copy of this was later found by the Group Intelligence Officer in the commandant's office at Jalo after it had been captured, showing that the 'confection' had been duly swallowed.

Survey reports were just as important in a different way. Compiled by the LRDG Surveyor into accurate traces, they helped to fix the position of oases and other man-made and natural features in areas now of operational interest. The new plots were used to correct inaccurate Italian maps dealing with such things as the approaches to Kufra and the Nile, vital for defence planning. This painstaking work was conducted 'in the blue' by the specially constituted Survey Section, which was never discovered or disturbed by the enemy.

Pathfinding and courier

Long distance desert navigation or pathfinding is a specialist job, and the LRDG navigators were acknowledged experts at it – to the extent of special trade pay of one shilling a day for a Land Navigator. They taught the principles to many men from other units in just the same way as they themselves had been taught by an ex-merchant seaman with a mate's ticket; and they were loaned out to guide I. Detachment, the Middle East Commandos and the Sudan Defence Force until they could train their own men.

Similar pathfinding was done for Bencol when it attempted to cut off the DAK at Benghazi; and in a final moment of glory the New Zealand patrols R1, T1 and T2 had the privilege of leading in their compatriots of the New Zealand Division in Operations 'Guillotine' and 'Pugilist'. The latter used 'Wilder's Gap', a previously unknown passage discovered by T1 and named after its commander, which was capable of taking armour and the heavy supply traffic of a division in a great turning move to unhinge the enemy Mareth Line defences.

In the courier role, Group records note the carriage of over 80 men from as many different organisations from 1941 to the end of the desert campaign. They varied from the two-man teams such as 'Liphook' and 'Humourist' from the ISLD and A Force, to shifty Italian ex-prisoners of war and uncertain Arabs, recruited in a hurry to gain tactical information; from the 'devil may care' Sections of Stirling's I. Detachment, to the aggressive but clumsy Middle East Commandos, in the days before both units obtained their own transport (which the LRDG took great delight in 'acquiring' when abandoned after a 'contact').

The 'taxi service' run by the Group worked both ways, and collected numerous Allied escapers and evaders, and Arabs who had good reason

to depart from Italian territory. Some of the tasks which the Group was asked to perform, in their role as 'honest brokers' for so many disparate organisations, verged on the shady, and some on the frankly incredible – such as bringing in a total of 47 men, including the original crews, on four vehicles. The courier runs, although reliable, made no guarantee of safety, and four unfortunate passengers were killed while travelling with Group patrols. All customers were given the help they sought, and inserted and extracted with a minimum of fuss, however awkward it was for long-suffering patrols when their 'bods' demonstrated little idea of the harsh realities of their nomadic existence. This could take the form of showing up ill-equipped, like some of the Arab agents; or of solemnly changing into pyjamas every night, as did the officers on the 'Buckshot' reconnaissance of April 1942; of agonising over their final DOP, like 'Popski'; or of being very cagey as to their exact purpose in life, like the C(R) team taken in to guide the Operation 'Flipper' Commandos on the eve of 'Crusader'. Without something like the Group, deep covert operations infiltrated through enemy positions would have been very difficult, and many more lives would have been jeopardised if air or sea insertion had been used in the unpredictable desert climate.

'Unsticking' a Chevrolet WB of G Patrol during the Fezzan operations which destroyed Murzuch airstrip and fort, and started the Free French on their way to capture Kufra. G took over the tracks of the disbanded W Patrol, and a New Zealand name is still visible on the bonnet; note straight-edged camouflage, probably as in Plate A2, and Lewis gun on the special 'swan-neck' mounting made up locally for the patrols. The Arab is 'Midnight', personal slave of Sheikh Abdi el Qaili Siff Ben Ness, an old enemy of the Italians; he provided liaison with local tribesmen and acted as a guide.

Direct Action

Direct offensive action by desert special forces has been the subject of much ill-informed comment, which has tended to blur the edges between strictly LRDC actions and those mounted in conjunction with other units such as the SAS. This mythologising has lent weight to the 'private army' legends, giving the impression of free-wheeling raiders succeeding best when they managed to slip the dead hand of hidebound higher authority.

Like all legends this has an element of truth, but the truth is so hidden or distorted that it is difficult to distinguish it without access to the original records. This access we have enjoyed, from many sources, and it leads us to the short, but we hope balanced, account below. Some operational code names differ from those in other published works due to our use here of the real ones, no longer subject to post-war security restrictions and censorship.





Direct action took two forms: quick strikes by individual patrols on priority targets to further Army operational aims; or raids with other cooperating arms and services on specific objectives designed to give strategic leverage for theatre contingency plans.

Wavell referred to the LRP as his 'mosquito columns', and had them operate in the first way against thinly defended Italian outposts of the southern inner desert beyond the reach of his normal units. Here they started as they meant to go on by 'lifting' the Kufra mail from a convoy near Landing Ground 7 on 20 September 1940. This was an entirely bloodless affair, and purely fortuitous, but it started off the reputation for piracy and freebooting so avidly fostered by sensational writers ever since.

Small pinpricks of this kind were approved by GHQ, as they caused Italian anxiety out of all proportion to their effects in areas where they thought themselves secure, diverted aircraft and ground units to convoy protection, and so reduced the opposition to be overcome by the tiny British army in the theatre.

This policy of long range harassment was continued successfully against Italian rear areas for the greater part of the desert war. The arrival of German formations did not essentially change the hasty ambush, minelaying and 'shoot-and-scoot' tactics, but they now became more directly controlled and were applied as a 'sovereign remedy' in response to the immediate needs of the Army, i.e. switching from the strategic to the tactical and back again as the armies wayed back and forth across the desert.

LRDG patrols were used correctly on direct action tasks employing their long range capabilities for only the second time during 'Crusader' (the other occasion was during the raids discussed below). Before this they were engaged very like a motor battalion, but without its strength or support. With 'Crusader' came I. Detachment, SAS Brigade to carry out from the air a task already pinpointed by the Group to 8th Army when suggesting possible LRDG roles in the coming offensive. Dispersed aircraft on the ground were a tempting target, but the Group were told to leave them for the moment to let Stirling's SAS try first.

Summer 1942 brought the first Willys jeeps to replace the 1311K3s as patrol commanders' pilot cars. Not quite as heavily armed as their SAS counterparts, they normally mounted twin Vickers KOs in front of the passenger seat. These three jeeps of B Sqn. HQ and T Patrol are seen on the edge of the sand sea in September 1942: they are lightly loaded while awaiting replenishment by the Heavy Section. All have condensers fitted. The nearest is driven by Maj. Jake Eason-Smith, then commanding the detached squadron, and later, as Group commander, killed in action when the LRDG were tragically misemployed on Leros in 1942. Beside his knee an aero compass can be seen mounted on the jeep body. A darker jerrican, clearly marked 'Water', can be seen bracketed on the side of the left-hand jeep. The jeeps are finished in either overall Desert Pink, Sand, or possibly the scheme shown in Plate F2 – the original print is unclear. Crews wear black RTR berets with LRDG cap badges.

THE ANAU II in the Djebel Akhdar, the only 1533X2 from T1 Patrol's six 30cwt and one jeep to survive the squadron night attack on Barca; the vehicle control points proved to be manned by Italian light tanks and there was intense 'follow-up' from the air at first light. Having fought clear of the town and towed out a damaged patrol truck through an ambush which wounded three men, B Sqn. was reduced to this vehicle and two jeeps by constant air attacks, and only made good their escape at nightfall. For his selfless actions caring for five wounded during the raid and its aftermath the Group MO, Dr. Lawson (seen here), was awarded the MC; Capt. Wilder, commanding T1, was awarded the DSO for his part, which included ramming an Italian tank with his truck to clear the way for his patrol. This fitter's vehicle bristles with two twin Brownings and two single Vickers KOs, some of them salvaged from other vehicles. It is shown as it appeared prior to the raid in plate E2.



The weather on D-I was exceptional and nearly put paid to the embryonic SAS. The deployed LRDC patrols had little trouble in reaching and manning their surveillance positions, and one patrol 'picked up the pieces' of I. Detachment as arranged, forging in the process a partnership that lasted to the end of the war. From now until the SAS were fully issued their own transport, they were taken into the vicinity of their targets by the LRDC, effectively reducing the risks of insertion and extraction and increasing the possibilities of success.

