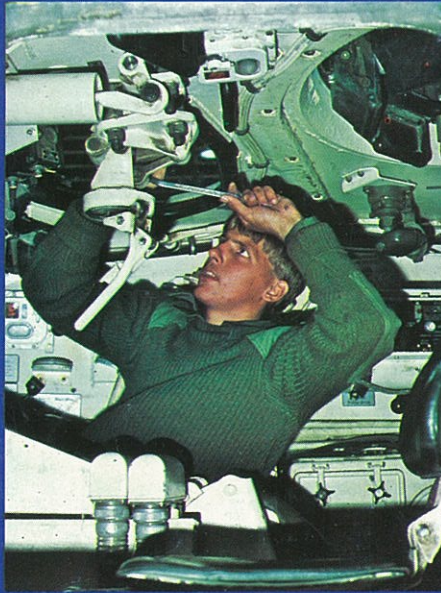


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VOL.1 NO.9 JUNE 1983





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THE MAGAZINE OF THE ROYAL AUSTRALIAN ELECTRICAL AND MECHANICAL ENGINEERS



June 1983

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Editorial

During a recent visit to some units, a view was expressed by a member of RAEME that the Corps Directorate didn't seem to be doing anything. Apart from the immediate effects of postings emanating from the Personnel Section and this magazine, which is largely the result of unit authors, it may appear to the unknowing that nothing much does happen.

The directorate is involved in activities of policy formulation and planning and the results of these activities that sections of the directorate are pursuing are microcomputers for all workshops in the period 1986-88, EMEDATER to replace MODERNISE as the Corps central reporting system, amendments to contract repair EMEI's and MEMA, analysis of contract repair funds, progressing of works proposals for all workshops, formulation of policy and plans for the new range of workshop shelters, review of establishments, planning and management of Defence Cooperation projects, vote coordination of Div 235, development of trade structures and provision of engineering and corps management advice to other areas of Army Office and Defence Central. The directorate is working, but the inevitable manpower shortages limits it is doing the higher priority topics first. As a passing thought, it is the Command, Formation and Military District Headquarters that run the Army on a day to day basis.

From the same visit, various operators and unit and sub-unit commanders noted the large number of convenience changes and modifications that they would like to have to make their equipments more comfortable, adaptable or useable. Rather than illegally modify equipment they could see no quick method of obtaining quick and simple fixes. It is our responsibility to assist the units to obtain valid and useful changes to their equipment. We can achieve this by being familiar with and using the RODUM system. It is our system and all members of RAEME should know how it works and be prepared to 'sell' the system to other Corps.

The recent deaths of BRIG John Bendall, CBE, DEME 8 Aug 55-7 Jan 67, and MAJ Greg Mitchell, AAS, have saddened us deeply and our sympathy is extended to the families of these highly respected members of our Corps.

I would like to thank the current and immediate past members of the Editorial Committee for their support and hard work in publishing issues of The RAEME Craftsman for which I have been Editor. I wish the new Editor, LTCOL Paul Hopper, congratulations on his promotion and good fortune in his new role as Editor.

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Letters to the Editor

Dear Sir,

It's ten (10) years ago that I had the privilege to lead a RAEME Expedition to climb Mt. Ossa the highest mountain in Tasmania. The expedition was one of the forerunners that culminated in an expedition that climbed in the Mt. Cook area the following year.

About five (5) years ago I was told that a plaque that we had araldited to a rock on Mt. Ossa had been taken. That plaque had been placed there by LTCOL Gerald Young (later BRIG) now discharged.

This Christmas (82/83) I decided to return to Mt. Ossa and see if what I had been told was true. It is sad to say that not only was the plaque taken but around the same time someone had also lifted the Mountain Record Book from the summit which contains the names of all those that climb that beautiful mountain.

When COL G (Cubby) Allen and myself first started adventure training in RAEME, COL Allen gave me a RAEME pennant, which I still have, and this pennant (flag) has been on all the adventure trips that I had anything to do with. The RAEME pennant once again flew on top of Tasmania.

I've included three slides of myself housing the RAEME flag on top of Mt. Ossa, the new Log book with RAEME flag draped on same and one depicting the ruggedness of Mt. Ossa.

I feel sure that these photos if printed in our magazine will bring back some fond memories to fellow RAEME personnel.

Yours sincerely,
BOB THOMPSON 41961 WO1 (R)

Editors Note: Sorry but we can't reproduce slides in the text, only black and white photographs.

VALE

**BRIGADIER JOHN CHARLES BENDALL C.B.E.
ENGINEER, SOLDIER AND CHRISTIAN GENTLEMAN**

John Bendall was born in January 1910. He was an excellent scholar at primary school, at Scotch College, Melbourne, and later at Melbourne University, from which he graduated in Mechanical Engineering. He then went on to serve as an engineer in the Victorian Railways.

John Bendall's great interest in the Army began at an early age and he obtained his commission in the 32 Inf. Bn. C.M.F. in May 1930. In early 1936 he was promoted to Captain. To further his interest in the Army, in 1938 he decided to become a permanent officer in the Australian Army Ordnance Corps (P), in the Ordnance Mechanical Engineering Directorate at Army Headquarters. There was no RAEME and only eight Engineering officers in the Army in those days.

His engineering ability was recognised very early by Lieutenant Colonel (later Brigadier) Frank Field. As a Lieutenant he was given the task of preparing the designs for the conversion of all field artillery weapons to pneumatic tyres. This design work was done in the so-called Experimental Workshop which was situated at the rear of the Army Officers' Mess at Victoria Barracks, Melbourne.

The magnitude of the task can be imagined, covering several marks of the 18 pounder guns, the 4.2 inch Howitzer, all the limbers, and a high degree of urgency, to allow units to be equipped with these weapons to meet the rising emergency in 1939.

The writer joined the Army as a Mechanical Engineer and saw the excellent work done by John Bendall, who deserved well the congratulations received from the senior Artillery officers in the Army on the speed and quality achieved in the project through sound, imaginative and safe engineering. John Bendall was a very good engineer.

Later in 1939, a group of Mechanical Engineers, including John Bendall, were to study at the School of Artillery, South Head, for about three months. Some of the newcomers had no Army experience but as Army Officers they were expected to take parades as part of the course, under the watchful eye of the Chief Instructor, Lieutenant Colonel (later Lieutenant General) C.C. Clowes. All of the students owed a great debt to John as he spent so much of his leisure time teaching them military drill and protocol. This was typical of the man — he was always helpful to those in need and he was always cheerful and polite. This characteristic of helping others was typical of him throughout his life. He made many friends but no enemies. He was always cheerful and dependable.

His first appointment in the Second A.I.F. was to command the Anti-Aircraft Brigade Workshop — he was specially selected for this job because the Brigade held the complicated predictors and later, radar equipment. In those days no one knew much about "black boxes". John Bendall was very highly regarded by the Commander and officers of the Brigade. He was always the gentleman and always the practising Christian — always the man to look to for help or advice. John had no vices but he was no "Wowser".

On his return to Australia in 1942, he was appointed Assistant Director, Ordnance Service (Engineering) as a Lieutenant Colonel at Headquarters 2nd Australian Corps, then to the Staff of the Master General of Ordnance, Land Headquarters. He also served as Colonel, Deputy Director Mechanical Engineering (D.D.M.E.) at Headquarters, Queensland Lines of Communication until early 1946, when he was selected as the first D.D.M.E. British Occupation Force Japan.

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John Bendall's work in Japan was of the highest standard and the Commander-in-Chief, Lieutenant General Sir John Northcott, spoke highly of his excellent service there.

On his return to Australia he was posted to the Directorate of Mechanical Engineering at Army Headquarters, where he served until appointed D.D.M.E. Southern Command in 1952.

Further honours were in store for him — in his early years in the Army no one ever doubted that the senior RAEME post would go to John Bendall. He was appointed Director of Mechanical Engineering in 1955. His term as Director, until January 1967, consolidated the prestige throughout the Army of the young Royal Corps of Australian Electrical and Mechanical Engineers. He was extremely popular with all ranks in the Corps and his standing with his peers, and with the Army's senior commanders and staff officers has not been excelled. His ability as an engineer left nothing to be desired. He had, to a marked degree, the "aura" of command.

In June 1957 he was appointed Honorary Aide de Camp to the Governor-General of Australia, which alone speaks for his presence, integrity, charm and character. Like all the other appointments he held, his work in this known appointment was dedicated and thorough.

The final honour awarded during his service was to be admitted as a Commander of the Most Excellent Order of the British Empire. His many friends and associates were delighted that this engineer, soldier and Christian gentleman was awarded this honour for his long and dedicated service.

He retired from the Army in January 1967. Later he was to be very successful and dedicated Honorary Colonel of the Royal Corps.

John Bendall was not only a good soldier; but he was also a very good family man. His wife and family were never lacking in protection, affection and attention — from a husband and father of great strength. In all his service he was greatly helped by his cheerful wife Gwen. From a very stable home life she was always there to assist John in his many duties. During the last few years, illness prevented him from greatly enjoying his retirement, but the loving care of his wife and daughters was an inspiration to all of their many friends. Like all old soldiers, John Bendall simply faded away in January 1983.

I am greatly honoured to write this tribute to a man I regarded as one who has left significant footprints in the sands of time — a good family man — and a good Christian. What more could one hope to be!

"LEST WE FORGET"

Colonel J.P. Buckley, OBE

The following notice appeared in the Melbourne Age on 19 January, 1983.

BENDALL, John. Brigadier, CBE — Passed away 13th January. To the everlasting memory of a wonderfully tolerant gentleman whose character of extreme ability coupled with the natural kindness made him a most highly respected Chief of our Royal Corps — RAEME. Our sincere sympathy to his wife and daughter on behalf of Officers and OR's of RAEME.

Mrs. Bendall responded as follows:

To All Members of RAEME,

The family of the late Brigadier John Bendall deeply appreciate the fine tribute paid to him in the notice inserted in the 'Age' on January 19th by the Officers and OR's of RAEME, and we thank all concerned for the sympathy expressed to us for our loss of a much loved husband and father.

from Gwen Bendall and her daughters.

VALE

MAJOR GREGORY THOMAS MITCHELL SOLDIER, FRIEND, HUSBAND AND FATHER

The death of some people is felt by few. The death of MAJ. Greg Mitchell was felt by many. Greg was killed in a catastrophic vehicle accident near Yass on 10 Feb. 83. He was travelling to Canberra to one of the last conferences on the Latchford Barracks project after having seen the project grow from bare earth to a functioning Military complex.

Greg enlisted as an infantryman on 8 Dec. 1960 and transferred to RAEME on 8 March 1963. He served in many areas including operational service in Svn. 1966/1967. Rising to the rank of WO2 Art Veh he was commissioned on 4 Nov. 71 and immediately displayed an ability to get things done. He was an achiever and although his direct approach put him at odds with some of his peers he had an unwavering dedication to what he thought was right.

He was promoted to MAJOR on 14 July 80 and posted as the Project Officer for the relocation of AAS to Bonegilla. It is entirely through Greg's efforts that AAS was able to commence training at Bonegilla only some 4 weeks after closing down at Balcombe.

Greg was a family man and his one real regret about the project was that it denied him the time to enjoy real family life as he saw it.

Greg was returned home to his beloved Queensland and was buried in Brisbane on 15 Feb. 83. He is survived by his loving wife Margaret and son Gary.

It is hoped that in the future that a fitting memorial be established within Latchford Barracks to commemorate Greg's efforts and as a tribute to a man who through sheer dedication and hard work made the impossible happen.

MAJ. RON NEWMAN

VALE

242816 WO1 D.V. (Dennis) KERR — RAEME (Rtd)

Dennis enlisted as an Army Apprentice — Automotive Trade on the 28 Jan 1953.

He graduated as a Class 3 Vehicle Mechanic, on the 27 Oct. 1955 and spent his formative years in the trade at the then Eastern Command Workshop and Ingleburn Area Workshop.

Following the successful completion of many Trade and Regimental Courses he was promoted to Sgt in 1964 and WO2 in 1965, his promotion to WO1 ART VEH in April of 1968 was a fitting reward for such a dedicated soldier. Dennis saw Service with the Australian force in South Vietnam during 1968/69 and with the ANZUK Area Workshop in Singapore from Jan 1973 to August 1974. During his service he was awarded the LS&GCM, Vietnam Medal and Vietnamese Campaign Medal.

Dennis retired from the Army on 25 Feb. 1975.

Dennis passed away on the 6th April 1983 and will be remembered by the Corps for his friendliness and ability to get the job done.

To his wife Judy and his family please accept the Corps deepest condolences.

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Desert Rallying with SGT Bob Stansfield

by Cpl K.D. Merrick

1970 was the year that SGT Bob Stansfield decided to go desert rallying. He was a keen motor cross and short circuit bike rider and at that time, two wheels was the way to go.

A brand new sport in Australia having its roots in the deserts of USA, desert rallying was seen as a very real test of man's stamina and machine preparation. After about three years of crashing, pain and suffering, Bob thought there has to be a better way!!! Having noticed you can't fall off a car, he decided to buy a buggy and with SIG Geoff Maile as navigator, attacked the deserts of Victoria. At the end of his first year, with only Volkswagon engines, gear boxes, and crashes behind him, the search for a reliable vehicle began.

The raising of the "Yellow Peril" was next. A 1970 HT Holden utility was extensively modified and entered the racing scene but a well developed gum tree, that was inconveniently planted in the middle of the track (so Bob said), brought this effort to a bone jarring halt. The decision to build a vehicle from the ground up was then made.

Still with Holden, a 1972 HQ utility was selected because of its full truck type chassis. A full roll cage, centre mounted 302 cubic inch "Chevvy", 400 automatic Turbo coupled to a 9 inch Ford rear end, with Detroit tracker locker, were fitted.

Its first race was the Goondiwindi BP 400 in 1978, but alas, a rock punctured the oil filter, result engine failure 12km from the end.

The next three years of competition saw considerable development with new sponsors like Old Man Emu equipment, Goodyear

Australia and Monroe Wylie. With the new financial backing, consistent places were being achieved in many off road rallies in his class; first in the Off Road Rally Cross Championships at Calalind Circuit in 1979 and second, behind Colin Bond, at Granville in 1980.

The inaugural Macleay 1000 in 1981 saw a large contingent of 2 Base Wksp Bn personnel under the direction of MAJ Jim Spence supporting the Old Man Emu Team. Rain and appalling conditions contributed to an early demise of Bob and his vehicle (it went over an embankment) but the rest of the year was productive with CPL Terry Spinks and CFN Gavin Mickle sharing the navigation. With the combined efforts of all, Bob won the 1981 Australian Championships; first in his class and sixth outright — a very pleasing result.

Still not completely satisfied, a fully imported 1980 C20 "Chevvy" 3/4 tonne Step Side pick-up was built over Christmas 1981 powered by a 360 "Chevvy" motor and 400 turbo automatic, ready for the 1982 Australian Championships. Round one was at Griffith and a second in his class was rewarding for Bob. At Sealake for the second round, engine failure put Bob into eighth place, then a new 400 HP 360 cubic inch "Chevvy" motor was prepared and fitted.

The third round was again the Macleay 1000 in June. Members from 2 Base Wksp Bn. supported Bob and another attempt was made, however, after 200 km of the 650 km event an arrogant stump and lack of concentration removed the rear end of the big "Chevvy" and retirement whilst leading his class resulted.



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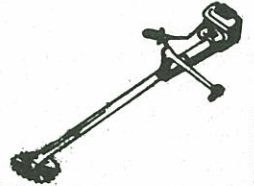
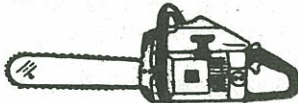
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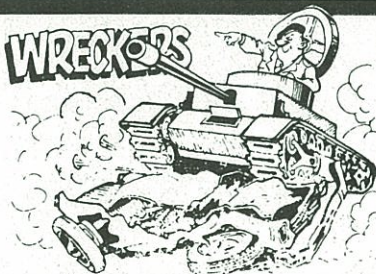
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Promotional Editorial

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This Tankard is inscribed with the 20 theatres of war in which our Army has fought — from South Africa to Vietnam — and bears as its centrepiece the famous "Rising Sun" General Service Badge. Reproduced here for the first time as a sculpted medallion in high relief, it has been carefully prepared under the supervision and with the permission of the Army.

The Australian Army Tankard is made in Australia to the exacting standards laid down by the International Historical Foundation and each tankard is meticulously inspected to ensure that it conforms to this standard.

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France - where the names Passchendale, Pozières, Bullecourt and Villers-Bretonneux speak of mud, shells, gas and thousands of neat crosses - cared for to this day by old comrades - but mostly they speak of courage and dedication.

On to a new conflict which came to threaten the very existence of Australia: of Tobruk and its famous "Rats"; The Kokoda Trail where the myth of Japanese invincibility was shattered; Milne Bay, Buna and Bougainville, where the famous fighting reputation of the Australian Army, forged at Anzac Cove some 30 years before, was here reinforced and expanded - to the ultimate salvation of Australia.

Again in Korea where names such as Kapyong and The Hook enter the honour role of places where Australians have sacrificed their lives for their country: Vietnam of still fresh memory,

where names such as Phuoc Tuy Province and Long Tan are branded into the collective memory of all those who honour valour and love freedom.

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Report on Army/Navy Exchange 1982

CFN L. RONLUND

Introduction

What is a DIVISION? Where is the Scranhall? When are the Captain's Rounds? If you are confused with this terminology, you might be able to imagine how it feels to be an Army 'Sailor' for 6 weeks.

At the end of 1982 CFN Burke, CFN Whitehead and I (CFN Ronlund) from 2 Base Wksp Bn, Moorebank, were selected to participate in the annual Army/Navy exchange. Three members of HMAS Stalwart, the RAN's Flagship, meanwhile, experienced life in a large base workshop.

Our exchange began at Garden Island, Sydneys Naval Dockyard, where we were met by Able Seaman 'Nobby' Clark, who was to be our guide for the day to ensure we settled in OK. We then proceeded to HMASS STALWART and after saluting on crossing the gangway, we were met by Lieutenant Coles and Warrant Officer Curtis, who were to be in charge of our training programme while aboard the ship. After being introduced, they led us through a maze of doors and up countless stairs until we reached the top of the ship and the Captain's cabin. Captain Salmon wished us an enjoyable trip and assured us of a rewarding experience. From there 'Nobby' gave us a quick inspection of the ship. After this we were totally confused and not sure which end of the ship was which but we soon learnt. Bedding and a few other pieces of equipment were issued to us and we were then allocated to a mess (living quarters). CFN Burke and CFN Whitehead were placed with the engineers (stokers) while I went to 10 Mess which contained electricians (Greenies) and the fleet band.

