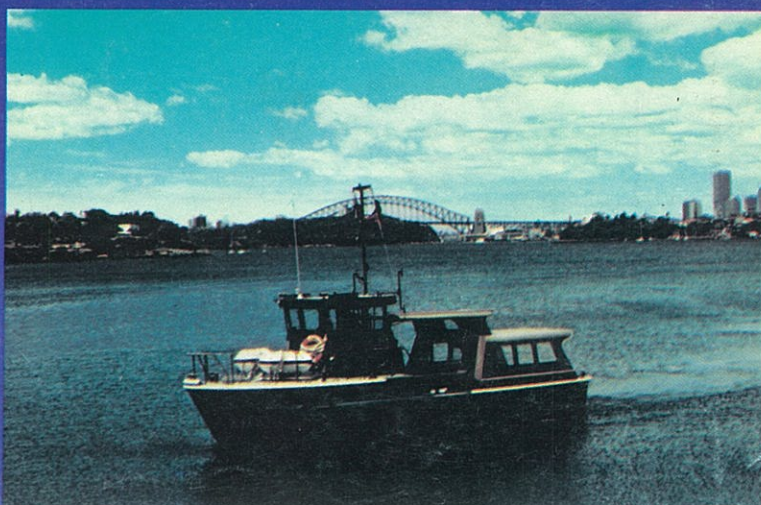
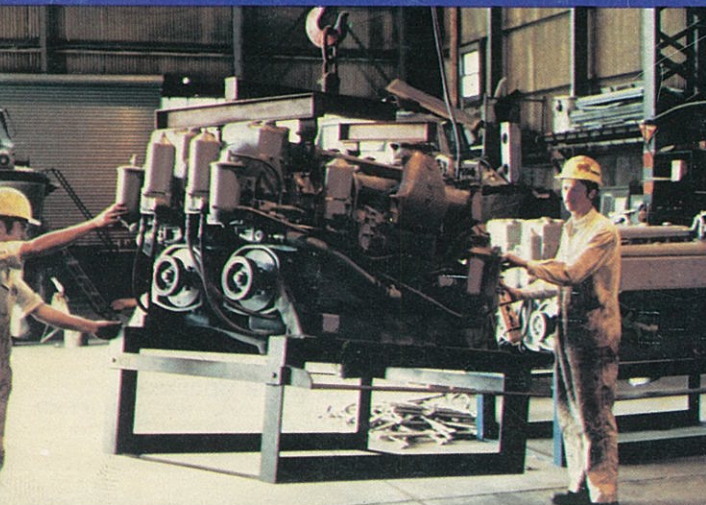
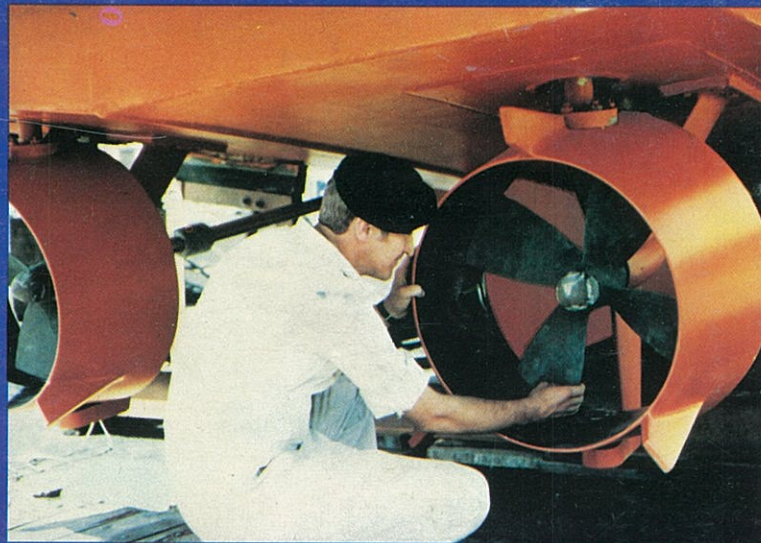
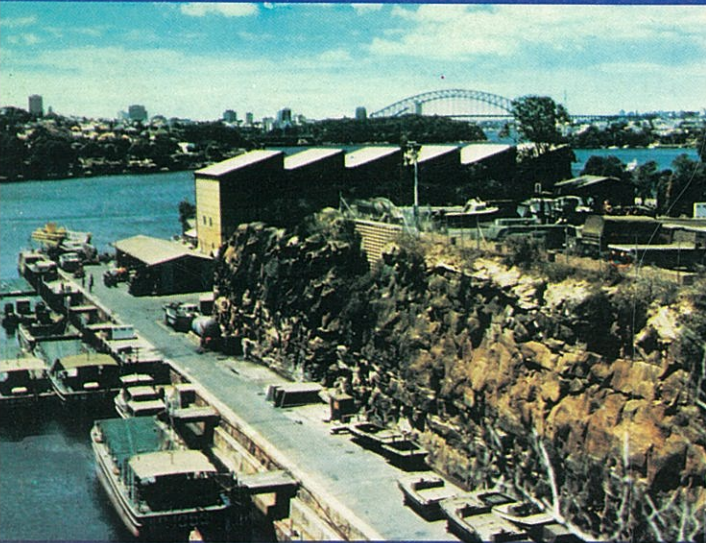
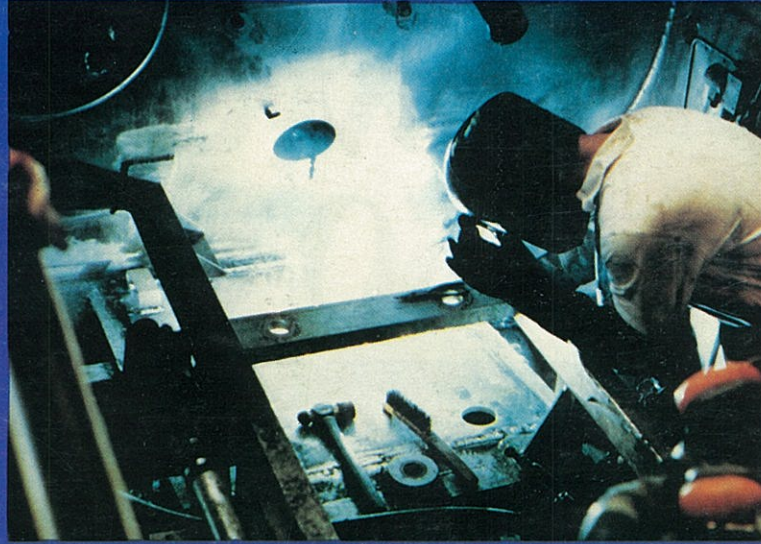
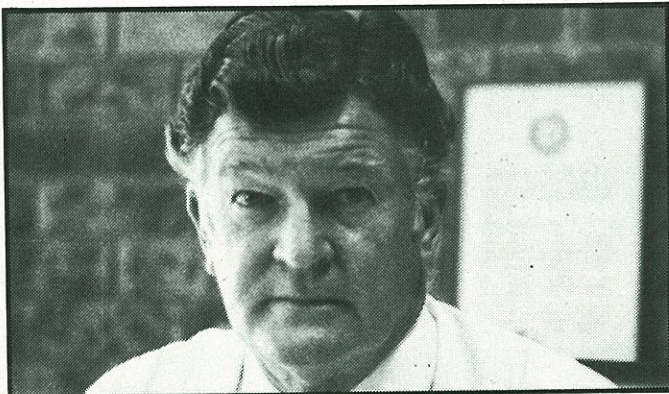