The SAS concentrated on airstrips, and the LRDC patrols on offensive tasks tried to reduce transport and supplies, especially petrol, reaching the forward areas – responding to an oft-quoted 24 November directive from the CinC ME to the GOC 8th Army to 'use the patrols offensively to the limit of their endurance'.

The LRDC/SAS combination was a potent weapon applied from March to May 1942 under the omnibus code name of Operation 'Green Room', which also took in the support for Operation 'Fulcrum', launched to reduce the aircraft available for anti-shipping strikes on a Malta-bound convoy – an action repeated with mixed results, due to compromise, in June 1942 for the 'Harpoon' and 'Vigorous' convoy operations.

The Middle East Commando also came under 'Green Room' and LRDC control, but with their own special option called Operation 'Stranger' (later altered to Operation 'Casemate') which involved patrols transporting many Commandos and their advanced reconnaissance teams 'Liphook' and 'Humourist' from the ISLD and A Force. When reasonably desert-wise and suitably mounted they deployed in June 1942 to their forward operating area, only to have their transport completely destroyed by air attack while moving up; the survivors were collected by VI Patrol, concealed nearby.

The stillborn 8th Army offensives of July 1942 'Exalted', 'Bacon' and 'Manhood', which replaced the planned 'Buckshot' advance – all received a share of direct action tasks from the Group and the SAS. These included preparations for Operation 'Dogrose', which was intended to land a force near Sollum, join up with the unconventional forces and block the defile there until relieved. Fortunately for all concerned this was cancelled, but the idea of using special forces for a raid such as this lingered on, and was to emerge again later.

The LRDC's first raid took them to Murzuch in the Fezzan as part of a concept that had been on the War Office Military Intelligence Research branch files since 1939: the taking of Kufra by irregular forces via the back door from Chad. Operation 'Deported', as it is referred to in some British files, was approved by the GHQ Joint Planning Staff on 24 October 1940; and on 27 December T and G Patrols were on their way to meet up with the Free French marching from Fort Lamy in Chad. Their instructions, in part, were to provide communications, reconnaissance and additional striking power for the poorly equipped French force when destroying the principle garrison of Murzuch and nearby oasis, if possible, while en route to Kufra.

All the patrol orders were achieved, and



Murzuch was taken in a surprise attack which left the airfield blazing and the patrols better off for ammunition than when they started – the Italian aircraft on the field having been fitted with .303in. weapons. By Day 38 the advance was halted to regroup, releasing the patrols for other tasks; they had lost over a troop of scarce vehicles, three dead and three captured, including the overall LRDG commander. In exchange, the Italians were badly upset and forced to redeploy troops to cover other remote outposts. The French had proved themselves back in the war, and the British had secured the Takoradi air route and their southern flank.

The second raid involving the Group was a series of concurrent operations intended to thoroughly disrupt the major enemy supply points and dislocate his offensive operations preparatory to resumption of the offensive by the 8th Army. The raid was planned for August 1942, but 'Caballo' or 'the six day race' delayed it to September, when the conditions it was supposed to alter had largely been covered by other means. No really satisfactory explanation has ever been given for mounting this raid, except for 'psychological effect'.

A seafaring nation, the British are ever alert to the possibilities of seapower. The long, open North African shoreline sorely tempted the planners, and a Directorate of Opposed Landings produced many options to take advantage of this, only to have them discarded over and over again when tides and beach landing areas were proved unsuitable or events did not justify the effort involved.

For this raid both the open sea and desert flanks would be employed to damage the enemy. Somehow, somewhere all the past plans for 'indirect approach' strategies were pulled together and made into one big Combined Operation. 'Agreement' was targetted on Tobruk, with 1st Special Service Squadron and the German uniformed Special Interrogation Group (both former Middle East Commando sub-units),

Fresh meat was a welcome addition, even to the LRDG ration scale, which was generous enough to excite the envy of other units. Here a meal is in preparation on the tailgate of a Breda truck; note extensive sand-covers over the gun, and just to the left of it a rum jar can be seen – a welcome comfort on cold desert nights. The onlooker is Hamed, a Tripolitanian soldier 'lifted' by B Sqn. during the Barce raid, who finished the war happily working in the LRDG base cookhouse.



Just visible here is the simple improvised butt added by the Group to the Browning Air Pattern HB machine guns used on some vehicles; it was made of tubing, with a hinge welded onto the gun body, by which a bar could be moved to press against the normally hydraulic firing mechanism, giving crude but perfectly effective control. The navigator's sun compass fitted to this W/T truck is just visible fixed above the dashboard.

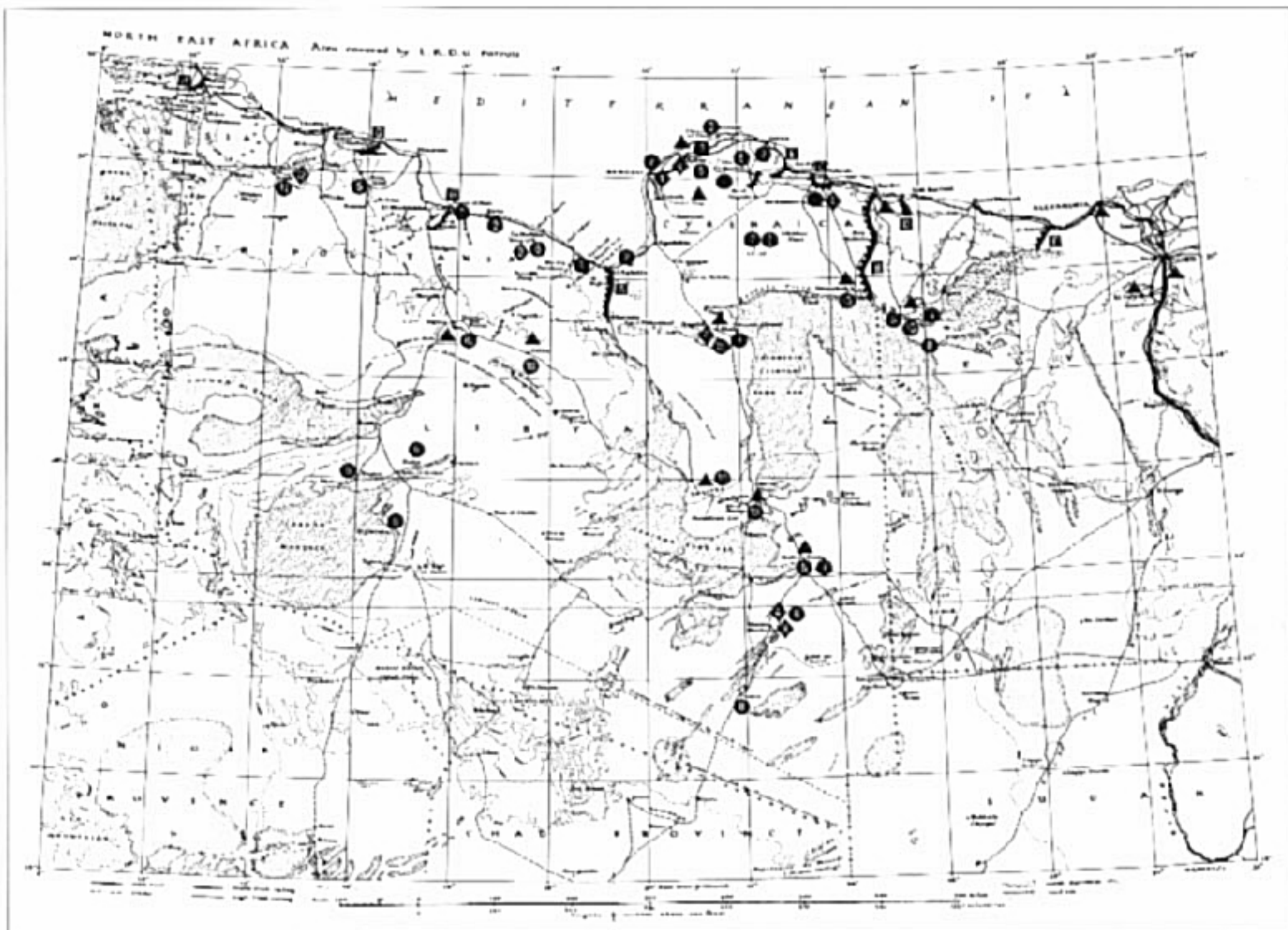
with Y1 Patrol for guidance. This force was to secure a beachhead for a naval landing force in MTRs and destroyers, who could wreck the port properly. 'Bigamy' was given to the SAS, with two Honey tanks, to suppress the defences of Benghazi, with both S Patrols as additional back-up. 'Caravan' was aimed at Barce (present-day Al Marj), with T1 and G1 Patrols and B Squadron HQ, carrying 'Popski' and a couple of his Libyan Arab Force men for a final close target reconnaissance. 'Nicety' was targetted on Jalo, an operation by the Sudan Defence Force with Y2, later R2 Patrol, in support. Finally, there were to be two deception operations: 'Coastguard' by 216 (BT) Squadron, dropping 'gingerbread men' – simulated parachutists – near Siwa; and 'M.G.7', a diversionary naval bombardment on Daba to cover the Tobruk force.