That afternoon, we were lucky to inspect HMAS Canberra. She is one of the RAN's newest Destroyers. We had the rest of the day off so it was back to our Messes with the job of fitting into the 'life of a sailor' for 6 weeks. From that day I rarely saw the other two Crafties.

The next day, a pre-sea test was scheduled. This entails an overnight run at sea to find out if the ship was literally 'Ship Shape'. In the morning we pulled back into Sydney to fix up the necessary faults. The next day we cruised out of the harbour again, this time because it was family day. Apparently all who attended were suitably impressed. We then steamed for Perth, and on the way we carried out various states of readiness otherwise we worked in our trades. Eight days later we pulled into HMAS STIRLING the RAN's newest landbase. It is extremely modern and apparently no expense was spared on its building. The local township was called Rockingham with Perth only one hours drive away. After spending about 5 days in STIRLING we then pulled out to take part in exercise 'SANDGROPER'. Also taking part in the exercise were 4 other RAN ships, 1 RAN submarine, 1 RNZN destroyer, 2 US destroyers and a total of 16 aircraft from Australia and US. The exercise took place off the WA coast for 10 days. After the exercise HMAS STALWART led a fleet entry into the harbour of Fremantle. This looked very impressive, even more so as the US and RAAF jets performed a fly pass at the same time. 5 days were spent performing ship maintenance, and once completed we pulled out for our last stretch at sea; that being the homeward run back to Sydney. While in Perth, leave was from 1600 hrs to 0730 hrs the next morning, duties permitting, of course. Interesting events were quite frequent as the American Destroyers, USS Knox and USS Francis



Hammond were also in Perth. We docked at Sydney on the 7th and on the 8th we exchanged plaques with the Captain of HMAS STALWART to end our time as Sailors.

During the exchange I noticed quite a difference in the Apprentice training procedures between the two services. Our 3rd and 4th years of training are run by training staff, they handle all the paperwork so we are only required to do the work in the prescribed areas. This method of training is excellent as it allows the Apprentices a free hand at work without worrying about where, when or what to do next. The Navy on the other hand directs its Apprentices in a different manner. On completion of their 2nd year theory instruction at NIRIMBA, they are drafted onto ships with the rank Seaman equivalent to Craftsman under training. They also get a Seaman's Pay. This is all fine except for their training scheme. All Seaman under training get issued a task book so it is up to the Apprentices to keep the task book up to date. They are required to complete the appropriate tasks, get tested and signed off by the section chief.

On completion of the trip, I arrived back at 2 Base to the new system for Apprentices, the rank and pay of a Craftsman. Now I feel we are one large step ahead of the Navy in Apprentice Training as we share the same benefits but we also have the better training system.

Listening to sailors talk is like listening to a foreign language. Here are some of the terms we became familiar with.

Jackstay — A 'razz' entails two or more ships steaming parallel in close company. Lines are attached to each other and a winch system set up between to permit fuelling or items — even people to be passed from one ship to another. Officers or Warrant Officers can arrange for themselves a jackstay transfer to a ship and back which is virtually a joyride, but nine out of ten junior sailors have never done a jackstay therefore it was no wonder they envied us when we did one ourselves.

Watch on Deck — To gain a helmsman's certificate I was required to do Watch on Deck. Watch on Deck entails life buoy sentry, port and starboard lookouts and tricks at the helm, in four hour periods around the clock. The life buoy sentry was required to stand on the ship's stern and watch for man overboard. He has a direct link to the bridge so if requested, lifebuoys could be dropped immediately. Port and starboard lookouts require one member on either side of the bridge to do exactly that, 'LOOK OUT'. It was amusing to note how the midshipmen (Officers under Training) became nervous with the onset of fog. The ship's radar was forever playing up so lookouts were essential. Ten hours on the wheel was required for a helmsman's certificate so the faster we logged up ten hours, the quicker we got off Watch on Deck. The wheel tricks simply entailed keeping the ship on course, changing when necessary and noting changes in speed. While on the wheel you are constantly alert as the ship continually drifts off course with the roll of large swells. We were quite proud of the comments given to us on completion of each trick; as all comments were good or better without a single derogatory remark. The only 'insulting' comment I got was 'Good Trick, should be in RAN'. Seriously though, time on the wheel was well spent with the three of us gaining certificates.

Action Stations — These required our attendance unfortunately; my action station was in the main machine shop, however quite a few times I was on fire teams through the ship. For action stations, anti-flash gear is worn. The main drawback with wearing this gear is breathing through the hood, because we were actually re-breathing the air and it made us feel tired after an hour or so.

Buffer Space Cleaning — This is feared by everyone in the RAN but something everyone has to do at least once. A prerequisite of Officers under training is a buffer space clean, and seeing we had never done one (and never again), the three Crafties were volunteered along with 30 others. A buffer space clean is done every three months and within an hour of engine shutdown. It entails the complete wiping down of the buffer space (engine cylinders and shafts) where about six inches of oil and carbon accumulates and requires removing. To do this it is necessary to crawl into the buffer space. Before starting we completely covered ourselves in lanolin and

grease, put some 'sludge' through our hair, and covered ourselves with overalls, rags and tape. Anti-flash hoods were also worn, but all this only helped partially as oil soon soaked through everything. On completion of the buffer space clean, it honestly took about two hours just to get ourselves clean.

Divisions — This is a parade of all ship personnel other than the necessary men to keep the ship running. The Captain inspects all the ranks as they are formed upon the decks. It is very difficult indeed to stand at attention on a rolling ship, even more difficult is doing drill with a navy squad, but I proved it possible.

Rounds — This is simply a naval term for inspection. The ship has Captain's rounds every three months. At the time I was working in the re-wind workshop therefore I took rounds for that section.

General Routine

Wakey, Wakey is at 0640 hours, instead of bugle, you hear a couple of whistle blasts with someone actually calling 'Wakey Wakey'. This is done over the ship's PA system. The menu for breakfast is then described. I listened to the same pipe every morning and the menu for breakfast never changed. Morning showers are a must. Afterwards its off to the "Scranhall" for 'Scran' (breakfast). At 0730 hours the cafe closes so its back to the mess to make bunks. At 0800 hours, the mess is cleared for work. Morning brew is for ten minutes at 1020 hours, lunch starts at either 1130 or 1200 hours depending on who works where and afternoon brew is at 1420 hours. We finished work at 1545 hours, its then a shower and into a night rig. Scran starts at 1730 hours and evening rounds is at 1900 hours. This is a day in the life of a sailor.

Work Experienced

During the trip I was rotated around various sections for job experience, I started off in Weapons and Power, and my first job was a classic, an alternator from one of the seaboats. It had been totally submerged in saltwater for two weeks previous, (why I never found out), and everything was corroded. We tried connecting a refrigerator up by trial and error, as it was American made with an auto transformer and variable tappings. Fortunately, we connected it up right the first time. Weapons and Power also did any required wiring runs. In the Army this is usually handled by the electrical mechanics in RAE, but in the Navy there is simply electrical mechanics/fitters. The wiring runs were all quite simple, just time consuming. Also in Weapons and Power I tried my hand at turning a bearing, however, I only got halfway through this job before being drafted off.

The main switch board was my next stop. Here there are six generators, four of which are either unserviceable or on standby. Switchboards also handle electrical defects throughout the ship. In most cases the defects are simply blown fuses. Fortunately for me one of the standby generators needed to be brought 'in', and it was quite interesting to see how the load is gradually taken off one generator and placed on another. After the main switchboard I was attached to the flight deck, there I was to join a flying station which is on standby at any daylight hour, most commonly in the middle of Scran. The only problem with the ship's 'helicopter' was that it was too reliable, the only electrical fault was a blown globe. I was given a complete run down though on both mechanical and electrical workings of the helicopter, the helicopter's six month service was also required during my time with the flight deck so once again I was fortunate to be in the right place at the right time.

My last section of work was also the most valuable. The re-wind workshop, which once was a major part of an electrical fitters trade. In the Army, the windings come ready made or else the motor is sent out to Trade Repair, but in re-wind I completely re-wound/re-built a three phase externally delta connected motor, and I also watched the re-winding of a split phase motor possibly the most difficult of motors to re-wind. Before beginning to re-wind, I was taken through all the theory behind its operation. All of this was covered at Balcombe, however, it was all quite difficult to remember, but it soon came back to me again. Leading Seaman Wilton took me through this and the motor re-builds. He is a credit to the Navy and would have made an ideal Instructor at Balcombe.

Mess Routine and Recreation

The living quarters on the ship are called Messes, 10 Mess is split into three rooms, two sleeping compartments and an adjoining lounge in between. Because of the closeness of quarters, a high standard of cleanliness is essential; for example, there is no smoking in the sleeping quarters at all, nor in the lounge during video's. Showers are taken once in the morning and at least once each night. No safety boots in the Mess, there is no lying on or in bunks dressed, and all boots have to be polished outside. Food and drink is only allowed in the lounge. The sleeping quarters contain rows of three high bunks all very close with little storage space, yet the STALWART is supposed to be one of the better ships regarding living space. During the trip I only missed Scran once, however the food was of a good standard, even though there were very few choices, then again a few people said I must have had something going with the Cooks as I got double shares of everything (especially ice-cream). Recreation plays an important part in the sailors after hours life at sea. Video's and/or Movies are shown every night, and when out of range of normal television programmes a special news cast is made up by some of the ships crew. International, national and local news are thus read out in a comedy routine. The ship also has its own radio station and disc jockey, all care of 10 Mess. After hours in the mess is mostly spent reading, writing, playing cards, chess and backgammon. The ship has a canteen open at various hours for those never ending odds and

ends. There is a well stocked library and each night a beer issue of two cans is available to each person at a cost of 25 cents a can. The ship also has a good weight training machine in its Gym which is open at all hours. The most time spent on any one area of recreation is, using the naval term, 'Catching Gammas'. Some people even forsake lunch in order to lay in the sun on the flight deck. Days off or week-ends at sea are mostly spent this way. Inter-mess games, the prize being a free beer issue to the winning mess, are very popular. 10 Mess won the final for both games of hockey played on this trip. Inter-mess quizzes are also arranged, not popular, but always attempted considering the prize.

I consider myself very fortunate to have participated in the 1982 Army/Navy exchange. During the whole trip, where ever I went, I received a verbal hiding left, right and centre, but it was **always** in good humour. Needless to say, I dished it out in equal proportion. Everyone was extremely helpful. I'd especially like to thank Warrant Officer Curtis who handled most of our training, Chief Petty Officer Reg Rayner who was my boss most of the time and Leading Seaman Wilton who besides instructing me in re-wind also ran 10 Mess thus helping me fit in comfortably there. The trip was an invaluable experience, and seeing how the 'other side' lives is a unique experience in itself. I now believe Army Apprentices are much better off than their Navy counterparts, and I can only hope that an annual Army/Navy exchange continues in the years to come.

J.W.S. MOTORS

John Smith — ex RAEME Returned Serviceman

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Puckapunyal Workshop Company

Where It Is All Happening

MAJ A.J. Balsillie

Puckapunyal military base, the support area for the large armoured vehicle and artillery firing range in Victoria is just 10 kilometres out of Seymour and 100 kilometers north of Melbourne on the main Sydney highway.

Acquired in 1939 immediately prior to the second world war, Puckapunyal was the expansion of the old Seymour camp which had been the training area since before the first world war. It was Lord Kitchener himself who, in 1910, had recommended Seymour as the main training area during his inspection of Australia's Military position after Federation.

After the 1939-45 war the Seymour camp was occupied by the School of Tactics and Administration and the School of Infantry. The CMF and Cadets were camped there as well. In 1960 when the Army re-organised, Seymour Camp closed and Puckapunyal became fully established. Today the major units at Puckapunyal are the 1st Armoured Regiment, 21 Construction Squadron, 26 Transport Company plus three army schools — The Armoured Centre, The Army School of Transport and The Army School of Catering. Apart from a number of minor units in the area, the Proof and Experimental Establishment is located at nearby Graytown.

Puckapunyal Workshop Company provides unit and field repair support for all the Puckapunyal based units without their own integral RAEME repair element and also for all those visiting units who use the Puckapunyal range.

The history of Puckapunyal Wksp Coy and its earlier title of Puckapunyal Area Wksp dates from 1956 however, the history of the RAEME, AEME and Ordnance Workshops function in the Puckapunyal Seymour area can be traced back to 1938.

In that year a detachment of 3MD Workshops with headquarters at Coventry Street South Melbourne, was located at the mobilization railway siding (Mob Siding) in Seymour. The workload then was armament only and consisted of maintaining 60 pr and 18 pr artillery pieces, 6 inch and 4.5 inch howitzers and "tiffing" the guns during range practices, the detachment could boast only one vehicle, a Morris 30 cwt truck.

In 1939, 3 Ordnance Workshops Company was formed and occupied a new building at Mob Siding. This building is that currently occupied by the B vehicle repair platoon of Puckapunyal Wksp Coy.

In 1947, two detachments of Southern Command Workshops were formed; one at Mob Siding and the other at Puckapunyal with the parent unit at Broadmeadows, in Melbourne.

During the latter part of 1949 No 36 Light Aid Detachment (LAD) returned from Japan to Australia and was located in the workshops at Mob Siding. 36 LAD later became 1 Armd Regt LAD and moved across to Puckapunyal.

At that time the work load in the area expanded. The Matilda's, Grants and later the Centurions of the Armoured Regiment and the Armoured School required extensive repair support and it was provided with the assistance of civilian tradesmen supplied by a contractor. Operating within the workshop facility this blend of military and civilian tradesmen is still in existence working harmoniously side by side. The General Grants, Matildas and Staghound armoured cars have given way to the Leopard tank and the 113 family of armoured vehicles, the main workload of the workshops today.

In 1959 the workshop main building, the Tank Shop, was completed. It houses the A and C vehicle sections, the GE section and the RAAOC Repair Parts Supply Platoon. The B vehicle repair facility, still housed in the old 1939 temporary building at Mob Siding in Seymour is on the planning list for replacement and

relocation at Puckapunyal. Hopefully, 1986 will see the whole workshop operating within the one facility at Puckapunyal.

A further step in modernization occurred at the end of 1980 when the Electronic, Instrument Repair (EIR) facility, built at a cost of \$1,000,000 was opened. Probably the most modern EIR facility of any RAEME workshop the platoon carries out all forms of electrical/electronic/refrigeration and telecommunications repair to a field repair level.

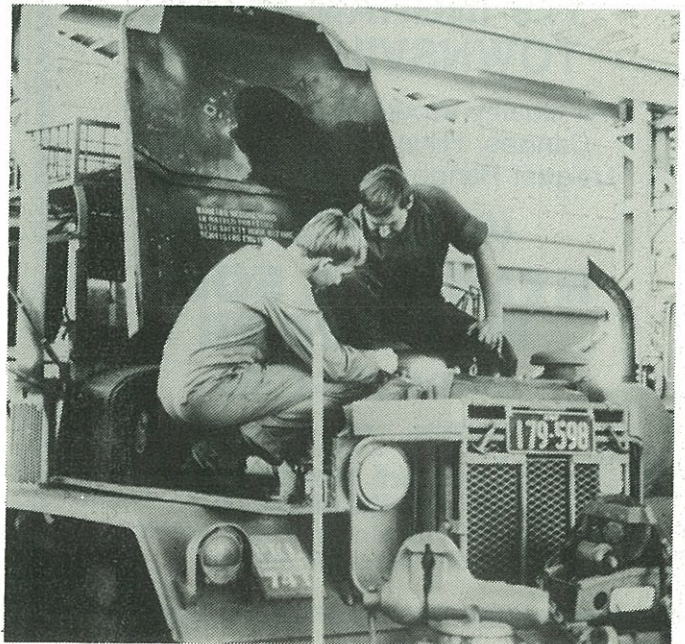
A feature of the EIR facility is the 35 micron laminar flow clean room for the repair of the Leopard tank laser sight. The workshop TES(G) technicians carry out the tank fire control equipment repairs on the tank within the EIR building itself where there is capacity for two tanks simultaneously to do full turret rotation and testing of gun stabilization.

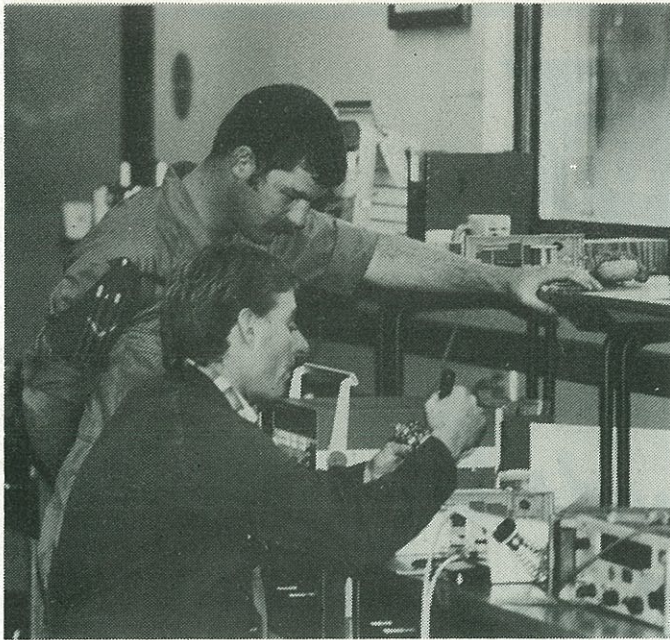
The mechanical repairs for the tanks, C vehicles and heavy B vehicles are carried out in the Tank Shop. Modification of 113 vehicle control differentials and the Leopard tank final drive plus the usual consistent work load with Scamell prime movers, Stecco trailers, Bulldozers etc keep them busy at present.

Keeping the parts supply up is the responsibility of the workshop integral and essential RAAOC Repair Parts Supply Platoon. Comprising two sections, one located at Mob Siding and the other at Puckapunyal, both are self contained accounts with their own control offices and store houses. Somehow or other the RPSP manages to provide all the "bits" when and where they are needed, this timely provision of spare parts is supplied either from their own stock, obtained from RAAOC depots or procured from civilian sources through the platoons own local purchase cell.

The other important section of the Tank Shop is the GE platoon. Equipped with all the most up to date machinery and welding equipments the platoon not only gives ancillary section support to the main repair load but repairs guns, small arms and the myriad types of repairs required by the workshop's dependencies in Puckapunyal.

Also located at the workshops Puckapunyal site is the Service Station. This provides a unit servicing facility and carries out "running" type repairs to the light and medium B vehicles within Puckapunyal.