THE RAEME CRAFTSMAN

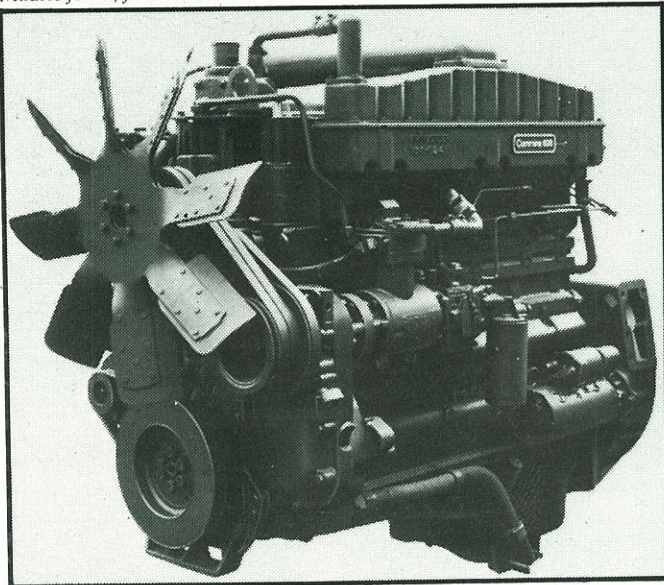
VOL.1. NO.8. JUNE 1982



“Whatever trucks we buy will be powered by the 350 Cummins.”



Maurie Jones, Jones Bros. Carriers.



FORMULA 350
350 h.p. (261 kW.) @ 1900 r.p.m.
1120 lbs. ft. (1518 Nm.) @ 1300 r.p.m.
NTC-350
350 h.p. (261 kW.) @ 2100 r.p.m.
1120 lbs. ft. (1518 Nm.) @ 1300 r.p.m.

The words of a man whose business is big, heavy, problem loads.

Currently running Cummins engines in all 38 prime movers, he's about to invest in more.

