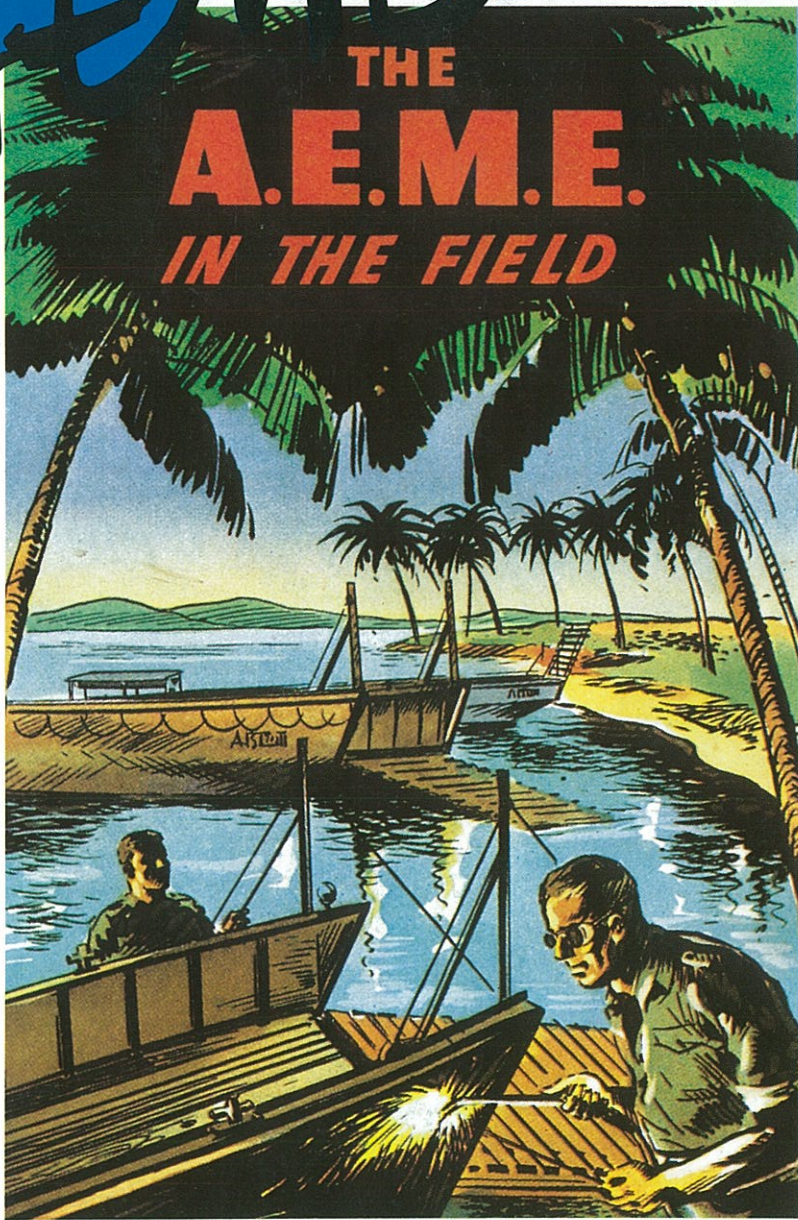


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**Supplement to M.G.O. Equipment
Memorandum No. 15.**

Prepared by the staff of the Master General of the Ordnance and issued
under the direction of the Commander-in-Chief.

4437—44

Headquarters, Australian Military Forces

**Volume 1
Number 12
1985**

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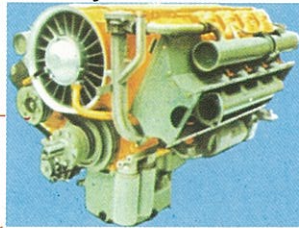
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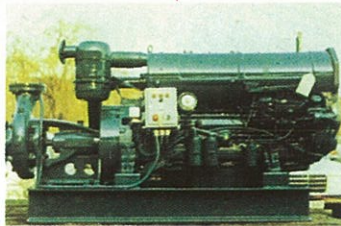
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MESSAGE FROM THE DIRECTOR



As I sit behind the historic DEME/DGEME desk I am in considerable awe of my predecessors who have done so much over the years for the Corps. Having a responsibility for a Corps rich with a history of outstanding achievements, and an incomparable esprit was initially very daunting. However I have quickly relearned the lesson that the strength of the Corps lies with all the individual members who continue to march forward as a closely-knit team. I feel that my job is not to direct the Corps, but to make it easier for all our members to do their jobs.

I would also like to take this opportunity to express my thanks to Brigadier John Faulks who, with the support of his wife Susan, worked tirelessly for our Corps for 32 years, almost five years of which were as our Director. His concern for the individual was matched only by his sincerity and concern for the Corps. I feel sure you join me in wishing them well in their new life ahead.

On every occasion that I visit our units, headquarters and detachments I return 'recharged' with the enthusiasm and dedication of our members. As a Corps we have a strong collective will to do the best we can for the Army as a whole. Occasionally we may feel a frustration at not being able to do the whole task ourselves, but in these days of scarce resources, we need to select the most practical solution and not hesitate to call on Government or Industry resources. We must remember that our task is to keep the fighting equipment of the Army fit for operation, and concentrate our efforts to meet that goal.

I look forward to meeting as many of our members as possible during my visits, and would ask that whenever in Canberra, you all take the opportunity to knock on my door. Keep up the good work.

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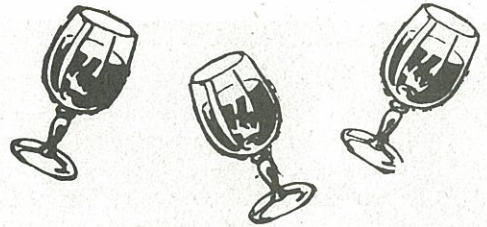
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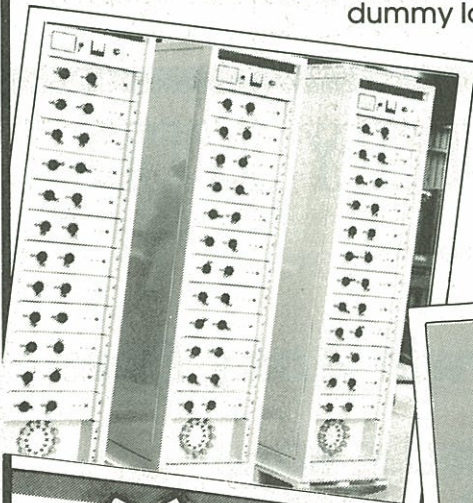
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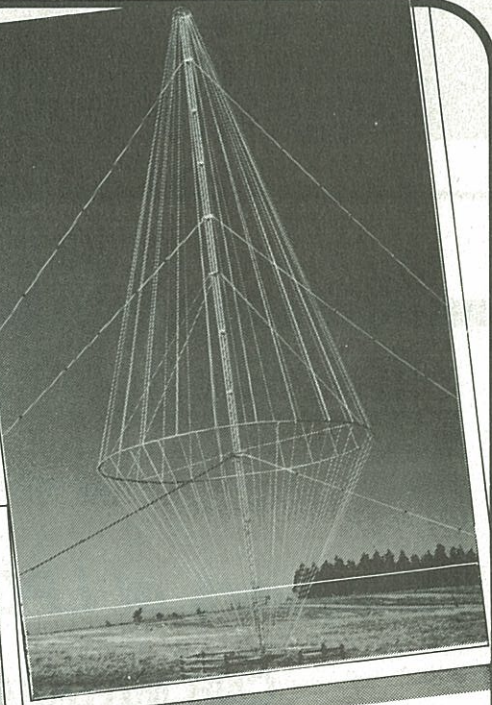
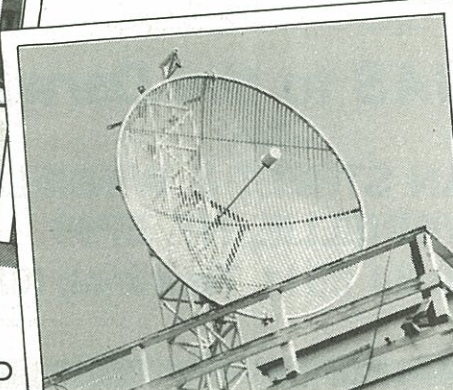
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THE RAEME CRAFTSMAN

THE MAGAZINE OF THE ROYAL AUSTRALIAN ELECTRICAL AND
MECHANICAL ENGINEERS



VOLUME 1, NUMBER 12,

1985

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Editorial

A new editorial board was established in November 1984 with WO1 Laurie McDonald and SGT Chris Smith as continuation members. My thanks to the outgoing members for their dedicated efforts and I hope you will enjoy your new postings.

Having passed one "forty" year mark two short years ago we thought another forty year event was worthy of note. In this and the next two issues we will publish a 1945 publication "AEME in the Field". The article is a timely reminder of our roots in the Second World War 1939-45 and of our development since then as we look forward to the Banner Presentation in 1986. 1985 should also see the publication of our latest doctrine, the Manual of Land Warfare pamphlet "RAEME in the Area of Operations".

No doubt many of you will have noticed some irregularity in our issue dates recently, and I know that many contributors are disappointed that their articles are no longer current by the time they are published. Both the publishers and the editorial board are aware of this problem and are making every attempt to publish at regular six monthly intervals, one magazine at mid year and the second in the December/January period.

The high quality of the magazine is a result of the high quality of the articles submitted by our contributors and it would be unfortunate if a temporary problem in production stopped the flow of articles. While we can't guarantee to publish as planned we will do our level best to stick to regular six monthly issues.

So sharpen your quills, read the Article Guidelines . . . , and get those articles in. This magazine will then continue to provide a great source of interest and value to current readers.

It will also provide a great source of value to those who in 2025 look back over "their" last forty years.

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ARTICLES FOR THE CRAFTSMAN

Note: Unit correspondents to cut out and keep. Prospective authors of articles for the Craftsman should note the following points which will make it easier for the Editorial Board to accept your article and the printer to publish it.

LENGTH:

Major articles should be about 1,500 words. This will provide approximately two pages of double column print. Smaller articles should be a minimum of 250 words. Remember the old adage "a picture is worth a thousand words", and include photographs with the articles.

TYPING

If possible, all articles should be typed — double spaced — on A4 size paper. Handwritten articles are acceptable, but typing makes them easier to proofread and adjust, and saves time editing.

PHOTOGRAPHS

Photographs for articles should be black and white, must not be polaroid, preferably gloss, and as large as possible. The minimum size required is 100mm x 150mm, standard postcard photograph.

SUBMISSION

—Articles should be submitted to:
The RAEME Craftsman,
DGEME, J-4-13,
Russell Offices,
Canberra, ACT, 2600

Closing dates for submissions will be advised by signal but 1 May for mid year and 1 sep for end of year is a good guide.

Remember: The earlier the better.

CORPS HISTORICAL ITEMS

The Corps Committee at its last meeting discussed the collection of items of Corps historical interest. It was decided that members should forward any items that fit into this category to the RAEME Corps Museum at the following address:

RAEME Corps Musuem, RAEME Training Centre, MILPO, BANDIANA, VIC, 3469

Items required to be returned to their owner should be annotated as such.



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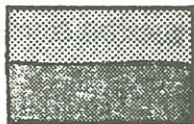
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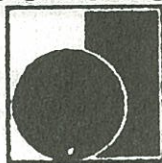
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LETTERS TO THE EDITOR

Dear Sir,

Your readers may be interested to learn that the REME Museum in Arborfield, UK, is in process of moving to a new building and that the opportunity is being taken to revise and refurbish many of the exhibits. We have an interesting collection of cap badges of Commonwealth EME Corps but need many more to "complete the set". We also need to discover exactly what we are looking for. I understand that the first EME Corps in the Australian Army was entitled AEME without the Royal prefix. We would very much like to obtain an original AEME cap badge if there was one. Did this design change with the Royal prefix or did this coincide with the present style horse and lightning badge? We have, incidentally, one of these with the Queen's crown but not the earlier version with the crown favoured by King George VI.

I should be grateful if any of our readers can add to our knowledge of AEME/RAEME badges and would welcome any examples of the earlier badges for our display.

The new Museum is due to open in March 1985 so anyone visiting UK next year might like to visit us at Isaac Newton Road, Arborfield, near Reading.

B.S. Baxter
Deputy Curator

Editors Note: Come on all you Corps historians all contributions gratefully accepted. I suspect AEME badges might be like hens teeth though., Our own Corps Archives might like to strike up a correspondence with the REME Museum. By coincidence in this issue we present 'AEME in the Field' circa 1945 and a message from the Corps Committee on our history collection.

Mr Baxter's address is: REME Museum, Corps Secretariat REME, Isaac Newton Road, Arborfield, Reading, BERKS. RG2 9LN.

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“CORPS BANNER PARADE”

By Major M.P. Dibbs, SO2 Technical,
Director Defence Technical Service — Army

I am pleased to advise that planning is now underway for the presentation of the 'Prince Philip' Banner to the Corps of RAEME which is illustrated below.

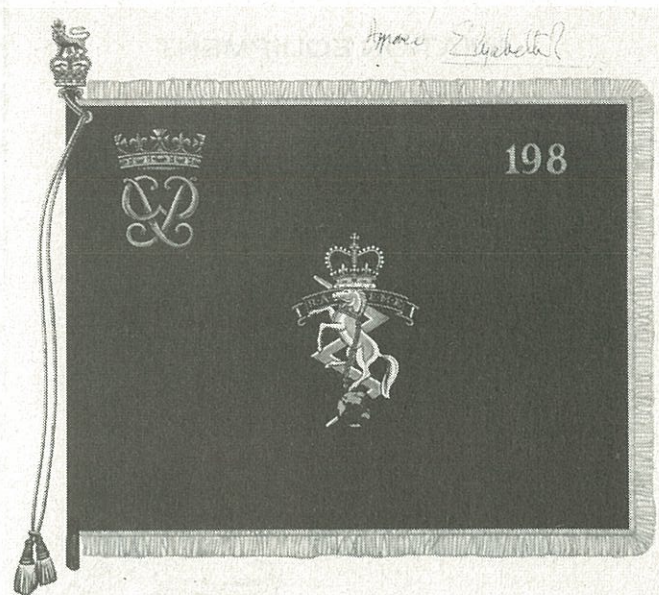
This is an historical occasion for all of us and thus we must try and ensure that all elements of our Corps are not only represented on parade, but have the opportunity to be present on the day.

The parade will be held at the RAEME Training Centre in May 86. The Colonel-in-Chief of the RAEME Corps, HRH Prince Philip, The Duke of Edinburgh has been invited to personally present the banner to the Corps and presently we are awaiting confirmation of this from the Prime Ministers Department.

The Banner and Colour Belt are currently being manufactured and should be completed towards the end of this year.

Considerable planning will be involved in the parade and currently consideration of the following is occurring:

- composition of parade contingent;
- music for the parade;
- preparation of Guest List;
- issue of a limited amount of commemorative port with numbered labels;
- printing and issue of First Day Covers depicting the Banner Parade, which will be available to be cancelled with a pictorial postmark; and
- the commissioning of a painter for a painting of the parade.



A series of newsletters will be released by the Project Officer throughout the year and I ask that these be given wide dissemination to all members of the Corps.

CO/OC should also note the time for planning purposes and include the period 9-22 May 86 in activities programmes.

“CORPS SLIDE LIBRARY”

SGT C.J. Smith,
Directorate Defence Technical Services — Army

How many times have you been asked to give some sort of presentation to courses, conferences or seminars on RAEME, what we do and how we go about our task? If you haven't already, I am sure you will in future. Scripts are the easy part. The major difficulty is in finding good quality slides or vu-foils to support your script.

It is intended to establish a Corps slide library. For ease of access to all, it will be held at the Directorate but will be available to all members of the Corps, simply on request.

We need to project the correct image of a professional and active Corps, skilled in the soldierly arts as well as technical skills. Therefore we need photographs of RAEME at work in tactical and non tactical situations, in the field and in barracks. We need to show repair and recovery, engineering investigations and trials and we need to cover the full spectrum of the Army's equipments.

For the photographs to be more useful, they should be in colour, and be in 35mm slide form. They must be technically correct in workshop practices and safety aspects, and they must be 'good' i.e. worth showing to any audience.

To establish the library the active co-operation of all units will be required. Please send to the Directorate as soon as possible, any slides that are already held. Copies can always be arranged and the originals returned. Where slides do not already exist, you might like to spend a little petty cash and a little time to prepare a small photographic record of your unit.

(It would be surprising if you didn't need such a collection for your own purposes). Subsequently, as particular unit activities occur, take the opportunity of updating the unit collection, and sending the new photographs to the Directorate.

A small slide library already exists and is available for use. With your co-operation the Corps will be able to collect a first class pictorial record of its activities that will enable all members to take up opportunities of presenting the Corps in a professional manner. On behalf of the Director, I look forward to your early and active support.

Slides should be sent to: Corps Slide Library, DGEME, J-4-01, Russell Offices, CANBERRA ACT 2600.

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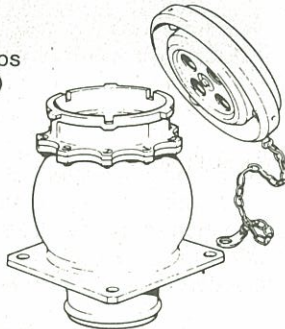
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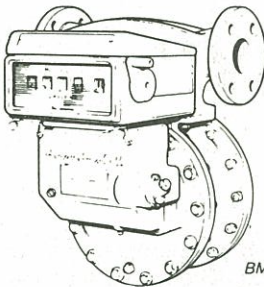
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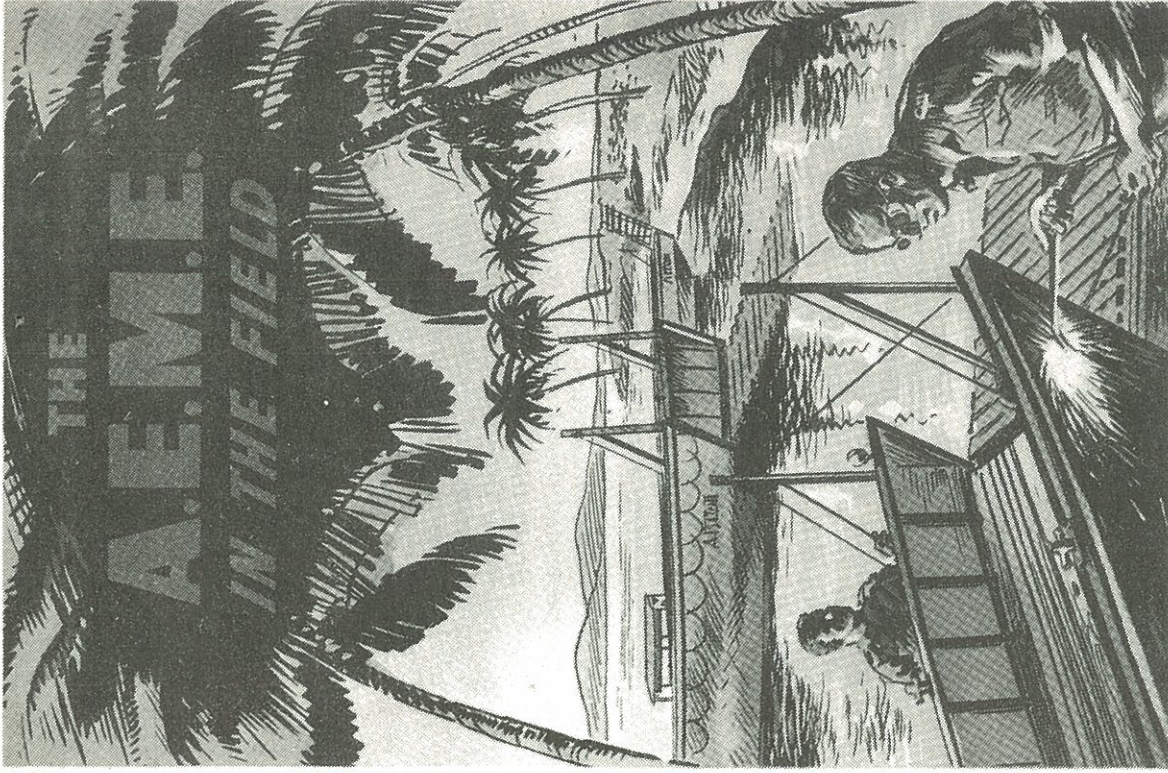
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Editors note:

This pamphlet provides one of the earliest expressions of Corps organization and doctrine.