On every single target for the night of 13–14 September 1942 the enemy was expecting trouble sometime soon. Additional Italian forces had been moved in recently. Of the Tobruk force only Y1 Patrol managed to get out. In Benghazi the SAS were ambushed (without the tanks, which were abandoned shortly after leaving base as unfit for the journey) after they had been ordered in by GHQ, who disbelieved their report, based on local Arab agents and the ISLD man in the area, that the enemy were reinforced and expectant. In Barce the patrols coming in from the landward side false-footed the defences and the airfield was left in flames, even though they had to fight their way out past tanks and infantry. At Jalo the raiding force could not even break in, so well prepared were the enemy. Somehow the sequence of raids had been 'blown'. Earlier in the month a captured New Zealand brigadier was almost persuaded to break out of his prison by a man pretending to be an LRDC officer who wanted to join up with his unit when they came in; the only thing he didn't know for sure was the date and the identity of each unit by target. He *did* know that the raid was on. How?

The Germans certainly did *not* know the operations were coming, as they pulled their Aufklärungs Abteilungen out of the main line and prepared a Kampfgruppe to deal with a major landing in Tobruk, to move only when the armoured reconnaissance units had reported on the situation.

The matter remains a mystery to this day. Did Italian Intelligence know something which it failed to pass on to its Axis partner, having quietly moved in more security troops in the expectation of achieving a great propaganda coup when it defeated the otherwise elusive raiders? In which case why weren't the defences fully alert? We don't know the answer, and the British Official History flatly denies any compromise. In the end the only people who benefited from the raid were the Germans, who recovered the naval cypher from HMS *Sikh*, sunk outside Tobruk, and acquired one of the MTRs for their own navy.

Full details of the events of this fateful night and its aftermath are given in the books cited under sources. The only thing that remains to be considered here are the words of JPS Paper 106, prepared as a guide to the proposed operation's effectiveness: 'We must be prepared to accept the loss of all naval forces, together with the majority of the personnel taking part in the operation'. In these tragically prescient words the writer accepts the costs of committing most of the special forces available in the desert, most of them of proven high value, to an operation against an enemy already known from Ultra intelligence to have shot his bolt ... and all 'for psychological reasons'?



CHRONOLOGY OF MAJOR OPERATIONS AND EVENTS IN THE MEDITERRANEAN THEATRE OF OPERATIONS, BY BOTH CONVENTIONAL FORCES AND THE LRDG

1940

13 September

Italian operations in Cyrenaica begin. Day 9 of Kufra reconnaissance by entire LRP.

31 November

Preparations for Operation 'Compass' well in hand. Day 9 of LRP offensive operation. Men of W Ptl., D Tp. win first New Zealand MC and MM of war at Ain Dui.

1941

31 March

DAK start advance to secure Mersah el Brega as assembly area and FUP for later attack. A Sqn. ordered to set up FOB at Jalo; R Ptl. to Tazerbo as standing patrol.

6 April

Operation 'Marta' launched against Greece. In Africa, hasty DAK attack meets with increasing success. A Sqn. (Y Ptl. & half G) attack Italian units near Mechil. Other half G Ptl. on Ajila reconnaissance. Rest of LRDG ordered to form FOB at Kufra.

15 May

'Brevity' begins. G Ptl., jumped previous day by German armoured cars, awaits further orders.

28 July

British forces regrouping after 'Battleaxe'. G Ptl. destroy Axis petrol dump at Bir el Ghar airstrip.

25 August

Planning for 'Crusader', 'Acrobat' (capture of Tripolitania) and 'Bootjack' (sea landing in support). A Sqn. returns to Cairo to re-equip with new vehicles.

A: Limit of British Operation 'Compass', Feb.1941; start of Rommel's first offensive, May 1941; limit of Operation 'Crusader', Jan. 1942; start of Rommel's second offensive, Theseus, May 1942; start of Rommel's defensive battles, Dec. 1942. B: Start of 'Compass', Dec. 1940; and of 'Crusader', Nov. 1941. C: Investment of Tobruk, April-Dec. 1941. D: Limit of Rommel's first offensive, May 1941. E: Limit of Rommel's second offensive, Aug. 1942. F: Front line, 1st and 2nd Alamein, Aug.-Oct. 1942. G: Rommel's second and third defensive lines, Feb. 1943. H: Front line, Operation 'Pugilist', March 1943. Solid triangles: LRDG HQ Bases: Cairo, July 1940; Kufra, April '44; Siwa and Giarabub, Nov.1941; Jalo and Siwa, Dec.1941; Cairo, Feb.1942; Siwa, June 1942;

17 November

Day 1 of 'Crusader'; day 7 of DAK Tobruk attacks. Both 'Flipper' (to kill or kidnap Rommel) and first SAS airfield operations fail. G(R) team on Trieste Div. HQ operation abort. All LRDG patrols, except one reserve are committed.

16 December

LRDG now engaged in direct action tasks. S2 Ptl., with RA Section, attack Gattia fort. G1 Ptl. lose 11 men captured while trying to contact E Force. One patrol in transit and two in LUP for later offensive action. Three patrols operating with Bencol which continues efforts to prevent enemy escaping south of Benghazi.

28 December

ILRS formed. A Sqn. under command E Force. T2 Ptl. leave Jalo with L Detachment's No. 1 Section to hit 'Marble Arch' airstrips. One patrol in transit five others refitting at Siwa. R2 Ptl. prepare to join 'Aesop' (Lecierc's Free French advance to Tripolitania).

1942

20-21 March

'Fullsize' attempts to weaken enemy attacks on Malta convoy MW10. Three patrols on 'Green Room', waiting for combined L Detachment, Folboat Tp. and ISLD teams inserted on Slonta, Berka and Benghazi airstrips and port. 'Stranger' Commando team also extracted by one of these patrols. R1 Ptl. Road Watch OP compromised. Rest of Group re-equipping.

26 May

'Theseus' begins as prelude to 'Herkules'. Three patrols on Road Watch, one medevac in transit. Three patrols on 'Green Room' returning with L Detachment from Benghazi. 'Casemate' and G(R) teams from Gebel. 'Popski' and LAF Commandos inserted. S1 Ptl. on 'Glamour', guiding Lion Bde. deception unit.

El Faiyum, July 1942; Kufra, Sept. 1942; Zella, Dec. 1942; Han, Jan. 1943; Alexandria, April 1943. FOBs: Giarabub, Feb. 1941; Barce and Mawa, March 1941; Jalo, Giarabub, Sollum, April 1941; Siwa, Sept. 1941; Giarabub, Jalo, Nov.1941; Siwa, Cairo, Feb.1942; El Faiyum, July '42; Kufra, Sept.1942. 1: LRDG Road Watch operations. 2: Ops. by L Detachment, SAS Bde. 3: Ops. by Middle East Commando. 4: Italian ground attacks on LRDG. 5: Ops. by Free French. 6: LRDG escape and evasion on foot. 7: Mr support by 216 BT Sqn., RAF. 8: Medevac operations. 9: Italian air attacks on LRDG. 10: Ops. by LRDG Survey Section. 11: Op. with 'Popski's Private Army'. 12: German air attack on LRDG.