“Performance, reliability and fuel economy are the criteria.

In our operation these engines are doing three times the work they'd do on line-haul, so we're more likely to get problems. But they've been terrific.

We're about to buy more trucks, and whatever they are I can tell you now—they'll have a Cummins 350 under the bonnet.”



**Cummins
Diesel
Australia**

First choice of professional truck operators.

FCB/SPASM 38/CMD

THE RAEME CRAFTSMAN

THE MAGAZINE OF THE ROYAL AUSTRALIAN ELECTRICAL AND MECHANICAL ENGINEERS



VOL. 1 NO. 8

JUNE 1982

EDITORIAL BOARD

EDITOR: Lt Col M.J.P. Caldwell
SECRETARY: Maj. D.R. Cossart
MEMBERS:
Maj. G.J. Hawker
Maj. L. Gostelow
Capt. S.A. Heinrich
WO1 L.A. Wiseman
SSgt M.T. Gerhard

EDITORIAL

In the present climate of financial restraint, increasing demands, and limited resources, it is as well to consider the fact that "The RAEME Craftsman" is free.

Well, maybe it isn't really free. It does cost us something. The efforts of the respective authors and the Editorial Committee and the responsibility that you, the members and ex-members of our Corps, have to ensure the magazine is well supported.

Our Corps currently has nearly 4,200 ARA and ARES personnel who are located in about 140 units. This is Issue No 8, and by now there is a list of old faithfuls who contribute to the magazine regularly. What of the "silent majority"? We wish to hear from new contributors as well as old. Recently several magazines from other Corps were forced to amalgamate through lack of support for each magazine. Don't let that happen to us.

On another note, perusal of the contents pages of past issues of the Craftsman indicates that we are publishing many items of our Corps' history and of current activities of members. What appears to be missing are articles on the operations, tactical and technical deployment of workshops, repair techniques and criticism or praise of current and proposed systems or topical issues. Subjects that come to mind are: "Is Recovery a Lost Art", "Should EIS be under Field Force Command Control", "Amalgamate EDE, MEA, SDC and Materiel Branch to form a Technical Services Branch". "Do we need an Instrument Fitter for Electro-Optical Repairs". These and many other questions have many answers that will do much to stimulate discussion in our Corps. With a distribution of 5,000 copies of the Craftsman, your articles are assured wide circulation and comment.

Remember, 'the pen is mightier than the sword' and you may accomplish more with an article in 'The RAEME Craftsman' than belabouring a clutch of Colonels with a torque wrench.

Contents

Editorial	1
Articles For The Craftsman	3
Letters to the Editor	5
A Reflection On Service	9
Boots and All	13
Trade Testing — The Riddle Explained	15
Raeme Training Centre — Adventure Training 1981	17
RTC Jottings	19
You Said It	21
1MD Jottings	22
An ODF Workshop — What Is It?	25
Lean & Mean or was that "Fat and Fierce"	27
Has Anybody Seen 131	29
A Crafty Scorpion Abroad	29
2MD Jottings	30
The Fighting 101st	31
1940-45 "A Day In The Life Of An "Artificer" AAOC Raeme	35
3MD Jottings	37
Tech. Spt. Coy. 31st Supply Bn.	42
4MD Jottings	46
6MD Jottings	51
7MD Jottings	51
RAEME Association (NSW)	51
First Home?	53
Obituaries	55
A Defence Strategy For Australia	57

ARTWORK: Julie Ditel, Kay Bristow, Diana Johns

PRINTED BY: Waterwheel Press, Shepparton.



Published by:
MAGAZINE ART PTY LTD
Magazine Representatives & Publishers

35 Willis Street,
Hampton, Victoria, 3188
Telephone: (03) 598 9555

2nd Floor, N.R.M.A. Building,
17 Newland Street,
Bondi Junction, N.S.W. 2022
Telephone: (02) 387 1957

3rd Floor, Fashion Valley,
Fortitude Valley,
Queensland, 4006
Telephone: (07) 52 7967

Picadilly Suites,
80 Hay Street, Subiaco, W.A.
Telephone: (09) 325 1631

The attention of advertisers is drawn to the Trade Practices Act 1974 and the provisions in the Act which apply to advertising. It is not possible for the Corps of Royal Australian Electrical and Mechanical Engineers to ensure that advertisements which are published in this magazine comply in all respects with the Act and the responsibility must therefore be on the person, company or advertising agency submitting the advertisement for publication. Magazine Art Pty. Ltd. and the Corps of Royal Australian Electrical and Mechanical Engineers reserve the right to refuse any advertisement without stating the reason.



Hawker Pacific Pty. Ltd.