It may well be the first so if you know of an earlier, past Ordnance version, please let us know.

Now read on . . .



HOW THE CORPS OF AUSTRALIAN ELECTRICAL & MECHANICAL ENGINEERS SUPPORTS, MAINTAINS, & ADVISES THE TROOPS IN THE FIELD

**Supplement to M.G.O. Equipment
Memorandum No. 15.**

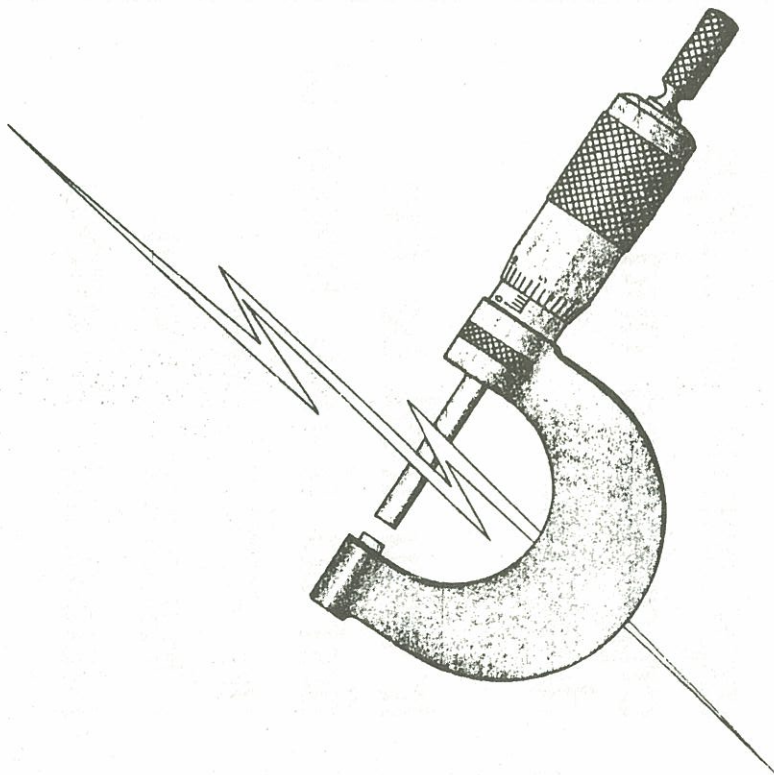
Prepared by the staff of the Master General of the Ordnance and issued under the direction of the Commander-in-Chief.

N the equipping and subsequent maintenance of a modern Army, the widest range of mechanical and technical equipment is required to fit it for battle. Once that equipment is received the Army accepts the responsibility of keeping it in good repair. This calls for a corps of highly trained and competent engineers and tradesmen, and for the establishment of a chain of workshops which represent an engineering undertaking on a scale little realised by those not familiar with the working of a modern Army. Except for repairs to a limited range of equipment, the Corps of Australian Electrical and Mechanical Engineers is responsible for the recovery and repair of all technical equipment used by the Australian Army.

Mechanisation on a scale undreamed of a few years ago extends right up to the fighting troops. Search for new weapons is untiring; added firepower is given to existing formations by the increase in automatic weapons. New ways are devised to move artillery and heavy weapons through wild and difficult country in support of fast-moving troops. Vehicles are made to operate in country formerly regarded as impassable, under conditions never previously conceived possible.

The maintenance of this diverse and often complex equipment is a task growing in importance from day to day, and casts a heavy responsibility on the Corps of Australian Electrical and Mechanical Engineers, whose duty it is to repair and keep in order almost every item of electrical and mechanical equipment on issue in the Army. In one workshop this Corps may repair anything from a watch-stem to a power-operated shovel, a pistol to a long-range coast gun.

Originally the Mechanical Engineering Service was incorporated in the Ordnance Service which was divided into two branches—Stores and Mechanical Engineering. In December, 1942, the Mechanical Engineering Service became a separate Corps and the A.E.M.E. assumed responsibility for the inspection, repair, recovery and reclamation of arms, vehicles, technical equipment, electrical gear and radio equipment throughout the Army. Its senior representatives on formations and in units became technical advisers to formation and unit commanders. They are thus consulting electrical and mechanical engineers to the Australian Army. The nerve centre of the Corps is the Directorate of Mechanical Engineering in the branch of the Master-General of the Ordnance, L.H.Q. The Directorate investigates and makes arrangements for the basic requirements in regard to planning and training and the provision of personnel, workshop buildings and plant. In addition, an important function of the Directorate is to issue technical information to workshop units covering the main-



The creation of the new Corps occurred when the New Guinea campaign was growing in intensity. Instead of the fine dust of the Middle East, humid heat was the main enemy of equipment. Transportation presented new problems. In the Middle East a mobile workshop could move as a unit by road; in New Guinea it had to be moved by air or sea. At times it was possible to shift men by air, but heavy equipment had to go round the coast by sea. Careful planning was necessary to prevent wasted time; skilled men were of no value without their machinery, so every move had to be considered in detail.

Maintenance became infinitely more difficult. In many cases, fuels and lubricants recommended for special equipment were not procurable in New Guinea. The tropical conditions adversely affected optical and electrical equipment in particular. As new weapons were introduced their performance was watched keenly. Through it all, the equipment of the fighting troops had to be kept in first class condition.

To do its repair work, A.E.M.E. divides its workshops into four stages, known as "echelons," the 1st echelon being the most forward and mobile. Here work is limited to tasks done in unit lines, and the governing factor is often the time required to carry out the work. Next comes the 2nd echelon, where the main function is the replacement of defective assemblies by new or reconditioned assemblies. Repair work is also carried out, and sometimes a damaged part can be repaired more quickly and satisfactorily than it can be replaced. 3rd echelon is supplementary to 2nd echelon, and undertakes heavier work requiring more equipment.

The final stage, 4th echelon, carries out all major repair work, limited only by personnel available, stores and workshop facilities, and the time factor. A decision has often to be made whether it will be more economical to carry out extensive repairs or pass the whole job back to the Salvage Service.

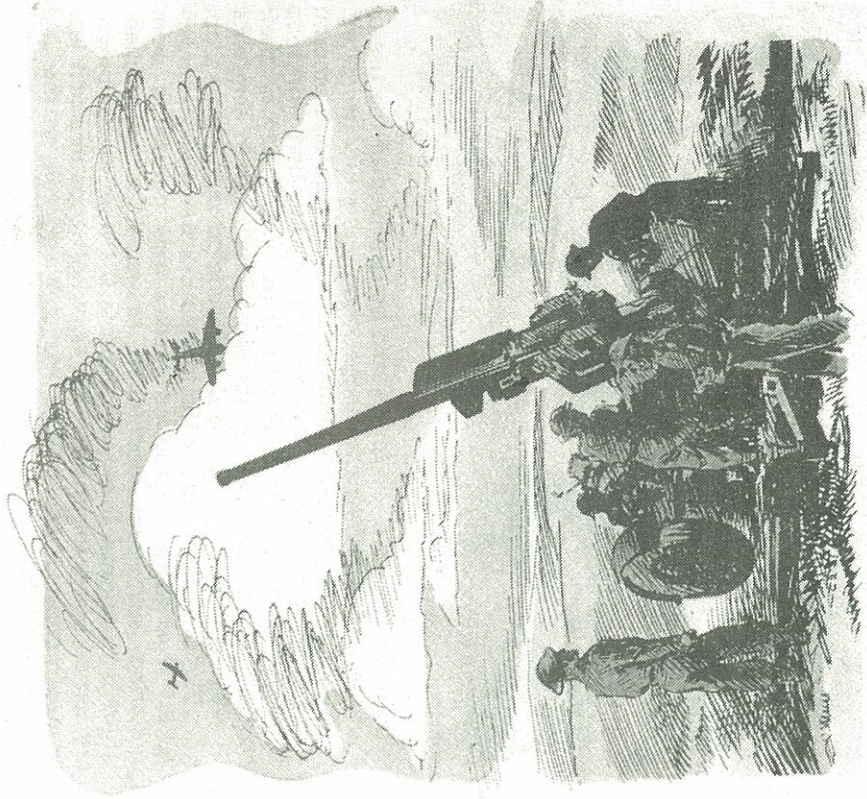
Included in its workshop facilities A.E.M.E. provides workshops for coast defences and static A.A. defence, mobile A.A. workshops, Armd. Regt. workshops, Radio Maintenance Sections, Mechanical Equipment workshops, Watercraft and Landing Craft workshops.

A.A.S.C. personnel carry out 1st and 2nd echelon repairs to their own vehicles, while the Corps of Signals is responsible for 1st echelon repairs of signals equipment. Engineers' stores, mechanical equipment and watercraft are repaired by R.A.E. in 1st and 2nd echelon stages. From then on all this equipment must be repaired by A.E.M.E.

As new units are created, or the strength of formations varies, A.E.M.E. makes corresponding changes in the units

servicing the altered formations and regiments. As the total A.E.M.E. personnel is fixed in number, the placing of workshops and workshop sections to the greatest advantage is an awkward question. Men cannot be kept idle; repair work cannot be allowed to take excessive time, particularly in mobile units. It may be preferable to evacuate equipment some distance to a centralised workshop, where work can be done on mass production lines, rather than allow it to be repaired in a more forward area with a loss of manpower because skilled tradesmen have to perform the unskilled part of the work. For instance, in New Guinea it was found that by using teams of 24 personnel together in a "line system," the time required to overhaul rifles was half that taken when armourers worked each on one rifle.

At all times the A.E.M.E. has to decide where its personnel, and equally important, its own workshop equipment, may be placed to the best advantage of all the units to be served.



Various Workshops and Their Tasks . . .

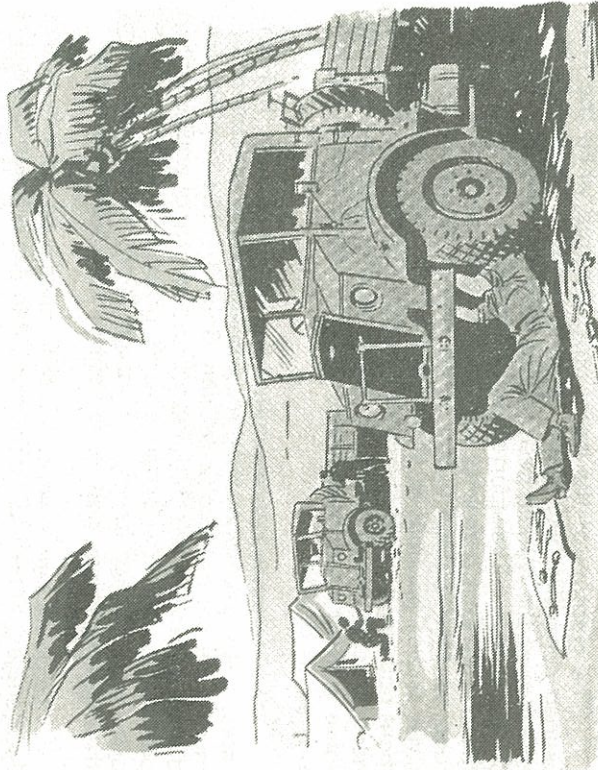
LIGHT AID DETACHMENTS (1st Echelon)

IN closest touch with the fighting troops, for 1st echelon repairs, are the Light Aid Detachments, commonly known as the L.A.Ds.

There are various types of L.A.Ds, the organization being varied in armoured formations, infantry formations and artillery regiments, but they are all relatively small units, the personnel consisting of one officer and a varying number of O.Rs including fitters M.V., welders, blacksmiths, armouers and the like.

They are fully mobile and accompany the units to which they are attached. For all practical purposes they are part of the parent unit, living and working with it all the time. They usually work under tent flies, or improvised shelters.

Their job is to keep unit equipment in serviceable condition. Their working rule is: "A Stitch in Time." By dealing with minor defects and troubles as soon as they arise L.A.Ds can minimise the load on workshops to the rear. For instance a keen eye, noticing a crack, and welding it, may prevent some part of equipment being broken. To repair such a break may be beyond the capacity of the L.A.D. and necessitates either a demand for a replacement part or the evacuation of the damaged part to a larger workshop for



repair. In any case the unit would be deprived of the use of that piece of equipment for longer than was really necessary.

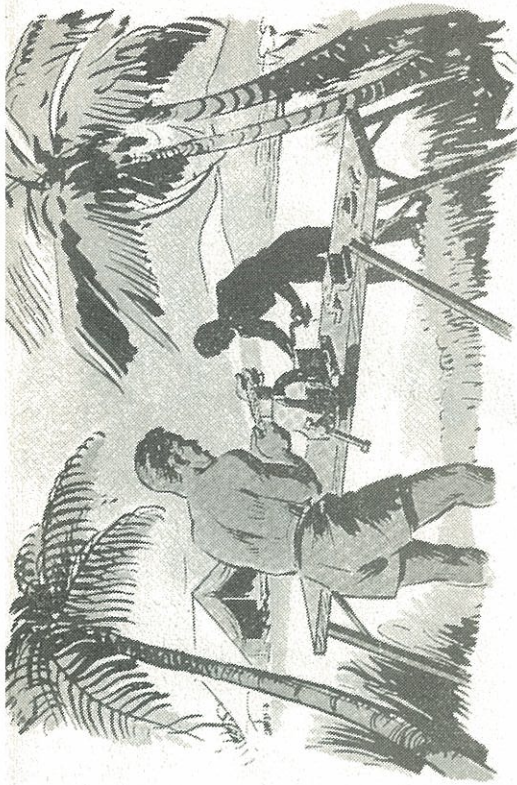
L.A.Ds are, of course, limited in the nature and amount of work they can do by the amount of skill and amount tools and equipment available to them. Work beyond their capacity is passed back to the workshop next in sequence in the repair system, i.e., to a 2nd echelon repair workshop.

The time factor also affects the work that L.A.Ds undertake. The tactical situation to-day may permit of work requiring, say, from four to six hours to be undertaken, whereas to-morrow it may necessitate the item of equipment concerned being returned to the fighting troops in much less time. In consequence, L.A.Ds may have to call on the 2nd echelon workshops for assistance.

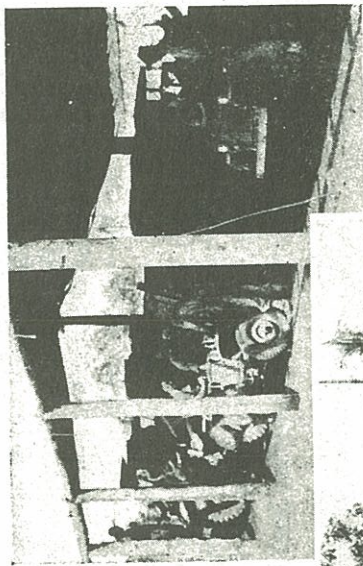
It will be seen that no firm line of demarcation can be established with regard to the work L.A.Ds will undertake. In other words, just where 1st echelon repair ceases and 2nd echelon repair commences, cannot always be specified. In short, L.A.Ds effect the maximum repairs possible with the personal skill and workshop tools available, as governed by the tactical situation.

The O.C. of the L.A.D. is not just a glorified workshop foreman. He is the technical adviser to the Commander of the Unit. In deciding whether his L.A.D. can undertake repairs within its capacity or whether they should be passed to the 2nd echelon workshop, the O.C. consults the Unit Commander and ascertains his requirements. The O.C. L.A.D. also brings to the notice of the Unit Commander any points regarding the unit's maintenance of its own equipment and any negligence or oversight or additional maintenance required, for it must be remembered that a Unit Commander is personally responsible for the serviceability of his unit's equipment.

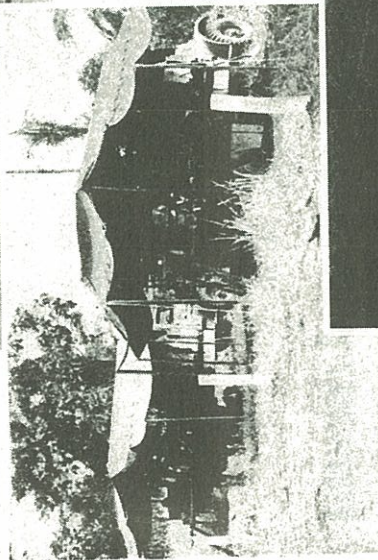
L.A.Ds, although relatively small units, are thus very important ones. By their initiative and efforts they can mini-



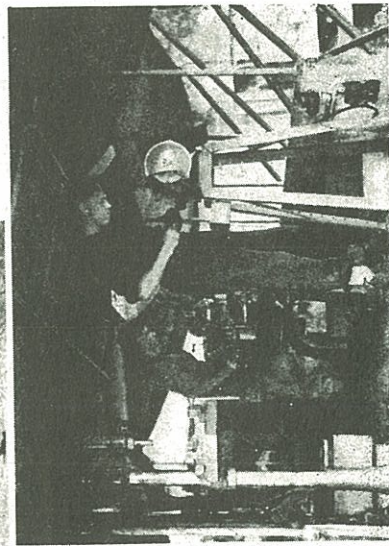
Brigade Workshops (2nd Echelon)



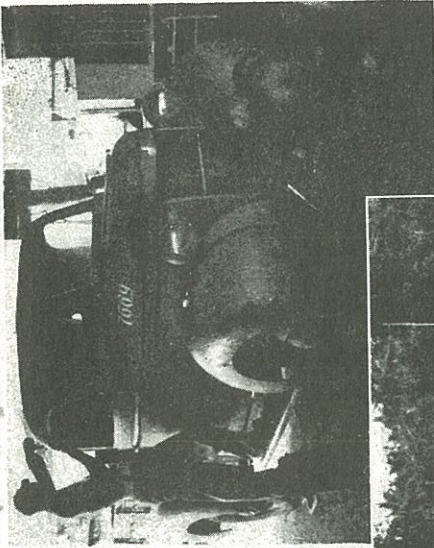
"B" Vehicle Repairs



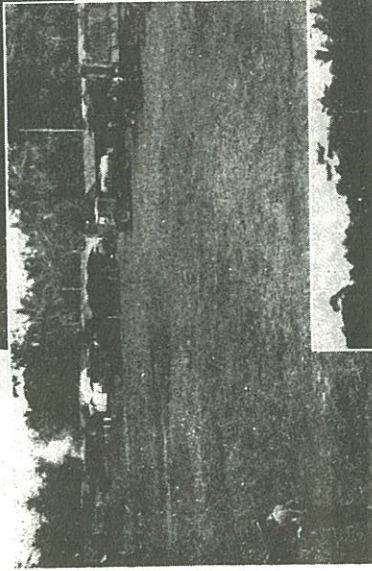
Machinery Lorries



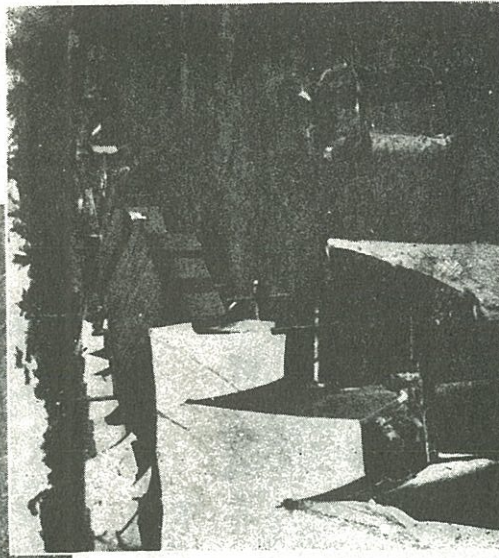
Machinery Lorry (E Loading)



"B" Vehicle Body Repairs



General View



Camp Lines

THE Brigade workshops, which are also fully mobile, handle 2nd echelon repairs for the brigades and attached artillery and signals.