15 June

'Freeborn', much modified, begins, as 8th Army attempts to 'break clean' and re-establish on new defensive positions. Three patrols on Road Watch. Support for Malta convoys 'Harpoon' and 'Vigorous' provided by three patrols inserting L Detachment on Benghazi, Berka and Barce. Five patrols, including one from ILRS, on direct action tasks.

4 July

Three patrols on Road Watch. L Detachment and three patrols establish FOB near Bir Chaldee for direct action on airstrips in support of 'Exalted' and in preparation for 'Dogrose' (sea landing Sollum area). Other patrols dumping supplies for their use; inserting 'Liphook' team; and extracting part of 'Popski's' LAF team.

13-14 September

Cps. 'Agreement' 'Bigamy', 'Caravan', 'Coastguard', 'Nicety' and 'M.G.7' by L Detachment, 1 Special Service Sqn., SIG and all except three LRDG patrols cause Panzerarmee concern for 24 hours.

9 December

'Guillotine', the left hook at El Aghella, begins; LRDG patrols deploy in support with direct action on airstrips and transport.

1943

10 January

'Fire-Eater' and 'Gratuity' (advance by Leclerc's Free French) converge. LRDG patrol names 'Wilder's Gap' during reconnaissance for 'Pugilist' (operation to breach Mareth Line).

6 March

Caen: Arme'e Gruppe Afrika attempts spoiling attack at Medenine to break up 'Pugilist'. LRDG starts handing in vehicles preparatory to new role.

April-May

Final operations by 18 Army Group to destroy Italo-German forces in North Africa. ILRS redeploy to Eastern Persia.



The Indian Long Range Sqn. was equipped exactly as the rest of the LRDG. Their jeeps might be fitted, as the one shown here, with a single .5in. Browning on a central pillar mount and with a spare spring slung over the front bumper below the radiator condenser.

THE PLATES

Camouflage schemes are painted freehand, with paint available at the time, which comes from different sources. Weathering quickly produces a variety of shades. Every effort has been made to research these plates by reference to official sources, known availability of paint stocks, and individual reminiscences; but to claim exact authenticity would be foolish. Where possible British Standard Colours have been quoted, from British Colour Standard 381 of 1930, as a guide.

A1: FORD MODEL T, LIGHT CAR PATROL, 1916-17

These forerunners of the LRDG, who shared with them Desert Pink camouflage and a motley range of uniforms, left their tracks and dead campfires in terrain so remote that 25 years later LRDG patrols often found them undisturbed. They ranged as widely as was possible with 35kg of stores; this included petrol for 96km, rations and water for three men for three days, and 720 rounds of Lewis gun ammunition. For communications they relied on carrier pigeons, and their own ability to get back to base with their results.

A2: FORD 01 V8 15CWT, T PATROL PILOT CAR; MARCH 1941

Used by patrol commanders, this American left-hand-drive Ford was based on a commercial light pick-up with wooden extensions. WD number 13170 was painted overall Light Stone (BSC 51) with Purple Brown (BSC 49) camouflage, including the water condenser adapted from a 2-gal. POL container welded to the running board; canvas screens replaced the metal doors, giving areas of darker colour. Sand channels were bracketed on both rear body and sand mats – wooden slats sewn between canvas strips – were rolled in carriers on the front wings; the inner surfaces, painted red and white at two-foot intervals, doubled as air recognition panels. Armament was a .303in. Vickers medium MG on a swan-neck mount. Crews might wear steel helmets during 'immediate action' drill but, although carried, they were rarely used on operations.

T, R and W Patrol vehicles bore Maori names beginning with the patrol letter. *TE RANGI* (see inset, with WD number) was Clayton's similar pilot car, captured on the LRP's first major operation; the name means 'The Chief'. A possible patrol flag is shown, more usually flown by the navigator.

B1: CHEVROLET WB 30CWT, R PATROL W/T TRUCK; MARCH 1941

The first principal 'patrol truck' used by the Group; this example is camouflaged as A2. Inset views (left) enlarge the WD number, vehicle name, truck tactical number on HQ Troop colour, and the Maori 'Tiki' idol carried by the whole patrol. Similar tactical markings for two trucks of T and W Patrols are also shown, inset right (*WAIKAHA*, WD number 8202, has recently been discovered, largely intact, in Libya; how it reached a spot far from any patrol area is a mystery,

but efforts are being made to recover it for restoration). This, the only LRDG radio truck with the set operated from inside the body, has a No. 11 HP set in the front left-hand corner behind the aerial mount; all later models had access from outside the truck, for greater freedom of movement. A .303in. Lewis is mounted beside the driver, and a .5in. Boys A/T Rifle on a steel bridge across the body; the Boys proved to be of little use and was generally replaced with a heavy MG.

B2: FORD F30CWT, Y2 PATROL; OPERATION 'CRUSADER', NOVEMBER 1941

Canadian right-hand-drive Fords replaced the Chevrolet WBs in March 1941; they had the condenser on the running board, and some had aero screens replacing the original full-length windscreens. Camouflaged in Portland Stone (BSC 64) and Silver Grey (BSC 28), this truck has plain black and white tactical markings. Names were now carried on the right front mudguard, and Y2 is known to have used 'Four Musketeers' names; what the other half-patrol used is unknown. A .303in. water-cooled Vickers Mk. I is pintle-mounted centrally, guns were covered against sand whenever possible. With this armament – and a 'flake' shot from an EY rifle grenade launcher! – the patrol persuaded the Italian garrison of El Ezzeat fort to surrender, by judicious use of bluff and firepower.

C1: FORD F30 30CWT WITH QF 37MM BOFOR A/T, Y PATROL; JUNE 1941.

The patrol's heaviest 'stand-off' weapon, the Bofors was originally fitted to the Chevrolet WB and was simply re-mounted when the Group re-equipped; two more guns were acquired at that time. This F30 with the CMP No 11 cab (stripped), carried 45 rounds of HE and 45 of AP. When ammunition for the obsolescent Bofors ran short it was replaced with the captured Italian Cannone-Mitragliera da 20/65 modello 35, which had the advantage of a good anti-aircraft capability. The truck is camouflaged as B2, with similar tactical markings. *ARAMIS* was painted on the left mudguard, as viewed, and the WD number on the front bumper. A tow chain – essential, when operating this extra-heavy vehicle in rough terrain – was wrapped around the radiator brushguards, or across the chassis rear and tow hook.

C2: WACO ZCC-7, AX697; AIR SECTION, JUNE 1942

The LRDG's unique 'private air force' of two WACO biplanes was acquired by purchase from Egyptian businessmen in January 1941. They were flown, navigated and maintained entirely by Group personnel; both Prendergast and Barker, a New Zealand cavalryman, were qualified pilots. This infringement of RAF prerogatives was an annoyance in some circles; but the sturdy, reliable WACOs, which could land almost anywhere, more than proved their worth. They were used for moving key personnel for briefings; for dropping essential spares in the field; for short range medvac; and for a thousand different liaison tasks.

This is the 'big WACO', usually flown by the CO – AX695 had a smaller engine. Camouflaged in standard RAF Middle Stone and Dark Earth with Sky Blue undersurfaces, it carried national roundels, the serial in black on the rear fuselage, and the LRDG initials together with a kiwi insignia (replacing an earlier scorpion badge) on the nose. Full markings were necessary: the WACO's general similarity to the Italian CR.42



Y Patrol resting in the close countryside of Tripolitania, which made infiltration harder and ambush more likely, especially given the unfriendliness of many of the local population. The crews wear battledress against the cold; the man in the greatcoat has a water bottle slung round his waist, possibly as part of his escape kit. The jeep is fully stowed and secured, with the main weight behind the driver. A single Vickers KO is mounted in front of the passenger seat, as usual; the central pillar mount is visible beyond it. Y Patrol used predominantly grey and sand coloured schemes, so this jeep may well be in overall Sand, toned down by layers of dust.

was a mixed blessing, depending upon who it was flying over.

Co-operation between the Group and 216(BT) Sqn. RAF was close and effective. The Bombay transports made many difficult flights to deliver essentials, often to lonely desert sites far behind enemy lines. In their turn, many downed RAF crews had cause to be grateful to LRDG patrols for their safe recovery.