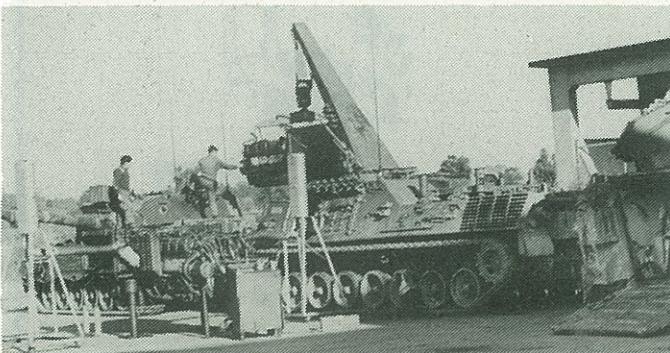
Probably the Service Station's most important role is to provide repair support for Puckapunyal fire fighting vehicles and equipment. This years bush fires saw the service station either on stand by or working around the clock from December through to March to provide their essential support.

The B vehicle repair shop at Mob Siding with its own GE, Carpentry, Textile and Stores Section is co-located with the 331 Supply Company vehicle and camp "ear mark" storage depot which of course provides a fair proportion of its workload.

The trade repair contractor function is run from the Mob Siding location. A third of the contractors 44 tradesmen work here and within the depot itself turning out an average of 24 vehicles a week more so in the periods of heavy demand for training vehicles by the ARES during their camps and exercises.

It is at Puckapunyal that the Workshop Headquarters with its busy production control, administration and quartermaster elements operate. Another element of the headquarters is the Trainee Section. Comprising one WO2 Apprentice Master, at present it is responsible for 25 trainees comprising two adult tradesman, nine 35th and six 36th intake apprentice motor mechanics and three 36th intake apprentice fitter and turners. Also in training is one 35th intake, two 36th intake, apprentices and one adult tradesman electrical fitters. One adult tradesman radio mechanic also receives his additional training.

Wednesday mornings see all the trainees assembled for lectures, demonstrations and OC's hour but some time is found to devote to various apprentice projects. The project this year is restoration of a 9pr Krupp gun captured by the Australian troops in the Boer War. It belongs to the Australian War Memorial and it is hoped to have it completed and on display by the end of this year.



It was an apprentice project that produced the workshop's well known and successful motor rally vehicle "RAEMUS Rover". From an old UR landrover up for disposal roll bars were added, BF Goodrich tyres fitted additional shock absorbers added and a modified Holden 202 motor fitted. A number of other changes were also made to comply with C.A.M.S., scrutineering.

The workshop's RAEMUS Rover Rally Club has obtained success in many national events around the country. These include a second at Sea Lake in the B.F. Goodrich all terrain enduro and 4th at the BP Monroe Wylie 400 which was conducted at Goondiwindi. The RAEMUS Cub is confident of even better success in the near future.

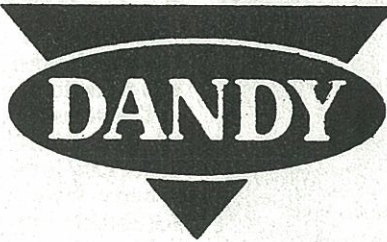
It is in the field of Aussie Rules football that the great excitement prevails. 1982 saw the workshop team, the Demons, take out the area championships. All other sports are well represented and the unit basketballers captured the local B grade championship as well.

But it is not all sport, Puckapunyal Wksp Coy has been charged with the responsibility of presenting the Corps of RAEME to graduating officer cadets. The display of RAEME static workshop modern and high technology repair facilities and RAEME field workshop facilities are demonstrated to the RMC, OCS, WRAAC and NZ OCS cadets during the annual El-Alame in fire power demonstration. Assistance in the field role presentation is given by 1 Armd Regt TSS, 21 Const Sqn Wksp and 8/12 Medium Regt TST.

As well as the fortnightly happy hours enjoyed by all the unit members their wives and children in the unit "Function Centre" previously recognisable as the change room facility, regular entertainment and get togethers organised by the enthusiastic Regimental Property Account are a feature of the workshop's comradeship and happy working relationships. The mixed and formal dining in night for all ranks of the workshop is the highlight of the social year.

With a heavy work load, active sporting participation and a busy social calender, life in Puckapunyal is never dull for those fortunate to be posted to Puckapunyal Workshop Company.





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EXERCISE LONG LOOK '82

By Sgt. G.K. Ernst

INTRODUCTION:

In 1976 the first of the annual exercises Long Look took place. Long Look is a four month exchange of personnel between Australian and New Zealand Armies and the British Army which takes place between August and December. It is, very much, a working exchange and those who participate, ranging in rank from Corporal to Major are intended to "fit into each others shoes." Some 240 personnel of All Arms take part, 120 from Australia and New Zealand Armies and 120 from the British Army.

The origins of this exercise are obscure, however, from an Australian viewpoint, the traditional ties, close applications and similarity of purpose in the three Commonwealth Armies must have made the task a comparatively easy one when it was approved in August 1975.

Each exercise starts with a notification to units in Australia, calling for volunteers. Nominations together with job descriptions of the posts offered for exchange are then submitted for matching with the British Army. After negotiations with the British Army, which may result in alterations to the jobs to be filled or an adjustment in the breakdown by cap badges, the 90 Australian nominations are finally confirmed. In 1982 the preference of each RAEME volunteer was satisfied and the programme undertaken between August and December last year was as follows.

TO GERMANY:

MAJ K.J. Pocock — from HQ 1 EME Gp Brisbane to 15 Fd Wksp Munster.

SGT G.K. Ernst — from 3 Base Wksp Melbourne to 5th Royal Inniskilling Dragoon Guards Osnabruck.

SGT A.L. Hall — from 1 AVN Regt Oakey to 71 ACFT Wksp Detmold.

TO ENGLAND:

MAJ K. Scutt — From 3 EME Gp Melbourne to HQ SW District Bulford Camp Salisbury Wiltshire.

WO1 I. Taylor — From Pand EE Port Wakefield to Pand EE Shoeburyness Essex ENGLAND.

WO2 A.E. Lloyd — from EME PERS MNGT DGEME Canberra to EME I LEA ANDOVER ENGLAND

WO2 P.A. Lidster — from 5 Base Wksp Oakey to 70 ACFT Wksp Middle Wallop Stockbridge Hampshire.

SGT G.J. Ryan — from Puckapunyal Wksp Coy to 32 Guided Weapons Regt Wksp Bulford Salisbury Wiltshire.

SGT J.R. Totmen — from RAEME Trg Centre Bandiana to Veh Engr Wing, School of EME Bordon Hampshire.

This article gives but a glimpse of the scope of the exercise Long Look 82, it is but one account, which could be compared with 89 other Australian's experience and 90 British stories of attachments to our Army in 1982.

BEFORE DEPARTURE

For many of us the exercise started long before we arrived at the concentration area Ingleburn New South Wales. The majority had preconceived ideas of what the British and their country were like and we read up as much as we could to consolidate these notions. My knowledge, such as it was, was based largely on my experience of serving with Brits in Australia over the past 13 years and letters from friends who are or have been to the United Kingdom and Germany. After pouring over maps and wading through heaps of pamphlets, kindly supplied by various sources, in particular the ASM John Wenzel, I thought I had a fairly good idea of what to expect on the continent.

COURTESY RAAF.

Shortly after 11:00 am on the 11th August, 1982 — the Melbourne contingent left Laverton for Holsworthy via Puckapunyal and

Canberra by Caribou. During the following three days we were briefed on administration aspects of the exercise. Finally, shortly after 09:00 am on 13th August 1982, we left Richmond and watched sunny Australia slip away underneath. In about four hours we were in Darwin for refuelling before we were really off. We arrived in Singapore in the late afternoon where we were hosted by the New Zealand Army in Sembawang and later in the afternoon our New Zealand counterparts arrived from Auckland. As individuals we were able to meet and exchange details of our respective roles before going into town to savour the delights of the Mystic East.

COURTESY RAF.

After three exhausting days in Singapore, the contingent was only too happy to board the VC10 for Gutersloh and Brize Norton. After boarding the VC10 at Changi Airport, rumours were confirmed that you really do seat facing rearwards. There were refuelling stops at Bahrain and Gutersloh where I disembarked for my four month stay in Germany with approximately half the contingent staying there.

FIRST IMPRESSIONS.

On the flight to Germany we had our first taste of British hospitality in the form of a delicious English meal. We were to become quite used to this type of cuisine during the next four months and also the superb German cuisine in the welcoming Gasthaus (Guest Houses) which are numerous throughout Germany. After a twenty-one hour flight from Singapore we touched down in Gutersloh.

It was early evening, Monday 16th August 1982 — and despite being the tail end of Summer it was rather colder than the weather we had just left in Australia.

From Gutersloh we dispersed to our various units throughout Germany. During my trip from Gutersloh, in a Land Rover, which is quite different to a VC10 seat, I savoured the smells of German farming techniques. I was surprised to find how many forests there are in Germany, however little did I realize then, that in a few weeks the forest would change colours to reds, yellows and browns before becoming bare trees in the middle of nowhere. It was obvious that Autumn had set in, before long winter would be upon us.

I had been impressed by the friendly hospitality shown by the RAF aircrew, and my fellow passengers on the flight proved to be no different. I was greeted with the same open friendly attitude on arrival at my unit in Osnabruck. This all came as something of a surprise since I had always imagined "Pommies" to be generally rude and aggressive. I later came to know that most Brits were the exact opposite of what I had expected.

THE JOB.

On arrival at Osnabruck I met the OC "B" Sqn and my new boss, the OC LAD. As the first week progressed I fully expected to be employed running the REME section in B Sqn. My arrival however, coincided with a lull in the annual training cycle due to summer block leave. The EME detached me to 1st Royal Highland Fusiliers LAD. The OC here had been on exercise Long Look 80 and I was given only one project: to visit as many REME units as I possibly could and see Germany in the process! The only limitation was that it had to be a "no cost exercise", which simply meant that subsistence claims and travel by civil means were not allowed.

It took a day or two for it to sink in that they were not pulling my leg. However, within a short time Captain R.M. Hunter had arranged transport and flights to nearly all corners of the Globe. The Canadian Airforce were involved in some of my travels, particularly

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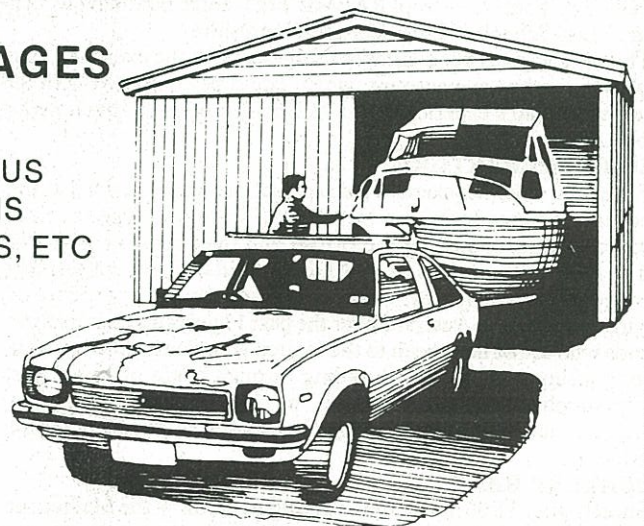
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the ever memorable trip to the United Nation Forces in Cyprus. During many of these visits I was also able to visit smaller attachments of REME units nearby, and in most cases my hosts arranged for me to see much of the local area too. As a result I enjoyed business "cum tourist — style" visits to numerous places on the continent and abroad.

The exercise administration cell in London, under the command of Captain W. Jackson RACT, were extremely helpful in arranging approval for my travels, however I am sure they thought I was a "nomadic artificer gone walk-about". On-the-job training with the British Army has made me aware of their vast range of complex equipment, diversity of deployment and their extremely important role within NATO.

THE ARMY

As most Brits know, Australia probably enjoys a greater freedom from the dangers of outside aggression than any other area and I was surprised to find that their attitude towards defence is one of aggression. The Army's place, its roles and its costs are being continually analysed and have increasingly become questions of debate by politicians, bureaucrats and academics. The costs and logistic planning in moving a division within Germany must be a nightmare for their taxpayers.

The British Army currently comprises of 157,000 personnel serving throughout the world and 55,000 of these personnel are serving in Germany. After World War II, Britain, along with other NATO countries, positioned troops in Germany. Currently the two largest contingents are British and American with a few French thrown in for good luck. The cost of keeping these troops in BAOR (British Army on the Rhine) is astronomical, however it is a small price to pay for peace.

Rates of pay in the British Army are very similar to our own, possibly slightly lower. But, with the cost some 20% to 30% higher in the UK, servicemen suffer a much lower standard of living than their Australian Counterparts. The qualifying period for pension is 22 years service where discharge is compulsory for Other Ranks. In some instances a soldier may be granted extension of service however, this occurrence is extremely rare. Pension rates and their "terminal grants" are substantially lower than the Australian equivalent.

One would expect certain aspects in the two Armies to differ, but I was surprised to learn that weekend work is not compensated by "time off" nor do they have "arduous duty leave" or "field allowances". But, perhaps the main difference is highlighted by the response time of their crash out force. When the British Army has an alert in Germany, complete units are fully operational and deployed within 6-8 hours after receiving the warning. Most of the training in BAOR is based on an attack from the east and this is clearly identifiable by the high standards of professionalism in the terms of fitness, discipline and military expertise displayed by the Army; Infantry and Armour in particular.

THE REME

In common with other support arms, REME is currently suffering from too small a slice of the Defence Budget and for a variety of reasons they are well below their established strength, to the extent that they can barely maintain their role in some areas. Much of the corps workload is completed by civil personnel with the larger workshops; not necessarily a bad system in view of the size of the Army and the numerous equipment.

The Army has several large workshops within Germany, the largest being 23 Base Workshop located at Wetter (pronounced with a "V") which is in the heart of industrial Germany. During World War II the Mohnesee Dam was bombed and consequently most of the low lying areas were flooded. 23 Base Workshop was flooded to a height of 18 feet, however, it is now functioning to full capacity employing some 2,000 people, mostly civilians. The workshops role is the rebuilding of "A" vehicles in particular the Chieftain tank and also specializes in the rebuilding of Major Unit assemblies.

Backing up the Base Workshop there are several command workshops — approximately the size of our Base workshops — and several Armoured and Station workshops which are about the size of our workshop companies. All of these workshops have highly qualified German civilians working and the military establishment has only senior ranks for supervision.

The Army Apprentice College is located at Arborfield in the Berkshire district North West of London where some 2,000 students are residents. Its present size is some four to five times larger than our own apprentice school and certainly has plenty of character.

SEME can be compared to RAEME TRAINING CENTRE on a much larger scale. Unlike our apprentices the new tradesman is posted direct to a field posting and no civilian detachments for on-the-job training occur.

GERMANY

Most people probably know that Germany is divided in two, by a barbaric wire and concrete wall, lined with mines and electronic listening devices. This type of border between West and East Germany has induced hardship upon families where the wall actually divides cities. A prime example of this is in Berlin. The length of the border between the Federal Republic of Germany (West) and the German Democratic Republic amounts to 1,393 kilometres. It is interspersed with extensive barrier systems and other devices intended to prevent citizens of the German Democratic Republic from crossing into the Federal Republic of Germany.

In 1980 these barrier systems included:

1,241	kilometres of mesh fencing
144	kilometres of double barbed wire fencing
366	kilometres of antipersonnel mine fields approximately 3,000 mines per kilometre
364	kilometres of automatic firing devices — SM70 totalling 34,800 explosive charges
793	kilometres of vehicle hazards — ditch/dragons teeth
1,241	kilometres of 6 metre wide ploughed and harrowed strip
1,241	kilometres of vehicle track
212	kilometres of arc lamps in front of villages
1,393	kilometres of border communication system
297	prefabricated pill boxes
134	earth bunkers
265	concrete observation towers
92	kilometres dog runs total of 250,000 dogs
11	kilometres of walls in front of villages — Cost 7,000,000 Deuschemark per kilometre. Approximately \$3.5M Australian per kilometre.

These figures do not include Berlin.

RECREATION

Probably the second most popular recreation pursuit in Germany is walking in the heavily wooded forests; the most popular, of course, being "bier" drinking. It is the only country in the world where the month of October is called "Octoberfest" and the fine German "bier" is sampled to your hearts content. In many areas — particularly the British sector — almost everyone has an affiliation with soccer. Australian Rules Football is catching on slowly however most think it is a murderous game with 18 players on each side apparently trying to maim one another, and of course, rugby and cricket is played.

Sport in the British Army has a much higher priority than in our own Army, so much so, diggers are given time off to pursue their interest. Sailing, rallying and boxing are a few of the sports that the British Army sponsor to the point where camps are built to pursue ones interest.

DEPARTURE

Good things must come to an end, and all too soon instructions were received for us to return to Gutersloh for the journey home. We were unanimous in our praise of the "Pommies" and their

hospitality. Two or three Australians have become engaged during the exercise and planned to return to get married. Most of us were looking forward to returning home for Christmas to our families, but we were all rather sad that the visit was nearly over. We'd made many friends during our stay, seeing Brits as they really are, and I'm sure all of us came away with a better understanding and knowledge

of our allies. More than that we had all benefited as soliders and tradesmen by doing a job of work in a different environment and best of all, with Commonwealth colleagues who had become friends.

** The origin of this familiar term is obscure, however it is possibly derived from Prisoners of Mother England.*

1 ARMD REGT TECH SQN

The fearful look on the face of the new march-in tells it all. Is it fact or fallacy? Is this really the unit where men grow old before their time, where 1630 means that its still daylight so keep working, where the repair levels have been rewritten from unit, field and base to a comprehensive "fix it", and where wives and family are able to visit around Christmas each year?

The short journey from RHQ to the main Tech Sqn building, skirting the three Sabre Sqn hangars, each with their detached Tech Sqn section, is akin to moving through city traffic at lunch time Friday, trying to preserve ones existence by weaving through a vehicle jungle that ranges from the imposing Leopard to the humble push bike.

Sleek Leopard MBT's line the hangar aprons, Leopard ARVM's move alongside to assist with tasks being carried out by tank crews who scurry over their vehicles like ants over an ant hill. M113A1's of all descriptions weave through the constant mellee, TLC's ACV's, APC's and Fitters tracks join the throng as B vehicles, International MK3's and MK5's loaded with stores, and series 2 & 3 landrovers gingerly avoid the bustling A vehicles. Fork lifts laden with track link and road wheels move to where furious activity indicates crews replacing row after row of track pads and exchanging roadwheels alongside a RAEME recovery team servicing their 816 and tilt bed trailer, dodging flying pads dislodged by the crashing of sledge hammers and jack hammers.

Safe at last! Within the walls of the claustrophobic Tech Sqn "Opera House", the workshop floor is packed with vehicles and equipment of the vintage that only moments before were attempting to transform this "new boy", into a permanent part of the well worn hangar pavement.