To ensure that Brigade workshops do not have work passed to them that could have been handled further forward by L.A.D.s, work for the Brigade workshops is passed to them by the L.A.D.s, not direct from units. Instances do

occur where it is obvious from the outset that the repairs required are beyond L.A.D. capacity. In such circumstances, the job does not pass physically through the L.A.D.: the L.A.D. Commander advises the unit to pass the job direct to the Brigade shop, and also lets the O.C. of the Brigade shop know what he has done. A Brigade workshop at the one time is often engaged on small arms, tank attack and 25-pr. field guns, M.T., telephone and radio equipment, and textiles. The primary object is to get the work out—to replace parts rather

than repair. This is usually done by installing new assemblies, although the unit is capable of limited manufacturing. With an establishment of 4 officers and some 130 O.R.s, the workshop unit has equipment carried on eight vehicles; and includes lathes up to 8" centres, drills, valve-grinding gear, welding equipment, a forge, oxy-acetylene welding equipment, bodywork and textile repair machinery, and recovery trucks.

In the Middle East, 2nd echelon workshops were able to pack, move and resume operations in a new area within 24 hours, exclusive of the time spent on the road between the two points, which of course varied. In New Guinea, movement by road across the island was an impossibility, but a Brigade workshop proved its mobility by crossing the island with all its equipment in twenty transport planes which were loaded as quickly as they were made available.

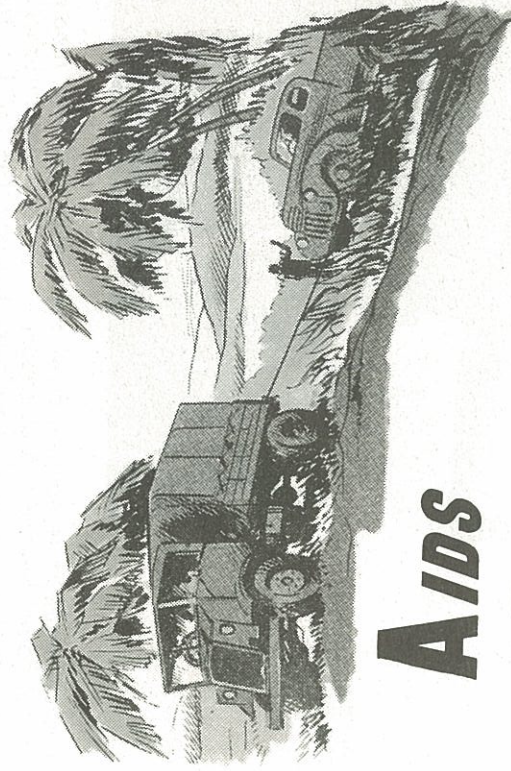
Infantry Troops Workshops

(3rd Echelon)

LARGER still are the Infantry troops workshops for 3rd echelon repairs which were intended to be allotted one per division. This distribution has never been achieved. Their main function is complementary to that of a Brigade workshop and consists of the repair of assemblies which have been replaced in the Brigade workshop.

In New Guinea, Infantry troops workshops had a wider application being used also, as occasion demanded, to assist Advanced workshops when the latter workshops had excessive repair commitments, and in at least one instance (where an Advanced workshop was not available) as a restricted 4th echelon repair shop carrying out a wide variety of work on electrical and mechanical equipment, particularly when there were shortages of replacement parts and assemblies. Some Infantry troops workshops are mobile, others are semi-static, having their equipment moved in crates, and possess administrative vehicles only. A typical field installation of an Infantry Troops workshop is shown in the aerial photograph in the centre of this booklet.

to be continued . . .



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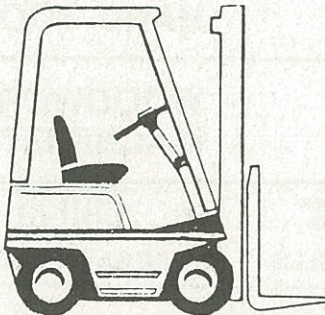
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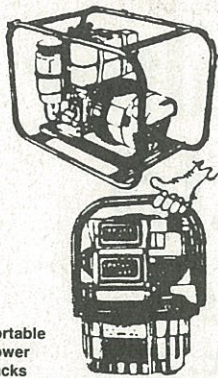
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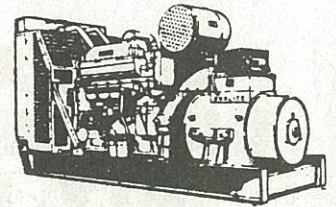
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RAEME EDP PLAN 1985-1995

By MAJ S.A. Bergl
SO2 Systems Development

Introduction

This article describes Electronic Data Processing (EDP) within RAEME from 1985 to 1995. Details on implementation and requirements are updated annually and are described in the RAEME EDP plan produced as part of the Five Year Defence Programme (FYDP) procedures.

Overview

The overall approach will be to provide stand alone EDP facilities to all RAEME units and to most sub-units. Groups of facilities will generally be identified as a project, as will be seen from the list of current and proposed projects.

The main reason for providing EDP facilities to units is to assist them in the performance of their normal tasks and with the provision of data to higher headquarters. The information required at higher levels will generally be the same as that required at unit level for normal operations. EDP forms have been designed so that they can be used for normal production and financial control required in workshops. Software will be designed to reduce the effort of collecting data required for normal operations and for forwarding the data to higher headquarters.

While RAEME EDP facilities will be particularly concerned with the repair function of the Corps, they will not be limited to this. Units will be encouraged and assisted to use the facilities available to develop functions applicable to other suitable areas of unit activity.

Factors

Manpower. As trained manpower is limited DGEME has adopted the policy that:

- a. Most software development will be done by commercial consultants or by adapting existing commercial packages.
- b. Unit personnel will be encouraged to develop and, on occasion, tasked to develop software for various unit requirements.

Control of Software. DGEME will retain configuration control for projects sponsored by DGEME. This control will ensure standardisation of software on common facilities in different units and provide quality control of software developed by units. Once the EDP facilities provided under a project are established DGEME will pass responsibility for management to the relevant functional command or formation headquarters but will retain configuration control. Instructions for the control of each project will be issued once it is functioning.

Flexibility. The application of EDP within RAEME must remain flexible in order to take advantage of advances in the computing industry. This will be achieved by making maximum use of commercial resources and implementing EDP within RAEME as a number of discreet projects which will be progressively replaced and upgraded.

Data Transfer. There is a need for a two way data transfer between units and higher headquarters. Units which generate and collect the data will pass it up the chain of command. Intermediate headquarters process and extract information and pass it on to the next higher headquarters. Information will be disseminated to units through intermediate headquarters. As EDP facilities are provided to units, the current manual methods of data transfer will be replaced by less manpower intensive methods such as communications links and diskettes.

Interface with Other Systems. There is a need for RAEME EDP facilities to interface with other systems, in particular

Standard Bureau Systems (SBS) and RAAOC systems. This will be achieved by:

- a. Adopting data transfer standards.
- b. Adoption of a standard data dictionary. This data dictionary will be a subset of the Army Data Dictionary and for the present will be based on that used with EMEDATER.
- c. Close liaison between DGEME systems staff and their counterparts within Army Office.

Overall Design

EDP support for RAEME will be implemented as a number of separate but interacting facilities. This system is shown in Figure 1. The exact nature of the EDP facility required will vary according to the requirements of each level of command which are outlined below.

Army Office. Army Office will require facilities to assist in the following areas:

- a. Personnel management, including establishments, trade structures, training and postings.
- b. Financial management, including budget planning and expenditure control.
- c. Repair support including requirements and effectiveness.
- d. Equipment performance including maintenance costs, availability and failure trends.
- e. Repair parts supply including supply times, requirements and effectiveness.

Formation/Functional Command. EDP support for RAEME staff at formation, military district and most functional command headquarters will usually consist of facilities on a headquarters SBS. These facilities will be aimed at providing the following support:

- a. Management of manpower assets.
- b. Finance, including:
 - (1) management of ledgers, and
 - (2) monitoring of expenditure and obligation.
- c. Assessing the effectiveness of parts supply.
- d. Repair system management including:
 - (1) determining the effectiveness of repair support, and
 - (2) assisting with the management of repair pools.
- e. Analysing failure trends.

Unit. Units will require stand alone facilities that will assist with:

- a. Controlling production.
- b. Managing personnel.
- c. Managing ledgers and monitoring expenditure and obligation.
- d. Managing scalings of repair parts.
- e. Determining the effectiveness of repair support.
- f. Analysing failure trends.
- g. Managing the holdings of tools, equipment and unit stores.
- h. Monitoring the effect of parts delay.
- i. Providing information to higher levels of command.

Implementation

The proposed schedule of implementation is shown schematically at Table 1. The dates shown are indicative only and more accurate dates will appear in RAEME EDP development plans for each FYDP. The relationships between the various projects is shown in Figure 1

Conclusion

Projects like EMEDATER are designed to assist DGEME although of course other headquarters and units can also be

provided with reports as they require them. EMEDATER while useful in longer term management, is not designed to provide day to day management support. This function is provided by projects like EMEMIC and ADSARS. These latter systems are designed to help you at unit level and you will have plenty of opportunity to say what you want. Make the most of that opportunity and you will get a very effective management tool in the not too distant future.

SYSTEM	85	86	87	88	89	90	91	92	93	94
EMEDATER PHASE 2	STAGE A						STAGE D (EMERAD)			
EMERAD				STAGE A	STAGE B					
EME235			STAGE D (EMEDATER)							
EMEPERS	STAGE A STAGE B		STAGE C				STAGE D			
EMEMIC	---STAGE A---		---STAGE B---		STAGE C		STAGE D			
EMEFD		RAISE ASRI	STAFF ASRI	STAGE B						
ADSARS	STAGE B		STAGE D (EMEMIC)							
MAWDREP	---STAGE A---			STAGE B			STAGE C			STAGE D

TABLE 1. IMPLEMENTATION PLAN

LEGEND:

- STAGE A: Feasibility study/software development.
- STAGE B: Introduction into service.
- STAGE C: Upgrade software/hardware.
- STAGE D: Plan replacement.

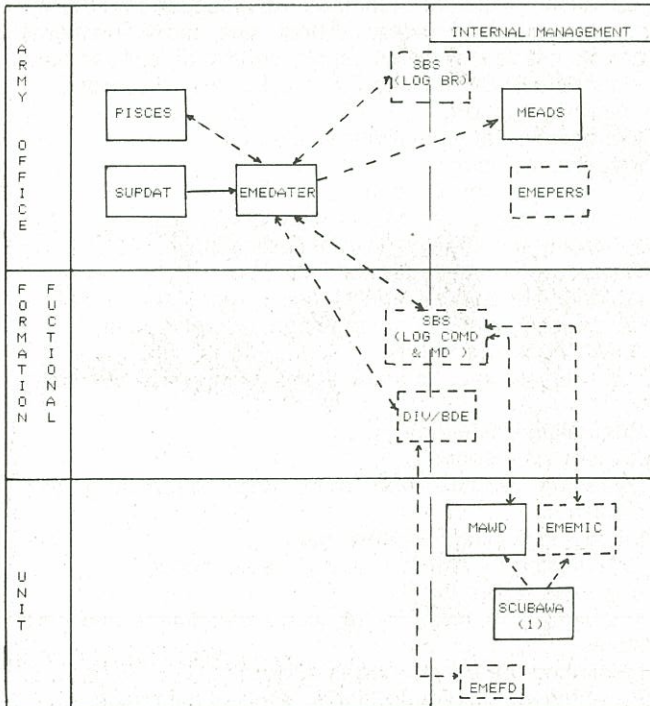


FIGURE 1.

INFORMATION FLOW BETWEEN EME FACILITIES

NOTES:

(1): Stock Control Usage Based Accounting, Workshop Accounts.

- Existing.
- - - - - Proposed.

LIST OF CURRENT PROJECTS

EMEDATER

The EME Data on Equipment Repair (EMEDATER) system operates on the Univac equipment operated by Computer Services Division (CSD). When completed EMEDATER will satisfy most of the requirements of Army Office. Currently Phase One of EMEDATER, i.e., data collection procedures, has been completed including an interface with Supply Data (SUPDAT). The input for EMEDATER have been designed so that the data collected is largely the same as the data used for unit management of repair activities. In this way the provision of data to Army Office forms as small an overhead as possible and entails considerably less work than extraction of the same data from job records.

MEADS

The Maintenance Engineering Agency Data System (MEADS) is a Maintenance Engineering Agency (MEA) facility and is not directly sponsored by DGEME. The system assists MEA in collating and analysing the data they use in performing their engineering advice function. It provides support for MEA functions in relation to:

- a. reliability and maintainability trials,
- b. the RODUM system, and
- c. EMEI distribution.

EME235

EME Division 235 (EME235) operates on the Logistics Branch Wang computer. It records and assists in the analysis of contract repair expenditure. When EMEDATER Phase Two comes into operation this facility will no longer be used.

MAWD

Machine Assisted Workshop Documentation (MAWD) is part of a unit management facility based on a Perkin-Elmer 7/32 minicomputer. At present MAWD only provides repair support management with an emphasis on production control. It is planned that development of MAWD will continue until at least 1988 and include enhancements in the following areas:

- a. interface with EMEDATER,
- b. contract repair monitoring, and
- c. historical, and ad hoc reporting facilities.

ARM

Adelaide Rapier Management (ARM) is a unit management facility whose primary task is to assist with configuration control of Rapier equipment however it does include production control and finance routines. These functions will be taken over by EMEMIC when it becomes operational.

LIST OF PROPOSED PROJECTS

EMEDATER Phase Two

EMEDATER Phase Two is the completion of the project and encompasses the report generation facilities to meet the requirement of higher level management. It is intended that Phase Two will include an interface with the Principal Item Stock Control and Entitlement System (PISCES). Details on the information that can be extracted from EMEDATER will be promulgated once approval for Phase Two is obtained.

EMEPERS

EME Personnel (EMEPERS) will provide assistance with the management of RAEME personnel. Equipment has been delivered and the required software will be developed by DGEME staff by mid to late 1985.

EMERAD

EME Repair Activity Data (EMERAD) will provide EDP support for DGEME when Univac operations are scaled down after 1990. It will meet the requirements of DGEME technical responsibilities as well as Head of Corps functions. EMERAD will include functions similar to EMEDATER, EME235 and EMEPERS.

EMEMIC

EME Management Information Computer (EMEMIC) is a microcomputer based project that will provide dedicated EDP support to static RAEME units that do not have a MAWD facility. EMEMIC will provide a basic facility common to all units and will have capacity to include specific to unit programmes. In addition users will be encouraged to develop their own software which may eventually be used by other units. Initial design work for EMEMIC is scheduled to commence in FY85/86 with equipment being introduced into service from FY86/87.

EMEFD

EME Field Deployable (EMEFD) is similar in concept to EMEMIC but will be field deployable. It is planned that EMEFD will use the same software as EMEMIC but will operate on military specification or ruggedised hardware. For this reason it is planned for EMEFD to be introduced into service approximately 12 to 18 months after EMEMIC is operational.

ADSARS

The Aircraft Data Storage And Retrieval System (ADSARS) is based on Army Suggestion 81/6 and is intended to assist the maintenance control sections of aviation workshops. This system will eventually be incorporated into EMEMIC/EMEFD as a specific to unit module. To allow development of the software it is intended to introduce microcomputers into a limited number of aviation workshops by late 1985.

MAWDREP

MAWD Replacement (MAWDREP) is the planned replacement for the current MAWD facility. MAWDREP will be similar

in function to EMEMIC but will provide greater visibility and more powerful manipulation of the data it holds. It is envisaged that MAWDREP will be based on a stand alone minicomputer system or a network of microcomputers. A choice between these two options will be based on the feasibility study scheduled to commence in FY86/87.

CAMM/DECOR

DGEME are monitoring the development of a number of RAAF systems with a view to possible EME applications. In particular:

- the redevelopment of the Computer Aided Maintenance Management (CAMM) system may include a field deployable version suitable for use in Army aviation workshops, and
- the proposed Depot and Intermediate Level Control and Reporting (DECOR) system may be suitable for use as MAWDREP.

Formation/Functional Command. Although a number of facilities are being introduced at formation and functional command level none are sponsored by DGEME. At present there are no plans for DGEME to sponsor any projects for RAEME staffs at formation or functional command headquarters. However they will have access to the information held on other RAEME facilities such as EMEDATER. DGEME may sponsor software for these systems in the future. The staffs will also have access to unit information either from standardised hard copy reports produced by the unit, or by inputting unit data into the formation/functional command facility. They can then produce consolidated reports for their own particular area of interest.

“ROTARY CLUB AWARD”

A soldier whose secret is “just trying hard” has won a Townsville Rotary Club award for Pride of Workmanship. Craftsman Guy Langford, 23, of Albury-Wodonga, received the award from the Minister for Northern Development, Mr Bob Katter Jnr, for his work as an armourer at Townsville-based B Squadron, 3rd/4th Cavalry Regiment.

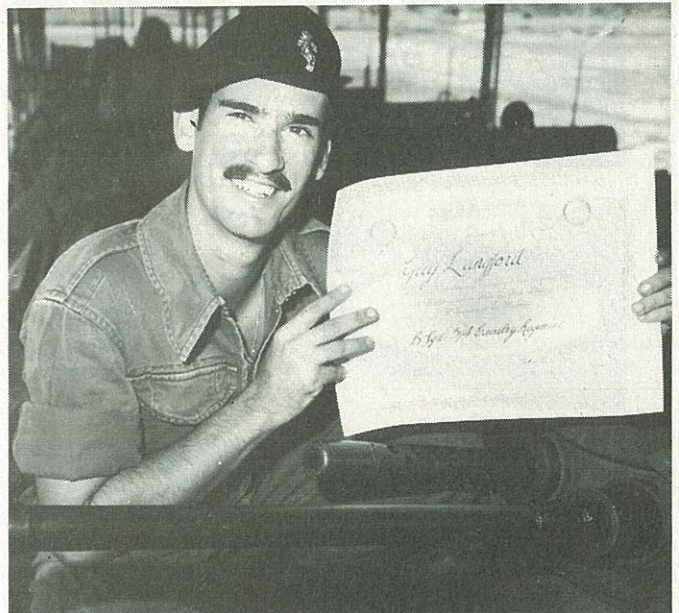
Since he was posted to the Squadron in April last year, CFN Langford single-handedly raised the level of serviceable weapons from 65% to 95% and predicts it will soon reach 100%.

The Squadron has about 260 weapons from pistols and rifles to anti-tank weapons and machine-guns mounted on armoured vehicles. “As soon as I arrived, I set myself a goal to get them all in top shape,” CFN Langford said.

Although he spends all day surrounded by weapons in various states of repair, CFN Langford personally does not possess even a sporting rifle.

“They’re too dangerous,” he says.

Editors Note: Congratulations CFN Langford on a job well done. The Corps has always been proud of the quality of its tradesmen and we are gratified by the recognition of their abilities by other organizations. Your efforts provide us all with a good example of that personal striving for excellence that produces good soldiers, sound units and an effective Army.