D: CHEVROLET 1533X2

This is the standard LRDG patrol truck supplied by G.M. of Canada in March 1942. It is a 30cwt/40cwt 4x2 chassis/cab from an MCP (Modified Conventional Pattern) model with a 134.5in. wheelbase. MCP trucks were essentially civilian commercial type trucks, but with specially ordered equipment for military use. This would include heavy duty axles with single wheels and military tyres, larger radiators

and bigger cooling fans. The 1533 was supplied with cab roof and doors removed and mounted with a 10-in. Gottfredson 4B1 steel ammunition body. After arrival in North Africa, the trucks were further modified to LRDG requirements. Windscreens were replaced with aero screens. Radiator condensers, gun mounts, and all kinds of equipment storage brackets were fitted. Grill teeth were removed to improve engine cooling. Springs were also beefed up with extra leaves so as to be able to carry a minimum two and a half tons of stores, mostly petrol.

E1: CHEVROLET 1311X3, INDIAN PATTERN 1942, 15CWT, LRDG HQ PILOT CAR, AUGUST 1942

These replacements for the Ford 01 V8s were Canadian-built, assembled in Australia, and fitted with a wooden body in India! Smaller wheels (9.00x13) than those of the patrol trucks were fitted as standard, complete with sand tyres. This car is painted overall Portland Stone (BSC 64) and carries Group HQ tactical markings. The WD number L40441 was stencilled in black mid-way along both bonnet sides. No weapons are mounted, as this car is in use by the Intelligence Officer for local liaison around the Squadron or Group FOB.

The green signal flag indicates 'Rally from dispersal'. A simple flag system was used for all inter-vehicle control, based on troop colours: green for A(HQ) Troop, black for B Troop, yellow for C Troop, and red for D Troop. A blue and



The graves of Capt. P. L. Arnold and Driver M. Gravil at Hon, where they were killed by mines: a mute testimony to the dangers of the Group's work. During the desert campaign nine men were killed due to some form of enemy action, and six by 'own forces'. Individually tragic, these must be considered a very small price to pay for the Group's contribution to victory during more than two hundred operations behind enemy lines.

white flag indicated orders for the entire patrol, and was used together with the green flag to give semaphore commands. Inset are detached squadron HQ tactical markings carried on the Chevrolet 1533X2 patrol truck: LOUISE on the right bonnet nose, as viewed, and the tac-mark plate on the right mudguard.

E2: CHEVROLET 1533X2 30CWT, T1 PATROL FITTER'S TRUCK; OPERATION 'CARAVAN', SEPTEMBER 1942

The final pattern of patrol truck, specially ordered for the Group, was this Canadian Chevrolet with flat full-length rear cargo deck and Gotfredson 4Bi steel ammunition body. It is marked here as 'T6', TE ANNAU II the only T Patrol truck to survive the chaotic but highly successful Barca raid – an operation which cost B Sqn. (T1 and G1 Patrols) four patrol vehicles lost, ten men captured and six wounded, and earned two DSOs, one MC and three MMAs. This vehicle normally carried about 2½ tonnes of stores; on the way back from Barca it carried some 4½ tonnes, including its crew, the Group doctor, two lightly and five seriously injured men, and carried them over 200km to LG 125 for casevac by a 216 Sqn. Bomber.

The startling camouflage scheme (swathes of Desert Pink, light blue and light green feathered over US Desert Sand) is based on photos and personal recollections. Armament included two Brownings, with the crew carrying additional rifles, Thompsons and grenades. A spare rear spring was slung from the front fender for use by the patrol fitter, who could deal with most mechanical mishaps well enough for the patrol to complete its task.

F1: CHEVROLET 1533X2 30CWT, R PATROL; ROAD WATCH, MARCH 1942.

Each patrol commander had authority to camouflage his vehicles as he thought best, and many variations were used according to paint availability and personal theories. Desert Pink, Middle East No. Z1, was found most effective for the periods of maximum danger, i.e. dawn and dusk. Markings on ROTCWA follow the usual style, with the green 'Tiki' ancestor symbol of this New Zealand patrol; inset are additional tactical markings carried by another vehicle in the patrol. The black 'Inspected' stencil across the bonnet was applied before issue to the user unit. Fully stowed with around 2-tonnes of supplies and equipment, a truck had a range of 2,700km over 16 days.

F2: WILLYS MB JEEP, G PATROL PILOT CAR; DECEMBER 1942

This versatile and efficient replacement for the Chevrolet 1311X3 is armed with twin .303in. Vickers KO guns; the radiator is cut away to assist cooling, and a water condenser is fitted. Camouflage of Desert Pink, light blue, light green and purple over US Desert Sand is based on photos and personal recollections; G Patrol markings on a background of Guards colours (here 'G' above 'I' on vertical blue, red, blue stripes) are carried both sides of the bonnet, but vehicles were not named. True to tradition, the Guards made up a commander's flag in December 1940 and it was used thereafter by the senior patrol commander, being carried furled whenever he was absent. The LRDG and SAS decided that the jeep was the vehicle for them simultaneously, but the SAS 'got in first'. It was thus a matter of glee when LRDG patrols could recover any jeeps abandoned by the SAS, which happened more than once. Jerricans were not generally carried on the bonnet of LRDG jeeps.

G: TYPICAL LRDG OPERATIONAL DRESS:

G1: SGT. S. ROSE, RTR; S PATROL, SUMMER 1942 (LATER WO. II, SSM A SQN.)

G2: PTE. A. TIGHE, M.I.D., RAOC; FITTER, T PATROL, JANUARY 1941 (LATER CORPORAL, MM, KILLED IN GREECE)

G3: LT. D. 'SHORTY' BARRETT, NZ DIV. CAVALRY; ADJUTANT AND QM, GROUP HQ, AUGUST 1941 (LATER CAPTAIN, MBE, M.I.D.)

G4: CAPT. D. L. LLOYD OWEN, QUEEN'S ROYAL REGT.; COMMANDER, Y PATROL, NOVEMBER 1941 (LATER MAJOR-GENERAL, CB, DSO, OBE, MC, AND LAST GROUP CO)

G5: CPL. L. H. BROWNE, DCM, NZASC; NAVIGATOR, T PATROL, WINTER 1942 (LATER CAPTAIN, MC, DCM, M.I.D., AND LRDG INTELLIGENCE OFFICER)

Every man joining the Group brought his own clothing and equipment with him; with over 50 parent units and seven nationalities represented, the wide variety seen in photos is

understandable. The only special items were leather sandals ('chappies'), and the 'Tropal' coat, originally used by British troops in Norway and useful in the freezing desert night. The 'Hebron coat' (G5) in white or black goatskin was locally acquired. The light khaki kafr - Arab headdress - was more often worn at base than on patrol (G2), when knitted cap comforters (G5) or balaclavas (G3) were preferred. The LRDG shoulder title (G3) and cap badge (G1) were rarely worn in the field.

Unit insignia were at first forbidden for security reasons, but Bagnold later relented in the interests of esprit de corps. The 'scorpion within a wheel' was originally made up locally as a brooch for wives and girlfriends, and later became the cap badge; it was designed by 'Bluey' Grimsey, an ex-A/T gunner of 34 NZ A/T Bty. It owed a little to a pre-war Italian

Auto-Saharan Company badge which featured a crab, representing the Tropic of Cancer, and more to an actual scorpion which later bit 'Bluey' and promptly died, leaving its victim largely unharmed. The first pattern insignia was silver, with a fat scorpion above 'LRP/NZ/LRDG' on separate scrolls; it was used briefly by R and T Patrols when on leave. The later, universal pattern was in bronze, with a 'slimline' scorpion above 'LRDG'. Various national shoulder titles, and variations on the red-on-black 'LRDG' slip-on title, were worn from time to time, as were some NZ Bde. formation signs, but all were discouraged. Weapons included Webley pistols, SMLE rifles, several generations of Thompson SMG, and Mills 35 grenades.