An overhead gantry crane lifts 5 ton of Leopard power pack from the new gaping hull in less time than it took to take it all in and VM's probe for faults around the power plant and vacant hull, bemused frowns showing on each brow. Ear protection is deftly placed over ones ears as 838 horse power of the 10 cylinder 4 stroke diesel engine bursts to life on its engine stands, powered by its individual test console, the spiralling exhaust threatening to unscrew powerful overhead light bulbs, the roar dulled by ear protection while tradesmen check gauges, search out oil leaks and monitor performance.

Alongside stands a power pack devoid of its 10 individual rocker covers and 10 element in line Bosch injection pump, two VM's joke with one another while checking the correct numbering of the myriad of wiring and fuel lines removed to carry out pump repairs, while another probes the rocker gear with feeler guages, metric spanner or screw driver.

Two power packs lay dormant awaiting service, tune and testing, one deficient its dual radiators and fan cooling to enable access to the transmission oil pump leak that has resulted in radiators blocked with encrusted, oil soaked dust. A second engine stand supports a power pack being drained of engine and transmission oil while coolant discoloured by DROMUS B drains into dust bins and tradesmen remove oil and fuel filters during the servicing process.

The overhead crane moves again to lift a M113 power pack to replace a holed engine sump while the vacant engine compartments

of the APC's directly opposite tell the tale of the transfer case replacement and controlled differential repairs being rigorously attended to, to meet the sqns field committment the next day.

Four B vehicles sandwiched into two small bays are being attacked by spanner wielding diggers and NCO's alike to rectify a burnt out clutch, cracked transfer case, a burnt out wiring loom respectively, with a landrover, devoid of wheels, hubs and rocker gear being serviced prior to a stores run to Melbourne.

The hydraulically activated vehicle hoist lifts an APC to fascilitate track, road wheel and hub removal during its major service, while the engine cover of another is lifted by virtue of a fitters track HIAB crane so that the 6V53, 210HP two stroke diesel engine can be made accessible to spanners and specialist tools required for a major tune up.

Two bedraggled, dust encrusted figures struggle by to the calls of "C Sqn's back in", muttering through lips cracked by two weeks of range sun something about getting callsign 33 back on the road before they knock off.

Armd Corps crews are sprinkled evenly, on second thoughts thinly, amongst their charges and are directed by RAEME tradesmen in completing their crew tasks whilst a red faced NCO struggles by, arms laden with repair parts, thankful to be attacking tasks in barracks rather than in the dust and heat of the field as it was on the Regimental Exercise a mere three weeks ago.

Silence! Having moved up the winding staircase, overlooking the Leopard MBT on the "Opera House" apron, devoid of track and suspension, supported by tank stands, bent support arm laying in the dust the door closes on SHQ Orderly room and one is struck by the lack of noise and frantic movement.

A polyester clad LCPL shakes hands with the staff and armed with his posting order and Mov 9 moves by, light heartedly cackling to the "new boy", cheer up, most of what you hear is bull dust, the first three years are the worst!

He walks down the familiar staircase remembering when he was a "new boy", the fear of the unknown, the rumours of the Regiment RSM who ate razor blades, the new machine that thundered across the range at 60km per hour, 40 tons of power that somehow he had to master technically although his confidence was shot to pieces when someone asked him what type of oil went into the engine, to go to something called a grid reference and repair a Leopard that wouldn't start and to drive back to a night hide at 0300 hr with no white light. He smiles contentedly, thoughts wandering to the stripe on his arm, the entries on his PR 66, "specialist Leopard", "Initiative" "leadership qualities" and "above average soldier and a tradesman".

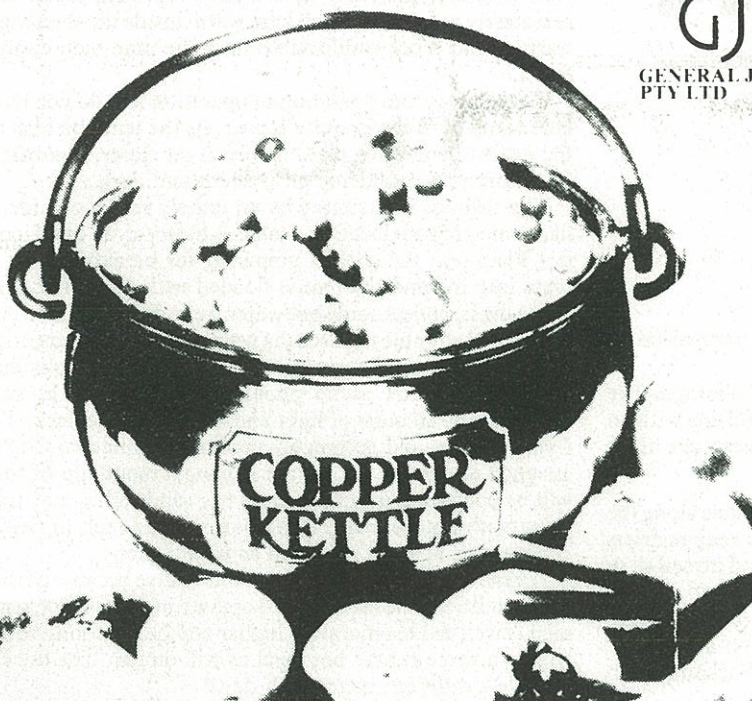
Thoughts of the night Dinger Bells 24V fridge in his tank boiled his soft drinks, the trip to Shoalwater Bay last year on the HMAS Tobruk, the chopper trips over the training area and the night they dragged callsign 24 out of that creek bed. He knew tanks and carriers as well as he knew his old HQ, he saw again the appreciation of crews as he struggled through the night to get them back on line during Paratus Cup, he knew the crew of every vehicle in the Regiment he reckoned, and fancy those tankies giving him a plaque when he left and he never bought one drink at his send off party. Worth it! Hell Yes! From tanks to push bikes, and thats a fact!

Signed: Tech Sqn New Boy

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RTC JOTTINGS

ONE DAY WITH THE ARMY

This article has been produced with the kind permission of NIGEL TAYLOR and PETER MERKESTEYN.

Twin Cities Post journalist NIGEL TAYLOR and photographer PETER MERKESTEYN have just spent a night and day with an Army training exercise near Yackandandah. These are their impressions in words and pictures.

It is cold inside the Land Rover as we clatter and bounce along the dirt track that leads to the base camp. The engines roar restricts communication to shouting. So Capt David Cocker and myself sit in silence as the headlights search the fog for the road ahead. Photographer Peter Merkesteyn and WO Ron 'Shorty' Evans are somewhere in front in the lead vehicle. It is 10.30 on a midweek night. Ten minutes and five jarring kilometres from Yackandandah the camp appears suddenly in a clearing.

It is not what we had expected. The Australian Army's reputation of being able to improvise is in evidence here. There are the anticipated tents which serve as sleeping and dining quarters for the men who man the base camp. But there are other buildings constructed of poles and sheets of corrugated iron that have an air of permanency. One houses the kitchen, another the showers and yet another the latrines. The lighting plant has its own permanent shelter and there is a structure that is possibly best described as NCO's mess. It is to here we are invited.

Behind the hessian curtain screening the entrance is a roaring log fire in a large stone barbeque. Smoke swirls around the single light bulb hanging from the roof. It escapes through the open windows and gaps where the walls fail to meet the ceiling. The coffee is bubbling and there are two battered armchairs in the corners rocking uneasily on the rough dirt floor. Steaming mugs are passed around and we sit down to discuss the next day's activities. We are out here with the recovery section, vehicle wing, RAEME Training Centre, Bandiana.

There are nine men in the surrounding State forest who are spending 11 days in the bush on exercise. The exercise is an essential part of their two-month Subject 4 for corporal course — a promotional requirement in their trade as a recovery mechanic. These men are not raw recruits. They have come from recovery units throughout Australia to undertake this advanced course. I ask for a definition of a recovery mechanic.

"Not a bloody tow-truck driver," is the immediate and forceful response. Says WO Evans, "A recovery mechanic's role is to recover ditched and disable vehicles and equipment to the nearest repair centre with no damage at all to the equipment involved.

"Its not simply a matter of attaching a rope, pulling like hell and hoping it all happens the way you expect. Each recovery operation is carefully planned by the crew commander to cover all contingencies. Safety is of paramount importance at all times.

"It is no good being in an operational area and killing half your crew trying to recovery a vehicle."

The conversation continues in front of the roaring fire for several hours. At 1.30am it is time to retire. We are directed to a long tent with two vacant stretchers at the far end. Sleeping bags and blankets are unfolded and we ask what time the day's work starts. To my consternation, the reply is 4.30am. Surprisingly, the stretcher is reasonably comfortable and I am warm inside the sleeping bag. A lot warmer and more comfortable than the nine men camped in the forest.

They move from operation to operation and do not return to the base camp until the exercise is over. As the tent quietsens the roar of the nearby generating plant seems to get closer. It continues about 10 minutes and suddenly all is silent and dark.....

The stillness is shattered by an unholy racket outside. It sounds like someone panelbeating a tank. A bleary-eyed question reveals it is 4.30am and the cook is preparing for breakfast. The generator roars into life and the tent is flooded with light. Time to rise.

We dress, collect some hot water from the cookhouse and wash in a tin dish. I stumble towards the warmth of the kitchen, coughing as I relish the first cigarette of the day. Merkesteyn looks disgustingly awake and rested as he photographs the cook in action. The cookhouse is an oasis of light and activity in the dark. The cook is frying 50 eggs and accompanying bacon while two GD's (soldiers assigned to general duties) are making a mountain of toast. These will be combined into bacon and egg sandwiches and transported, along with hot porridge, in hotboxes to the men in field.

This type of meal is known as fresh rations.

"Fresh rations are provided on this course because of the difficult, cold conditions the men have to operate in," Capt Cocker says. "If a man is well-fed his morale is higher and he functions better. Lunch will be a three course hot meal as will dinner. The cook strives to provide a different menu each day."

Coffee steaming in the freezing air is passed around as we meet the men of the base camp. Capt Cocker is second-in-command of the vehicle wing RAEME Training Centre and is exercise director on the courses. There are three instructors — WO Ross Shephard, Sgt John Totman and Sgt Brian Forlonge. They assess each crew in the field as they perform each day's recovery task. There is also an NCO



in charge of the base camp, a medic, the cook and the two general duties personnel.

We eat, and it is time to head off in the Land Rovers to inspect the days operations. The nine men on the course are rotated each day in crews of three to perform their given tasks. Each will act as crew commander during the exercise. It is his responsibility to formulate a plan of action to recover the damaged vehicle or equipment. He works from an EMEFIX, or worksheet, which specifies the type of casualty, its conditions and location. It lists the hazards, including theoretical obstacles such as enemy presence or mines, that will be encountered during the operation. It also tells him where the crew has to deliver the casualty once it is recovered. The ability to navigate is a must.

After determining the routes to be taken, methods to overcome the hazards to be encountered — which can include ordering troop support — and the equipment and vehicles to be taken, it is time to brief his crew. The briefing is vital.

Each man must understand the operation and his role in it. There is no margin for error or misunderstanding. Safety awareness is stressed continuously. One mishap could kill a man in a split second. Today's operations involve the recovery of a 6 tonne low-bed trailer, a Ferret scout car and a 25-pounder gun that weighs 3 tonne.

The gun, on its side, must be winched to its wheels, around a tree and to the bottom of an embankment. It must then be raised up the embankment. This operation is completed by early afternoon. The scout car recovery is more difficult. It must be righted to its wheels, hauled across the base of a cliff and then up it. It is 20m to the top.

We visit the site several times during the day. By mid-afternoon, after some anxious moments for the crew involved, it is standing where it should be at the top of the cliff. The third operation will take well into the night. The crew was halted by a slippery hill on the route to the site and was forced to spend several hours winching its 18-tonne recovery vehicle to firmer ground. By late afternoon the trailer had yet to be placed in position at the bottom of the cliff.

“Unless you want to stay late tonight you can forget about photographing this one coming up the cliff,” WO Evans advises. So we climb back into the Land Rover and head for the base camp. We have bounced over almost 200km of dirt roads and tracks today. Not much when compared to the 2000km WO Evans will travel during the 11 days of the course.

But to me, weary and worse for wear, the primitive base camp is indeed appealing. We have coffee, say our thanks and depart. For us, it has been one long day in the Army

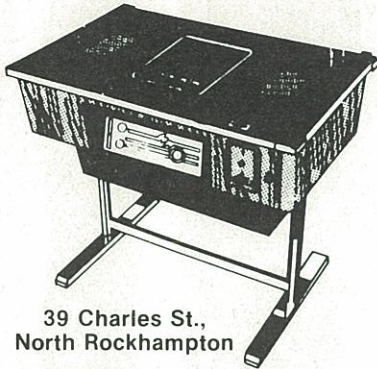


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AUSTRALIAN ARMY

EME DIV. WHAT IS IT?

By T/MAJ S.B. ARPPEN

Having just perused the back copies of the RAEME Craftsman. I find it that nobody has been game or bothered to explain what or who we are.

There are some, aware of our existence, who could offer various explanations relating to our parentage and work habits, which may satisfy the short term answer. However, for all you gung ho field force types, who think air conditioning is opening the tent flap (been there, done that, tick it off) a few simple statements may drop the penny.

We are not:

- a. Part of the 1st Infantry Division;
- b. The Snr RAEME Representative in the MD; or
- c. Maintenance Engineering Agency (that's the old ENG Div).

The Division together with Supply, Movements and Quality Assurance Divisions, forms an integral part of Logistic Command Headquarters. Our tasks include:

- a. technical advice to the headquarters and EME Gps;
- b. in-service engineering management;
- c. holder of the purse strings for contract repair (that used to be trade repair Blue); and
- d. management of repair programmes.

For those of you who read EMEI's, you will see us alluded to in modification instructions as 'as directed by HQ Log Comd' or, 'to be classified Provisionally UR and referred to Log Comd.'

COL RON BADE, (we thought he was going to 3 EME Gp too)

who recently replaced COL 'Uncle Max' TINKLER (now DDEME), as COLEME, leads our merry band of thirty with his two SO1s, LTCOL John Bensley (yea he's back from overseas) Material Maintenance, and LTCOL John Wilson (No Blue, its not Jack, it's the short one) Plans.

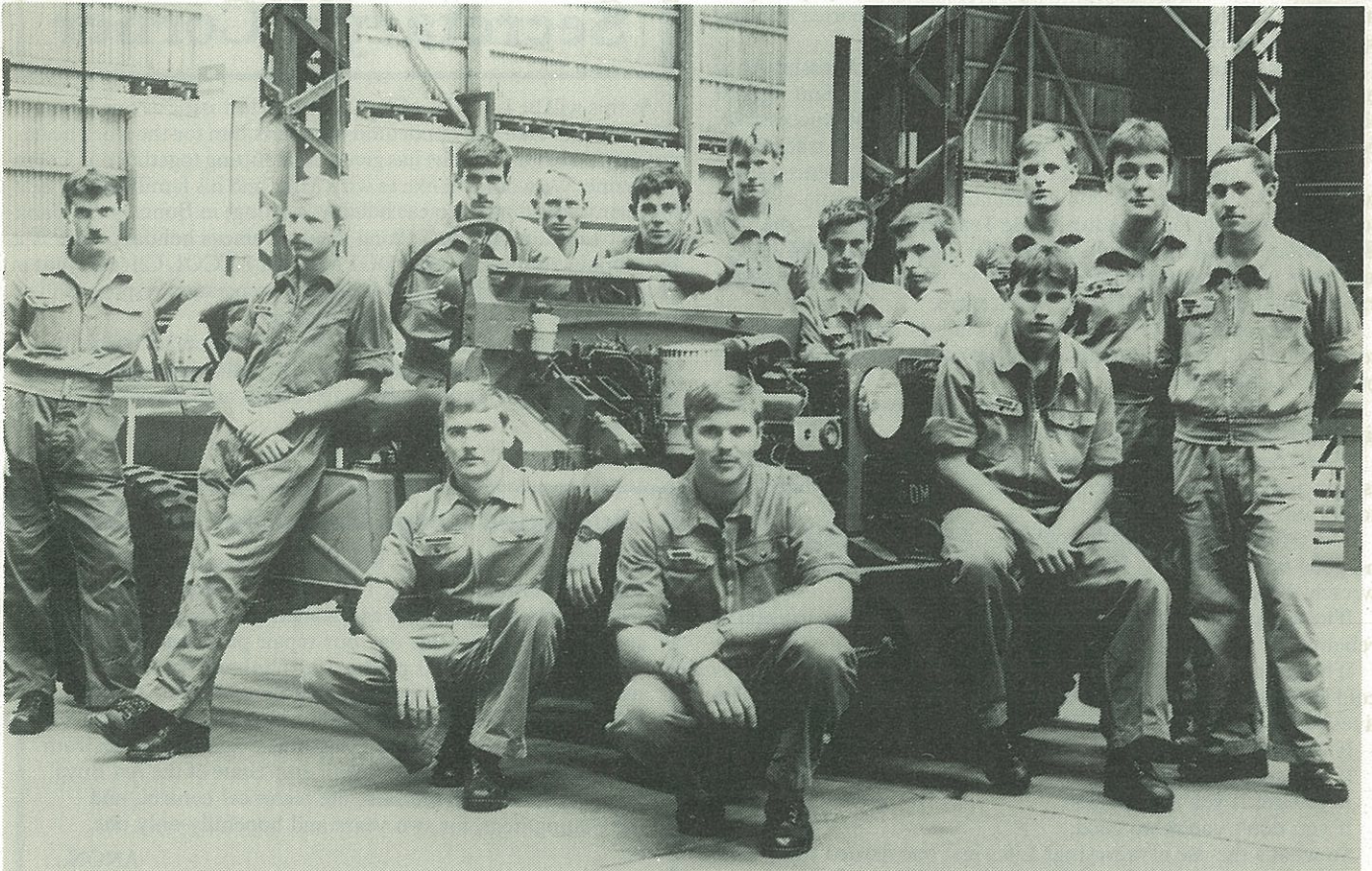
The Workers, for those of you who may feel the need to contact us are: SO2 (Veh/Marine) Chris McSherry, RNZEME (resident ethnic), SO2 (ELEC) Peter Betts, SO2 (GE/AVN) Peter Maguire, SO2 (PROD) Fred Barlow, SO2 (SYSTEMS) John Power (the English One), SO2 (PLANS) Bob Wallace, SO3 (PROD) Ian Keys, SO2 (FINANCE) Dave Congalton, SO3 (WKSP EQUIP) Maureen Dibbs and SO3 (PERS) the liberated Kerry Wrangle.

In addition, we have an incomparable band of civilians, Snr NCO's and Warrant Officers for whom we work (there you are fellers, it's in print). I had to mention them otherwise they would have been off to the 'Case of Bananas'.