Craftsman Guy Langford with his award



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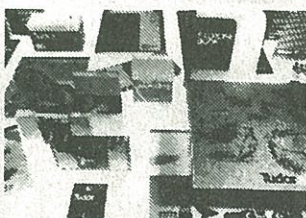
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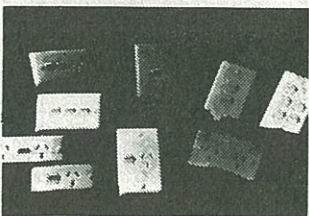
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BALCOMBE APPRENTICES REUNION DEC 82

Following the announcement of the Army Apprentice School's move from Balcombe to Bonegilla, the then WO 1 John Wild decided to form a committee of interested ex-Balcombe apprentices to organise a get-together for the occasion. This became to be known as the Balcombe Apprentice Re-union 1948-82.

Many hours and a lot of effort were put into letting the "Apprentices at Large" know of the event and setting up the HQ 6 Construction Group Drill Hall in Swan Street Richmond, all under the patronage of the only still serving 1st Intake apprentice, Major Geoff Hawker. The attendance of over 700 was far above that expected and caused a few problems, however, I believe the night was a success and that the committee's efforts were appreciated by most of those who attended. The many letters that were received confirmed this view.

For those who could make it, the final Graduation Parade from Balcombe set the icing on the cake.

This of course, is now all in the past, since that time the loose ends have had to be tied up, not least of which was, what happened to the left over money? Quite a lot of time was required to sort this out as firstly the amount of \$781.32 was



The bronze plaque mounted on the wrought iron gate between brick piers just inside the entrance to Latchford Barracks. The other gate, similarly mounted is located on the other side of the road.

The inscription on the bronze plaque is preceded by an Australian Commonwealth Military Forces Rising Sun and followed by an Army Apprentice badge, it reads:

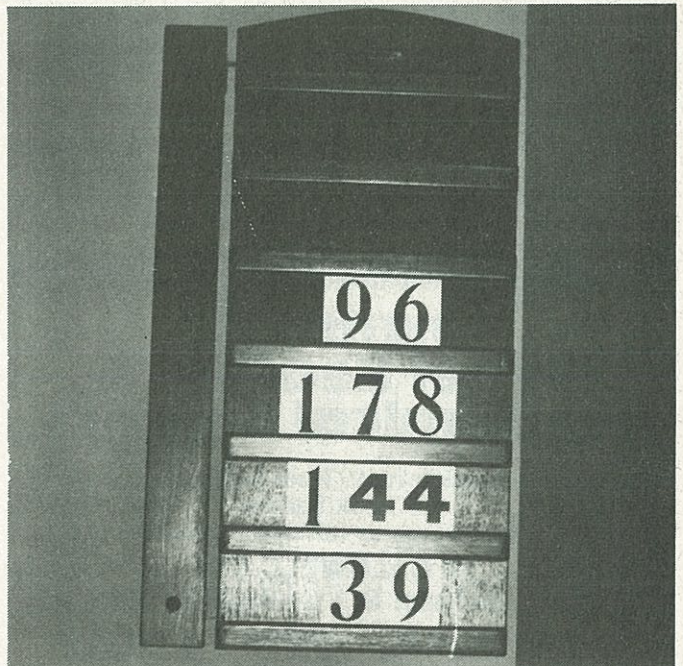
"THIS PLAQUE IS PRESENTED TO THE ARMY APPRENTICES SCHOOL BONEGILLA BY THE GRADUATES AND STAFF OF THE ARMY APPRENTICES SCHOOL BALCOMBE 1948-82, MANY OF WHOM ATTENDED A REUNION, HELD AT THE SWAN ST TRAINING DEPOT RICHMOND ON 11 DEC 82 TO MARK THE TRANSFER OF THE SCHOOL FROM BALCOMBE TO BONEGILLA IN JANUARY 1983".

quite large and secondly, even though the subject had been addressed at some length during the re-union organisation period, no definite plans had been made. However, after many telephone calls and conversations with a great number of interested re-union attendees, the following arrangements were made and have only recently come to fruition:

- A suitability inscribed bronze plaque measuring 550 mm (22") x 300 (12") was designed and is now located at the entrance to Latchford Barracks at a cost of \$242.00.
- The erection of a set of brick piers to support the old Metal Trade Wing gates and the Bronze Plaque was financed, the cost \$350.00.
- The remaining amount of \$189.32 was donated to the School's St. Peters Chapel Fund and was used to purchase the Chapel Hymn Board.

Before officially declaring the Balcombe Apprentice Re-union 1948-82 closed, there are two items that must be mentioned, the first is addressed to all of the units, ex-apprentices and interested people, thanks for your attendance and assistance. Secondly, I have been informed by the CO/CI LTCOL Jim Hislop that the apprentices and staff at Bonegilla are starting a museum and are looking for suitable items of memorabilia to display. In order to prevent excesses of any particular items (a pay book is already available) LTCOL Hislop requests that you contact him and discuss any items/photos you think would be suitable, prior to sending them on. He can be contacted at: Army Apprentices School, Latchford Barracks, Bonegilla

All correspondence will be acknowledged.
(F.J. OWEN), WO1, (Ex) Secretary, Balcombe Apprentices Re-union Committee.



The St. Peters Chapel Hymn Board.

“WHATS THE STORY?”

By CPL M. Tehvand — 32 Tech Spt PI

Introduction

Tech Spt elements generally have a character and quality distinctly their own. The friendships co-operation and assistance existing within these organisations have no equal. RAEME in 32 Sup Bn is no exception.

The Early Days

Two “old salts”, Mr John Sultana and Mr Stan Stokes will spontaneously reminisce on the earlier days of Tech Spt when given an opportunity. They confirm that the past was of similar character and remained so even through the upheavels of time and change.

Without being pedantic, Tech Spt has its origin stemming from the days of 2 COD and 27 ESS (2 Ordnance Depot and 27th Engineer Stores Squadron). These units had occupied the Broadmeadows area for some time when changes began in the late 1960's 27 ESS Workshop, locally dubbed as, “The Black Hole of Calcutta” was managed and worked by RAE. The old “Ramshackle Hut” as Stan describes it, became inadequate and no longer exists.

The Growing Years

The new 27 ESS Workshop, which now stands as the present Tech Spt building was erected to satisfy a growing demand in 1966. 32 Sup Bn was “born” out of the amalgamation of 2 COD, 27 ESS and 3rd Base Medical and Dental Equipment Depot in 1973. After National Service ceased RAEME began to appear however the workshop remained under the command of RAE personnel. During this time there were 6 RAEME, 4 RAE and 5 civilians in the workshop. The exact number of tradesmen is a point of conjecture between the old salts and we still haven't arrived at a happy medium.

After LT Robinson (RAE), LT (now MAJ) EY took over and became the workshops first RAEME Officer. The establishment was now 20. Then followed LT Dousett and LT (now CAPT) Jarrett. The establishment had now increased to 26. WO1/CAPT Grant followed and in turn was followed by CAPT McKeough (penal servitude in Canberra). The ASM'S since 1973 have been WO2 T. Morton (ret), WO2 Sernecki (deceased) and WO2 (now Mr) Fisher (currently Mr Fisher, is employed in Tech Spt as a civilian fitter).

Major Developments

One of the important events in the shaping of Tech Spt PI

was Project Double Diamond. This project combined 33 Sup Bn with 32 Sup Bn in March 1981. 33 Sup Bn at South Kensington had a Tech Spt Sect of 11 who were absorbed into and controlled by the Broadmeadows contingent. Consequently they became known as the South Kensington detachment.

In 1983 an establishment review prepared by CAPT McKeough promoted a decision by the powers that be to increase our total manpower to 45!

1985 and Towards 2000

At the helm in 1985 we have LT Steve Wagener, WO2 (Scoby) Bannerman ASM and WO2 Dennis Smith at South Kensington. The recent years have also seen the phasing out of the RAE element. The carpenter shop is manned by civilians except for SPR Lamers — the sole survivor.

Resulting from the 1983 establishment review today's Tech Spt is divided into 6 functional areas: EME Ops, Packaging/Manufacture (PAC MAN), Rectification, Sth Kensington Receipt/Issue Insp, Broadmeadows Receipt/Issue Insp and the latest on terra firma, the Periodic Inspection Team (PITs). The basic role of the patoon is to maintain depot stock in a serviceable condition; during storage, prior to issue and after return from loan.

What the future has in store is of course difficult to predict. Some projects are underway and others are on the drawing board, to improve our working conditions and efficiency. However, these projects can only develop at the rate finances are released.

Conclusion

Active projects, the benefits of working with other trades and the workers themselves are factors setting us apart from the rest. We often detect in visitors a feeling of awe and admiration for us as we have a task that grants job satisfaction, resulting in contentment and higher morale. A posting to Tech Spt P1 32 Sup Bn proves the fact that you don't have to be an entomologist to get along with “cockroaches”.

EDITORS NOTE: we look forward to reading about some of these projects in the future.

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“ARMY APPRENTICES’ SCHOOL — BONEGILLA”

By Major J.W. Wright

This is the first report on the Army Apprentices’ School since the move from Balcombe to Bonegilla. Yes — it did finally occur and the School is now firmly entrenched in the Bonegilla and Albury/Wodonga areas.

Under the command of the newly promoted Commandant (ex Commanding Officer) COL D.R. Lawrence AM and his newly appointed Chief Instructor, LTCOL J.G. (Uncle Jim) Hislop (ex Apprentice) the School was moved from Balcombe to Bonegilla during the Dec 82/Jan 83 period and was ready for the march-in of the 38th Intake in Jan 83.

Left behind at Balcombe were many traditions, and memories of staff and ex-apprentices. The School in its new location had started new traditions even in the short two year period.

The Bonegilla site is a 43 million dollar complex, purpose built and is shared by the School, the School of Military Survey, 6 Camp Hospital, 19 Dental Unit, the Central Food Preparation Facility of 31 Sup Bn and a Latchford Barracks Facility including Area Reproduction, Audio Visual Production, Library, Sporting Complex and other amenities. Gone are the days when the School owned its own transport, medical, dental, cooks etc although moves are afoot to have control of our own transport.

The initial settling in with some new military staff, some new Victorian Education Department staff; some new equipment (which we own); new buildings (which we don’t own); a new system (it had to come); and with a new intake of apprentices; posed many and varied problems. The poor 37th Intake, what a time they had with their catch cry “this isn’t the way it was done at Balcombe”. They certainly added more confusion into what could otherwise be called organised military chaos.

Once the real work started in early ‘83, equipments were positioned (and repositioned), classrooms were occupied (most with no natural light or sound proof partitioning), and Subject 1 for Corporal training commenced. For those who didn’t know the six week course was superimposed onto the school second year syllabus for efficiency, including cost savings, of training. Being superimposed meant no loss in trade training but prior apprentices did previously tend to have a lot of free time before and after trade and of a weekend. As with all new facilities, the new changes brought a lot of visitors (what happened to T & S forecasts) who looked around the School under a tour guide (some poor unsuspecting staff member) — and were suitably impressed.

The first mini-graduation parade to be conducted at Bonegilla was held in early Feb 83 and proved the popularity of the event. The purpose of such a parade is to illustrate the standard of the first year apprentice after a three week induction period. For those guests of the apprentices who attended the parade it is the first live look at the new apprentices in uniform and in the environment in which they will spend the next couple of years. It also starts contact between the staff and parents, although, on the day, the male guests usually have expanded chests and the female guests are too emotional to be overly receptive.

The 1983 Open Day was to be the first real test of the School in the eyes of the local civilian inhabitants (who have been found to be human after all — particularly the local girls). As for any such event extensive preparation was carried out — without detriment to trade training of course as

it was believed that apprentices still had a lot of free time before and after training and of a weekend. The trade wings were all open and there were many military and apprentice club displays. The day was a huge success and proved yet again the value of command, control and preparation required of such an event.

The Graduation Parade was the third major highlight for 1983. The parade itself was well conducted and a real delight to watch. There are very few units which can put 450 soldiers/trainees on parade with only one non-trainee being involved (the RSM of course). The format for the day was the parade followed by afternoon tea and then company functions at various School venues being held in the evening. Again, for the guests chests swelled, hearts thumped, tears were shed, emotion ran high and everyone enjoyed themselves. Grade ‘83 also saw the marchout of a number of staff who had been intimately involved in the transition from Balcombe to Bonegilla. For some it was a sad day but the effort which had been put in throughout the move and during 1983 saw the School now firmly established at Bonegilla.

1984 started with two highlights. Firstly there were less apprentices to say “that’s not the way it was done at Balcombe” since only the 37th Intake electronic trade apprentices were “ex-Balcombe” and secondly the first female apprentices arrived. Although female numbers were small (out of a school apprentice population of 624) they soon became just like any one of the fellas (oops) apprentices although the poor old Quartermaster CAPT Wally Buldo reduced his head of hair with the problems of clothing to fit and female “necessaries”.

The 1984 Mini Grad was well conducted at what is regarded by many attendees as being of a very high standard.

1984 also saw the School hosting the 1984 Defence Work Skill Regional Competition where some 170 apprentices from the Army, Navy, Air Force, Defence Establishments and Defence Support Establishments competed in 12 trades for the right to participate in the 1985 National Work Skill Final and from there, if successful, to the 1985 International Work Skill Competition in Japan. The competition itself was successful but unfortunately too many establishments have started training for work skill instead of training apprentices. The purpose of Work Skill is to improve the overall standard of trade training and thus increase the proficiency of new tradesmen.

The 1984 Open Day was conducted at a very high standard having improved, if possible, from that of the previous open day. Co-ordination went exceptionally well with fine although overcast weather.

The 1984 Graduation Day was well conducted, in fine weather (Co-ord having again been blessed), but with a fair bit of nostalgia. The Parade was the final function for the Commandant COL D.R. Lawrence AM (yes he had finally passed all his modules after 4 years at the helm) and for the first Bonegilla Principal, Mr F. Miles. The Parade was reviewed by the Governor General and was viewed by such dignitaries as the Chief of the General Staff and the General Officer Commanding Training Command. The day, and the functions that followed, went off very well.

1985 has commenced on yet another new note with a new Commandant COL J.C. Hartley, new Principal, Mr S. Kokkin, LTCOL Hislop still Chief Instructor and no more cry of “THAT’S NOT THE WAY IT WAS DONE AT BALCOMBE”.

“TECHNICAL SQUADRON 1ST ARMOURED REGIMENT”

By CPL's G. Lowe and R. Lever

Set on the edge of Puckapunyal range, amidst gently rolling hills resplendent with peacefully grazing sheep, goats, roos and emus, lies the 1st Armoured Regiment; a place filled with carriers, tanks and assorted B Vehicles. To keep all these vehicles in top running condition a unit needs the indispensable support of an efficient technical element, such an element being the Technical Squadron of the 1st Armoured Regiment.

To some (and the uninitiated) a posting to Puckapunyal is the end of the world but couple this with a posting to Tech' Sqn 1st Armoured Regt' and they think a death sentence has been passed on them. In reality the complete opposite can be said to be true and most (if not all) people come to enjoy their stay and the experience gained in this unique support element.

The Tech' Sqn itself is composed of a mixture of the trades abounding in the Corps. The following is a light hearted look at the workings of the Sqn. The authors, where possible, have not changed names or incidents to protect the guilty. Any resemblance to the characters in this article have to any living person is entirely deliberate.

The Squadron has a strength of approx' one hundred personnel covering a variety of trades and ranks. This fine century of tradespeople after being moulded into shape in preceding years by MAJ Zacny is now being ably led by MAJ Malhotra, who joined our ranks in Jan 85. Within the squadron we find eleven distinct and different clans (sections), actually twelve if you count the ever present MEA detachment. Each of these clans being fiercely loyal to themselves but also as one with the squadron as a whole.

The first three clans we come across are those who class themselves as 'being up the sharp end' because each is attached to one of the tank sabre squadrons. These spearheads of the Technical Sqn each comprise an Art Vehicle who controls an assortment of Vehicle mechs, electricians, fitters, recovery mechs and the occasional crystal cracker thrown in for good luck. The task of these attached personnel is to provide the frontline support to the sabre squadrons by giving quick, effective repair and diagnostic services whilst the squadrons are engaged in combat situations. The battle weary leaders of these ever ready, ever vigilant clans are: A Sqn . . . Al Carpenter, a new arrival in the regiment who can look forward to many exciting adventures in the years to come. B Sqn. . . Mal Polson, an old hand who is soon to leave us for a sunnier clime where he can espouse the virtues of the Tech Sqn. Lastly we have C Sqn, here the attached tech' personnel are led by. . . Mick Terry, again a relatively new comer to the regiment who has already had his initiation into battle.

The rest of the clans that go to make up Tech Sqn are tucked securely away in the main Sqn hanger (the Opera House), surrounded by all the luxuries and mod cons any tradesmen could desire. Hidden away in an air-conditioned corner of the Opera House are our beloved Crystal crackers and Elecies. This fine body of troops is led strongly by WO2 Doc (Art Veh Control) Chinner. And although this particular clan seems to be never wanting for a brew, it is only through their diligent efforts that the regiment, whilst in the field, can communicate effectively over miles of country with comparative ease.

Strolling across the Opera House floor we come to our next little clan, the G.E. Section. This band of welders, fitters and gun plumbers spend countless hours deep within the bowels of the units MBT's, enduring confined working conditions and extremes of heat all in the effort to ensure that the 105 projectiles hit home first time, every time. WO2 Col (the umpire's a mug) Harmer leads our happy little black trades push which, at times, has been known to be called the Tech Sqn Bodgie Section. In reality getting the MBT's squared away is the sections main devotion and this tough little clan does not deserve the title of 'Wimp Fitters'.

A clan that enjoys honorary membership of the Tech Sqn is the dedicated staff of our Ordnance cell. This clan follows the Sqn everywhere (even to the field) and is always at the ready to supply the units repair parts needs. Although it is rumoured that the personnel of this section cannot count past ten without taking their boots off, they are never tiring, under the fine leadership of WO2 Tony (I love you RAEME guys) McFarlane, in their efforts. They don't mind in the least being interrupted to process FEME 61 walk-through's or look up twenty availabilities.

The RAEME version of the Ordnance clan (the RAEME Cockroaches) can be found scuttling a round the shelves of the B1 store. This clan, if you can find them and they're not doing a stocktake, derive great pleasure in issuing tools and equipment essential in the repair of the Regiment's various vehicles. Some people of this clan also take great pleasure in instigating L & D's should any of the essential tools or equipment disappear. Under the fine leadership of WO2 Dave (I can open the armoury anytime) Preston, this proud clan is happy to undertake several extra-regimental activities such as selling raffle tickets, giving change for the drink machine and selling cigarettes.

The Open House has a clan that definitely works on a much higher level than the rest (it works upstairs). This clan is comprised of our friendly orderly room staff and our EME Ops personnel. Because the orderly room staff have evolved in isolation from the day to day working environment of the Sqn they are hard pressed to tell the difference between a carrier and a tank. Yet it cannot be underestimated how valuable the orderly room staff are to the Sqn. It is through their skill on the admin side of things that the Sqn can ensure that its members are advanced through their trades and their day to day admin is processed with the least amount of fuss. The Orderly room is headed by our SSM, SGT Jack (I won't crack) Starmans, who is a tower of strength and doing an admirable job of filling the boots of WO2 Geoff Lowe who recently left the Sqn to travel north. The Motto of the orderly room is, 'Nowhere in the annals of field force units has so much paper work been done by so few for so many'. EME Ops is headed by LT Kelly Knott and along with our new ASM, WO1 Glen (Deadly) Ernst it sorts out the technical issues of the Sqn.

The three remaining clans are entirely comprised of vehicle mechanics. These are: Light A, Heavy A, and B vehicles, all under the astute leadership of WO2 John (I can hack it) Pheonix.

The B vehicle clan is tasked with the repair of the units Macks, Land Rovers (assorted variants), Unimogs and the aging fleet of International Mk IV's and F1's. Although at face value B vehicles would seem to have the easiest task of these

three vehicle clans, it is still not all beer and skittles for the personnel in this section and they have been known to perform minor miracles to ensure the availability of the units B vehicles.