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- 08A405Y 68 SA 1917-45
- 08A405Z 69 SA 1917-45
- 08A406A 70 SA 1917-45
- 08A406B 71 SA 1917-45
- 08A406C 72 SA 1917-45
- 08A406D 73 SA 1917-45
- 08A406E 74 SA 1917-45
- 08A406F 75 SA 1917-45
- 08A406G 76 SA 1917-45
- 08A406H 77 SA 1917-45
- 08A406I 78 SA 1917-45
- 08A406J 79 SA 1917-45
- 08A406K 80 SA 1917-45
- 08A406L 81 SA 1917-45
- 08A406M 82 SA 1917-45
- 08A406N 83 SA 1917-45
- 08A406O 84 SA 1917-45
- 08A406P 85 SA 1917-45
- 08A406Q 86 SA 1917-45
- 08A406R 87 SA 1917-45
- 08A406S 88 SA 1917-45
- 08A406T 89 SA 1917-45
- 08A406U 90 SA 1917-45
- 08A406V 91 SA 1917-45
- 08A406W 92 SA 1917-45
- 08A406X 93 SA 1917-45
- 08A406Y 94 SA 1917-45
- 08A406Z 95 SA 1917-45
- 08A407A 96 SA 1917-45
- 08A407B 97 SA 1917-45
- 08A407C 98 SA 1917-45
- 08A407D 99 SA 1917-45
- 08A407E 100 SA 1917-45

YANGUARD/NEW VANGUARD (YND/NVG)

- 08B404H 03H NAZIS IN THE
- 08B404J 03H NAZIS IN THE
- 08B404K 17 NO. 24 ARMY (USA)
- 08B404L 20 ALLIED COMMANDERS WORLD WAR I
- 08B404M 24 GERMAN COMMANDERS WORLD WAR I
- 08B404N 31 GERMAN EASTERN FRONT ALLIES 1941-43
- 08B404O 32 GERMAN AIRBORNE TROOPS
- 08B404P 33 HAZARDOUS WARFARE 1914-45
- 08B404Q 34 FOREIGN VOLUNTEERS 1914-45
- 08B404R 35 RESISTANCE WARFARE 1914-45
- 08B404S 36 BRITISH SATTLES IN NORTH AFRICA
- 08B404T 37 UNARMED & ARMED
- 08B404U 38 GERMAN MILITARY POLICE UNITS
- 08B404V 39 RED ARMY 1917-45
- 08B404W 40 SA 1917-45 - FLEETS FROM BOOYERS
- 08B404X 41 SA 1917-45
- 08B404Y 42 SA 1917-45
- 08B404Z 43 SA 1917-45
- 08B405A 44 SA 1917-45
- 08B405B 45 SA 1917-45
- 08B405C 46 SA 1917-45
- 08B405D 47 SA 1917-45
- 08B405E 48 SA 1917-45
- 08B405F 49 SA 1917-45
- 08B405G 50 SA 1917-45
- 08B405H 51 SA 1917-45
- 08B405I 52 SA 1917-45
- 08B405J 53 SA 1917-45
- 08B405K 54 SA 1917-45
- 08B405L 55 SA 1917-45
- 08B405M 56 SA 1917-45
- 08B405N 57 SA 1917-45
- 08B405O 58 SA 1917-45
- 08B405P 59 SA 1917-45
- 08B405Q 60 SA 1917-45
- 08B405R 61 SA 1917-45
- 08B405S 62 SA 1917-45
- 08B405T 63 SA 1917-45
- 08B405U 64 SA 1917-45
- 08B405V 65 SA 1917-45
- 08B405W 66 SA 1917-45
- 08B405X 67 SA 1917-45
- 08B405Y 68 SA 1917-45
- 08B405Z 69 SA 1917-45
- 08B406A 70 SA 1917-45
- 08B406B 71 SA 1917-45
- 08B406C 72 SA 1917-45
- 08B406D 73 SA 1917-45
- 08B406E 74 SA 1917-45
- 08B406F 75 SA 1917-45
- 08B406G 76 SA 1917-45
- 08B406H 77 SA 1917-45
- 08B406I 78 SA 1917-45
- 08B406J 79 SA 1917-45
- 08B406K 80 SA 1917-45
- 08B406L 81 SA 1917-45
- 08B406M 82 SA 1917-45
- 08B406N 83 SA 1917-45
- 08B406O 84 SA 1917-45
- 08B406P 85 SA 1917-45
- 08B406Q 86 SA 1917-45
- 08B406R 87 SA 1917-45
- 08B406S 88 SA 1917-45
- 08B406T 89 SA 1917-45
- 08B406U 90 SA 1917-45
- 08B406V 91 SA 1917-45
- 08B406W 92 SA 1917-45
- 08B406X 93 SA 1917-45
- 08B406Y 94 SA 1917-45
- 08B406Z 95 SA 1917-45
- 08B407A 96 SA 1917-45
- 08B407B 97 SA 1917-45
- 08B407C 98 SA 1917-45
- 08B407D 99 SA 1917-45
- 08B407E 100 SA 1917-45

ELITE (ELI)

- 08C404H 03H NAZIS IN THE
- 08C404J 03H NAZIS IN THE
- 08C404K 17 NO. 24 ARMY (USA)
- 08C404L 20 ALLIED COMMANDERS WORLD WAR I
- 08C404M 24 GERMAN COMMANDERS WORLD WAR I
- 08C404N 31 GERMAN EASTERN FRONT ALLIES 1941-43
- 08C404O 32 GERMAN AIRBORNE TROOPS
- 08C404P 33 HAZARDOUS WARFARE 1914-45
- 08C404Q 34 FOREIGN VOLUNTEERS 1914-45
- 08C404R 35 RESISTANCE WARFARE 1914-45
- 08C404S 36 BRITISH SATTLES IN NORTH AFRICA
- 08C404T 37 UNARMED & ARMED
- 08C404U 38 GERMAN MILITARY POLICE UNITS
- 08C404V 39 RED ARMY 1917-45
- 08C404W 40 SA 1917-45 - FLEETS FROM BOOYERS
- 08C404X 41 SA 1917-45
- 08C404Y 42 SA 1917-45
- 08C404Z 43 SA 1917-45
- 08C405A 44 SA 1917-45
- 08C405B 45 SA 1917-45
- 08C405C 46 SA 1917-45
- 08C405D 47 SA 1917-45
- 08C405E 48 SA 1917-45
- 08C405F 49 SA 1917-45
- 08C405G 50 SA 1917-45
- 08C405H 51 SA 1917-45
- 08C405I 52 SA 1917-45
- 08C405J 53 SA 1917-45
- 08C405K 54 SA 1917-45
- 08C405L 55 SA 1917-45
- 08C405M 56 SA 1917-45
- 08C405N 57 SA 1917-45
- 08C405O 58 SA 1917-45
- 08C405P 59 SA 1917-45
- 08C405Q 60 SA 1917-45
- 08C405R 61 SA 1917-45
- 08C405S 62 SA 1917-45
- 08C405T 63 SA 1917-45
- 08C405U 64 SA 1917-45
- 08C405V 65 SA 1917-45
- 08C405W 66 SA 1917-45
- 08C405X 67 SA 1917-45
- 08C405Y 68 SA 1917-45
- 08C405Z 69 SA 1917-45
- 08C406A 70 SA 1917-45
- 08C406B 71 SA 1917-45
- 08C406C 72 SA 1917-45
- 08C406D 73 SA 1917-45
- 08C406E 74 SA 1917-45
- 08C406F 75 SA 1917-45
- 08C406G 76 SA 1917-45
- 08C406H 77 SA 1917-45
- 08C406I 78 SA 1917-45
- 08C406J 79 SA 1917-45
- 08C406K 80 SA 1917-45
- 08C406L 81 SA 1917-45
- 08C406M 82 SA 1917-45
- 08C406N 83 SA 1917-45
- 08C406O 84 SA 1917-45
- 08C406P 85 SA 1917-45
- 08C406Q 86 SA 1917-45
- 08C406R 87 SA 1917-45
- 08C406S 88 SA 1917-45
- 08C406T 89 SA 1917-45
- 08C406U 90 SA 1917-45
- 08C406V 91 SA 1917-45
- 08C406W 92 SA 1917-45
- 08C406X 93 SA 1917-45
- 08C406Y 94 SA 1917-45
- 08C406Z 95 SA 1917-45
- 08C407A 96 SA 1917-45
- 08C407B 97 SA 1917-45
- 08C407C 98 SA 1917-45
- 08C407D 99 SA 1917-45
- 08C407E 100 SA 1917-45