MILITARY SPARES DIVISION

SYDNEY: J.W. WATSON (02) 708 8546

AIRCRAFT AND HELICOPTER
F18
DH CARIBOU
DH BUFFALO
FALCON 20 AND 50
GRUMMAN
WESTLAND HELICOPTERS

ENGINES TURBINE AND
RECIPROCATING
D.D. ALLISON
AVCO-LYCOMING
PRATT AND WHITNEY
CURTIS-WRIGHT
CONTINENTAL

Hawker Pacific Pty. Ltd.
P.O. Box 172,
Yagoona, NSW, 2199
Australia.
4 Harley Crescent,
Bankstown, NSW, 2200
Australia.
Telephone: (02) 708 8555
A Hawker Siddeley Company

ACCESSORIES AND SPARES

WORLD WIDE PURCHASING ORGANIZATION

AUSTRALIA

Sydney
Melbourne
Brisbane
Canberra
Adelaide
Perth

ASIA

Hong Kong

Sales Office

Technical Representatives

Spare Store

Singapore
Manila
Kuala Lumpur
Bangkok
Jakarta
South Korea
U.S.A.
Los Angeles

SYNONOMOUS WITH SUPPORT FOR THE DEFENCE FORCES IN AUSTRALASIA AND THE SOUTH PACIFIC

Film of the Future

The Incomparable ILFORD XPI1





footwear for
all the family
Mens
business and
casual shoes

Ladies
high fashion
and casual
shoes

Kids
fashion and
school shoes
Sporting and
slippers for
all the family

*Call into your nearest
Ezywalkin Store and
check our prices*

EZYWALKIN SHOES
**510 GEORGE STREET,
SYDNEY, N.S.W. 2000**

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

COVERS

Any photographs to be used as cover pics **MUST** be colour slides, with, if possible, a print of the slide to see how it looks.

CONTENT

– Any matter of relevance to the Corps of RAEME or the Army of an historical, current or future topic. The Editor reserves the right to determine what is relevant.

STYLE

– the prime rule is to avoid staff duties styles of writing as these articles generally have to be rewritten. Try and write as though you were chatting to a drowsy friend whom you were trying to keep awake by keeping your conversation interesting. Articles should be written in the third person and previous copies of "The RAEME Craftsman" and other magazines will give good examples of the style of writing required.

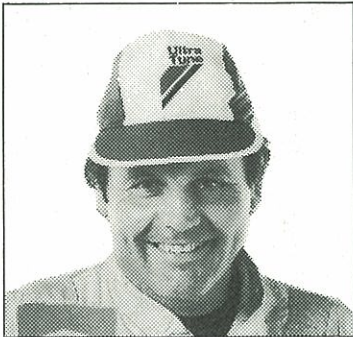
SUBMISSION

– Articles should be submitted to:
The RAEME Craftsman,
DGEME, J4-13,
Russell Offices,
Canberra, ACT, 2600

Closing dates for submissions is 1 September for the Christmas issue and 1 March for the mid year edition.

**“Get smoother running,
improved fuel economy,
with a fixed price
Ultra Tune.”**

Alan Jones, 1960 World
Motor Racing Champion.



Just \$47⁵⁰ guaranteed

Price includes dynamometer diagnosis by experts, new plugs, points, labour and up to 8 other needed replacements, regardless of engine size. Plus a 6 months or 10,000 kilometres national guarantee.

CAMPBELLTOWN: 64-66 Queen Street.
Ph: (046) 26 7291

Ultra Tune

WAR MEDALS & DECORATIONS

BOUGHT & SOLD

**HIGHEST CASH PRICES
PAID**

ALL PURCHASES IN CONFIDENCE

WE ALSO STOCK

ARMY BADGES — BOOKS —
CLD TOYS — POSTCARDS —
CIGARETTE CARDS

Phone, write or call for catalogue

**YE OLDE
CURIOSITY SHOP**

275 Ramsay St., Haberfield,
NSW, 2045

Tel: (02) 798 0201



Kindly sponsored by . . .

WATKINS

WE SPECIALISE IN:

- ★ BUILDING CONSTRUCTION
- ★ PROJECT MANAGEMENT
- ★ DEVELOPMENT
- ★ PROPERTY OWNERSHIP
- ★ PROPERTY MANAGEMENT

**TELEPHONE:
(07) 229 1777
or (07) 44 0291**

BE GROOVY!!!

**BUY YOUR MOD GEAR AT —
THE CITY TAILOR,
JEANERY & SWANKY LADY**

—WHERE IT'S ALL HAPPENING AT . . .
**14-16 BAYLIS STREET, WAGGA WAGGA
PHONE: 21 3409**

**10% DISCOUNT TO SERVICE
MEMBERS**

SOUTHTOWN ENGINEERING

Motor Mower Sales, Service & Repairs
All Parts and Mowers Available
Agent for Cox Rider Mowers and Bolens
**179A Ruthven St., TOOWOOMBA
Telephone: (076) 38 2833**

Sir,

My thanks for the seven issues of this very interesting publication. It brings back many memories, informs me of the careers of former mates and keeps me up to date on Corps matters. I enjoy every page.