We are definitely not 'only a post office between units and Army Office', 'pencil pushers' or 'shiny bums', but rather that necessary link in the chain of command with field force and logistic experience which knows that:

- a. you can't repair a GTLS;
- b. a normal 240V plug will fit it;
- c. you really didn't understand what we meant; and
- d. you may not have done it that way.

However, you will find we are approachable, likeable, conscientious group of people whose one aim is to provide the service for which the "Royal Corps" is famous.



ARMY OFFICE JOTTINGS

THE 1/82 BASIC THEORY OF LIFE

By CAPT Colin Ferguson

Every year, at about this time and for no apparent reason, the Royal Corps is flooded (well almost flooded) with a small band of brilliantly trained and extremely enthusiastic professional young motor mechanics. Once again the highly regarded 'College of Knowledge' has excelled in graduating fourteen of the most practiced and learned tradesmen ever to be thrust upon our somewhat militant society.

How, you may well ask, have these fine, upstanding young soldiers withstood the pressures and problems of almost twelve months at the 'Hume Weir Holiday Haven?' How have they survived the constant inundation of training 15's; the ceaseless agony of PT on Tuesdays and Thursdays; the never ending harrassment of CSM and RSM; and above all the absolute deluge of mechanical knowledge (afforded by their somewhat phylosophic instructors) which is poured relentlessly into their wearied learning spheres day after day after day.....

Yet, these young soldiers have excelled in a time of hardship, they have banded together to form an almost invincible team against their adversaries and now they have won. They have successfully completed a gruelling challenge, and have graduated as tradesmen.

Giving due consideration to the vast amount of experience gained within the 48 week period, and appreciating the dilemma of many soldiers who apply for the Adult Trade Training Scheme — the 1/82 Basic Motor Mech Cse would like to offer a few 'snippets of advice' and perhaps provide an indication as to what applicants might expect upon arrival at RAEME Trg Centre.

'Did it ever occur to you that man's life is full of crosses and temptations? He comes into this world without his consent, and goes out against his will.

When a man is little the big girls kiss him — when he's big, the little girls kiss him.

If he is poor, he is a bad manager. If he is rich, he is dishonest. If he is poor and needs credit — he can't get it. If he is rich, everyone wants to do him a favour.

If he is in politics, it's for the money — if he is not in politics, he's no good for the country. If he does not give to charity he is stingy wretch. If he does — it's for show.

If he is actively religious, he is a hypocrit. If he takes no interest in religion, he is a hardened sinner.

If he gives affection he is a soft mark — if he cares for no-one he is cold blooded. If he dies young, there was a great future for him; if he lives to an old age, he has missed his calling.

If you save money, your a miser;

If you spend it, you're a fool;

If you get it you're a twister;

If you don't you're no good;

So what's the use of worrying? Lifes just one darned thing after another — just keep smiling and remember "Life wasn't meant to be Greasy"!!!

'Time waits for no one, and even those who don't realise (or just won't admit) that they waste it, should analyse just how efficiently they use this valuable commodity.' Seems to be echoing down the hallowed hallways of the Directorate with the advent of a new incumbent to J-4-06 (DDEME's day residence).

Of course this is not the only reason bodies move out of their allotted enclosures in building J Floor 4, we also have functions, paydays and those infernal Army moves. On the posting scene COL Tonkin to Defence Central, LTCOL Caldwell to Bonn, WO2 M. Gerhart to RTC and SGT Steve Hambly to WA. New arrivals are similar to newly weds, they take a while to bed in, we have WOs1 Brian Fletcher and John Lyddiard also WO2 Rip Mascord and CFN Caroline Kearney.

Returning to the scene of the crime, MAJ Atkinson to Finance.

We wish the Caldwells, Mike, Meredith and daughter Fiona all the best during their tour to Bonn FRG.

Whilst on the subject of overseas, during a recent DCP foray in Thailand a special mention was made by the staff of both the Military Technical Training School and the Armed Forces Rebuild Workshop to pass on their regards to all members of the Corps.

Finally a special note to CAPT Jock Fraser, we hope the suntan you are acquiring in good old (1) SE QLD (2) BRISBANE (3) 20 DIV ENGR SPT SQN WKSP, is a particular shade of GREEN.

Secretary's Corner

As this will be LTCOL Mike Caldwell's last issue as our Editor, I would like to take this opportunity to thank him for the work he has put in and the guidance he has given us in putting together our Corps magazine. We would all like to wish Mike and his family all the best for their impending overseas holiday (posting) in Bonn as the Tank Project Liaison Officer. Talking about overseas holiday, there is a hot rumour running around DGEME that LTCOL Clive Bryant is visiting Australia as part of his Defence Co-operation responsibilities, this however has not yet been confirmed.

The Corps has a badge, a stable belt and a fine magazine but we do not have a prayer, at least until now. The following suggestion has been received (the author wishes to remain anonymous — thanks John L).

Suggested Corps Prayer for RAEME

Our Director, who art in Russell, hallowed by thy Corps,
Thy draft estimates come, thy technical control and
command be done in units as it sometimes is in EME Groups
and MEA. Give us this day our repair parts and manning
and forgive us our 500 productive manhours per man per
year, our bodgies and underspends as we forgive DORG,
DGSUP, DTPT and equipment operators who abuse us.
Lead us not into EDP and trade repair and deliver us from
MODERNISE, Grades of Repair and 'State of the Art Buys'.
For thine is the Directorate, the technical control, and
my posting here, for two years and hopefully only one.

ANON....

IMD Jottings

2/3 FER WKSP — TOWNSVILLE DET

CPL. I. MALCOLM AND LCPL. N. WALKER

We, the members of 2/3 FER WKSP DET work under the towering height of Mt. Stuart, somehow hemmed in by 18 Fd Sqn RAE — does that name ring a bell? Perhaps because we once functioned as 18 Fd Sqn Wksp Lt or was it 3 FER Wksp? One can never tell what the next rubber stamp will read!

The past six months have seen a large number of changes in our line up, strangely many have made a southerly trek, does this spell doom and frost bite to us all? Firstly we bid farewell to our former OC Capt Ron Emery to his new cubby hole at 3 EME Services Unit. Other departures were CPL. Wayne 'The Duke' John to 2 Base Wksp Bn — they told him he'd be working on radios and apparently he's still trying to find out what they are! CPL. "James" Dean hopped the road on promotion to 4 Fd Regt. He reckons the best part regarding it is that he's closer to the Golf Club. LCPL 'Chuck' Berry to 4 Base Wksp Bn, PTE 'Lucky' Len Smith on promotion to 101 Fd Wksp where we're sure he'll take an active interest in the OR's boozier and finally CFN. Kim Emery who has rejoined civvy street. Our best wishes to all.

We'd like to welcome the following members:-

Our new OC Capt Sean Rooney, new ASM WO2 Gaskin, CFN's "Duh" Addison, Robert Coombe, Terry McKay, Gary Speirings, Jouisma and Romeo.

Congratulations to SGT 'Zane' Landt and his wife on the arrival of their son. Other members awaiting the arrival of new recruits are CFN. "Bottle" Speirs (at the time of writing, his breathing exercises were reaching a feverish pitch for the impending event), CPL 'Bear' Malcolm and LCPL Bob Lincon.

The new year began at a trot with P.T. taking priority as we geared up for our PT and BE tests. The Squadron were dubious about our physical progress as we were running our own PT programme under the direction of the OC. Needless to say we proved our worth by downing the engineers, especially in the 15km forced March/run. We'll see how we fare at the range in late February.

Our Wksp also has it's funny moments, to our amazement and his, CPL 'Wally' Locking actually hit the target at Range practice, this is a considerable improvement on his previous record.

Approaching activities are Exercise 'Shake Down' in late March.

On this exercise the Wksp is hoping to get all messages that come down from HQ so as not to catch the response force in a cross fire again. The cross fire was so well executed that the response force didn't know which way to run. There were a few red faces at HQ.

Like everything our letter must also come to an end, and so we return to the routine of preparing our Wksp for this exercise.

THE CRAFTY SCORPION ALIVE AND DOING WELL

B.SQN 3/4 CAV REGT.

by Lt. P.J. Edwards

The six months from June to Dec. 82 provided the Tech. Spt. Tp with a variety of training which had to be experienced to be believed.

Exercise Spartan Warrior saw for the first time the operation of 3/4 Cav Regt complete. After the initial bug beating the Tech. Spt. Sqn, with Capt Kev Riley in the turret, provided a quality service to all and sundry which included recovery of a 1st Armed Regt TLC from the sandhills of Freshwater (Shoal Water Bay fishing spot); rounding up, in true cavalry tradition, a few stray cockroach trucks which missed the turnoff to a new echelon position and changing radiators during a night withdrawal.

At the completion of Spartan Warrior B Sqn Tech Spt Tp returned to the 'Army of the North' for adventure training which proved to be the highlight of the year.

Eighteen members of the troop took to the water in nine Canadian canoes to match skills with the Baron and Mulgrave Rivers of Nth. Qld. The remainder of the troop, under command of CPL Bob Costin armed with fibre glass repair kits and dry clothes provided the ground support essential to the success of the exercise.

Sunrise of day one saw the troop entering the Baron River south of Mareeba on the Atherton Tableland whilst sunset saw only 25km of the planned 50km completed for the day with two canoes crewed by CPL Bill Fletcher, SGT Peter Egan, CPL Mick Roulston and LT Phil Edwards still bumping through the rapids on their way to the check point.

Day two was programmed R and R (Repair and Repaint) in Cairns as a number of rocks and overhanging trees had taken their toll on canoes and crews alike.

Day three was 18km of the Mulgrave River completed in quick time due to the experience gained on the Baron River although the day was not without mishap with one canoe crewed by CFN Piggy Sinclair and CFN Squealer Fritsch bending around a semi submerged tree limb.

The fourth day saw the weary waterlogged crafties returning home with high spirits and empty wallets.

The close of 1982 saw the departure of a number of the troop identities, WO2 Smiley Edmonds to MEA, LCPL Jimmy Galvin to 2 Base Wksp and CFN Stewy Stewart to ACT Wksp.

The 1983 programme is more hectic than 1982 and after a well deserved Christmas leave the Tech Spt Tp will return renewed to tackle the continuing commitment.

Our Compliments and Best Wishes to the RAEME "Craftsman" and to all our friends and acquaintances in RAEME

Peter Worthy

(10th Intake Army Apprentice)

Noel James

(12th Intake Army Apprentice)

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4 MD JOTTINGS 1982 APPRENTICE OF THE YEAR

As part of the 4 MD RAEME Birthday Celebrations, a presentation ceremony was conducted to award the title of Apprentice of the Year 1982, to a graduating 4th Year craftsman from Adelaide Wksp Coy.

CFN Grant Schuster, who completed his Radio apprenticeship was presented with the award by CAPT Keith Plummer the Apprentice Master and WO1 Mal Davidson, ASM Adelaide Wksp Coy. CFN Schuster superiors, both military and civilian, praised his efforts and dedicated application throughout the year. Grant is now at 2 Base Wksp Bn.



7 MD JOTTINGS REPORT FROM THE TOP

By CFN Ian Pfitzner

Greetings once more from EME P1 7 MD.

Since our last article in the 'Craftsman' we have had new arrivals, both figuratively and actual, a few departures and a full, busy workshop.

Leaving the area was WO2 P.C. Smith, our long time ASM, his knowledge and ready yarn of his life in the NT will be missed around the area, and we wish him well in his Adelaide posting.

We also lost our store person Mrs Dot Melvin who greatly improved our chances of obtaining parts, which in this area, can be extremely difficult.

MAJ Moller the OC Log Coy, under whose wing the workshop lies, left the area, his replacement being MAJ Cebula. MAJ Moller proved over his time as the OC Log Coy that he had the interests of the workshop personnel at heart and many times he smoothed the way for us all. Our thanks.

Arriving was WO2 Bob Stow and family, to take over as ASM and Cpl Loyd Eadie and family to be our new R & I Clerk.

As a small workshop, the personnel working here form a close bond both at work and socially and many gatherings with families are held. It was therefore with great jubilation that we welcomed into our small group the new born twin boys of CPL Dennis Dowling and his wife Wendy on the 20 Feb 83. As yet we have not wet the babies' heads, but it can be assumed that it will be done with much gusto in the near future.

The RAEME birthday was celebrated in style with a full ceremonial dress parade led by the OC Workshops, CAPT T. Taylor. The event was especially significant, in that it was the first RAEME only parade to be held in memory for the area. The parade was inspected by the COMD 7 MD, COL T. Wilkinson AM. The parade also included the presentation of the first "XXXX" Tradesman of the Year Award by Mr Tim Seats to the recipient, CFN Ian Pfitzner. The parade was followed by an inspection of workshop facilities and a barbecue for workshop personnel and invited guests. An excellent day was had by all and compliments for RAEME achievements flowed freely.

A new plaque was raised by Workshops 7 MD and authorised for use by the OC. It consists of the RAEME emblem mounted on a map of the NT with the normal plaque backing. As a mark of respect and to commemorate his last visit to our area as GOC Field Force Command, the first plaque was presented to MAJ GEN R.A. Grey DSO.

The local volleyball competition for which the trophy is a 600mm square mock up of a sheep station, was once again won by workshops with help from Supply Platoon. The team of SSGT Slann (Supply) SGT Weber, CPL Sands, CPL Dowling, CFN Fox, CFN Winspear and CFN Pfitzner (Workshops) fought a hard 5 game final taking 1 3/4 hrs to win 3 games to 2. The next competition will see an all workshop side and hopefully a continuation of our winning ways.

A number of our personnel have become active locally with CAPT Taylor becoming president of the Larrakeyah Golf Club not to mention becoming a regular trophy winner in local competition; SGT Weber is Treasurer of the SGT's Mess; CPL Dowling Bar Member for the Golf Club; CPL Sands interservice swimming coach; CFN Fox Treasurer of the Rattey Club and the coach of interservice football (Aussie Rules) and CFN Pfitzner social member of the Rattey Club. As can be seen the workshop personnel form a very active group in the 7 MD Area.

Cheers from the Northern Territory, "Outback Australia".

Since this article was submitted, CPL Sands, a very popular member of the workshop, was killed in a motor vehicle accident in Darwin.



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NSW RAEME ASSOCIATION

The eleventh Annual General Meeting of the RAEME Association (NSW) was held at the Homebush Training Depot on the 4th February 1983. Prior to the meeting our hard working "CHEF" Bob Usher provided the necessary sustenance and liquid refreshments to fortify us for the business of the night — mainly the election of Office Bearers for 1983. Those elected were:

Patron	BRIG Harry Martins OBE
President	Joe Marment
Snr VP	Michael O'Donohoe
Jnr VP	Dave Gallon
Secretary	Brian Wicks
A/Secretary	Bob Mills
Treasurer	Norm McNevin
A/Treasurer	Harry Chapman
Auditor	Dave Brown
Welfare Officers:	Dick Wearne
	Sam Fletcher
	Laurie O'Brien
	Doug Whitehouse
	Bob Usher
	Peter Blain
	Gwilt Shaw

Committee:

Dick Wearne informed the meeting that the family of the late Bob Carlisle had donated a number of his personal effects to the Association also that Lionel Coombs had donated a coloured photo of Bob to the Association.

One minutes silence was observed as a mark of respect for departed comrades, members who have passed away during the year were: Graham Allen, George Birks, Les Bleakley, Robert Carlisle, Harold Unwin and Edward Vardy.

Recruitment by the Association during the year has been very successful in fact we have just signed up our first overseas member in Peter Batty of the UK. Local new members are Keith Randall, Alan Cheney, Stan Smith, Herbert Clarke, Noel Farmer, Ross Manley, Daniel Williams, J. Crawford, Maxwell Spence. Lloyd Bond, Geoff Watts, Harold Sweeney, Cliff Whitehead, B. Flower, Jack Maber, Mick Burgess, Kevin Thomas, Gary Smith, Harold Baxter and Alan Murray, have also joined.

For information on membership contact Brian Wicks on (02) 6004549 or by writing to him at 45 Norman Ave, Hammondville 2170.

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REMINISCENCE RAEME IN ANGER

By Bullpup

The scene was North Battery, the time mid-morning, and, gathered round the Coffee-pot were the two RAEME Tiffies and their offsidiers, RAA Sergeant Col Burnell and Bombardier Trevor Spencer. The two "offsidiers" were supplied by the Artillery, and excepting for the fact that they did all the dirty work for the proper maintenance of the guns and the Workshop, the reason why we had been allotted them remained a mystery.

We were all in bouyant state and were thoroughly enjoying the coffee and biscuits we were not supposed to have — but did anyway, and it is to be borne in mind that Col Burnell was my mate, and Trevor Spencer was mate to Staff Sergeant Fred Bartlett, RAEME, who had been the Garrison Band Leader, and even then was Senior in Service next to old Ted Hobby, the oldest serving soldier in the Australian Military Forces.

Everybody loved 'Old Fred', and all without exception did his bidding without fear or favour, for he was an accomplished engineer of the old type as well as being a thorough soldier and gentleman. If he did not know the 9.2 handbook by heart, he knew to a T the page that described where, the What, Where or Why, appeared. As regards the hand-book, he was uncanny.

Suddenly, borne upon the air came the sound of gunfire, recognized by the gang as 6". They crowded to a corner of the building they had been in and instantly recognised that the shot had been fired sea-ward by Hornsby Battery, evidently to signal the ship that was proceeding North, to 'Heave-To'.

The vessel neither altered its course or diminished its speed, and we, our curiosity satisfied, returned to our coffee and biscuits. In minutes, another shot rang out. This time from the North as West Head was called upon to 'place one ahead of her bows'. We all gazed sea-ward, for the distance travelled by the sound of the shot, coincided with the 'Fall' of shot, which fell into the sea, 200 yds to port of the vessel. It could easily be seen that the vessel, which had now clapped on speed, was well 'out of range' covered by the almost insignificant West Head gun.

Transferring ourselves to the vessel that was required to stop for inspection, the Captain of which was ignorant of Fire Commands intention, and, considering the fact that Hornby Battery's 6" (timid) shot falling behind instead of 'before' his ship, and the fact that West Head's meaningful shell fell hundreds of yards Port-side, imagined himself to be within a Practice Area, and so, clapped on speed to leave it.

Incidentally, the ship was ours, its cargo and destination known to Command, but Command resented being ignored by the vessel's noncompliance to stop, was determined to stop the ship, even if they had to sink her. Returning to our coffee and biscuits, we had barely reached the room than we were rudely interrupted by the sound of 'Alarm'. "Wear your tin hat and take your respirator" someone said and there was the general rush to each get the articles mentioned.