Both the Light A clan and the Heavy A clan have laid claim to being the only section that keeps the Regiment going and although there is much friendly rivalry between the two clans they both manage to efficiently execute their allotted tasks.

The Light A clan is entrusted (as the name suggests), with the task of ensuring that the Regiment's fleet of M113A1's and M548's etc, are ready to be utilised at a moments notice, whether that be for a CPX exercise, exercises for Recon troop or regimental exercises. The servicing section of this clan is tucked away in a small corner of the Opera House. All the Regiment's carriers pass through the service section twice a year for servicing which is second to none and minor repairs which are carried out with ruthless efficiency. If the repair work is on too large a scale for the servicing section to handle then the repair section step in and do their bit. The repair section of Light A works tirelessly keeping the carriers up to the Regiment and also faultlessly performs the implementation of MEA programmes and trials. Though the carriers may come under the shadow of the tanks the Light A section can be rightly proud of their work efforts.

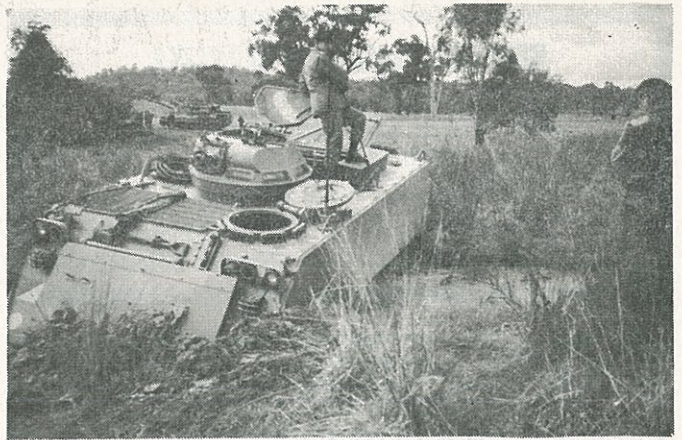
The Heavy A clan consists of two closely related families of vehicle mechanics who call themselves Specialist Troop. The larger family is known as the Heavy Engineering Division, whilst the smaller family is known as the Scientific/Technical Division. The former division is responsible for all servicing and major repair tasks undertaken by the clan. Whether working in the Opera House or in the field this dedicated band of highly skilled tradesmen apply themselves to the never ending struggle of maintaining the nation's most powerful and dynamic hitting force, the leopard MBT. The Technical Division of this clan is wholly responsible for the servicing and maintenance of the MBT power pack. This task requires a high degree of expertise, which is quite within the scope of the tradesmen working in the section.

Here we have attempted to illustrate briefly the sections that combine together as one to form the Technical Squadron of the 1st Armoured REGIMENT. As a whole the members of the squadron are seen to be a dedicated and highly skilled selection of tradesmen, trained to the peak of efficiency, maintaining the Regiment's vehicles and keeping the Regiment as a viable fighting force.

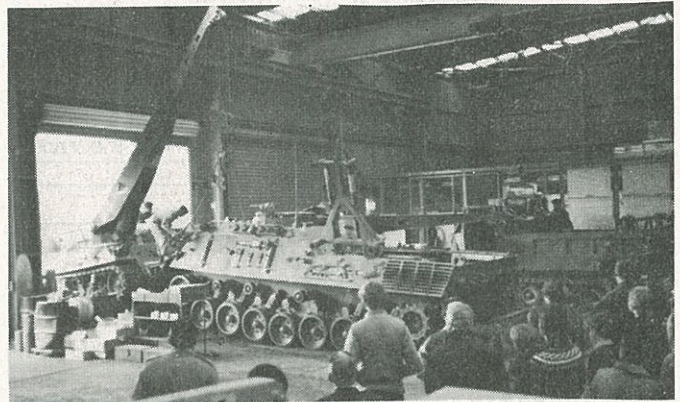
In closing we hope that should you receive a posting to join one of our elite clans in the Technical Squadron that you look on it as an opportunity to be part of a successful and dynamic team. And as a member of this team you can look forward to greater job satisfaction and experience which can only enhance your trade and career progression through the Royal Corps.



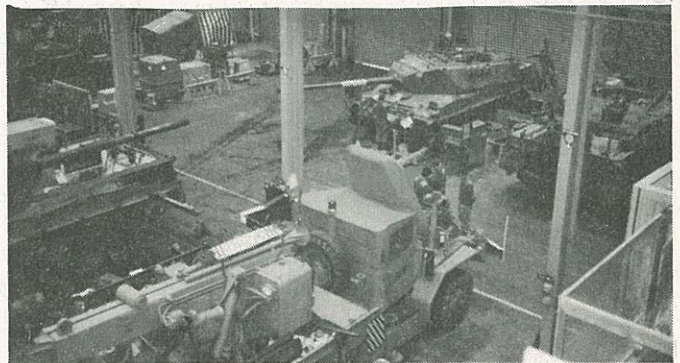
Fitters Tracks of the Technical Squadron lead the Regiment during an exercise.



One of the many tasks of the Squadron is to extricate vehicles which find themselves in positions such as this.



An ARV gives a lift to another ARV in preparation for a chassis service.



A picture of the Opera House floor showing quite clearly the diversity of vehicles in the regiment. You may even notice that our skilled tradesmen will even tackle a helicopter.



The ASM's view of the Opera House floor, with tanks in various stages of servicing and the unit wrecker pictured.

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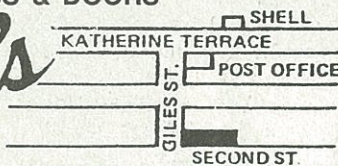
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LIGHT TRUCK TRIALS TEAM

By WO1 S.K. Mac Farlane

What do you do on a trials team?

Where do you go on a trials team?

Is it worth going on a trials team?

These are just some of the questions asked of me while a member and since the completion of the Light Truck Trials Team (LTTT). LTTT being a part of Project PERENTIE. No doubt other members of the team, as well as ex members of other trials teams, have been asked similar questions. Hopefully, by reading this article, members will be able to assess for themselves, the answers to these and other pertinent questions.

Project PERENTIE, as most members would be aware by now, is the Army's project to procure replacement vehicles for the aging Landrover and Toyota Landcruiser fleets. More than 3,000 of 700-1000 kg (equivalent to 3/4-1 ton) size vehicle are to be purchased and about 1000 of a 2000 kg (2 ton equivalent) size which is a new size range for the Army. The smaller vehicles will take over and carry on in place of the vehicles which they replace while the main role of the larger vehicles is to carry specialist modules such as workshop repair, signal repair, computer, command post etc. With such a large amount of money to be expended in purchasing this new fleet, it is most important to select the most suitable vehicles to fill the roles required of them.

With this in mind, it is of little value taking a vehicle off the showroom floor, for a test drive around the block. These vehicles are required to serve the Army until around the turn of the century, so extensive testing and trialing of the contenders is required to find the vehicles which will best serve the needs of the service, over the full range of tasking and Corps which will use them. Not only do the vehicles have to be suitable to the Army's needs, they have to have high reliability, be reasonably easily maintained and have manufacturer back-up for service and spare parts until expiration of their service life. Costs of initial purchase as well as repair parts, servicing items, special tools and personnel training all have to be taken into consideration as does the amount of Australian made/manufactured items and Australian industry participation which go into the vehicles.

To attempt to gain as much of this information as possible, in a reasonably short amount of time, a unique unit called a "Trials Team" is formed. In this particular case the Light Truck Trials Team (LTTT) was formed and its purpose was to put the contender vehicles through as much trialing, testing and driving in as many varying conditions as possible in twelve months.

The unit had a total strength of 80 personnel made up of members of most Corps and including an EME element of one officer and fifteen other ranks. A skeleton staff of six senior ranks were gathered in April/May 1983 and spent most of the ensuing four months attached to DTRIALS in Canberra where they virtually raised the unit. Stores were ordered, trials instructions written, arrangements made for manufacturer training of tradesmen, reconnaissance carried out to proposed trials areas and layout and arrangements made for construction and erection of the unit compound in an area designated at the Army School of Transport, Puckapunyal.

The remainder of the unit strength marched in over the period Aug/Sep 83 and until October the time was utilised in setting up the unit area, receiving stores and generally settling in to the new environment. Obviously, the majority of the unit OR's were drivers by trade and were of a range of

varying capabilities as far as experience, age etc. were concerned. It would have been pointless having the "best" drivers hand picked to fill the positions as this would not have been a true representation of the personnel who would drive and operate the equipments once they entered into service.

The successful contender companies and the vehicles which they were supplying for evaluation were:

- a. Jeep Australia — Jeep AM10,
- b. Jaguar Rover Australia (JRA) — Landrover One Ten 4X4 and 6X6, and
- c. Mercedes Benz Australia (MBA) — Mercedes Benz 300GD and Unimog 1300L.

A total of five different vehicles were purchased; three in the one tonne class and two in the two tonne range. Three of each vehicle were purchased; one of each to be trialed exclusively at the Trials and proving Wing of Engineering Design Establishment (EDE) at Monegetta and the other two of each to be trialed by the LTTT.

The RAEME establishment consisted of:

- a. 1 x CAPT (EME OFFR)
- b. 1 x WO1 ART VEH (ASM)
- c. 3 x WO2 ART VEH
- d. 1 x CPL VEH MECH
- e. 8 x LCPL/CFN VEH MECH
- f. 1 x CFN RECOV MECH
- g. 1 x CFN CLERK PROD

One WO2 Art Veh acted as detachment commander for 21 personnel from the LTTT who were permanently in support of and based at TPW Monegetta. Another of the WO2's was designated the ART RAM (Reliability and Maintainability) and was responsible for documentation required to be raised and submitted on the trials vehicles. The remaining WO2 worked as the workshop foreman for the repair of LTTT vehicles and equipment as well as documenting the ongoing maintenance evaluation.

During September all of the vehicle tradesmen spent a week with each manufacturer on vehicle familiarisation training commencing with Jeep in Brisbane, then JRA in Sydney and finally MBA in Melbourne. The initial training proved to be of great value during the trial as new developments and "special to vehicle" peculiarities had been highlighted during the training.

In mid October the contending vehicles were officially handed over to the Army by the manufacturer and representatives on a Handover Parade at Army School of Transport. For the remainder of the year trials were conducted in and around the Puckapunyal area. Most of these trials were used to iron out problem areas and unexpected fault arisings so that when the trials were conducted in the different trials areas they would be carried out with the minimum of difficulties and be as smooth running as possible. Concurrent with these activities, the RAEME tradesmen carried out a maintenance evaluation which involved stripping each vehicle down to evaluate:

- a. Repair times,
- b. Special tool requirements,
- c. Workshop equipment requirements,
- d. Level of expertise required to carry out different repairs,
- e. Workshop manual evaluation,

- f. Repair parts scale evaluation,
- g. Numbers of personnel needed to perform tasks,
- h. Accessibility of componentry,
- i. Limiting factors in carrying out tasks, and
- j. Consumable stores used in carrying out tasks.

MUA's such as engines, transmissions, differentials etc. were not stripped and reassembled as the time available did not allow for this.

Throughout the trial, from the time the vehicles were received to the unit closedown, an immense amount of reporting was required to be submitted to such organisations as DTRIALS, MAT BRANCH, MEA and EDE. Some of the forms and paper work with relevant information required to be submitted were:

- a. FRAM 10C VEHICLE UTILISATION FORM — each and every time a person (regardless of who) drove one of the vehicles this form was required to be filled in with such information as duration of task, maintenance times, periods of halts, nature of faults etc., etc., etc.
- b. RODUM REPORT OF DEFECTIVE/UNSATISFACTORY MATERIAL — every breakdown, maintenance observation, part replacement, modification requirement, and so on was reported on in this format.
- c. USER EVALUATION REPORT — every person who drove or was carried in one of the vehicles was required to report on its comfort, ergonomic design, noise level, head/leg/elbow etc. room and many other points.
- d. TRIALS REPORTS — a detailed report on each trial conducted was required including information such as times, distances, weather conditions, ground types, loads, fuel consumption and many other relevant points, and
- e. USER REPORT — every user of the vehicles was required to submit a report on the vehicles suitability to the peculiar roles of each user, the vehicles shortcomings, recommended improvements and the most suitable vehicle(s).

After a short Christmas leave period the unit moved to Woomera in South Aust. in early January for four weeks of what is designated Hot/Dry Trials. This time of year is usually very hot and dry in this part of Australia but, unfortunately, apart from a few days, the weather was quite mild. The area even had rainfall during the time that the unit was there and this is not considered normal for that time of year. However, the conditions in this area are quite rugged and these took their toll on some of the vehicles. Many different trials are required to be conducted on the vehicles in the different trials areas and some of these trials were:

- a. 96 hour endurance trial — the vehicles are operated over differing terrain for 96 hours continuous running, stopping only for parade halts, scheduled servicing and breakdowns,
- b. Mobility trial — the vehicles are expected to negotiate all sorts of natural obstacles,
- c. Sustained speed trial — vehicles must sustain a certain speed for a designated time frame,
- d. Fuel consumption trial,
- e. Fuel range trial,
- f. Troop carrying trial,
- g. Forging trials — both fresh and salt water,
- h. Recovery trials, and
- i. Configuration trials — the vehicles are converted to their different configurations eg, stripped down to no

doors, canopies, shrouds, windows, etc, fitted or converted to centre or side seating. These operations are timed and the ease with which they are performed is recorded as is the items needed to perform the functions etc., etc., etc.

After return from Woomera, for a short stay at Puckapunyal, the unit moved on to the Joint Tropical Trials Research Establishment (JTTRE) at Cowley Beach which is situated between Tully and Innisfail in North Queensland. This area is used for the Hot/Wet Trials as this area supposedly receives the highest rainfall in Australia. However, apart from a couple of sudden torrential downpours, the unit saw very little rain while in the area. The members of the unit did not complain however, as the lack of rain made the setting of camping on the tropical beach with coconut trees all around and a light sea breeze blowing, much more enjoyable.

On departure from JTTRE, the unit split in to two separate teams with each team taking one of each trials vehicle and calling into different areas and units along the Eastern Seaboard for displays and user unit trials. Areas visited included Townsville, Enogerra, Bulimba, Oakey, Singleton, Moore Park, Holsworthy, Ingleburn, Moorepark and Canberra and then back to Puckapunyal. The purpose of all displays was to allow as many members of the services as possible to view the vehicles.

After a short leave period, for unit members to spend some time with their families, the unit was again divided into teams; two teams to be travelling to different areas and a base team to remain at Puckapunyal to organise A and Q. The two travelling teams consisted of approximately twenty members each. Team 1 travelled to Sydney and undertook user unit trials with MP School and the Field Ambulance before undergoing loading/unloading and sea trials with HMAS TOBRUK. After these trials Team 1 spent extended time trialling, testing and exercising with 6RAR.

Team 2 headed for Darwin travelling through Broken Hill (NSW), Oodnadatta (SA), Kythera, Ayres Rock, Alice Springs, Tennant Creek and Katherine in the Northern Territory. While at Tennant Creek a display was organised for the town as part of the "Back to Tennant Creek Week" celebrations. On arrival at Darwin a couple of days were able to be used for much needed maintenance on the vehicles prior to displays.

The Team left Darwin and headed for Hughenden in Queensland passing through Three Ways and Barry's Caves in the NT and Camooweal, Mt Isa and Cloncurry in QLD. User unit trials were conducted with 3/4 Cav Regt during their exercise in the Hughenden area. From Hughenden to Townsville for user unit trials with 102 Fd Wksp and 4 Fd Regt RAA. After Townsville it was on to Sydney via Rockhampton, Maryborough, Surfers Paradise, Coffs Harbour and Newcastle.

On arrival at Sydney it was a week of water transport trials with 10 Terminal Regt and then user unit trials with SME. From Sydney to Bandiana for RAAOC Centre, School of Military Survey and RAEME Trg Centre to spend time with the vehicles prior to 2 Sig Regt and School of Signals at Watsonia and School of Health at Healsville.

Both teams finally returned to Puckapunyal in early July and were able to have a period of short leave prior to conducting Cold Climate Trials in the Puckapunyal area and Snowy Mountains around Khancoban. Army School of Transport also conducted some user unit trials in this period.

One set of vehicles was then despatched to AMTDU Richmond NSW for air transportability trials. The other set of vehicles plus the majority of the unit moved to 16 Air Defence Regt in Adelaide for user trials. This group then travelled across the Nullarbor Plains to Kalgoorlie where they

rendezvoused with members of SASR and 5 Independent Rifle Coy (5 IRC). The 5 IRC personnel acted as guides to lead the vehicles to Port Hedland via Mt Newman and Mt Tom Price. The leg from Tom Price to Port Hedland was conducted on disused tracks and very rugged cross-country running.

From Port Hedland the group travelled down the coast of Western Australia passing through Carnarvon and Geraldton before arriving in Perth for displays at Swan Barracks and Swanbourne. From Perth, following the coast line, the group passed through Bunbury, Albany and Esperence. From Esperence it was inland to Norseman and then back across the Nullarbor to Adelaide and eventually Puckapunyal.

On RTU of all members of Puckapunyal, the arduous tasks of writing and completing reports, the return of stores and close-down of the unit began. The Unit disbandment parade took place on Fri 23 Sep 84 and most members had taken up their new postings by 1 Oct 84.

Most members of LTTT would agree that their posting was an experience not to have been missed. The opportunity to travel and see so much of the country was excellent although the married members became a little down at times because of the long periods away from home. The experience of meeting different people throughout the country and the camaraderie throughout the services is a great boost to morale. It was particularly pleasing to be made so welcome at all the RAEME units we visited and we were always given the "run of the house" to carry out any needed maintenance. A

special word of appreciation is passed on to Darwin Wksp PI, 102 Fd Wksp, 10 Term Regt Wksp, 31 Sup Bn Tech Spt, 16 AD Regt Wksp and Perth Wksp Coy.

The experience gained by the tradesmen on the Trial can only benefit our Corps. The way the RAEME personnel conducted themselves, got on with the job and stood by each other in true RAEME spirit makes me proud to have been associated with them and pleased that they have done our Corps well.

RAEME personnel who were members of LTTT:

CAPT S.K. Karpuska	LCPL R. Mclvor
WO1 S.K. MacFarlane	LCPL G.C. Wiseman
WO2 P.C. Jenkinson	CFN K.A. Byrne
WO2 R.D. Lee	CFN R.J. Foster
WO2 I.H. Winning	CFN S.R. Hinsbey
CPL K.B. McSween	CFN G.B. Hodges
LCPL R.J. Lincoln	CFN G.C. Mace
LCPL J.C. McCarthy	CFN I.E. Wilkins

Once the winning tender vehicles are selected, all persons can be assured that the decision was not taken lightly and that every Corps had their opportunity to make comment on the contending vehicles and that every comment/observation made has been taken into consideration. Of course, it would be impossible to select vehicles which would be the best suited to every user, but all members should realise that the vehicles which meet most users requirements plus a myriad of other requirements are the vehicles which are selected and that they will serve us well.

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“POWER SEEKER”

By SGT W.G. Watkins and CFN P. Spresser —
Tech Spt Pl, 2 Fd Sup Bn

“Damn. Another globe gone.” How often have you heard that phrase used around the workshop? Some poor bloke has just stuffed another series light.

Well that need not happen again. Get your hands on the following items.

1. Cream government biro with cap. (Used one)
2. Light Emitting Diode and mounting bezel. (Any colour)
3. Small alligator clip with plastic boot.
4. Length of insulating sleeving.
5. 1/4 Watt, 820 OHM Resistor.
6. 30 cm of 3 mm wire.
7. 15 cm of 1 or 2 mm wire.
8. Drill, 3 mm bit, soldering iron, solder, metho, and about 15 minutes.