CAMPAIGN (CAM)

- 08D404H 03H NAZIS IN THE
- 08D404J 03H NAZIS IN THE
- 08D404K 17 NO. 24 ARMY (USA)
- 08D404L 20 ALLIED COMMANDERS WORLD WAR I
- 08D404M 24 GERMAN COMMANDERS WORLD WAR I
- 08D404N 31 GERMAN EASTERN FRONT ALLIES 1941-43
- 08D404O 32 GERMAN AIRBORNE TROOPS
- 08D404P 33 HAZARDOUS WARFARE 1914-45
- 08D404Q 34 FOREIGN VOLUNTEERS 1914-45
- 08D404R 35 RESISTANCE WARFARE 1914-45
- 08D404S 36 BRITISH SATTLES IN NORTH AFRICA
- 08D404T 37 UNARMED & ARMED
- 08D404U 38 GERMAN MILITARY POLICE UNITS
- 08D404V 39 RED ARMY 1917-45
- 08D404W 40 SA 1917-45 - FLEETS FROM BOOYERS
- 08D404X 41 SA 1917-45
- 08D404Y 42 SA 1917-45
- 08D404Z 43 SA 1917-45
- 08D405A 44 SA 1917-45
- 08D405B 45 SA 1917-45
- 08D405C 46 SA 1917-45
- 08D405D 47 SA 1917-45
- 08D405E 48 SA 1917-45
- 08D405F 49 SA 1917-45
- 08D405G 50 SA 1917-45
- 08D405H 51 SA 1917-45
- 08D405I 52 SA 1917-45
- 08D405J 53 SA 1917-45
- 08D405K 54 SA 1917-45
- 08D405L 55 SA 1917-45
- 08D405M 56 SA 1917-45
- 08D405N 57 SA 1917-45
- 08D405O 58 SA 1917-45
- 08D405P 59 SA 1917-45
- 08D405Q 60 SA 1917-45
- 08D405R 61 SA 1917-45
- 08D405S 62 SA 1917-45
- 08D405T 63 SA 1917-45
- 08D405U 64 SA 1917-45
- 08D405V 65 SA 1917-45
- 08D405W 66 SA 1917-45
- 08D405X 67 SA 1917-45
- 08D405Y 68 SA 1917-45
- 08D405Z 69 SA 1917-45
- 08D406A 70 SA 1917-45
- 08D406B 71 SA 1917-45
- 08D406C 72 SA 1917-45
- 08D406D 73 SA 1917-45
- 08D406E 74 SA 1917-45
- 08D406F 75 SA 1917-45
- 08D406G 76 SA 1917-45
- 08D406H 77 SA 1917-45
- 08D406I 78 SA 1917-45
- 08D406J 79 SA 1917-45
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- 08D406N 83 SA 1917-45
- 08D406O 84 SA 1917-45
- 08D406P 85 SA 1917-45
- 08D406Q 86 SA 1917-45
- 08D406R 87 SA 1917-45
- 08D406S 88 SA 1917-45
- 08D406T 89 SA 1917-45
- 08D406U 90 SA 1917-45
- 08D406V 91 SA 1917-45
- 08D406W 92 SA 1917-45
- 08D406X 93 SA 1917-45
- 08D406Y 94 SA 1917-45
- 08D406Z 95 SA 1917-45
- 08D407A 96 SA 1917-45
- 08D407B 97 SA 1917-45
- 08D407C 98 SA 1917-45
- 08D407D 99 SA 1917-45
- 08D407E 100 SA 1917-45

WARRIOR (WAR)

- 08E404H 03H NAZIS IN THE
- 08E404J 03H NAZIS IN THE
- 08E404K 17 NO. 24 ARMY (USA)
- 08E404L 20 ALLIED COMMANDERS WORLD WAR I
- 08E404M 24 GERMAN COMMANDERS WORLD WAR I
- 08E404N 31 GERMAN EASTERN FRONT ALLIES 1941-43
- 08E404O 32 GERMAN AIRBORNE TROOPS
- 08E404P 33 HAZARDOUS WARFARE 1914-45
- 08E404Q 34 FOREIGN VOLUNTEERS 1914-45
- 08E404R 35 RESISTANCE WARFARE 1914-45
- 08E404S 36 BRITISH SATTLES IN NORTH AFRICA
- 08E404T 37 UNARMED & ARMED
- 08E404U 38 GERMAN MILITARY POLICE UNITS
- 08E404V 39 RED ARMY 1917-45
- 08E404W 40 SA 1917-45 - FLEETS FROM BOOYERS
- 08E404X 41 SA 1917-45
- 08E404Y 42 SA 1917-45
- 08E404Z 43 SA 1917-45
- 08E405A 44 SA 1917-45
- 08E405B 45 SA 1917-45
- 08E405C 46 SA 1917-45
- 08E405D 47 SA 1917-45
- 08E405E 48 SA 1917-45
- 08E405F 49 SA 1917-45
- 08E405G 50 SA 1917-45
- 08E405H 51 SA 1917-45
- 08E405I 52 SA 1917-45
- 08E405J 53 SA 1917-45
- 08E405K 54 SA 1917-45
- 08E405L 55 SA 1917-45
- 08E405M 56 SA 1917-45
- 08E405N 57 SA 1917-45
- 08E405O 58 SA 1917-45
- 08E405P 59 SA 1917-45
- 08E405Q 60 SA 1917-45
- 08E405R 61 SA 1917-45
- 08E405S 62 SA 1917-45
- 08E405T 63 SA 1917-45
- 08E405U 64 SA 1917-45
- 08E405V 65 SA 1917-45
- 08E405W 66 SA 1917-45
- 08E405X 67 SA 1917-45
- 08E405Y 68 SA 1917-45
- 08E405Z 69 SA 1917-45
- 08E406A 70 SA 1917-45
- 08E406B 71 SA 1917-45
- 08E406C 72 SA 1917-45
- 08E406D 73 SA 1917-45
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- 08E406H 77 SA 1917-45
- 08E406I 78 SA 1917-45
- 08E406J 79 SA 1917-45
- 08E406K 80 SA 1917-45
- 08E406L 81 SA 1917-45
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- 08E406O 84 SA 1917-45
- 08E406P 85 SA 1917-45
- 08E406Q 86 SA 1917-45
- 08E406R 87 SA 1917-45
- 08E406S 88 SA 1917-45
- 08E406T 89 SA 1917-45
- 08E406U 90 SA 1917-45
- 08E406V 91 SA 1917-45
- 08E406W 92 SA 1917-45
- 08E406X 93 SA 1917-45
- 08E406Y 94 SA 1917-45
- 08E406Z 95 SA 1917-45
- 08E407A 96 SA 1917-45
- 08E407B 97 SA 1917-45
- 08E407C 98 SA 1917-45
- 08E407D 99 SA 1917-45
- 08E407E 100 SA 1917-45

ORDER OF BATTLE (OOB)

- 08F404H 03H NAZIS IN THE
- 08F404J 03H NAZIS IN THE
- 08F404K 17 NO. 24 ARMY (USA)
- 08F404L 20 ALLIED COMMANDERS WORLD WAR I
- 08F404M 24 GERMAN COMMANDERS WORLD WAR I
- 08F404N 31 GERMAN EASTERN FRONT ALLIES 1941-43
- 08F404O 32 GERMAN AIRBORNE TROOPS
- 08F404P 33 HAZARDOUS WARFARE 1914-45
- 08F404Q 34 FOREIGN VOLUNTEERS 1914-45
- 08F404R 35 RESISTANCE WARFARE 1914-45
- 08F404S 36 BRITISH SATTLES IN NORTH AFRICA
- 08F404T 37 UNARMED & ARMED
- 08F404U 38 GERMAN MILITARY POLICE UNITS
- 08F404V 39 RED ARMY 1917-45
- 08F404W 40 SA 1917-45 - FLEETS FROM BOOYERS
- 08F404X 41 SA 1917-45
- 08F404Y 42 SA 1917-45
- 08F404Z 43 SA 1917-45
- 08F405A 44 SA 1917-45
- 08F405B 45 SA 1917-45
- 08F405C 46 SA 1917-45
- 08F405D 47 SA 1917-45
- 08F405E 48 SA 191

THE LONG RANGE DESERT GROUP 1940-1945



On 1 August 1945 one of the finest intelligence-gathering units ever created by the British Army was disbanded. Formed on 3 July 1940, the Long Range Desert Group was the brilliant product of the vision of Maj. Ralph Bagnold of the Royal Corps of Signals. As a model for what is now commonly known as a Long Range Reconnaissance Patrol unit, the Group can have few equals. Between 26 December 1940 and 10 April 1943, a total of only 15 days passed without a patrol of LRDG operating behind or on the flanks of the enemy – a remarkable achievement.