I had mine within reach, and turning to Fred, suggested that he and Trevor stay in the workshop, whilst Col and I would attend the guns. AMR and O demanded the presence of the Tiffie on the gun at all times, real or drill, thus Colin and I, complete with respirator and steel helmet sauntered leisurely toward the Emplacements. The heavily camouflaged roadway we traversed led to both guns from the T shaped roadway entrance to the paths that joined both guns.

The 'rattle' of the Rammer being used on No 2 Gun was heard by both of us prior to the Order from Command Post that followed. I spoke to Col and said "There's a No 1 who'll get a dressing down when I reach him" — with that, the Loud Speaker on the Gun crackled as the switch was thrown, and a voice could be plainly heard, "No 2 Gun, Plug Round, Full Charge, Load!" With "It's on, I'll take No 2", from Col and he was gone. I turned right and walked

leisurely towards No 1 gun. Another order came quite audibly over the system to the No 1 gun.

"No 1 Gun Plug Round, Full Charge, Load. The noise of loading began and the gun swung Northwards, over No 2 Gun, and incidentally, right over my head as I quickened my pace and heard the Order — "Stand By". Golly, 5 seconds to firing and I was under the piece and in grave danger of complete annihilation. To throw myself against the bank or run towards the safety of the lower gun-floor flashed through my brain in milli-seconds.

I was saved the decision however, by the astounding Order from the Command Post, unusual and hesitating by voice "No 1 Gun will unload without firing". How on earth the Firing Grip was not pulled at the first sound issuing from the Loud Speakers from which was expected FIRE, I do not know, but bewildered and with a brave showing I mounted the steps and climbed up on the gun.

In the meantime, the gun had been lowered to Zero Elevation and the crew (District Staff) were busy threading up the staves on the un-loader, a bell shaped apparatus resembling a 'drainplunger' to push the rammed shell (480lbs) from the Piece. I was busy separating the loading tray from the rammer, when a barked order came from the speaker, "No 1 Gun, plug round, full charge, Load!!!" The Line Layer, still at his post, swung the gun round to his instruments instructions, and the Elevation Layer took the Piece from the bewildered hands of the un-loading crew and elevated to his instruments.

The un-laden needed no prompting to 'Take cover'. Over the system came, "No 2 Gun, Stand By". From this order, no further Elevation was permitted — 5 seconds to FIRE. Sure enough came the order "No 2 gun FIRE." I, on No 1 gun was standing near the Telephone, I picked it up, asked Command Post to put me through the No 2 gun, Identifying myself I asked for the Tiffie to speak.

Over the phone came the familiar voice of Sgt Burnell. "Burnell speaking" — "Whats the recoil Col" — "I'll go see" — "You should not have to, you should know" — "28½ inches Sir". "Check again". I replied "28½ inches Sir", came in answer, to which I replied — "You've fired a half charge" — "No Sir, I heard the Order and saw it carried out and the rammer ran the shell home" — "You've fired a half charge", I said and hung the receiver up.

At that moment a voice, vibrant with anger and apparently hissed through clenched teeth, came from the Loud Speaker, "The Artificer will attend the rear of No 2 gun immediately." Tiffie went.

Assembled beneath and behind the gun were all the Battery Officers from Battery Commander Jack Minnhett, Colonel Ord, and most of the Staff Officers and Observers from North Barracks. I paraded apprehensively before them.

"Artificer, explain if you can, how a shot fired from this gun fell 5000 yards SHORT of its identified Fall, nearly demolishing Blue Fish Radar Station and failing to complete its estimated design?"

"Yes Sir", was my reply, "you only fired a half charge." A look in my direction from all those pairs of eyes cannot be described: "Impossible, the order was given and conscientiously carried out, FULL CHARGE." The last words were actually barked at me.

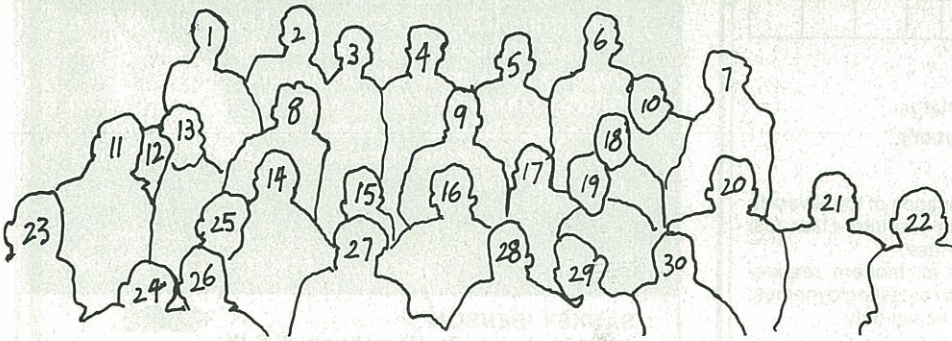
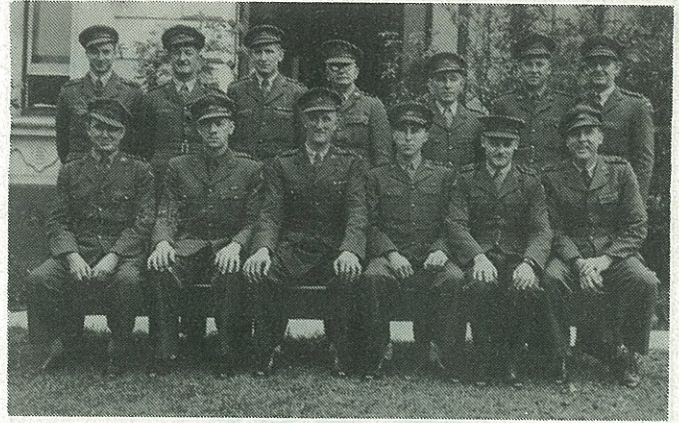
Turning to the No 1 of the gun in question (Gun 2), "How did you hear the order". "Plug round, full charge Sir." Turning to the gun crew, No 3 was asked to identify himself, and was asked the same question and he said he had released two, half charge cartridges onto the Rammer Tray. Lower gun crew verified the fact that two half charges had been sent up to the Hoist. Turning to me the Fire Commander asked, "What have you to say now." "You've fired half charge Sir, the recoil reading demands it."

"Would you permit an inspection at the front of the gun Sir, I think that examination of the ground beneath the Piece will reveal that the Rammer was brought over twice, first time feeding a half charge into the Firing Chamber ahead of the Shell which had a half charge behind it." — "Nonsense". Sgt Colin Burnell was already half way there. He was completely out of sight for some minutes to re-appear wearing a destroyed muzzle cover round his neck and his hands were full of Cordite.

Meanwhile, the ship continued on its way to be finally overtaken by the Target Towing vessel usually moored at Chowder, which had been sent to overtake it. It had almost reached Newcastle where the twin twelve, 40 mile per hr vessel overtook her and escorted her back. "Dolly" something or other was the name given to the No 1 of Gun 2 of the day, and incidentally, he was anything other than a Dolly.

He was well trained and thorough, yet, the excitement of the moment when he was allowed to use the rammer unhindered, overcame his reticence and he actually used it for practice whilst the No 3 was transferring charges thus putting one of the charges ahead of the shell as delivered to him, and one behind the Shell, the No 3 being as bewildered as the No 1.

The Garrison at Blue Fish were apparently not consulted at all and when the shell from North Battery roared across their roof tops with a roar like an express train and dribbled over the cliffs to fall into the waters, they did not know whether to "take cover" or "take post" but they surely trembled; the shouted abuse over the phone confirmed the fact.



- | | | | |
|----------|--------------------------------|------------|-----------|
| 1. SGT. | 5. LIEUT. Alan Murray | 9. W.O. | 2. ? |
| 2. W.O. | 6. LIEUT. COL. Arthur Stainton | 10. SGT. | 13. ? |
| 3. CAPT. | 7. SGT. | 11. LIEUT. | 14. CAPT. |
| 4. SGT. | 8. CAPT. McDougall | | |

- 15. MAJ. Miller
- 16. LIEUT. Peter Johnston
- 17. ?
- 18. ?
- 19. ?
- 20. MAJ. BILL McGLEISH
- 21. CAPT. 'Snow' Birks
- 22. W.O.
- 23. SGT.
- 24. S/SGT
- 25. ?
- 26. ?
- 27. SGT.
- 28. SGT.
- 29. LIEUT. Tom Small
- 30. S/GTT McCann



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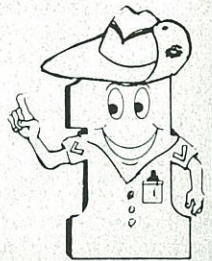
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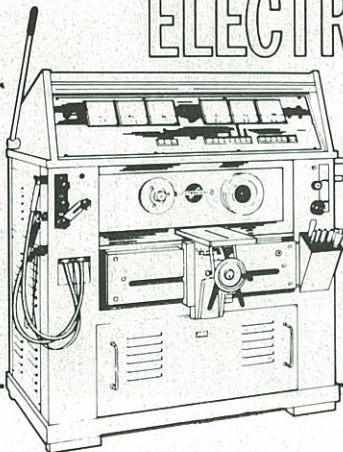
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Don't Believe All You See!

By LTCOL Arthur Burke, RAA

The photograph 'The Old and the New' appeared in an ARMY Newspaper article on 2 December 1982 supporting an article 'Project HAMEL gets "Six of the Best"'. The picture was taken at Ordnance Factory Maribyrnong (OFM) in September 1982 when staff and students of Australia's first Light Gun Familiarization Course posed for a comparison between the new gun and one of the last 25 Pounders to be produced by OFM in the 1940s.

But look closely at the gun detachment on the 25 Pounder. They were wearing slouch hats with Gunner badges. Whilst this is appropriate for the aim of the photo, did you realize that this 25 Pounder was actually manned by RAEME personnel? The chap in the layer's seat is WO1 Ian Campbell and the bloke behind him is WO1 Ron Brown, both from MEA.

As the training co-ordinator for this Course, I can assure you that it was not easy to convince these RAEME students that they should change badges. I guess they feared the worst; that is, that an article such as this would appear in your Corps magazine.

The second photograph here shows the Light Gun in the firing position on its platform. Ian Campbell is second from the left and Ron Brown is standing with his back to the camera. WO2 Peter Kinderis, also of MEA is third from the left and partly obscured.

Other RAEME personnel who attended the course at OFM were Captain (now Major) Reg Hardman and WO1 Bill Taylor, both also from MEA. The second course at Ordnance Factory Bendigo (OFB) saw RAEME representation by Captain Alby Biggs and WO2 Ian Warren from Proof and Experimental Establishment, Graytown;

WO2 Ted Read and Sergeant Owen Miller from the Supply Documentation Centre at Headquarters Logistic Command; and WO1 Arthur Cowles and WO2 Roger Davey from RAEME Training Centre.

The HAMEL Defence Project Management Team is indebted to the practical advice and assistance provided by RAEME members on the courses, in particular Ian Campbell who assisted with instruction at OFB.

One of the six new Light Guns was issued to MEA in October 1982 and a maintenance evaluation has just been completed on the gun and its complete equipment schedule. This evaluation will be used by the Defence Project Logistics Officer (Captain Ken Stevenson) in Material Branch (Army Office) as a major basis for the current Logistic Support Study on the new weapon system.

The MEA gun will soon be transferred to the RAEME Training Centre where the EME training package will be developed. The first draft of this package is due for circulation by December 1983.

ARMY Newspaper articles will continue to advise progress on the Australian manufacture of the Light Gun weapon system. However, it is worth mentioning that six pre-production barrels have already been forged, rough machined, bored and swage-autofrettaged at OFM; and passed to OFB for rifling and final machining. The machining of six pre-production muzzle brakes, breech rings and breech blocks are also nearing finalization. Finally, production development exercises on the saddle and cradle assemblies are progressing satisfactorily.



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Defence Co-Operation Projects With Overseas Countries

WO1 "Gabby" Hayes

RAEME has had the privilege, maybe more than any other Corps in the Army, of involvement in Defence Co-operation Programmes (DCP) with overseas countries.

Basically, each project consists of Australia providing equipment or training in Australia and advisory teams in country, or a package of all these capabilities. The co-operating country where applicable provides, land, facilities and personnel to train, operate, maintain and repair the equipment provided.

RAEME's part in DCP usually takes the form of:

a. The specification and processing of technical equipment requirements.

b. The formal training of foreign officers, NCO's and tradesmen in Australia and informal training in their own countries.

c. The provision of in country assistance by technical advisory teams. These advisors work in concert with an opposite number from the defence force of the country receiving the assistance.

It must be realised that it is seldom easy or convenient to find people to fill these aid positions. Obviously we have to select some of our best men for this type of work, being very mindful of personality traits as well as technical proficiency and this has its affect on the operation of the Corps within our own Army. It is not so much the numbers involved but rather the specialists which are required. Aid programmes seem to demand the engineering disciplines, trades and experience in which we have the greatest shortage.

Participation in DCP projects has very important side affects:

— They provide interesting and unusual jobs of high job satisfaction and experience value for our officers, artificers and tradesmen.

— It provides communication with and understanding of the engineering Corps of other armies — the methods, techniques, organisation and personalities within those armies.

— Last and by no means least important, it provides a few overseas postings — an important morale booster and an increasingly rare commodity these days.

BURMA

Our first involvement with DCP was with the Government of Burma in 1956 to 1958, when a number of Burmese Army tradesmen were trained at RAEME Training Centre as fitters and turners and motor mechanics with a further period of on-the-job training at a Base Workshop. This training was undertaken as part of Australia's contribution to the COLOMBO Plan.

PAKISTAN

By 1958, a visit was arranged with Pakistan to study means by which we could assist in the training and equipping of the Pakistan technical Corps as part of Colombo Plan assistance. Resulting from recommendations, RAEME investigated and specified equipment for a number of Pakistan Army Schools which included:

— Science laboratory equipment for the EME School at Quetta.

— Complete equipment for the Electronics Wing of the Apprentices School at Rawalpindi.

— Complete equipment for 52 students at the Works School at 502 Workshop at Rawalpindi.

— Equipment for the welding, refrigeration and electrical trades at the Engineer Centre and College, Rasalpuz.

The total cost was in the region of \$600,000.

Simultaneously we undertook the trade training of 30 Pakistani EME Officers at RAEME Training Centre between 1960 and 1964. The one year course was aimed at giving newly graduated and inexperienced engineers some knowledge and skill in the techniques and craft of the men they would be supervising.

THAILAND

In the late 1950's we started our first project in Thailand under SEATO auspices. This project involved the equipping and assistance in the setting up of the Military Technical Training School at Bangkok, a northern suburb of Bangkok. The school was intended to train Thai tradesmen for the services and government departments in the fitting, electrical, machining and metalsmithing trades. Our involvement in the original school has long since ceased, however the school's scope has been extended by two further projects in which RAEME has had heavy involvement.

The first of these extension projects was the further development of Military Technical Training School (MTTS) in 1968 to include the training of motor mechanics, and later the development of an Electronics Training Wing of the MTTS in which Australian participation ceased in 1978. The worth of these projects was such that when the SEATO military alliance ceased, the ETW Project was taken up under the Colombo Plan. MTTS and ETW are now the leading institutions in Thailand in the training of high grade tradesmen and an excellent example in Asia of joint co-operation.

Another major Thai project with which we have been concerned is the Armed Forces Vehicle Rebuild Workshop situated at Rangsit some 30 kilometres north of Bangkok. This huge workshop has a covered area of 16,000 square metres and is designed to undertake the rebuilding of 60 vehicles per month. Advisory assistance ceased in February 1978 but further equipment has been procured and supplied to the workshop for installation by the Thais.

Malaysia

In March 1972 the DEME Brigadier Dean and Mr Cullen of the Department of Supply visited Malaysia to make recommendations on a series of aid projects requested by Malaysia after a \$16m offer by the Australian Government over the period of 1971-74. Resulting from the teams investigations and subsequent deliberations with the Malaysians, RAEME was committed to the establishment of a Royal Malaysian Police Technical School and an Armed Forces Manufacturing Workshop.

The Royal Malaysian Police Technical School was established in Kuala Lumpur to train Malaysian police tradesmen as fitters, machinists, small arms fitters, marine fitters and electronic tradesmen. The project started in 1973 and was completed in December 1976. The Advisory Team assisted the Malaysians in the installation of Australian procured and supplied equipment and the training of instructors and assessment of some police instructors at RAEME Training Centre.

The Armed Forces Manufacturing Workshop was established at Sungai Buloh, Selangor, 30 kilometers north-west of Kuala Lumpur. Australian Advisory assistance was given in designing, building and the provision and commissioning of general and sophisticated production and metrology equipment to enable the Malaysians to undertake the capability of manufacturing, reclaiming, repairing and modifying repair parts for military equipment of the Malaysian Armed Forces. The project started in 1973. Training has been undertaken in Australia by Officers, Warrant Officers, senior NCO's and civilians in production control, forging, casting, heat treatment, plastic and rubber moulding skills and modern techniques.

The Australian Technical Advisory Group, Malaysia, involved both Army and civilian staff.

The Army personnel were all RAEME except the Administration Warrant Officers, who were from the Royal Australian Engineers. The civilians were from Government Departments such as the Department of Supply. The team members lived in the suburbs of Pantai Hill and Bangsar Park on the south side of Kuala Lumpur



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with their children attending the International School, the Garden School and the British Services School, Highgate Hill.

The team originally operated in Batu Garrison until 1976, when workshop buildings had progressed to a stage to permit equipment installation and by 1977 the team was well entrenched at Sungai Buluh (English translation is Bamboo River). By December 1980 the majority of the team had withdrawn and the Team Leader, Colonel Hicks-Hall returned to Australia in February 1981.

The project is continuing with the supply and commissioning of outstanding equipments and the transmission of technical data and information. Agreement has been reached between the Australian and Malaysian Governments for in-country advisory assistance in the form of and EME Lieutenant Colonel currently Lt Col Cliff Johnston.

In 1981 under continuing discussions on Defence co-operation, Australia agreed to support Malaysia in the building of a huge Armour-Artillery training centre at GEMAS approximately 150 kms south of Kuala Lumpur. This programme is known as Project Gemas.

Australia will support the project with an initial 12 member team who will use their expertise to advise and assist the Malaysian Army in support of the project.

This team is known as the Australian Army Advisory Team, Malaysia and is now located in Malaysia as at February 1983.

The team consists of the following personnel:

LTCOL Cliff Johnston CO AAATM (RAEME) based in Kuala Lumpur.

LTCOL David Catterall (ORD) in Kuala Lumpur.

MAJ Andy Turner (EME) in Kuala Lumpur.

MAJ Alan Little (ENGRS) in Kuala Lumpur.

MAJ David Pakes (ARMD) in Port Dickson.

MAJ Tony Ayerbe (ARTY) in Seremban.