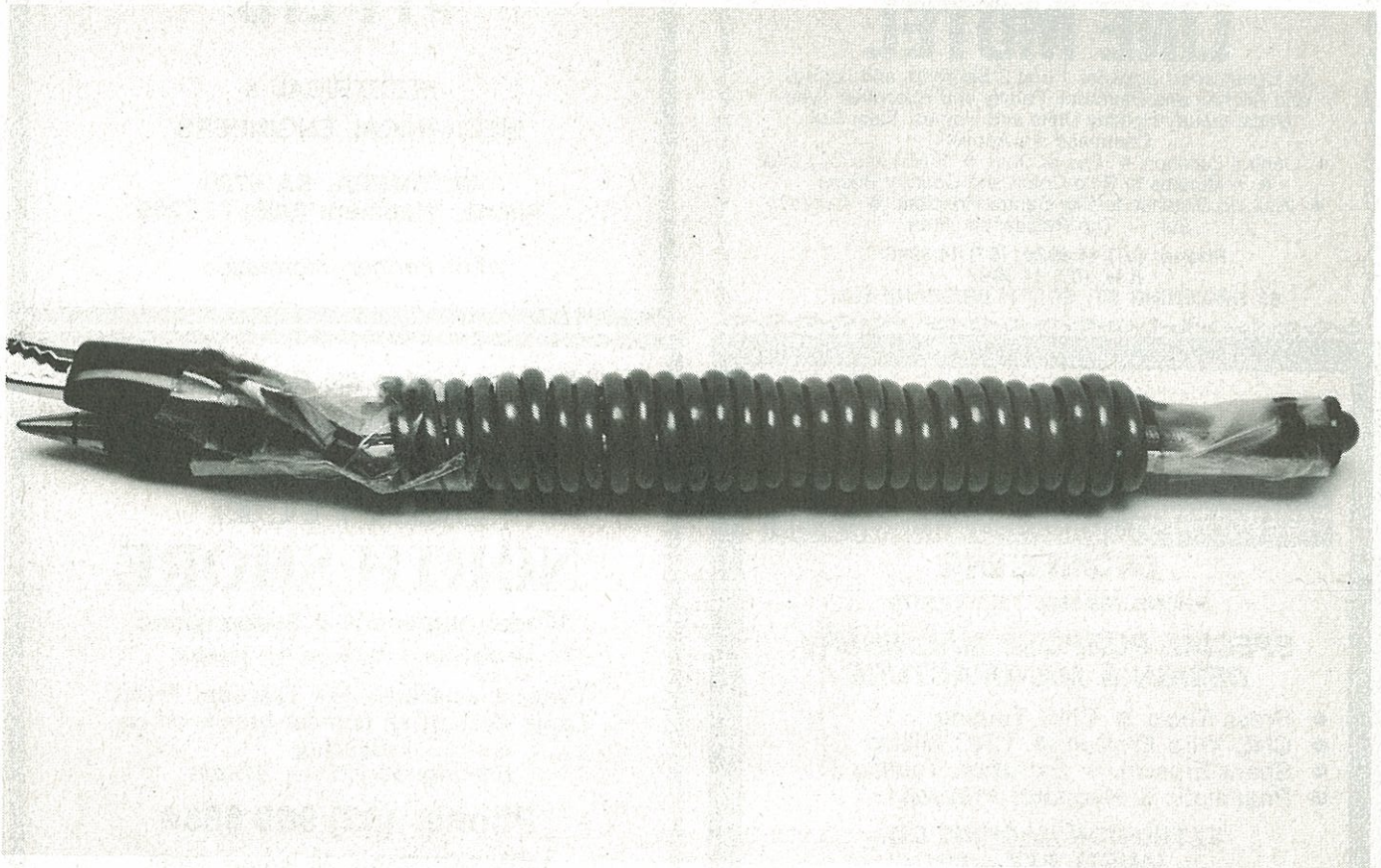
When you have got all that proceed as follows:

1. Dismantle biro and remove ink tube.
2. Clean biro nib with metho to remove ink.
3. Fill nib with solder.
4. Solder resistor to anode of the LED using the 2 mm wire and the insulating sleeving.

5. Enlarge the vent hole in the side of the biro **with the drill bit.**
6. Pass the 3 mm wire through the vent hold so it **comes out the top of the biro.**
7. Solder the 3 mm wire to the cathode of the LED.
8. Pass the 2 mm wire down the biro tube and solder into the nib.
9. Refit the nib.
10. Fit the mounting bezel onto the LED and fit into the top end of the biro. It is a tight fit and a small amount of force may be required.
11. Fit the alligator clip to the end of the 3 mm wire.
12. Drill a 3 mm hole in the centre of the biro cap.

You have now got a reverse polarity protected series light. The biro cap is used when in direct sunlight so the LED can be seen. A high intensity LED can be used in place of the normal LED as it is easier to see in all conditions. The series light can be used on 12 or 24 volts.

Happy power seeking.



RAEME PLANNING FACTORS

by Lt-Col B. Irons,
SO1 Tech DDTS-A

CASE STUDY No 1 — PART 1 PROBLEM

1. This is the first paper of a planned series aimed at presenting RAEME planning factors for critical review. It is anticipated that such review should confirm or contradict the planning factors. The intent is to evolve a set of RAEME planning factors that can withstand scrutiny and that reflect the total corporate knowledge of the Corps.
2. Your participation in the review process is essential for success of the project. We seek:
 - (a) your criticism of planning information offered;
 - (b) your evidence and suggestions for improvements;
 - (c) your contribution of any planning information or experiences that may enhance the RAEME planning process; and
 - (d) your criticism of the methods used to convey the planning factors to you.
3. All contributions should be addressed to:
SO1 (Technical)

Defence Technical Staff — Army
Campbell Park Offices (CP4-3-Bay 5)
CANBERRA.

4. The first paper will take the form of a Case Study so that the planning factors presented will be placed in the context of a real problem.

CASE STUDY No. 1 — Planning for Army Development

The EME planner is informed by the Logistics staff that they estimate 1000 vehicles per month will be backloaded to the support area, from the area of operations, within their scenario for the middle level type conflict. With no further information forthcoming, the staff require detailed calculation of EME manpower requirements within the support area. These calculations are to cover total support to both the area of operations and to support areas dependencies.

As far as the staff are concerned — simple input, simple problem — answer required by close of business Friday.

The deadline was met but what was the method used?

Try solving this problem and compare your answer with the one given

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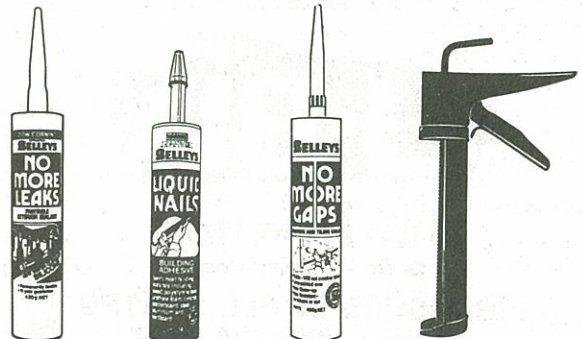
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RAEME PLANNING FACTORS

by Lt-Col B. Irons,
SO1 Tech DDTS-A

RAEME PLANNING FACTORS CASE STUDY No.1 —

PART 2

SOLUTION

The Method Used

The sequence used to develop the required input was to:

- a make assumptions relating to the condition of the vehicles to be backloaded from the area of operations;
- b apportion the vehicles to categories of heavy A, light A, B and C;
- c estimate the average manhours per vehicle type for major overhaul action;
- d determine the total manhours per vehicle type;
- e determine the expected rates of arising for each vehicle types assemblies, differentiating between engines and other assembly types;
- f estimate the average manhours per assembly group for major overhaul action;
- g determine total manhours for all assemblies by vehicle type;
- h from historical experience, determine the ratio of total vehicle manhours to non-vehicle manhours;
- i determine total productive manhours required;
- j determine the ratio of productive manpower to non-productive manpower;
- k calculate total workshop manpower required, both productive manpower and support manpower, to support predicted arising from the AO;
- l determine the EME manpower required to support the support area dependency; and
- m calculate the total support area EME required.

Assumptions Relating to Condition of Backloaded Equipment

It was assumed that all vehicles are base repairable within the support area. As both direct support and general support workshops exist in the area of operations, along with appropriate depot workshops, the lower grades of repair will be accommodated within the theatre. Those vehicles emanating from the area of operations, that are assessed unrepairable or uneconomic to repair within the ASA, are not included in the prediction.

Apportioning Arisings to Vehicle Types

A review of each available operational scenario suggested that the British operational formations participating in the European theatre at the end of World War II had adequate similarities to our own. Of total vehicles requiring support area support the breakup was:

- a heavy A vehicles 7.4 per cent of total;
- b light A vehicles 11.2 per cent of total;
- c B vehicles 78.2 per cent of total; and
- d C vehicles 3.2 per cent of total.

Although the available information from some theatres is sketchy to say the least, the percentages do not appear to differ too greatly from those above when allowance is made for the mix of vehicle types.

A current study is assessing our Vietnam experience, against which allowances can be made for both mixes of vehicle types and differences in percentages of battle casualty arising between theatres.

Manhour Estimation by Vehicle Types

The manhours required to overhaul a vehicle varies, as does the work content, within vehicle types. Our current B vehicles range from Landrovers to Mack trucks. Also quantities of each type differ as will the repairs for each type. C vehicles range from light wheeled through to heavy tracked with variants as for B vehicles. Currently light A vehicles are represented by the M113 family of vehicles whereas heavy A vehicles are represented by the Leopard.

Planning figures for the major overhaul of current vehicles include:

a	Mk 3 Truck.....	300 manhours
b	Landrover (equiv).....	200 manhours
c	F1, F2 Truck	400 manhours
d	M113.....	1100 manhours
e	Leopard Tank	3500 manhours
f	Mack Truck.....	500 manhours
g	Mercedes Benz.....	400 manhours
h	Small Wh C Veh.....	400 manhours
i	Large Wh C Veh.....	800 manhours
j	Small Track C	500 manhours
k	Large Track C	1500 manhours
l	F/Lift 2.5T	200 manhours
m	F/Lift over 2.5T.....	400 manhours
n	Scammel/D-Reo	500 manhours

Making due allowances for all these variations and deriving averages for each vehicle type produced the following figures:

- a heavy A vehicles, major overhaul requires 3500 manhours;
- b light A vehicles, major overhaul requires 1100 manhours;
- c average B vehicle major overhaul requires 300 manhours;
- d average C vehicle major overhaul requires 800 manhours.

Total Manhours Required for Vehicle Types

The total manhours required to support the repair of prime equipments was obtained by summing the products of each number for each equipment type and the manhours required to overhaul one vehicle of that type.

Number of Repairable Assemblies for Each Vehicle Type

It must be remembered that each prime equipment will only be evacuated from theatre when it is uneconomic, or unrealistic to repair that equipment by the normal assembly replacement and repair processes. Hence, regardless of the number of prime equipments being evacuated from theatre, the number of assemblies evacuated will tend to be greater. Although it may be argued that potential exists to perform major assembly overhauls in theatre, assembly overhauls are

usually quite limited in nature. Hence a significant number of assemblies can be expected for recycling by the support area.

A review of past scenarios, equivalent to mid-level conflict without base repair facilities located in theatre, gives the following estimates for the quantity of assemblies requiring repair:

- a heavy A vehicle assemblies;
 - (1) engines arise at five times the rate of vehicles, and
 - (2) other assemblies (total) also arise at five times the rate of vehicles;
- b light A vehicle assemblies, as for heavy A vehicle assemblies;
- c B vehicle assemblies arise at 4.5 times the rate of vehicles with engines accounting for 50 per cent of all assemblies; and
- d C vehicle assemblies, as for heavy A vehicle assemblies.

Total Manhours Required for the Repair of Vehicle Assemblies

A review of work content for vehicle assembly types produced the following figures:

- a heavy A vehicle assembly manhours:
 - (1) engine overhaul = 300, and
 - (2) other assemblies (averaged) overhaul = 60 (this allows for a proportion of high manhour content transmissions);
- b light A vehicle assembly manhours:
 - (1) engine overhaul = 65, and
 - (2) other assemblies (averaged) overhaul = 25 (including proportion for transmissions);
- c B vehicle assembly manhours;
 - (1) engine overhaul = 60; and
 - (2) Other assemblies (averaged) overhaul = 25; and
- d C vehicle assembly manhours are as for light A vehicle assemblies.

Multiplying quantities by manhours for each type gives the total manhours required for assemblies repair.

Total Manhours Required for Both Vehicles and Assemblies

The total manhours required for both vehicles and assemblies is obtained by summation of the manhours for vehicles and for assemblies.

Ratio of Vehicle Manhours to Non-Vehicle Manhours

Although no indication of non-vehicle equipment repairs is given, some allowance must be made for such repairs and the EME resources required to effect such repairs.

A review of all non-vehicle equipments (armaments, small arms, other general engineering, all electrical and electronic equipments, aircraft and watercraft) indicates a marked consistency for the percentage of vehicle manhours to non-vehicle manhours with time. With minor variations, the total non-vehicle manhours approximates to the total vehicle manhours.

The planning ratio for vehicle manhours to non-vehicle manhours is a ratio of one is to one.

Total Productive Manhours Required to Support Area of Operations

Total productive manhours required is double the total vehicle manhours required.

Total Workshop Manpower Required to Support the Area of Operations

The total workshop manpower comprises the productive element and the non-productive support element. A review of

all historical EME workshops reveals a production element that can vary from 40 to 70 per cent of total workshop strength. The highest percentage applies to specialist black trades rebuild shops, whereas the smallest percentage applies to specialist electronic repair shops. Minor distortions are created by peacetime, restricted establishment workshops where the tendency is towards a higher overhead for any type of shop.

For the type of shops available to the support area, the most realistic planning figure appears to be for a productive element 50 per cent of total strength.

Therefore total workshop strength is double the productive strength or four times the vehicle tradesman strength.

Support to the Support Area

EME support to a balanced operational force approximates to ten per cent of the size of the force supported. EME support to support area organizations, particularly when a significant percentage of support area manpower are not prime users of equipments demanding major EME support, should be a lower percentage than that required for an operational force. EME support to the support area should not exceed half that required to provide support to the operational forces.

EME support to Support Area = 5% of Support Area strength.

Total Support Area EME Requirement

The total support area EME manpower requirement becomes the sum of:

- a ASA EME manpower to support the area of operations;
- b ASA EME manpower to support the support area units;
- c EME staff required to provide EME advice at each level;
- d EME staff to provide equipment engineering support;
- e EME staff required to provide training support; and
- f EME trainee strength not yet allocated to units.

Provision of Total EME Support

Once the total EME manpower requirement is established, attention must be paid to best methods of providing that manpower. Few would suggest that the best solution would be to have the total capacity as uniformed, in-house, RAEME personnel. The preferred solution would be to provide a mix of uniformed EME, in-house civilian tradesmen and supporting contractors. But what should the best mix be?

Supporting Contractors: Supporting contractors can provide invaluable complementary skills and facilities, auxiliary workshops and factory thorough repairs. A review of this type of support has revealed a remarkable consistency with time during both peace and war. Supportive contractors normally perform 50 per cent of the total EME workload.

In-house Civilian Tradesmen: In-house civilian tradesmen are invaluable to provide the experience continuity in RAEME workshops during times of peak demand for EME personnel to man EME elements of formations being raised. During such times, uniformed EME personnel are heavily culled from support area workshops. To provide effective continuity the target in-house civilian tradesmen should perform 25 per cent of the total EME workload.

Uniformed EME Tradesmen: Uniformed EME tradesmen are required for holding, training and replacement purposes. To provide an effective source of uniformed tradesmen to meet successive culling requirements, the target uniformed EME tradesmen should perform 25 per cent of the total EME workload.

**RAEME PLANNING FACTORS CASE STUDY No 1 —
PART 3**

SUMMARY

- Predicted Theatre Evacuations are base repairable.

- Mix of Base Repairable Vehicles:

7.4% Heavy A Vehicles
11.2% Light A Vehicles
78.2% B Vehicles
3.2% C Vehicles

- Vehicle Assembly Arising

B Vehicle Assemblies
Engines — 2.25 x No of B Vehicles
Total Other — 2.25 x No. of B Vehicles
Heavy A Vehicle Assemblies
Engines — 5 x No. of Heavy A Vehicles
Total Other — 5 x No. of Heavy A Vehicles
Light A Vehicle Assemblies
As for Heavy A Vehicle Assemblies
C Vehicle Assemblies
As for Heavy A Vehicle Assemblies

- Work Content in Manhours

	Vehicles	Engines	Other Assemblies (Averaged)
Heavy A Vehicles	3500	300	60
Light A Vehicles	1100	65	25
B Vehicles			
(Averaged)	300	60	25
C Vehicles			
(Averaged)	800	65	25

- Non-Vehicle Mahours = Vehicle Manhours.
- Total Workshop Strength (all ranks) = 2 x Productive Strength
- Workshop Strength to Support the Support Area = 5% Total Support Area Strength
- Allocation of RAEME Workload
 - 50% Contractor Support
 - 25% In-House Civilian Tradesmen
 - 25% Uniformed RAEME Tradesmen

Editor's Note: The planning factors developed in this paper are of course only as good as the values placed on them. What we need is the testing of the values used; how much do they vary, how critical is that variance, are there other factors and values that need to be used? You will need to exercise your imagination and ingenuity to devise methods of evaluating such staff processes. These exercises are not irrelevant — they are all too critical to the direction and eventual capacity of the Corps to support the Army on operations. If you have any information or comment please let the SO1 (Tech) know.

Best Wishes to all Army Personnel

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1 BASE WKSP BN — JOTTINGS

HAILS AND FAREWELLS

RAEME Workshops have long been known as a place where old soldiers come to be metamorphosed into civilian trade repair supervisors. 1 Base Workshop Battalion is no exception and just recently one of our longest serving 'civies' Vince Kimber has retired to be replaced by another born again public servant Mr previously WO1 Brian Fletcher.

QP20002 PTE VINCENT BRUCE KIMBER

Vince Bruce Kimber enlisted in the Permanent Military Forces as an Army Apprentice Fitter and Turner on the fourth of July, 1941, until 11 May 1943. He joined the AIF as a private QX 52737 on 12 May 1943 until 30 June 1947 (still a private), on the 1 July 1947 he transferred to the Interim Army QX 52737 until 9 May 1949 by this time he had risen to the dizzy height of SGT.

Vince rose to the rank of Warrant Officer Class Two by 1960, when he chose to separate from the Army at own request after completing 18 years 263 days service.

His postings during this time were:

- a. 4/7/41 to 1/12/41 — RAOC Workshop Victoria Barracks, Brisbane.
- b. 1941-1947 — 11 Base Workshop Battalion, Salisbury.
- c. 1947-1949 — Northern Command Workshop, Bulimba.
- d. 1949-1953 — RAEME attached 11 Supply Battalion, Meeandah.
- e. 1953-1956 — RAEME Workshop, Hobart.
- f. 1956-1960 — RAEME Training Centre.

Once discharged from the Army, Vince worked for the firm Instrument Engineering Pty Ltd, Woolloongabba from 1961-1965. He joined the Department of Supply installing and repairing motor vehicle instruments from May 1965-December 1966.

On the 5 December, 1966, he rejoined Northern Command Workshop as a public servant in the instrument section. He became a permanent officer on the 29 February, 1972, and was promoted to Inspecting Officer Grade 3 in the Government Gazette No 17 of 21 February, 1974.

Time has caught up with Vince for after another 19 years service in the Workshop he is about to retire again in September 1985. Vince has served the Army and the Corps well. We wish him all the best in the future on his retirement. However his past has caught up with him as he still has an outstanding L & D for a blanket lost whilst on his Artificer course in 1949. 'No retirement until the QM has his blanket, Vince.'

FROM A 17th APPRENTICE TO BORN-AGAIN CIVILIAN

BRIAN FLETCHER

Reflecting on the past "22 'odd' years" one realizes there have been many coloured experiences, and with mentors such as Frank McSherry, Cocky Crok, Roughie Fliener and Athol Bevis to mention a few, you then begin to marvel at the fact one is still around to tell the tale.