I will look forward to receiving future issues of "The RAEME Craftsman".

Reference mention of archives. I will sort out a few photos, mainly of groups, taken at Rosebery Racecourse, Sydney in 1942, when the 1 Armoured Corps Ordnance Workshop, AAOC was being prepared prior to arrival of equipment etc., and our move to Northern NSW.

Also, I have photos of my platoon taken at Wacol, Qld, when with 11 National Service Training Battalion. From memory about five (5) intakes.

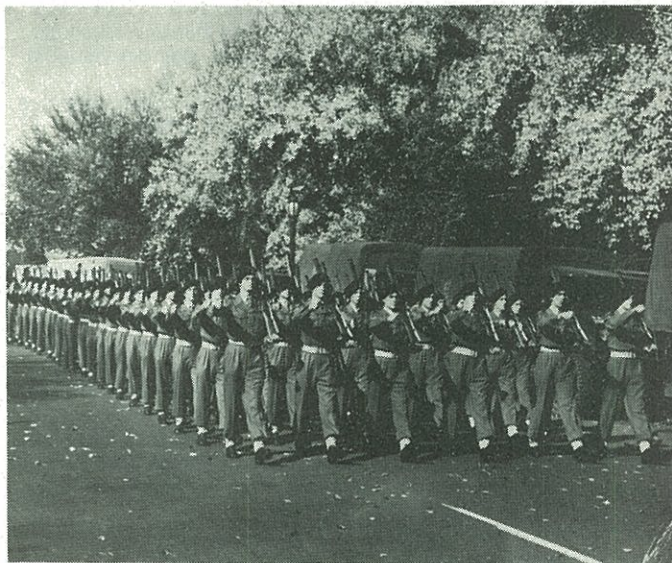
If you are interested, and provided you can decipher my scrawl - I am prepared to write and let you have any items I can remember which may be of interest to people other than myself.

My service covered 25 years, and maybe I have one or two items I can produce. My ARA Regt No was 5396, and, consequently I had the good fortune to know many of the "old hands" who are now retired. I progressed to the rank of WO1, whilst they advanced to Lt Col and Col. Their promotions were watched by me, and I was happy to see their progress.

For the time being I will say 'au revoir'.

D.J. Jamieson
25 Hotchkiss Drive
Balcatta, WA, 6021

Letters to the Editor



Sir,

I have just completed reading your excellent magazine "The RAEME Craftsman" which brought many memories of various workshops and Bandiana days.

I would, if possible, through this section, say hello to Dick Wearne, Charlie Meridith, Roy Flack, Colin McAlister, Peter Snowdon, Ron Metham, Tom Elliott and John Lenahan.

It is thirty years since I signed on the dotted line; how time goes by.

I am now retired, owing to ill health and would be pleased to hear from my former workmates.

John Bentley, JP
PO Box 570
Aitken Vale, Qld, 4814

Sir,

Following the publication of Vol 1, No 7 of the magazine, a number of people commented that my article "Soldiers

before Craftsmen" appeared to be somewhat disjointed. Sensitive as I am to criticism, I had re-read the article being prepared to exercise self-criticism. It was then, that to my dismay I discovered that a whole paragraph had been omitted by the publisher. What may have been less than a literary masterpiece to start with, was turned into meaningless gibberish.

Not only does this detract from the reading of a fine magazine, it does little to encourage and engender confidence in would be authors.

A. Nadudvary
Captain

31 Supply Battalion

Editor: Our apologies to Capt Nadudvary for the omission. It would appear that the Publisher removed the paragraph in order to squeeze the article to fit, with unfortunate results. Hopefully this will not occur again.

Front Cover:

1. General view of the Woolwich area showing the Old Mort's Dock, workshop building (saw tooth) LCM 8, Boat Work 12 m, Naval Lighterage Equipment Rafts, DVKW and LARC.

2. Cfn Schlatter and LCpl Brunton positioning an LCM 8 engine pack consisting of two GM 6-71N diesel engines and an Allison transmission. Two of these pack are used in each LCM 8.

3. LCpl Brunton MIG welding 9mm aluminium in the keel cooler modification to a LARC V.

4. Cpl Madsen inspecting the starboard propellor of a 12m workboat. The craft does not employ a rudder as such but swivels the cast nozzle to achieve directional control.

5. "Sea Horse 1". The workshop's workboat 12m GP officially named by Col. M.B. Tinkler on 15 October '80 from a suggestion by WO2 "Bungy" Waters.