MAJ Alan Rankine (ARTY) in Seremban.

CAPT Wayne Bennie (EME) in Kuala Lumpur.

CAPT Glen Thomas (EME) in Port Dickson.

WO1 L (Spike) Wiseman (EME) in Kuala Lumpur.

WO1 Doug Butters (EME) in Kuala Lumpur.

WO2 Robin Reed (ORD) in Kuala Lumpur.

The initial period of the project is six years. It is proposed to send two additional Armoured Corps Warrant Officers in early 1984.

Indonesia

In 1976 a team of Indonesian Officers visited Australia as part of the Defence Co-operation Program with that country. One of the items discussed was the possible gift of a quantity of the Sioux Bell 47-G3B1 Helicopters. As a result of this visit an Australian Investigatory team visited Indonesia in late 1977 to determine the requirements and to develop a plan for the project.

It was agreed that Australia would provide 12 Ex-Army Sioux Helicopters plus necessary tools and Ground Support Equipment, a two year supply of repair parts and an in-country advisory team of eight personnel.

The project also involved training in Australia of 22 Indonesian Officers and senior NCO's, the 'E' Servicing of six of the helicopters and 'C' and 'D' servicing of the other six.

Whilst this training and overhaul was in progress (Jan-May 78) the advisory team known as the Sioux Advisory Team, Indonesia (SATT) completed a Bahasa Indonesia Language course at Kapooka.

By May 1978 all training and repairs were completed and the stores were assembled at 21 Sup Bn Moorebank and 5 Base Wksp Bn, Oakey.

During June and July the team departed for Indonesia and the aircraft and stores were delivered by RAAF and Indonesian Air Force (TNI-AU) C130's to Bundung (Central Java). From there the aircraft were assembled and flown to Bogor with the stores being transported by road to Bogor.

The team were all accommodated at the Country Woods Estate which was approximately half way between Jakarta and Bogor. This accommodation, which was in a secure area, was well appointed

with its own club including a swimming pool, bar and snack facilities, squash and tennis courts, children's soccer field and a golf practice driving range.

The children of the team members attended the International School in Jakarta, which, like most International Schools proved to be a fine teaching institution.

During their stay at Atang Senjaya (Bogor) the team developed maintenance systems for flight line repairs as well as 'C' and 'D' servicings for maintenance squadron level repairs. Both of these functions were conducted at Atang Senjaya.

The 'E' servicing was conducted at their depot level maintenance wing at Bundung which required a ten week detachment of the team to that location.

With the completion of the first 'E' the team were progressively withdrawn with the Team Leader and the Sgt Clerk being the last home in July 1980.

Since the withdrawal of the team Lt Col Naylor and WO2 Morrissey returned to Bandung in 1981 to assist with the second 'E' and in 1982 the third 'E'. It is hoped that with the completion of that service the Indonesians will have all the necessary skills to conduct all future 'E' servicings themselves.

This project was very successful with the team achieving all their goals as detailed in the Project Plan. It was also very successful in that it allowed members of the Corps to broaden their experience not only in working in a foreign country but with the Air Force of that country.

Continued support to the Indonesian Air Force has been agreed by the conversion of 4 SIOUX Helicopters from Piston to Turbine (Soloy conversion) and a repair parts and training package has been agreed between Australia and Indonesia. In support of this programme Australia will supply an Aircraft engineer Maj Mal Motum ex 1 Aviation Regt Wksp who after language training school and training with a civilian contractor was assigned to Indonesia for two years in Mar 1983.

Training of 14 Indonesian Air Force personnel was undertaken in Sydney by Hawker Pacific Pty. Ltd., in the maintenance and support of the Soloy turbine engines for the Sioux helicopter.

In 1973 the Indonesian Ministry of Defence requested that consideration be given by Australia to expand the existing AN/PRC Radio Set Maintenance Facilities. This concept was the expansion within workshops across Indonesia to undertake field repairs to the increasing amounts of AN/PRC 77 Radio Sets entering the Indonesian Armed Forces. This project was divided into phases and under these phases Australia provided:

- a. 821 AN/PRC 77 Radio Sets, a small range of transmission equipment and long range antennae.
- b. Maintenance support equipment and a full range of repair parts sufficient for two years.
- c. Technical training in Australia for eight Indonesian Army technicians.
- d. Publication of translated operator and technical manuals.
- e. The provision of a technical advisory team in Indonesia to assist and advise on AN/PRC 77 use, maintenance and management during the first two years of the project.

The project proposed that facilities for maintenance of the radio sets be located in existing workshops on the Islands of Sumatra, Java, Sutawesi and West Irian. To provide support for the Strategic Reserve (Indonesia), two mobile facilities were prepared by Indonesia.

The latter phase dealt with:

- a. The development of eight regional repair facilities throughout Indonesia.
- b. Provided training in personnel to carry out repairs to field repair level on the AN/PRC 77.
- c. Accept into Indonesia and distribute repair parts and test equipment supplied under the DEFECO programme.
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Unfortunately, on 11 February 1979 the Team Leader at this time Major Vin Noonan was killed in the crash of Garuda Flight GA 240 at Mt Sibayak, Sumatra.

The Australian personnel did their jobs well and can be proud of their participation with the defence forces of Indonesia.

Philippines

In early 1980 a Philippine Air Force (PAF) Nomad suffered structural damage on landing in the Philippines. Resulting from this incident two Government Aircraft Factory representatives visited the Philippines and undertook an investigation. Resulting from consultation with the Philippine Authorities, a Project Investigation and Planning Team was sent by the Department of Defence. After further consultation, it was agreed that a Defence Co-operation Project could be initiated. RAEME were to be Project Sponsors.

The 12 Nomad aircraft were purchased by the Philippine Government and were not supplied under Defence Co-operation.

The inspection team sent to the Philippines in August 1980 identified the need for training in the following areas:

- a. Maintenance Control Procedures,
- b. Airframe and Engine Trades,
- c. Electronic Systems Trade,
- d. Radio Trade, and
- e. Supply Systems.

Also identified was an urgent requirement to train PAF personnel on Nomad and the assessment identified 23 officers and NCO's to undergo training in Australia.

To give further assistance Australia, proposed the provision of an Advisory Team.

To facilitate training of the Philippine students it was proposed that a Philippine Nomad aircraft would be flown to 5 Base Workshop Bn for a major service which would be done by the students as part of on-the-job training after the students formal training. Australia would oversee the major service.

On 2 Feb 81 the Philippine Air Force students arrived at 5 Base Workshop Battalion to start their training and two Advisory Team members left for the Philippines to ascertain equipment spares and equipment requirements for the project.

The Australian Advisory Team was selected and was given the title of the Nomad Advisory Team (NAT). The team members are:

- a. Major Peter Wooley (Team Leader),
- b. WO1 Geoffrey Moller (Art Aircraft),
- c. WO2 Fred Baker (Art Aircraft),
- d. WO2 Eddie Britnell (Art ES (Air)),
- e. WO2 Wayne Burrell (Clerk Tech Ord (RAAOC)), and
- f. Sgt Warren Schilling (Clerk Tech).

By May 1980 the PAF Nomad had been test flown and the students had returned to the Philippines. The team is stationed on Mactan Air Force Base on Cebu and they and their families live in nearby Lapu Lapu City. The team is assigned to the 223 Tactical Airlift Squadron, Philippines Air Force.

In May of 1980 the Philippine Government was offered a fully supported project package of 5 portable Disappearing Automatic Retaliatory Targets (DART) in addition to supply, delivery and installation of the ranges themselves. The project would include:

- a. Assessed repair parts for two years.
- b. Technical manuals, test equipment, tools and servicing aids.
- c. Operational and maintenance training in Australia.
- d. Operational and technical advisory assistance in the Philippines by a small Australian team.

An Investigatory Team including an EME officer visited the Philippines to assess the requirements in August 1980. Resulting from this visit a suitable initial equipment package was assessed to include:

- a. 150 individual portable target units with ancillaries;
- b. 60 night shoot attachments;
- c. 80 retaliatory devices;
- d. 60 manual control and counter (MCC);
- e. 300 targets "standing man 11D",

- f. 300 targets "head and shoulders 15D";
- g. 200 targets machine gun nest 13D;
- h. 20 transmitters with ancillaries;
- i. 7 trailers complete with battery charger;
- j. 7 trailers mounted, 415 Volt diesel generators;
- k. 3 sets of recommended base workshop tools and test equipment;

and

- l. 8 sets of operators test equipment, tools and test equipment, and a quantity of spare transmitters, large major assemblies and ancillary items.

By December 1980 the Advisory Team personnel had been nominated; they would include a tactical and a technical element. The technical element being two EME personnel for a two year duration and two Infantry in the tactical element for a period of six months temporary duty. The personnel selected were:

- a. Maj Jim Gilliland, Technical Team Leader — Army Office.
- b. WO2 Bob Kelly (Art Tels) — RAEME TRG CENTRE.
- c. Capt R.W. Kenny INF, Tactical Team Leader
- d. WO2 R.M. Burke INF.

In February, 15 Philippine Armed Forces personnel came to Australia to attend a training course with the firm Australasian Training Aids at Albury NSW, who manufactures these products. Four personnel undertook further training at the Infantry Centre Singleton, NSW.

The Filipinos attended an English familiarization course at the RAAF School of Languages before attending their courses.

On 1 April 1982 the students returned to Manila. On this day the last advisor arrived in Manila.

The team is situated in Manila. The two Infantry Officers returned to their units after their six months of temporary duty where they toured the Philippines demonstrating and advising Army and Marine Corps units on the DART Equipment, these 'Salesmen' proved their worth.

Currently the two RAEME Advisors are training and advising the Philippine Armed Forces on the maintenance and repair of this equipment.

Kiribati (Pronounced Kiribass)

In August 1979 a request was made by the Government of Kiribati asking for assistance to clear Christmas Island of military debris scattered over the Island.

In April 1980, Maj R. Smith, then of DGEME went to Christmas Island for those who are not up with their geography, the island is to be found 3,000 kms east of Tarawa the Capital of Kiribati and 2,000 kms south of Hawaii) to assess the feasibility of such a project and to make recommendations as to the extent of Australian involvement under DCP. Subsequent approval was given and a three man team was assembled to be known as the Christmas Island Salvage and Clearance Team. This team began a four month temporary duty on the Island in Oct 82. The teams composition was:

- Team Leader WO2 John Fitzsimmons — 2 Base Wksp Bn.
CPL Pat Deigan — Metalsmith — 2 Base Workshop Bn.
CPL Pat Watson — Recovery Mech — 1 WCFT WKSP.

The role of the team was to train a team of Ne-Kiribati's in oxygen cutting techniques and minor recovery with emphasis on safety. To support it, a 5 ton Leyland Boxer Truck, 500 oxygen cylinders, 20 LPG cylinders associated cutting equipment, winches and minor recovery stores were supplied. The logistic operation to supply this equipment has been difficult but is progressing well. The team arrived on Christmas Island in late October and whilst waiting for their equipment to arrive, the team didn't sit around, they borrowed some equipment from the Islanders and turned their hand to making playground equipment for the two primary schools on the Island. This exercise maybe more than anything to come will cement relationships between the Islanders and Australia. Well done!

After further discussions with Kiribati the project was extended for six weeks, and a further two members were sent.

- SGT N. Butcher (VEH MECH) — PERTH WKSP COY
CPL A. Burrows (Metalsmith) — 17 Const Sqn Wksp.

These members arrived on Christmas Island on the 19 Feb 83 and returned to Australia on the 8th April 83.

Vanuatu

In December 1980, a request was received from the Government of Vanuatu for assistance under the Defence Co-operation Program to support the establishment of an armoury workshop facility and the training of two armourers of the Vanuatu Mobile Force (VMF) an elite police unit.

In February 1981 an EME Officer visited Vanuatu to investigate aspects on types of weapons held by the VMF and the type of programme of weapons maintenance which would best suit the Vanuatu requirement.

Resulting from this assessment was a recommendation for the provision of an Australian Armourer for one year, provision of minor machine tools to equip an armourers workshop, provision of armourers hand tools, gauges, etc., training aids, technical manuals and miscellaneous stores. Also recommended was that two VMF personnel be selected to undergo training as fitters at the Papua New Guinea Defence Force Trade Training Unit (PNGDF Trade Trg Unit) in Port Moresby.

An Australian Warrant Officer was selected to the Advisory Position with the VMF and WO2 Bruce (Henry) Gibson arrived in Vila, Vanuatu in December 1981 to take up his position.

The Vanuatu students completed their training in New Guinea and also had the opportunity to visit 2 Base Workshop Bn and the Small Arms Factory at Lithgow as part of their on-the-job training. The project is progressing satisfactorily and considered to be most successful by both Australia and Vanuatu. This project has been extended to include the supply of a quantity of hand guns and associated training to members of the Vanuatu Police Force, WO2

Gibson will train and advise these members till the project finishes in Oct 83.

OTHER PROJECTS

For the proceeding projects RAEME was project sponsor and managed all detail however, in response to requests from other sponsors RAEME has supplied both personnel and technical advice. In the past year RAEME has supported other DCP projects in Malaysia, Thailand, Papua New Guinea and Tonga. Examples are:

Malaysia — Advisory assistance and technical advice to the Special Warfare School in Malacca. Production and Management training to the Malaysian Army in Kuala Lumpur.

Thailand — Advisory and assistance to a Production and Management course in Bangkok for the Thai Armed Forces.

Papua New Guinea — RAEME personnel conducted a Basic Recovery Course for PNGDF soldiers in Port Moresby and conducted an advanced Metal Machinist course at the Trade Training Unit, Port Moresby.

Tonga — RAEME personnel trained members of the Tongan Defence Service in the maintenance of a Landing Craft, Mechanized (LCM8) both in Australia and in Tonga.

What does the Future Hold

RAEME will continue to support the Defence Co-operation Programmes currently underway, including foreign student training at civilian and Army training centres and workshops. RAEME support to the Governments of our ASEAN and South West Pacific neighbours, although overall a small contribution to their total development, is one that benefits both Australia and the participating country and the manner in which it is received promotes good-will between nations and stability within the region.

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An Essay on Integral Technical Support to RAAC Units

By Captain C.R. Johnson

INTRODUCTION

The mission of RAEME is to ensure that equipment operates reliably and efficiently in service and is expeditiously restored to useful condition after failure or damage¹.

Army Doctrine requires that Armour with its superior mobility, protection, fire power and communications be able to operate in the mobile role supported by other arms, to provide support for the infantry, to supplement medium range anti-armour defence and provide long range anti-armour defence.

Given the characteristics and strengths of Armour it is easy to be overawed by them and forget the complexity and range of skills required to maintain the force at battle ready conditions. This essay examines the Technical Support sub-units in RAAC units to see if they are organized to provide the best and most economic support.

HISTORICAL DATA

From lessons available, but not necessarily learnt, from WWII, Korea, Vietnam, and to a lesser extent the Middle East, much information is presented to allow us to see repair and recovery weakness. In the Western Desert in WWII the following tank casualty figures are recorded.

TABLE 1
REASONS FOR SHERMAN TANKS ENTERING WORKSHOPS (MEDITERRANEAN THEATRE)² (Z)

Battle Casualty	Mechanical Failure	Modification	Lack of Maintenance
35%	40%	20%	5%

It can be seen from Table 1 that battle damage was not the most significant factor in determining tank availability. Mechanical failure, modifications and lack of maintenance accounted for the largest portion of downtime. What was significant is the speed in which battle casualties, or any other failure, could be repaired and the AFV made battleworthy. Generally 50% of failures could be repaired and the vehicle made battleworthy in twenty four hours³. In today's battles, assuming that spares, facilities and labour is available, all non battle failures should be fit for battle within hours; at the outside, days. With battle casualties two significant areas need to be examined. These are the actual battle damage and the level of sophisticated repair facilities required. Historically anti-tank mines, artillery and infantry weapons caused disabling damage to AFV. This damage could be repaired by a swarm of fitters and welders in a short time.

The suspension fitted to modern AFVs particularly those of our current generation comprising torsion bars, is easily damaged by anti-tank mines and infantry support weapons. Experience in Vietnam showed that hull distortion of the M113 fleet from anti-tank mines can be reduced by uparmouring the belly. MBT Leopard can be expected to sustain disabling damage to hull and suspension from anti-tank mines. In the short term such damage would require removal of the suspension station from each side of the vehicle, followed by replacement of torsion bars and road wheel arm assemblies. Employment of the vehicle may then be possible. With the MBT mine damage to the hull, particularly in the area of the turret or power pack may require backloading for major repairs.

Damage caused by modern tank fire from a 105, or 120mm gun is usually destroying. There is little doubt that an AFV penetrated by a main armament tank round within battle range is beyond medium repair. This is a result of the physical damage made by tank gun ammunition, coupled with secondary damage from hydraulic and ammunition fires.

Hull damage to MBT as a result of large weapons could be significant if secondary damage occurs. Repairs could include refitting of the turret hydraulic, optics and electronic equipment, rewiring of power pack control and sense lines, rebuilding of ammunition storage facilities and rebuilding of the crew fighting platforms. The facilities for this type of repair may not be found in theatre, unless an Advanced Base Workshop is deployed. They require high technology, sophisticated equipment matched by highly skilled technicians, in short the repairs suggested may not be economically viable.

ESTABLISHMENTS

The establishment of Technical Support Squadron or Technical Squadron in the various RAAC units is similar in structure though the regiments differ in role and mode of operation.

Each Technical Squadron has the framework of a Squadron Headquarters and an EME Operations section, which exercises technical control of main repair troops and fighting squadron sections. The administrative and control element of technical squadron in each regiment is identical in manpower numbers and equipment. They have a Technical Squadron Headquarter Administrative Troop comprising the full range of trades from medical assistants, cooks and storemen to a lieutenant administrative officer, whilst EME OPS is commanded by the operations officer assisted by a specialist tradesman Senior Non-Commissioned Officer from each of the major trade groupings.

The main repair element is organised as a mini workshop, and probably that is the best possible compromise between first and second line support levels. The main repair element comprises troops of each trade group, so structured to be free standing repair entity: yet with the manning, equipment and mobility to theoretically provide a forward repair capability.

The establishment of each regiment is designed to meet that regiment's role. An analysis of the numbers of vehicles on each establishment was carried out and then we can establish a ratio for radios and weapons by an average factor of two radios and two crew served weapons per vehicle.