Transition from the EMEDATER CELL in the sky to one of

the many minions now on the receiving end of this wonderfully new ADP (how things change when you move on) system leads one to suggest to the previous editor (now in K.L.), that rather than being poached at the ripe age of 38, it was possibly a revitalization for the next "22 'odd' years" under such mentors as Vincent Bruce Kimber.

"NB"

It was noted that Uncle Max finally attempted to wheel his own 'chariot' with limited success so it appears the good SGT Ray Walker (DGEME CC) may have to take the reins once again.

FAREWELL TO THE CORPS

BOB LEGGO CAPT 1965-1985

As the RAEME CRAFTSMAN reaches all ears of the Corps, I would like to take advantage of its distribution to say farewell to all.

As I leave the Corps I will take with me many fond memories of those with whom I have served. I would like to thank all those members past and present who helped me throughout my career, and those who took time to look beyond the motive of some of my escapades and controlled their emotional urge to shoot me there and then.

My family and I have settled at Coraki, NSW, where I am assured that if I apply the principles of success learned during service I will eventually become the Mayor.

To all I wish the very best for the future and may your time in the Corps be both enjoyable and successful. Goodby and God Bless.

ARTICLE

IF YOU THOUGHT YOUR IDEAS WERE WORTHLESS . . .

A penny for your thoughts — well not quite — despite the rapidly declining value of our currency bright sparks can still manage to accrue some of those government greenbacks (minus tax of course) by coming up with new ideas for the Army Suggestion Scheme and if proof be needed two members of 1st Base Workshop Battalion have turned concepts into currency under the Army Suggestion Scheme.

The first beneficiary was the now retired SGT "Diesal" Des Kearton. Between organizing final med boards and resettlement seminars, Des kept his hand in by devising a method by which spare Leopard MBT road wheels could be fitted to the front of the tank instead of being held in the Armoured Echelon system. The adoption of this idea means that replacements for damaged wheels are readily available while the mounted wheel also provides protection from

suspect charge ammunition. For this innovation Des received \$200.

1 Base's second recipient was CPL Brett Cooper of EE Company. CPL 'Blooper' Cooper received \$290 for his work on a test box designed to test cable, radio and antenna. Although in service equipments are available to test the equipment under scrutiny namely the Antenna MX 6707/URC, Cable CX 4722/URC and voltage control switching of the Radio set RT 524/URC CPL Cooper's test box was found to carry out the required tests quicker and more accurately than conventional equipment.

So for all you boffins who ever had an idea, remember the Army Suggestion Scheme can mean money to you — if the taxman doesn't get there first.

ARTICLE FOR 1 MD JOTTINGS

Gun Restored

Just to prove that Major Balsillie hasn't cornered the market on the restoration of old field pieces — the apprentices of 1st Base Workshop Battalion recently hove to and restored a 75 mm Japanese mountain gun resurrected from its resting place outside Battle Wing at LWC. No historical background was available to explain how the gun ended up at Canungra or why it lay rusted and virtually ignored outside Battle Wing from 1960 onwards.

Many painstaking hours were devoted to returning the rusted and battle scarred old weapon to as near original condition as possible. The gun is now on display at the entrance to the OR's Mess at LWC.

MILAN FOR 1 BASE

MILAN is one of the newest additions to the Army's arsenal of modern weapons. The system was brought into service in 1984 and can be simply described as a semi automatic infra red sensitive wire guided missile with the capability of engaging targets at up to 2 km with a 98% hit probability.

1st Base Workshop Battalion is the designated field repair agency for the equipment and in order to meet training and repair responsibilities SGT Terry Kunde ex 2 Base ex Munich has been transplanted to our sunny clime to tend to MILAN's needs.

1 BASE WORKSHOP BATTALION ADVENTURE TRAINING

EX LINCOLN II 12-16 NOV 84

1. Exercise LINCOLN II was a unit adventure training exercise conducted in the Great Dividing Range to the North East and East of Warwick (Map Mt Superbus 9341-12 Ed 1).

2. The training objectives were navigation, living in the field and junior NCO development. This training unfolded as follows.

3. The road move from Bulimba to a clearing 7 km from objective 1 — RAAF Lincoln Bomber wreck on Mt Superbus. All adventurers were shocked to the core on debussing as their packs, already chock a block full of all those niceties, were required to now fit in 3 x 1 man ration packs, and divide amongst them 3 x AN/PRC 77 plus 9 batteries and 1 x PRC F1 plus 2 batteries and last but not least, 2 Field First-Aid kits.

So the intrepid set off for the bomber with an assurity no contact for three days. But Queensland's tropical evening storms took a look at the weary and the heavens opened up with an horrific storm, thus no photographs of the wreck itself. They weathered the storm on the coastal side of Mt Superbus, no mean feat in moving that far in such fine conditions.

4. Day two involved the move to Wilsons Peak topped by the sheer rock faces. That face of at least 100' (33 m) of sheer previously smooth rock was etched with the terrified, nail gauged autograph of CFN Darryl Harper who until his successful descent, had an avid fear of heights. The humour and the first aid training of LCPL Max Rose was tested to the limit in the removal of the QLD "PITA" tick from the fleshy extremities of CFN Alan Erlandsen. This painful experience was almost more than a man could "bare" but he managed to take it on the 'cheek' and everything went right 'in the end'.

5. Day three incorporated the final TREK, some 15km, from Mt Wilson to the Bogan Border Gate along that memorial to pests, the Rabbit Fence. The country traversed was as rugged as any that the range can offer. The expression of "wonder" at this muscle tearing country were many and varied and mostly unprintable. These expressions were soon changed when the travellers reached the Border Gate with the time honoured "Been there, done that, where's the yellow tinnies?"

6. The training now over it was evident to the safety party that these adventurers had achieved more than the required requisites. It's a thing that only people who are required to beat the elements, their own fears and test their substances have, its — "COMRADE OF THE GROUP".

GO NORTH YOUNG MAN

For all of those who ever dreamed of that elusive posting to Bulimba's salubrious climes — bear a thought for those of us who reach Utopia only to be hailed on, flooded out and subject to the whims of the Queensland power brokers in a word or two blacked out!

Between 5 and 6pm on Friday 18 Jan 85 Brisbane was hit by a massive hail storm causing untold damage to buildings, vehicles and environment. In a little under one hour nearly 2000 louvres and window panes were broken and innumerable flyscreens and doors were damaged. At the height of the storm the roof of one of the GE sheds was blown off and careered into the SGT's Mess Quarters — waking some of the inhabitants. Cricket ball sized hail stones mercilessly pummelled every new car in sight but the storm callously avoided CAPT Bob Leggo's 1942 Datsun, try as he might to put it in the way of nature's vicious tirade.

Among the many casualties of the storm were many of the areas of beautiful trees and shrubs. Those lucky few who remember the grand poinciana tree on the riverside of the SGT's Mess may be saddened to hear it underwent considerable suffering at the hands of Mother Nature; so much so that a tree doctor (a graduate of the Alan Searle branch of horticultural medicine) was called in, in a frail attempt to rejuvenate its flagging branches. After a considerable examination the prognosis was that if it doesn't die, it will live and the house call cost the PMC \$80.

When the rain subsided it was time for the gumbboot brigade from 1 Base, BWTU and 1 EME Svc Unit to get behind their brash brooms and clear away the debris. With repairs well in hand and a schedule of replanting and pruning underway it won't be long before my hammock will have a new crop of trees to call home.

3 BASE WORKSHOP BATTALION — JOTTINGS

Over the past 12-15 months 3 Base Wksp Bn has experienced many changes, hopefully for the best.

Changes within the production companies AE, GE and EIR will be expanded by the respective company members.

The main change has been with Apprentice Training. These changes will be expanded by WO2 Phil Peers who is currently the Training Warrant Officer at 3 Base Wksp Bn.

Headquarters

By 2LT T. Pearce

The main change in the Headquarters building was the Handover/Takeover of Commanding officers. LTCOL Berry, previously from RTC, succeeded LTCOL Reynolds who departed on 7 Dec 1984 for JSSC.

A number of personnel marched out from the Orderly Room. These personnel were LT Dontas, CPL Dennis Cock, CFN Trevor Arnett, Mrs Leanne Gibbs and Mr Glenn Patton.

New arrivals include the Civilian Administration Officer, May Read, Adjutant, 2LT Tania Pearce, Unit Pay Rep, Debra Bull and Librarian Carol Borg.

The Chief Clerk (SSGT Leigh Topp) who is retiring at the end of the year has been heard mumbling lately, '89 working days to go. But I'm not counting'. (Well the rest of the Orderly Room is). But on a more serious note we'd like to wish him the best for the future.

Apprentice Training

By WO2 P. Peers

There have been many changes to the Apprentice Training in 3 Base Wksp Bn in 1985. Over the previous years the 3rd and 4th year Apprentices received a combination of On the Job Training (OJT) and On the Job Experience (OJE) culminating in the completion of all Terminal Objectives at the end of the 4th year.

In 1985 the 3rd year Apprentices are receiving On the Job Training designed so that all terminal objectives are completed prior to the 4th year. The 4th year Apprentices receive On the Job Experience through Military and Civil detachments and by being employed at 3 Base Wksp Bn on production tasks.

3 Base Wksp has had difficulty in the past providing the range of equipments, vehicles and facilities necessary for the Apprentices to complete their training within the unit. Through a lot of organisation and hard work on the part of our Training Staff, training aids have been identified and obtained and are now located in the Apprentice Training Area. Eventually this area will consist of a Diesel Room, a range of CL Vehicles, Landrovers and trucks and additional MUAs, (some being sectionalized for instructional purposes).

In addition to the comprehensive trade training the majority of the Apprentices have received a full ECN 109 driving licence from 1/85 Basic Driving Course conducted at 3 Base Wksp Bn in Jan/Feb this year. This qualification and the training which they are now receiving at 3 Base Wksp Bn, we feel will better prepare the Apprentices for employment in Field Force Units over the next few years.

General Engineering Company

By LT G. Barwick

The General Engineering Company of 3 Base Wksp Bn is without doubt the most diversified company in the Battalion. Sections such as textiles, small engines, weapons and carpentry provide the base repair for items and articles not usually seen in smaller workshops. The machine, paint and panel beaters sections have continued to manufacture and repair equipment at a constant rate as well as providing valuable training to RAEME apprentices.

Apprentice training within GE Company has undergone a major transition in the last six months. Prior to 1985 apprentices carried out general engineering tasks on the various jobbing work that forms the basis of the work load of the different sections of the company. However, since January 1985 Apprentices have had to follow a programme of projects, each of varying difficulty, the drawings of which have been taken from various sources including text books and industry.

The final year Apprentices are detached to civil industry and military units in close proximity to 3 Base Wksp Bn, they include 21 Const Sqn, Melbourne Fire Brigade, Rowntree Hoadley and Godfrey engineering. At these firms or units the Apprentices are exposed to civilian engineering and gain experience and knowledge on small engines, maintenance fitting, hydraulics and welding.

The Company has been involved in a number of training activities over the last six months. These include a unit bivouac where infantry Minor Tactics was practiced and our craftsmen were given the opportunity to hone their individual soldierly skills. In 1985, the majority of the Company was involved in a month long Driver Training Course. The course qualified all the apprentices, with one or two exceptions, as ECN 109 drivers. Apart from gaining a valuable driving qualification the soldiers on the course saw quite a deal of North and Eastern Victoria.

Experience is also being gained by the Company on a wide range of army equipments. The most notable entry to the workshop floor has been the M198 Howitzer. Since January a number of these 'big guns' have filtered through the workshop and given valuable experience to Company personnel.

Since the start of the year the Company has lost CPL David Lodge to Hobart Wksp Coy, the Company ASM WO2 Allan Thompson is moving on to 211 Sup Coy in Penrith NSW and SSGT Bill Amor will shortly be leaving for 1 Watercraft Workshop at Woolwich NSW.

The Company has welcomed a number of soldiers since

January 1985. CPL Des Crux joined us from Hobart Wksp Coy and SSGT Lancaster is to arrive shortly. Five third year fitter/turner apprentices have joined the Company from the Army Apprentices School Bonegilla and they will complete their training here at 3 Base Wskp Bn.

GE Company welcomes our new arrivals and wishes the best for those members leaving for other units.

AUTOMOTIVE ENGINEERING COMPANY

By WO2 J. Manderson

In 1984 we saw only slight changes in lifestyles and production within AE Coy. Increases in workload were noticeable in two major areas, these being B Vehicles repairs and engine reconditioning.

Following the closure of the 5 Ton GS Vehicle Rebuild Line in 1983, workloads have steadily increased in both our B Vehicle repair sections, particularly with the introduction of the MACK 8 Tonne Series of vehicles and the occasional UNIMOG for repair and/or modification.

Engine reconditioning Section received welcome news when it was announced that this workshop was to be the sole agent for repair of IHC Major unit assemblies. Accordingly, the demands on the section were increased considerably with a requirement to overhaul 150 engines per year.

On the social scene, we saw the implementation of the Company BBQ on (or as near as possible to) a monthly basis which enabled us to mix socially as a company. These proved highly successful and are to continue in 1985.

Apprentice Training Programmes continued successfully throughout the training year, including more and varied civil detachments for 4th year Apprentices. Examples were Melbourne Metropolitan Fire Brigade Workshop, Transdiesel Pty Ltd, (specialising in Diesel and heavy transmission repairs) and Beaufort Tyre Service. The range of civil detachments will increase during 1985 following successful negotiations between the unit training element and various civilian companies.

Several changes have occurred in military staff at the upper levels within the company in the last 12-15 months. CAPT Chris Wrangle became company OC early in 1984 and was succeeded by 2LT David Stevens and finally by 2LT Michael Hall. In June 84 WO2 Gary Beven was replaced as ASM by WO2 John Manderson.

On a sadder note, the company mourned the loss of a former workmate in late 1984. Mr Nick Piacentini passed away following an illness and will be sadly missed, particularly by those in the engine reconditioning section.

Electrical Instrument and Radio Company (EIR Coy)

By 2LT D.R. Stevens

Electrical Instrument and Radio Company (EIR Coy) started the new year with a new Officer Commanding (OC) and a new group of Apprentices. These Apprentices were not allocated to the Company until the beginning of March, they received indoctrination training and then attended 3 Base 1/85 Driver Training Course.

The Driver Course gave the Apprentices and other members of the Coy (including the OC) a chance to gain an ECN 109 licence and at the same time the opportunity to see a lot of the North and North East of Victoria. Most of the students from EIR Coy gained their ECN 109.

The Driver Course completed, the apprentices were able to return to a Coy with a new name (EIR Coy as opposed to EE Coy) and to a new format of Apprentice Training.

The new format of training was introduced towards the end of last year for commencement this year. It involves 3rd year Apprentices gaining their terminal objectives at the end of the 3rd year. The Apprentices are now under control of the Major Administration, who is also the Apprentice Master. They are directly supervised by the Senior NCO supervisor in each section.

Training areas have been set up with a variety of equipments. Training aids are still being sought to improve these facilities. The electrical fitters, in particular, now have the facilities to practice fault finding in B Vehicle electrical systems, domestic appliances and portable tools within these training areas.

Another aspect of training introduced by the Coy is formal lessons on trade theory for members not yet qualified for Subject 4. These lessons are held once a fortnight and cover all trade streams within the Company and include a significant amount of mathematics.

Our Civilians have not been forgotten and it is planned to include them in the training programme. This will offer the tradesman a greater diversity of work etc.

With the influx of new Apprentices there also seems to be a greater degree of involvement in sport. Many members of EIR Coy are involved with unit or area sporting teams, Tug of War, Australian Rules and Rifle Shooting to name a few. Fitness is also at a good standard and in the last PTT, CFN Masterman achieved 300 pts once again.

The first three months of the year have past very quickly but at this stage the Coy seems to be settling in well. Morale is good and the co-operation from all is excellent. We look forward with anticipation to a good year.

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7 MD JOTTINGS

By "The Top End Bluebells"

Please accept apologies from all 'Bluebells' for not being heard from for some time. However, those few that look after 33% of Australia would like to give a roll call to those who thought we were no more.

The new CO Wksp PI, CAPT R.L. Grant (DRAC) succeeds CAPT (now MAJ) T.J. Taylor (SQUIZZY) and the boys up North take this opportunity to congratulate Squizzy on his promotion and welcome the new blood. The ASM WO2 Dudley Campbell is enjoying the northern life so much as a married man, he is about to become a daddy again.

SGT Peter Egan, as TRO, is one of the three Egans in the shop and notched up his 19 years last Xmas.

It's good to have CFN Mark Woods back with us after his holiday, and local boy LCPL Ian Jones-Pfutzner is still with us.

CPL 'Shorty' Blacker is imparting his knowledge to F.J. Ford and Danny Egan on the floor and Storeman CPL "Pinky" Pinkerton has just joined the merry crew from Brisbane. CFN Mick Efford is our tow-truck driver — but for how long, we are not sure.

Well that almost wraps up our band of jolly green men and just in case someone down in the cold country thinks we have nought to do, imagine if you will, a battalion strength in weapons, spread on a Tri-Service level over Northern WA

and the NT and one CPL FIT-ARMT to look after the lot — not to mention run GE in the workshop. On top of this — he just married — congrats to CPL Billy Myers.

If this fails to stimulate the mind, imagine one CPL ELEC-FITTER, who, apart from looking after auto-elec in the workshop, is the only refrig trained dude in the MD — and did I forget the Tri-Service responsibility for all med, and dent — can also fix typewriters and just in case he is bored or out of work, is President of the ORs Club. On top of all this, CPL (TOJO) Formato is about to join the ranks of the blissfully married — brave man!!

We could continue, but it is time to go fishing — so eat your hearts out — and don't call us, we will call you.

P.S. to Editor: We miss your fishing expertise — CPL Lloyd Edie!

EDITOR'S NOTE: The PS is no doubt directed to the previous editor. The Top Ends loss is Malaysia's gain. I am not a fisherman as CAPT Barry Woodberry (Canungra Wksp PI) and WO2 John Barry (MEA) would attest. They both made valiant but ultimately unsuccessful attempts to improve my fishing skills during K81. CAPT Woodberry was then the ASM, and WO2 Barry the Veh PI SGT at 101 Fd Wksp. If I remember correctly even the cook SGT John Saxby, now retired, refused to cook the fish I did eventually catch claiming that it had 'gone off' in the fridge.

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MAJOR H.C. COLE

Major H.C. Cole (Harry) was born in Sydney on 15 November, 1935.

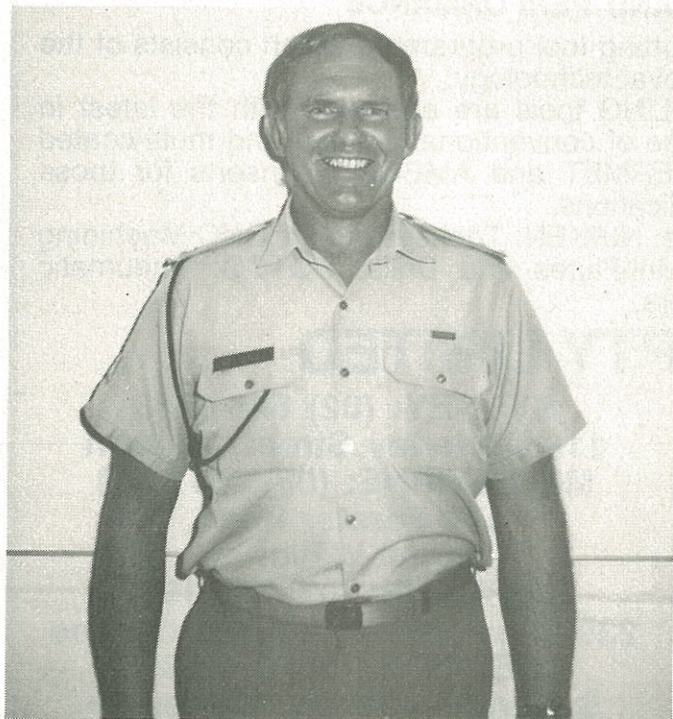
He enlisted in the Army during the reign of King George VI as a 7th intake Army Apprentice on 25 January 1952 and on the completion of his 3 years training was posted to 2 Base Wksp as a Craftsman vehicle mechanic.