RAEME APPRENTICES LEARN FROM NATION'S BIGGEST

Sydney apprentices from number Two Base Workshop Battalion RAEME at Moorebank are learning forklift and light plant equipment maintenance and repair skills at the most modern workshop of its type in Australia.

The mechanical and electrical apprentices two to three at a time, undertake six week courses at the Smithfield workshops of the CHEP-Equipment Division of Brambles, gaining valuable experience in a civilian work environment.

Each apprentice spends the first three weeks on an intensive training schedule at the Smithfield workshops, which were opened this year and are the most extensive of their type in Australia.

During those weeks, each apprentice learns service, maintenance and repair skills on a broad range of lift truck and light construction plant.

For the second three weeks, apprentices join the crew of a CHEP-Equipment mobile service and breakdown unit — one of many radio controlled vehicles operating from the Smithfield workshop and from CHEP-Equipment depots around Australia.

CHEP-Equipment operates Australia's biggest forklift truck hire fleet, from bases in all States and is rapidly expanding its general hire network and equipment range.

The Smithfield training program is part of a much larger RAEME apprentice training scheme which involves about 60 personnel a year in civilian workshops in all capital cities and other centres, such as Albury-Wodonga.

At Smithfield, the RAEME personnel in training have the benefit of equipment and facilities second to none.

The workshop is one of two CHEP-Equipment bases in the Sydney metropolis.

Smithfield base covers 2700 square metres of floorspace and has its own streamlined heavy equipment repair workshop as well as general maintenance and parts fabrication facilities.

The base houses its own spray painting, steam cleaning and customer service operations. There are on-site refuelling facilities for petrol, diesel and LPG engine forklift trucks in the fleet operating out of Smithfield and recharging facilities for battery-electric equipment.

The radio controlled service and breakdown van fleet operates 24 hours-a-day-. Low loaders from the base deliver equipment throughout western Sydney.

Smithfield and other CHEP bases also carry out maintenance work on a range of army vehicles, under contract.

At Smithfield, work is done on army International 6x5 trucks, light commercial vehicles, four wheel drives and all rubber tyred plant equipment.

General Manager of the CHEP-Equipment Division, Mr Colin Fryer, says his company is delighted to be part of RAEME apprentice training.

"While the equipment the apprentices work on at their own bases and at Smithfield may be very different, we believe we are, as a company, helping to broaden the experience of army tradesmen," he says.

"Of course any such military/civilian training program must have benefits flowing both ways.

"We at CHEP-Equipment gain an insight to the way the army works.

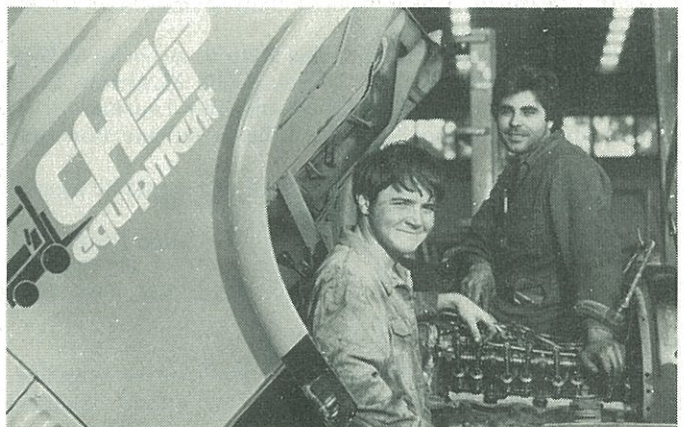
"While the apprentices spend only a small part of their four year training program with us, we believe they gain a taste of civilian methods which will stand them in good stead during their army career and in the civilian workforce, if they join it later."

So far, in the past year a dozen third and fourth year RAEME apprentices have completed six week courses at CHEP-Equipment in Sydney.

The relationship between RAEME and CHEP-Equipment is expected to continue for some time to come.



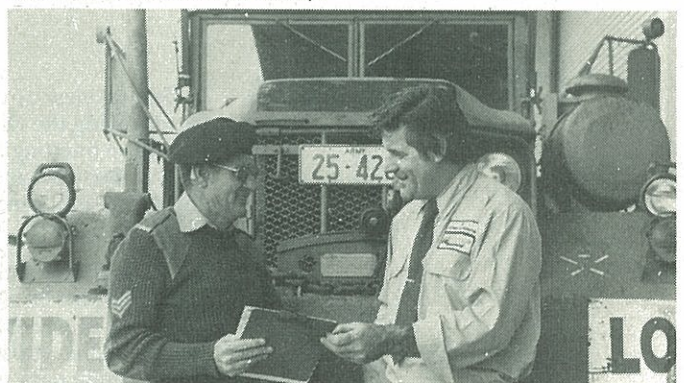
Apprentice Electrician, Peter York (EIR Platoon 2 Base Workshop Battalion) with Lew Montesano, Electrical Mechanic at Chep Equipments, Smithfield Workshop.