INDIVIDUAL TRADE REQUIREMENTS

In broad terms the full spectrum of trades required for the repair of regimental vehicles and equipment must be provided. The degree of sophistication and complexity of technology suggests specialised tradesmen be allocated for repairs or replacement of assemblies. This may not however be justified for equipments designed for modular replacement. A unit establishment written to reflect a balance of 60 per cent semi skilled to 40 per cent skilled tradesmen would allow employment of skilled tradesmen in the rear echelon areas; saving in both training time and in numbers of tradesmen required to maintain a range of equipment. Unfortunately current thinking does not allow for semi skilled tradesmen to be trained and allotted to first line units. Such tradesmen if they existed, could be process workers employed under supervision on the normal range of first line repairs such as identifying faulty assemblies and their removal and replacement.

Electrical Instrument and Radio

Consideration of the establishment of 3/4 Cavalry Regiment reveals Electrical Instrument and Radio Troop (EIR TP) manning of eighteen to be employed in four medium truck mounted shelters together with a TLC and APC(F). The shelters are allocated on the basis of two for radio and one each for electrical and electrical/instrument. Using the current range of radio equipment it could be argued that there is a need for two shelters Telecommunications Repair however this situation is expected to change dramatically

with the next generation of field radios when centralized theatre repairs are expected to take place. Such repairs will require facilities which cannot be economically provided at first line, and by their nature would demand a rationalization of the repair plan to incorporate a repair pool. The provision of the M113(F) and TLC is not understood by the author. The weight of equipment repaired by EIR TP does not justify an APC(F) and its crane. The Test equipment needed is carried in the shelters, presumably the TCL will be used as a Receipt and Issue store and for the carriage of tentage and power generating equipment. As part of the troop is on wheels it is difficult to see a need for tracks as forward repair is unlikely. The normal system is for faulty radio or harness components to be replaced by the fighting squadron SQMS and then passed to RAEME in the A2 echelon.

In comparison, 2nd Cavalry Regiment has the same work shelters with six fewer personnel and the modules mounted on TLC. A reconnaissance regiment has more requirement for mobility but similar arguments as shown in regard to 3/4 Cavalry Regiment may be advanced against the requirement for the APC(F).

1st Armoured Regiment, in further comparison, seems to be well under strength in Electrical Instrument and Radio Troop, with the prime areas of neglect being the quantity of Technicians Electronic Systems (Ground) provided. The MBT Leopard AS1 is a modern tank with a sophisticated fire control system. This is the heart of the vehicle. Inaccuracies or malfunction of the Tank Fire Control System (TFCS) coupled to the electro optical hydraulic system render the weapons system all but unusable. The establishment for the electronic system repair of sixty two MBTs is a regiment total of seven tradesmen. As a logic comparison Armoured Centre employs three tradesmen on sixteen tanks.

Automotive Trades

The establishment provision of vehicle mechanics reflects peace time economic constraints. To determine the number of tradesmen required it is necessary to make a number of assumptions on tradesmen availability and workrates. The assumptions made by the author, subjective as they are, cover the areas of:

- individual productivity which is dependant on morale, training, motivation, pressure and even the workload;
- extraneous duties, including time spent on escorts, guards/picquets, unit duties, travelling time; and
- personal needs including periods of rest and recuperation.

I.S. Williams⁴ found from Electronic Data Processing (EDP) Reports that a tradesman employed in peace was available for 170 days work per year at a daily production rate of 4.75 hours, or about 2.21 hours of work per day over a 365 day year.

At first sight this may seem unusually low, however on reflection given disruptions for extraneous duties in peace versus the war time 24 hour day availability (which would still be subject to requirements for rest and guards/picquets) and the likely effect of enemy action, 2.2 hours seems a good planning figure.

From EDP reports⁵ an average M113 vehicle on Armoured Centre unit charge requires 108.5 hours of vehicle mechanics time for servicing and repairs per year, whilst a vehicle of the MBT fleet requires an average of 157 hours. Table 2 shows the number of vehicle mechanics required to maintain vehicles on charge to Regular Army Regiments.

Table 2 reveals that 1st Armoured Regiment is well served with Vehicle Mechanics whereas 2nd Cavalry Regiment and 3/4 Cavalry Regiment are at virtually 100% availability on workrate production figures. Such a situation would reduce equipment availability

through long periods awaiting repair. In war the higher utilization rate of vehicles would provide at least the same workload in servicing and repair of automotive failure but of course there would be the additional workload resulting from battle damage.

Recovery

Recovery of casualties and their subsequent fast return for repairs may decide the outcome of a future conflict. War records from the Second World War, Korea and Vietnam established the need for dedicated recovery vehicles with winching capacity. Of the three regiments, 3/4 Cavalry Regiment appears to be adequately supplied by recovery facilities. 2nd Cavalry Regiment has sufficient tracked recovery vehicles but given the unit's role a strong case exists for increasing the entitlements of wheeled recovery vehicles and tilt bed trailers with an accompanying increase in manpower. These will be required because the regiment will usually be well forward of second line recovery resources.

The recovery facilities in 1st Armoured Regiment are totally inadequate. The MBT Leopard requires an ARVM for most servicing tasks and, consequently, the allocation of one ARMV per eighteen tanks is insufficient to meet servicing, repair and recovery tasks. The allocation of this recovery/fitters vehicle must be increased to around twelve per regiment to maintain workrates and tank availability. A suggested scaling is:

- two per tank squadron,
- two for FRT complete with power packs, and
- two for main repair section.

This will allow for the brigading of resources within the regiment for both servicing, repair and battle field casualty evacuation. By way of compensation most of the APC(F) allocated to a tank regiment could be deleted as the crane of this vehicle is unable to lift a Leopard power pack. The crew of the ARMV is notionally four, comprising a Corporal Recovery Mechanic and Craftsmen Vehicle and Recovery Mechanics. Crewing of the ARMV by multi trades may in fact be a better option. In this light the vehicle should be crewed by a Corporal Vehicle Mechanic Crew Commander, Craftsman Recovery Mechanic operator/driver and Fitter Armament and/or Technician Electronic (Ground); a mini mutually supporting repair team.

Repair Parts

Today's society is a throwaway, consumer orientated one. Every item we receive is individually wrapped, and packaged for protection and presentation. The stores supplied through Logistics channels are similarly presented. Individual packaging and preserving of stores has been developed to the extent that the end user generally receives the item in the condition supplied by the manufacturer. This has obvious benefits to the user, items arrive with protective coatings applied, free from the effects of fungus, growths, dust, moisture and handling. The compromise which this enforces is fewer items into a given transport package dimension, increase in dead weight to be carried and concealment and disposal of packing and waste.

The repair parts section is organized to operate with two essential elements. These elements are provision and control staff and stores staff although in small repair parts sections the staff of elements may be indistinguishable from one another and their duties integrated⁶.

The provisioning and control staff together with the necessary documentation must at all times be a homogenous unit. This section is the nerve centre of the repair parts sections, and all documentation must be at their immediate disposal. The documentation must include a card for each repair part held, showing the location by bin

TABLE 2

NUMBER OF VEHICLE MECHANICS REQUIRED FOR ARA REGIMENTS

UNIT	QTY M113 FAMILY	QTY MBT FAMILY	HOURS M113 REPAIRS	HOURS MBT REPAIRS	TOTAL	QTY TDMN REQ	ESTAB CPL/CFN
1 AR	118	76	12803	11832	24576	30	38
2 CAV	154	NIL	16709	—	16709	20	21
¾ CAV	321	NIL	34828.5	—	34828	43	42

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pack and vehicle, current holding, accountability classification and current provisioning action. This control office also holds vouchers for indented stores and documentation requests for return stores group. Stores staff would generally be employed on crewing of specific vehicles on moves and grouped into a workforce whilst in a static location. Amongst their tasks are the resupply of class 9 stores and the return of repairable stores.

The vehicle allocated to the stores section is the same for 2nd Cavalry Regiment and 1st Armoured Regiment, with $\frac{3}{4}$ Cavalry Regiment having only three Tracked Load Carriers rather than the four in each of the other regiments. This allocation of vehicles indicates that the regiments have the capability to lift and store 18 or 24 tons of repair parts. This tonnage is in fact reduced to 12 or 18 tons as one vehicle is effectively lost for a control office. However the stores held would usually total much less than 18 tons because of bulk and the need to identify each store by location.

To imagine 1st Armoured Regiment can sustain itself with less than 18 tons (ie 3 x 6 ton TLC) of repair parts stores is far short of reality. Typical bulk loads required include spare barrels (1100 kg each of 1.377 m³), road wheel arm assemblies, shock absorbers, (binstock 20 kg each cubic dimension of .874 m³) radiators, starter motors, pump blocks, fuel tanks and torsion bars for MBT and final drives, transmissions and transfer gear cases for M113. The suggested holding based on Armoured Centre usage multiplied by a factor for the increased number of vehicles in 1st Armoured Regiment shows that for those stores the regiment would require additional vehicles for the carriage of repair parts.

The M113 equipped regiments may be able to carry class 9 stores holdings with their allocated vehicle.

Resupply of the class 9 stores is seen as a major potential problem. The Technical Support Squadron is allocated one heavy truck and one medium trailer for class 9 stores. Given that the distance from A2 to B Echelon could be in the order of 30 km or greater each way, the ability to keep the class 9 stores supply equal to usage is seriously doubted. Generally the resupply vehicle will 'bulk out' before the rated loading is reached.

COMMAND AND CONTROL

Lively discussion by RAAC and EME Commanders on who commands and controls technical squadron sections operating with fighting squadrons is sure to develop whenever more pressing matters have been resolved. Should the technical elements be under command of the RAAC squadrons or in direct support, or should the Technical Squadron maintain control?

The Squadron sections and any attached personnel are supplied to keep the squadron operational. These squadron sections are primarily diagnostic teams, 'top heavy' by rank and experience and designed to be able to quickly appreciate the problem and to request and organize the support necessary to effect timely repairs.

With the manning and equipment constraints imposed by establishment the OC Technical Squadron lacks the manpower flexibility and the luxury of sufficient repair parts and equipment to allocate dedicated permanent support to each squadron. In particular with only four TLC in the Repair Parts Section of the Technical Squadron and the volume and range of spares to be carried it is both impractical and unworkable to allocate a stores vehicle per squadron. Repair parts and certain items of test equipment must be centrally located and allocated out on the basis of priority and need. OC Technical Support Squadron is the CO's adviser. He is charged with providing the maximum number of vehicles on line, to anticipate and plan for peaks and troughs in workloads to ensure the fighting capacity of the unit is always at a maximum. Therefore he needs to control all the technical personnel at the regiment's disposal.

The fighting squadron commander by comparison deploys his squadron including technical section elements to meet the regimental commanders plan. The squadron section moves generally one to two bounds behind the squadron. The section is the squadrons 'mini fix it team', minor problems and adjustments are the norm, major repairs are backloaded to the main support elements or a repair team is called forward to effect repairs.

The technical section is not part of the fighting element of the squadron. It has neither the arms nor the tactical training to engage in a slogging match, and to involve these personnel in battle would be both a great waste of repair expertise, misemployment of resources, and show the situation to be grossly out of hand.

While the squadron technical sections should continue to follow the squadron from bound to bound it seems logical to think that they must be available for cross employment tasks allocated by the OC Technical Support.

PEACE TIME PERFORMANCE

The crux of the issue of the ability of RAEME to support RAAC in units in war could be proven in peace. Unfortunately exercises are costed to a planned level to ensure the Defence Budget is not wasted and although this may be necessary to safeguard the taxpayers interest, it is also false economy because the logistic tail is never adequately tested. Every major exercise in Australia is prefixed by feverish activity repairing equipment, restoring CES, and pre-positioning stores for the exercise. With most breakdowns units are expected to live with the problem and effect repairs or return to their base location. This action means that servicing and major repairs are not carried out in the exercise location. Consequently tools, spare parts, lubrication and service facilities are used on a make do basis and not as a perfecting of techniques for war. Similarly we continue to run a hot and cold war. Whenever the logistic situation on exercise is out of hand, a halt is often called and the 'war is stopped' pending rectification. The consequence of these two actions is that the logistic system is not exercised, and the war scenerio in the battle area is not maintained throughout the exercise. Hence units are making do with establishments that may lack the depth of technique and protection necessary to work in war.

CONCLUSION

The support currently provided by RAEME is coloured by peace time thinking and requirements. There is little doubt that in war equipment downtime will be large and casualties to EME personnel excessive unless the rules for conduct of exercises are changed to ensure the 'tail' is exercised, tactical situations maintained and dedicated equipment casualties notified and withdrawn from the exercise to maintain realistic training for all.

While the existing situation may be economical it lacks efficiency. The role of any Army in peace is to train for war. The Australian Army has not yet demonstrated either the ability or desire to come to grips with training for war.

Notes and Acknowledgements

1. Electrical and Mechanical Engineering Instructions (EME1) BOO5.
2. Battle Damage to Tanks — Major D.E. King, BSc (ENG), C ENG, MIEE
3. Repairing AFVs in Battle — Captain D.E. King REME
4. I.S. Williams A Study of Army Field Repair, Directorate of Operational Analysis.
5. EDP Report Manhours by Trade — Unit — 93572 Armoured Centre 1 Jul 81-30 Jun 82
6. Army Supply Manual Vol 2 Pam 14 RAAOC Stores Elements

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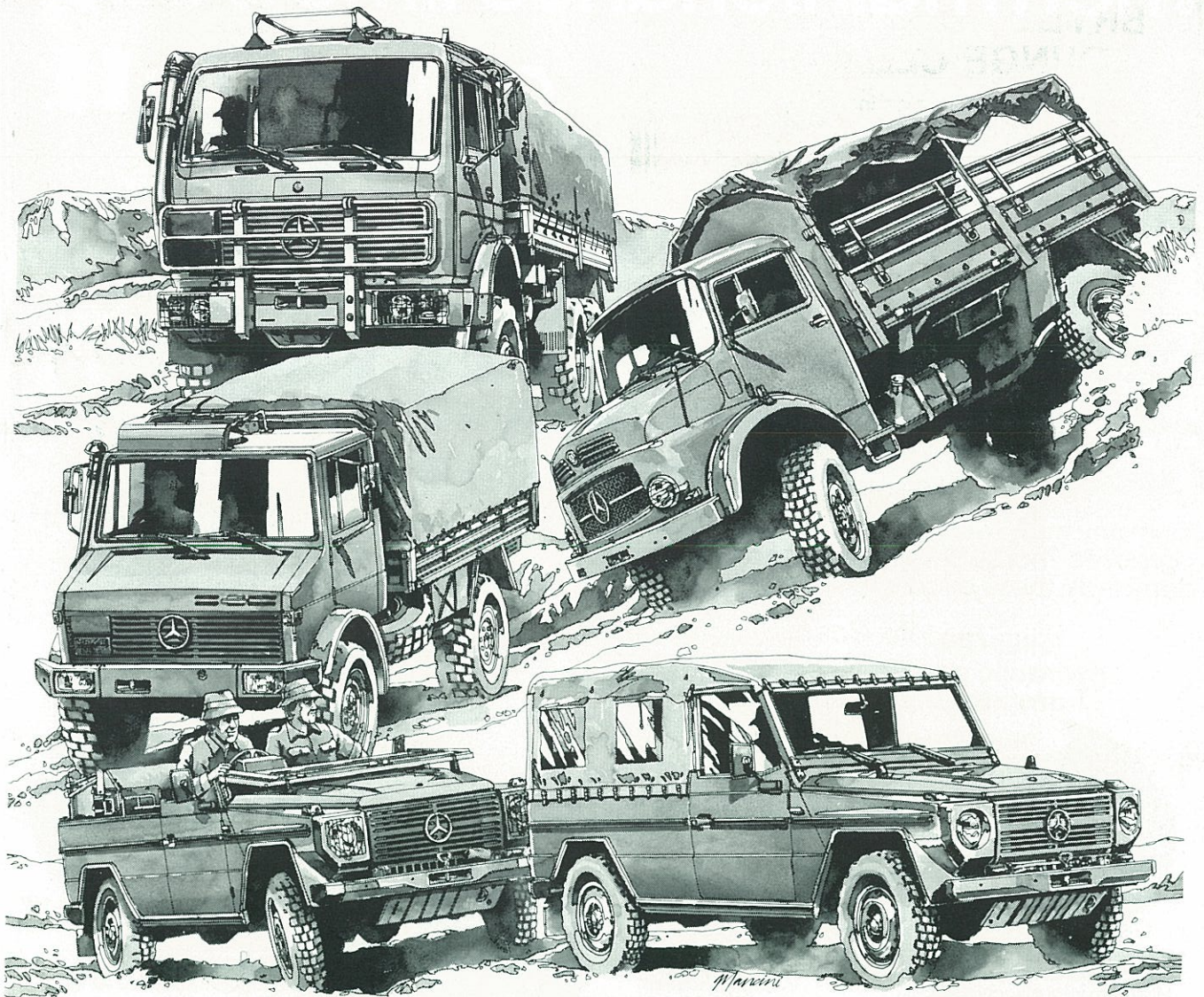
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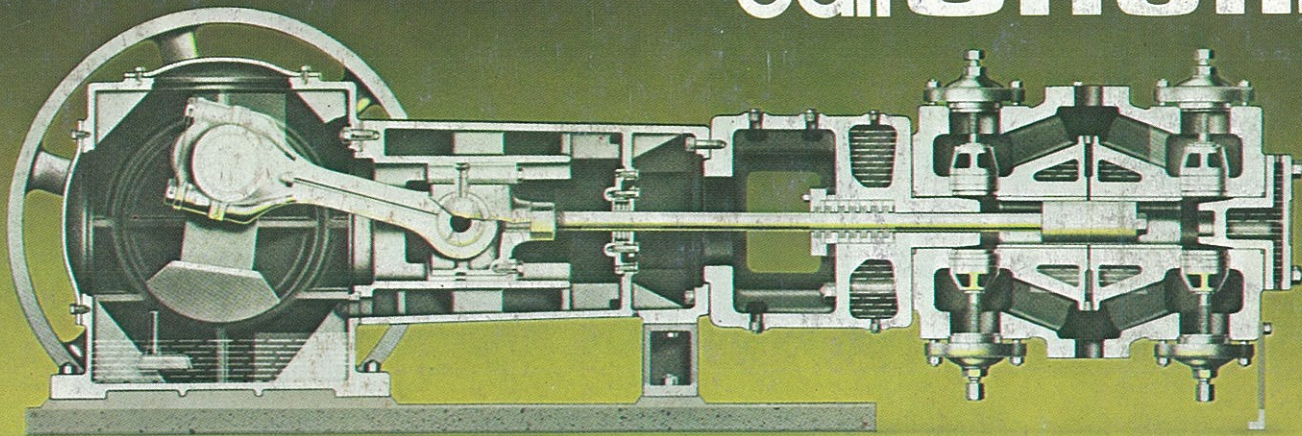
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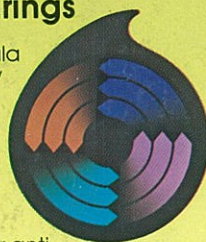


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