Subsequent postings as a soldier tradesman were:

Singleton Area Wksp;	CFN Vehicle Mechanic;
RMC Wksp;	CFN Vehicle Mechanic
7 Indep Fd Sqn RAE;	LCPL Plant Mechanic/operator;
22 Const Sqn RAE;	LCPL Plant Mechanic/operator;
1 Indep Airfield Const Tp;	LCPL Plant Mechanic/operator;
1 Coy RAASC LAD;	CPL Vehicle Mechanic;
4RAR;	CPL LAD Commander;
2RAR;	CPL LAD Commander;
1 RTB;	Service Stn Supervisor;
101 Inf Wksp;	Sect Commander.

He left the ARA after completion of 9 years service and joined the CMF as an Officer Cadet in the newly formed OTG (later OTU then OCTU) and was commissioned in the RA Inf as a LT after completing the 18 month course. He was shortly after Corps transferred to RAEME and posted to 103 Inf Wksp as PI Comd, HQ 2 Div LAD as OC. He was then placed on CMF FTD and posted to 10 Cadet Bn as QM, 7 Cadet Bn as QM, HQ 2 Cadet Bde as Trg Offr and then to 101 Fd Wksp as QM.

He was appointed a Direct Entry Officer in RAEME in 1971 as Captain and remained at 101 Fd Wksp as QM, Adjt and later Admin Comd. Subsequent postings included OC 1 Coy RAASC Wksp, QM 2 AQAU, OC 2 AQAU Det SAF Lithgow,



Major H.C. Cole

PSO Eng Dev Estab, OC Trials and Proving Wing Monegeeta, SO2 Pers/Trg, SO2 Admin and SO2 Tech Spt within the 6 years posted at HQ 2 EME Gp. He was then posted as OC DSU Randwick from where he retired in Dec 1984.

Besides serving in normal ARA units he has served with the ARES, School Cadets, Defence Science and Technology and the Dept of Productivity. In a period of almost 33 years service he has had 24 service postings.

He was in the inaugural parade of the Independent Infantry Brigade in 1956 and in its disbandment some years later with the formation of the Pentropic Division.

Besides his technical qualifications he is qualified as an army paratrooper, air despatcher, projectionist and plant operator.

Harry intends to settle in the eastern suburbs of the Sydney area. We wish him all the very best on his retirement and hope he will keep in touch.

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RETIREMENTS AND RESIGNATIONS

Number	Rank	Name	Discharge Date	Last Unit
243308	MAJ	M.T. Farrar	30 Aug 84	HQ FF Comd
61263	MAJ	T.E. Harding	10 Sep 84	RAEME Trg Centre
212617	CAPT	D.A. Bonham	13 Oct 84	2 Base Wksp Bn
311472	T/MAJ	K. Scutt	16 Oct 84	CARO
F45434	CAPT	S.A. Heinrich	19 Oct 84	OCGS (AO)
37621	CAPT	G.J. Vander	21 Oct 84	DSU Watsonia
342726	LTCOL	D.L. Miller	31 Oct 84	RAEME Trg Centre
242642	CAPT	D.J. Henrys	19 Oct 84	P & EE Port Wakefield
214119	CAPT	J.E. Lehn	25 Nov 84	Sydney Wksp Coy
1204980	CAPT	G.R.H. Ashmore	14 Dec 84	OCS Portsea
256962	MAJ	H.C. Cole	31 Dec 84	DSU Randwick
58748	LTCOL	J.W. Pronk	6 Jan 85	DGEME
216153	MAJ	J.W. Finn	14 Jan 85	DEMPS Mat Br (AO)
321685	LT*	K.W. Paul	13 Jan 85	2 Cav Regt (Corps T'fer)
552447	LT*	A.J. Hatton	21 Jan 85	3 Base Wksp Bn (Corps T'fer)
17134	LTCOL	R.J. Bower	7 Feb 85	2 Base Wksp Bn
242574	MAJ	S.H. Cheeseman	28 Feb 85	1 Watercraft Wksp
64291	CAPT	G. McCormack	4 Feb 85	4 Base Wksp Bn
342737	CAPT	P. Flynn	3 Feb 85	MEA
18702	MAJ	P.H. Ford	12 Feb 85	5 Base Wksp Bn
55091	MAJ	C.G. Dutton	22 Mar 85	HG Log Cmd
243165	MAJ	E.J. Homer	14 Mar 85	1 Cadet Group
243162	CAPT	J.W. Frost	10 Mar 85	1 Base Wksp Bn
2191396	T/CAPT	G.J. Snowdon	3 Mar 85	131 Div Loc Bty
240175	BRIG	J.E. Faulks, AM	24 Mar 85	DGEME
243164	MAJ	M.E. Henrys	8 Apr 85	DGEME Log Br (AO)
340180	COL	P.M. Robinson	26 Apr 85	MEA
18752	LTCOL	R.L.G. Grant	8 May 85	MEA
58813	LTCOL	W. Rotow	13 May 85	HQ Log Comd
54999	MAJ	B.W. Thompson	26 Jun 85	MEA
46306	CAPT	E.C. Honner	1 Jul 85	2 Base Wksp Bn
337713	COL	M.B. Tinkler	21 Jul 85	DGEME
31224	MAJ	A.J. Balsillie	22 Jul 85	Pucka Wksp Coy
242832	LTCOL	J.M. Bensley	15 Jul 85	HQ 3 MD
1200676	CAPT	R.A. Leggo	2 Oct 85	1 Base Wksp Bn

No	Rank	Name	Yrs of Service	Last Unit	Month of Discharge
16166	WO2	Anthony Bulcock	23 yrs	HQ Log Cmd	June 84
18226	SGT	John A. Humby	21 yrs	5 Base Wksp Bn	June 84
342946	WO1	Robert J. Bryant	20 yrs	21 Sup Bn	Jul 84
43557	WO1	Brian A. Langridge	20 yrs	RAEME Trg Centre	Jul 84
18811	WO1	John E. McAdam	21 yrs	Sydney Wksp Coy	Jul 84
17733	SSGT	H.W. Mansfield	21 yrs	22 Const Sqn Wksp	Jul 84
54955	WO1	Robert J. Ovens	21 yrs	HQ Log Comd	Jul 84
48675	WO2	John A. Owens	20 yrs	Army App School	Jul 84
342873	WO2	Stephen J. Wood	23 yrs	2/4 RAR	Jul 84
16933	WO1	John T. Dumble	22 yrs	MEA	Aug 84
251879	CPL	William C. Jones	20 yrs	NQ Wksp Coy	Aug 84
4410769	WO2	Rodney E. Adams	20 yrs	RAEME Trg Centre	Sep 84
38505	SGT	Robert W. Court	20 yrs	3/4 Cav Regt (Bne)	Sep 84
38367	WO2	Ian M. Deegan	20 yrs	3 ARU	Sep 84
38349	CFN	P.B. Henderson	20 yrs	Perth Wksp Coy	Sep 84

No	Rank	Name	Yrs of Service	Last Unit	Month of Discharge
19956	SGT	Desmond J. Kearton	21 yrs	1 Base Wksp Bn	Sep 84
54369	WO1	Robert W. Wallis	23 yrs	Perth Wksp Coy	Sep 84
18801	WO2	Darryl J. Graney	21 yrs	1 Watercraft Wksp	Oct 84
18884	WO1	K.D. Phillip	20 yrs	Melb Wksp Coy	Oct 84
44145	WO1	Ian W. Rowe	18 yrs	2 Base Wksp Bn	Oct 84
43673	WO1	Marinus Stolk	20 yrs	22 Const Sqn Wksp	Oct 84
36729	SGT	Christopher J. McNeil	25 yrs	Adel Wksp Coy	Nov 84
38302	WO1	G.A. Fisher	20 yrs	MEA	Dec 84
1410983	WO2	B.L. Harrison	20 yrs	MEA	Dec 84
215546	SSGT	Daniel J. Murphy	21 yrs	106 Fd Wksp	Dec 84
219958	WO1	James R. Thompson	15 yrs	HQ 2 MD	Dec 84
243371	SSGT	Anthony T. Baldwin	21 yrs	Perth Wksp Coy	Jan 85
48623	WO1	John W. Blackwell	23 yrs	1 Armed Regt	Jan 85
1203124	SGT	B.D. Bosworth	15 yrs	21 Sup Bn	Jan 85
64372	WO1	Arthur D. Butters	20 yrs	PSD — Malaysia	Jan 85
58786	WO1	William G. Carpenter	22 yrs	5 Base Wksp Bn	Jan 85
58850	WO1	Roger A.J. Davey	20 yrs	RAEME Trg Centre	Jan 85
243378	WO1	Malcolm C. Davidson	21 yrs	Sydney Wksp Coy	Jan 85
18891	SGT	Peter C. Edmonds	21 yrs	HQ Log Cmd	Jan 85
342815	WO1	Gerald J.P. Fleming	27 yrs	2 Base Wksp Bn	Jan 85
18867	WO2	Robert F. Gablonski	21 yrs	HQ 1 MD	Jan 85
342981	WO2	Rodney M. Girvan	20 yrs	NQ Wksp Coy	Jan 85
242925	WO1	Dale "Gabby" W. Hayes	30 yrs	DGEME	Jan 85
243386	WO2	Warren J. Heapy	21 yrs	HQ 3 MD	Jan 85
243387	WO2	James V. Henderson	21 yrs	2 Base Wksp Bn	Jan 85
342984	SGT	L.F. Howlett	20 yrs	2 Fd Sup Bn	Jan 85
48697	SGT	Keven J. Kenefick	20 yrs	5 Base Wksp Bn	Jan 85
48693	WO2	Leeland J. Kwaterski	20 yrs	MEA	Jan 85
243456	WO2	Bruce P. Mascord	20 yrs	MEA Canberra Elm	Jan 85
243397	WO1	Paul Morris	21 yrs	RAEME Trg Centre	Jan 85
48687	WO1	Ronald A. Moon	20 yrs	MEA	Jan 85
48665	WO1	Richard W. Noble	21 yrs	MEA	Jan 85
55017	SGT	Barry N. Ridley	20 yrs	HQ 3 MD	Jan 85
243424	SSGT	Michael G. Seddon	20 yrs	HQ 1 Bde	Jan 85
48648	WO1	Philip Watson	22 yrs	MEA	Jan 85
38481	WO1	Trevor E. Birch	20 yrs	1 Base Wksp Bn	Feb 85
43790	WO1	"Chuck" (R.F.) Fellenberg	20 yrs	5 Base Wksp Bn	Feb 85
18808	SGT	Bruno A. Kwas	20 yrs	162 Recce Sqn	Feb 85
342975	SSGT	Raymond J. Lewis	20 yrs	HQ 6 Bde	Feb 85
216215	SGT	W.F. Marshall	20 yrs	HQ 2 MD	Feb 85
342529	WO1	George W. Major	35 yrs	HQ Log Cmd	Feb 85
18902	WO2	Neil Zander	20 yrs	HQ 2 MD	Feb 85
43779	SGT	Philip H. Adams	20 yrs	OCGS Canberra	Feb 85
5411483	CPL	Gary McDermott	20 yrs	5 Base Wksp Bn	Feb 85
42878	WO1	John Kennedy	23 yrs	Adel Wksp Coy	Feb 85
342968	SSGT	Anthony W. Carthy	20 yrs	ACT Wksp	Mar 85
342950	WO1	R.K. Costoloe	21 yrs	MEA	Mar 85
48690	WO1	Dennis G. Edwards	20 yrs	MEA	Mar 85
5411510	SGT	Brian C. Forlonge	20 yrs	26 Tpt Sqn	Mar 85
18947	WO2	R.W. Gordon	20 yrs	HQ 1 MD	Mar 85
18870	WO1	Jan P. Hartshorn	21 yrs	HQ 1 MD	Mar 85
4140715	WO2	Donald R. Lampre	21 yrs	AAS	Mar 85
5411513	WO2	Adrian J.T. Lewis	17 yrs	21 Sup Bn	Mar 85
1411027	WO2	F.G. Moody	20 yrs	2 Base Wksp Bn	Mar 85
215694	SGT	Michael G. Seymour	21 yrs	1 Base Wksp Bn	Mar 85
216122	WO2	Dennis G. Smith	21 yrs	41 Sup Bn	Mar 85

VALE

The death of the following members of the Corps has been reported:

323669 CFN D. J. Wood, Puckapunyal Wkshp Coy Died 22 Sept. 84.

182485 CFN J. D. Schluter, 5 Base Wkshp Bn Died 21 Mar. 85.

321967 CFN C. S. Berryman, Melbourne Wksp Coy Died 22 Mar. 85.

NEW OFFICERS IN RAEME

Number	Rank	Name	Previous Unit	New Unit
453725	LT	M. A. Staude	OCS Graduate	16 AD Regt Wksp
324075	2LT	C. J. A. Atkins	OCS Graduate	RAEME Trg Centre
453724	2LT	D. A. Biglands	OCS Graduate	HQ Log Comd
554040	2LT	M. J. Billingham	OCS Graduate	106 Fd Wksp
325838	2LT	G. L. Keppel	OCS Graduate	NQ Wksp Coy
230895	2LT	D. J. Moylon	OCS Graduate	101 Fd Wksp
611427	2LT	R. G. Parker	OCS Graduate	1 Base (now QIT)
321575	2LT	G. J. Spierings	OCS Graduate	4 Base (now Sydney Tech)
325913	2LT	D. R. Stevens	OCS Graduate	3 Base Wksp Bn
5100421	LT	S. A. Mobbs	Direct Entry	Uni of WA
220844	CAPT	N. F. Dugley	Direct Entry	5 Base Wksp Bn
229747	LT	S. G. Abrahams	RMC Graduate	RMC (Undergrad)
181293	LT	P. J. M. Hyslop	RMC Graduate	RMC (Undergrad)
229757	LT	G. Keys	RMC Graduate	RMC (Undergrad)
229741	LT	A. K. Moore	RMC Graduate	RMC (Undergrad)
4401323	LT	N. T. Reynolds	RMC Graduate	RMC (Undergrad)
181277	LT	D. A. Creagh	RMC Graduate	2 Base Wksp Bn
553481	LT	W. S. Wood	RMC Graduate	2 Base Wksp Bn
4401303	LT	M. J. Ward	RMC Graduate	4 Base Wksp Bn
F522043	2LT	C. L. Borshoff	WRAAC OCS	2 Base Wksp Bn
F425485	2LT	T. M. Duffield	WRAAC OCS	5 Base Wksp Bn
F230979	2LT	T. M. Pearce	WRAAC OCS	3 Base Wksp Bn
227559	2LT	M. W. Craig	OCS Graduate	Perth Wksp Coy
411800	2LT	M. S. Culley	OCS Graduate	1 Base Wksp Bn
232209	2LT	G. J. Fittler	OCS Graduate	1 Base Wksp Bn
453782	2LT	M. F. Hall	OCS Graduate	3 Base Wksp Bn
228488	2LT	S. B. Mitchell	OCS Graduate	1 Base Wksp Bn
326034	2LT	P. C. Molloy	OCS Graduate	MEA
317910	2LT	M. R. Norrie	OCS Graduate	Pucka Wksp Coy
243406	CAPT	I. Thomas	PSO	1 EME Svc Unit
313880	CAPT	A. R. Turl	PSO	5 Base Wksp Bn
38799	CAPT	B. R. Vearing	PSO	Pucka Wksp Coy
58782	CAPT	J. D. Wild	PSO	21 Sup Bn
43297	CAPT	I. Taylor	PSO	P&EE Port Wakefield
F326699	LT	K. Bibby	Direct Entry	Ballarat CAE
182944	LT	G. J. Croghan	Direct Entry	James Cook Uni

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Peter Brewer, Daily Mirror.

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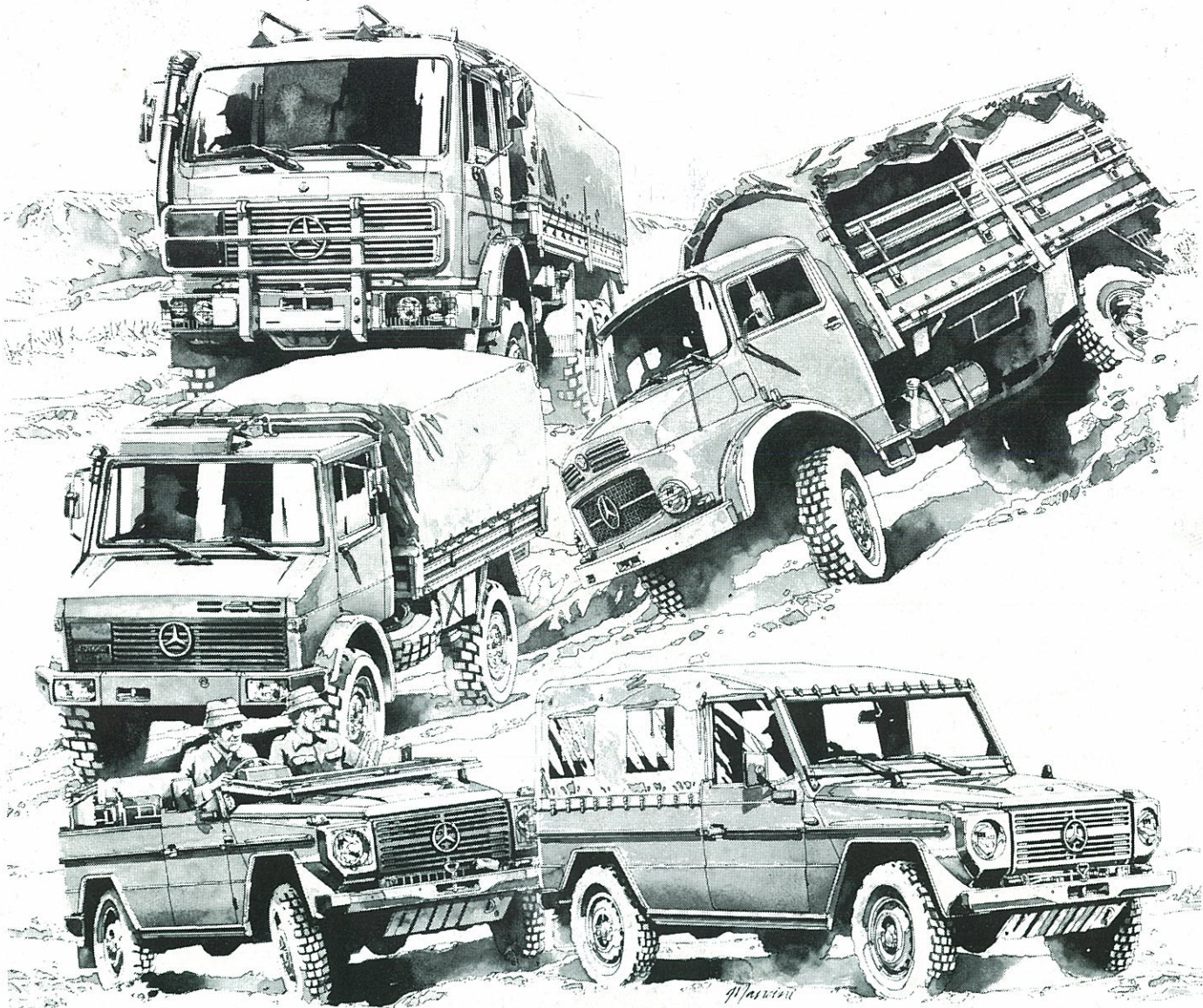
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