Apprentice Mechanic Norman B. Hitchings (EIR Platoon 2 Base Workshop Battalion) with John Pangallo Chep Equipment Vehicle Mechanic at Smithfield Workshop.



Sgt D.J.R. Crompton (Sydney Workshop RAEME) with Ian Allsop, Chep Equipment Service Advisor at Smithfield Workshop.



No.1 IN FORK LIFT HIRE AND SERVICE.

In every state of Australia you'll find CHEP hiring and servicing fork lifts.

And after 25 years in the industry, CHEP still leads.

Which means we can provide the right equipment to do the job, whatever the application.

We can deliver the fork lift you need, where you need it. And we'll deliver it fast.

You can hire by the hour, the day, the week, the year.

And when you hire from CHEP, service and maintenance are included in your rental, backed by a fleet of radio-controlled service vehicles operating out of CHEP depots.

So, whether you need one fork lift for an hour, or an entire fleet, call CHEP.

The leaders in fork lift hire and service.



A unit of the Equipment Division of Brambles Holdings Ltd.

WE'RE THE LEADERS IN HIRE AND SERVICE, BECAUSE HIRE AND SERVICE IS ALL WE DO.

NEW SOUTH WALES SYDNEY 30 Mandible Street, Alexandria 2015. Phone (02) 698 5244; 767 The Horsley Drive, Smithfield 2164. Phone (02) 609 4466.
NEWCASTLE Cnr. Park Avenue and Searle Street, Kotara 2289. Phone (049) 52 2266. WOLLONGONG 117 Auburn Street, Wollongong 2500. Phone (042) 28 6266.
VICTORIA MELBOURNE 25 29 Paramount Road, West Footscray 3011. Phone (03) 314 0966. DANDENONG 14 Cambria Road, Dandenong 3175. Phone (03) 798 5566.
PORTLAND 127 129 Harbour Road, Portland 3305. Phone (055) 23 4182. BALLARAT 835 Howitt Street, Wendouree 3355. Phone (053) 39 5225.
GEE LONG 51 Morgan Street, North Geelong 3125. Phone (052) 78 5199. QUEENSLAND BRISBANE Cnr. Nudgee and Serpentine Roads, Hendra 4011. Phone (07) 268 6622.
WESTERN AUSTRALIA PERTH 527 Abernathy Road, Kewdale 6105. Phone (09) 458 6777. SOUTH AUSTRALIA ADELAIDE 177 South Road, Ridleyton 5088. Phone (08) 46 5851.
TASMANIA DEVONPORT Cnr. Wright and Douglas Streets, East Devonport. Phone (004) 27 8531.

Why Point Cook is the perfect base for the prospective home buyer

Within 10 kilometres of Point Cook, A.V. Jennings offer a choice of three different locations for your future home.

That's 8 minutes from runway to driveway. At the outside.

There's Riverdene, where an A.V. Jennings house and land package can be yours for as little as \$39,145. Hoppers Crossing, \$40,460. And exclusive Riverbend — one of Melbourne's best protected addresses.

And there's a range of homes from two and three bedrooms, to almost any number. Single storeys, double storeys, split-level, something for everyone.

All of them built to a standard that means we're happy to guarantee workmanship and materials not for just the six years required by law, but a full ten.

Follow the directions below and wander through our display homes.

Afterwards, talk to our on-site home consultants about an A.V. Jennings purchase plan tailored to your finances.

Go on. Give it a fly.

Hoppers Crossing. Morris Rd. Hoppers Crossing (Melway 202, J11).
Phone: 749 4542.

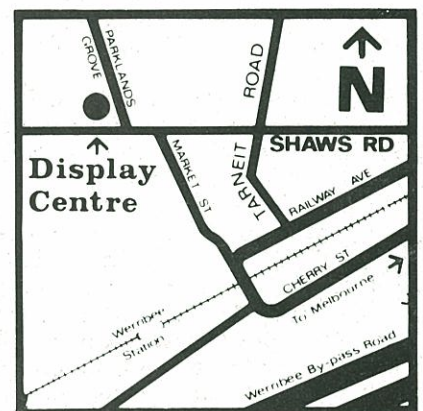
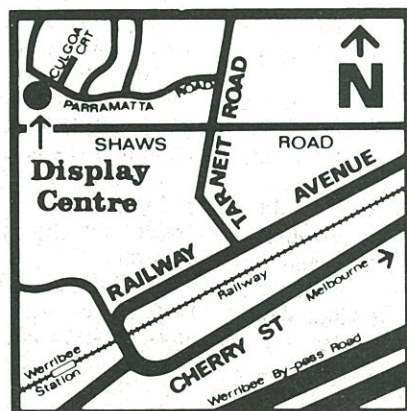
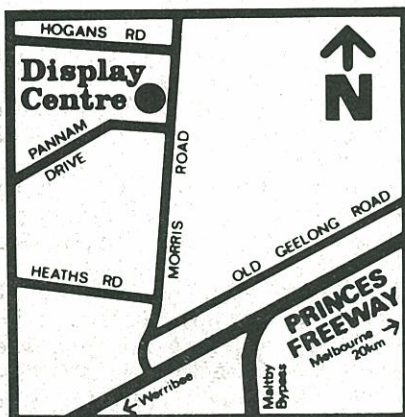
Riverdene. Tarneit Rd. Werribee. Display centre in Culgoa Crt. (Melway 205, H4).
Phone: 741 4524.