NEW VANGUARD SERIES

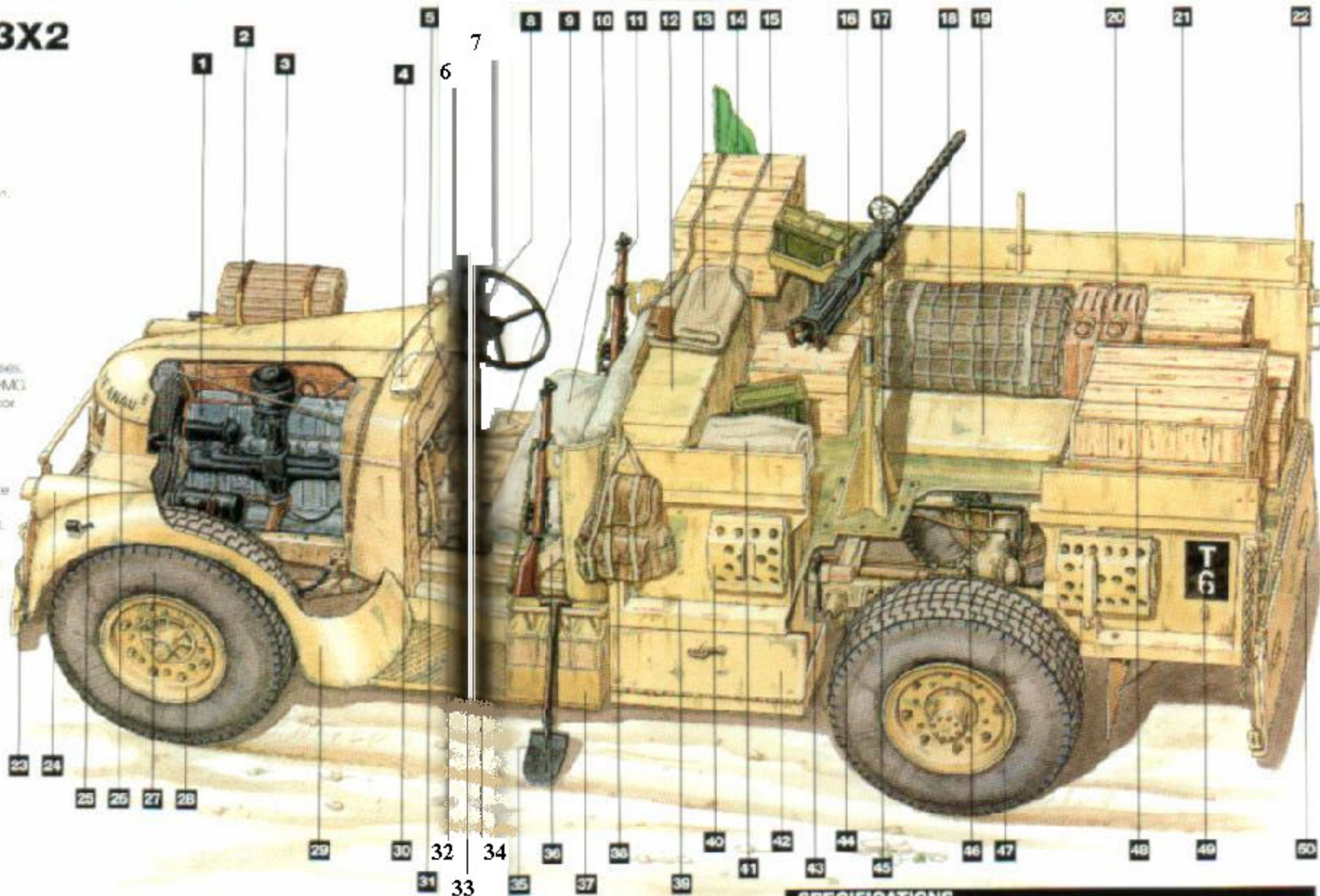
- Comprehensive histories of the design, development and operational use of the world's armoured fighting vehicles and artillery.
- Authoritative text by a recognised expert, backed up by extensive contemporary photographs, colour illustrations and technical drawings of the weapons system.
- Detailed colour artwork and line drawings detail the vehicles' variants and derivatives, and each volume includes a full-colour cutaway showing the interior workings of the fighting machine.



CHEVROLET 1533X2

KEY

- 1 275in straight six Chevrolet engine.
- 2 Canvas and bamboo sand mat in cradle.
- 3 Heavy duty oil bath air filter.
- 4 Aero screens.
- 5 Toggle light switches, push choke, throttle, and ignition.
- 6 Water condenser for re-cycling radiator coolant.
- 7 Round military style gauges.
- 8 Raynold sun compass.
- 9 Toolbox bolted to running board.
- 10 Bench seat above petrol tank.
- 11 Mk. II SMLE rifle in cradle.
- 12 Wooden lockers built into front of body.
- 13 'Coat Traps', for cold desert nights.
- 14 Patrol flag.
- 15 4 gallon petrol cans, 'filmbins', in wooden carrying cases.
- 16 Main armament — in this case a .5in. Browning AP-HMG.
- 17 Gun mount bolted to body crossmembers through floor.
- 18 Camouflage netting for truck concealment.
- 19 Wheel arches.
- 20 Captured German jerrycans for petrol and water.
- 21 Wooden 'greedy boards' to raise load level.
- 22 6 tubular uprights to attach 'greedy boards' and locate movable gun mounts e.g. Lewis, Vickers 'K' etc.
- 23 Heavy duty front bumper slung with tow chain / cable.
- 24 Back out headlights.
- 25 Brushguards.
- 26 Truck name — in this case 'Te ANAU' (The Wanderer).
- 27 10.50x18 sand pattern tyres.
- 28 Standard 8-bolt military split rims.
- 29 Widened fenders to cover heavy duty axle and wide tyres.
- 30 Hat faced cow.
- 31 Handbrake lever.
- 32 4-geared gearbox.
- 33 Change lever for 2-speed axle.
- 34 Battery compartment (6-volt).
- 35 Shovel.
- 36 Cat support.
- 37 Carrier for 3, 2-gallon petrol cans, bolted to running board.
- 38 Gate-out rucksack.
- 39 Coffered 481 steel ammunition body.
- 40 Sand channels carried in brackets on body sides.
- 41 Bedroll.
- 42 Underluggage storage boxes (8 each side).
- 43 'U' bolts attaching body to channel section chassis.
- 44 Heavy-duty springs for increased loading.
- 45 2-part open prosthesis with centre bearing.
- 46 Lever-arm shock absorber.
- 47 2-speed Eaton axle.
- 48 Tin cations (Canteen) in wooden crates.
- 49 Patrol letter and truck number.
- 50 Drop-down tailgate with securing chains.



SPECIFICATIONS

Mechanical Data

Engine	Chevrolet 6 Cy V6 in head
Displacement	216.5in ³
Horsepower — S.A.E.	29.4
Maximum Brake H.P.	80 at 3400rpm
Torque — Ft Lbs	70 at 1200rpm

Clutch

Type	Single Dry Disc
Diameter	10 1/2 in.

Transmission

Type	4 Speed
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Rear Axle

Axis ratio	Low 8.31 to 1
	High 5.15 to 1

Chassis

Wheelbase	156.5in
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Capacities

Engine	6gals.
Air Cleaner	1.5pts.
Transmission	4.7pts.
Rear Axle	1pts.
Cooling System	3gals.
Fuel Tank	11gals.