Riverbend. Cnr Shaws and Parklands Road (Melway 205, F5) Phone: 741 5301.

Display centres are open Monday — Saturday 1pm - 5pm, but closed on Thursdays. On Sundays they're open from 11am - 6pm.

**Jennings Industries Limited,
690 Springvale Road, Mulgrave, Vic. 3170.
Ph: 566 8000. A.H. Peter Burke. 221 7434.**

AVJennings's Homes



A REFLECTION ON SERVICE

PART 2

This article continues the series on RAEME personnel commenced in the November 1981 edition of The Craftsman, with three more WW11 veterans.

CAPT W. (SLIM) WHITEHALL

Slim Whitehall went to sea in mid 1944. The fishing fleet was short of manpower. Slim was big for his age, and nobody bothered to ask for proof of age or parental consent. He was then 13½ years of age.

Within a very short time the ship, complete with skipper and crew, was commandeered. By the addition of twin Lewis guns, mounted on the wheelhouse roof, the vessel was rather loosely re-designated an armed trawler; quite a promotion for a lowly drifter. The guns could only be reached via a stack of unsecured fish boxes, which ensured a comprehensive arc of fire and kept the crew below decks when the "gunner" was practising. When the deafened skipper found his wheelhouse roof was disintegrating he ordered immediate removal of the "wee thingumijig" that caused the guns to fire.

The vessel was assigned to boom defence work and mine spotting around the north east coast of Scotland, near the approaches to the Invergordon Naval Base. After cessation of hostilities, boat and crew returned to fishing the North Sea. Slim later served on trawlers fishing the Icelandic and Norwegian grounds.

In 1946, young Whitehall was tracked down by his irate father recently returned from overseas Army service, and, after a brief discussion, resorted to the bosom of his family. Attempts to catch up on lost schooling were not entirely successful and he drifted to farm work, and later to an apprenticeship which came to an abrupt end in 1948 when National Service call-up papers arrived.

Slim was conscripted into the Black Watch, and after 12 weeks initial training at Queen's Barracks, Perth, followed by 15 weeks at the Highland Infantry Centre, Fort George, was found fit enough for REME and transferred to that Corps in 1949.

Employed as a vehicle mechanic at Plymouth, Slim lost his left index finger as the result of a careless action by a certain Lance Bombardier. The accident did wonders for his vocabulary and sparked off quite a chain of events.

Slim had recently married, re-engaged as a regular soldier and was about to occupy a married quarter when, because of the injury, he was re-mustered as a Clerk Technical and was then found to be the only technical clerk in the command. He was immediately posted to the embryo 5 Medium Workshop and, within three weeks, was on his way to Korea.

"Trooping" in those days was by sea, and the weeks aboard the "Empire Towey" were pretty cramped. The troop decks were equipped with "standee" bunks, usually four or five high. Lying on one of those with one's nose some four inches from the posterior bulge of the man above was hardly an edifying

experience. The person on the top bunk, usually the NCO, could at least admire the Kaleidoscopic effect of the rusty liquid as it constantly changed pattern on the bulkhead.

The tedium was relieved by trips ashore at Malta, Aden, Colombo and Hong Kong, and a never to be forgotten swimming excursion at Port Said. This consisted of a 12 mile route march in FSMO to and from the pool, a small mud hole, which the RMO classified as "unfit" to dip one's boots in!!

Slim landed in Korea in November 1950. He was perhaps the youngest REME soldier in the theatre, was the first to receive a "Dear John" and the first to be re-trade-tested. The latter event was brought about when he discovered that clerks received less money than mechanics. The trade-test was also something of a record. It lasted all of a minute and consisted of a demonstration of his ability to hit a cold chisel with a large hammer without detriment to what was left of his left index finger.

In Korea, he saw service with 23 Heavy Recovery Unit and the Royal Ulster Rifles before promotion to Cpl in 1951 and a posting to the British Commonwealth Advance Base Workshop in Hire/Kure, Japan. This was the first occasion that Slim served with RAEME.

The first encounter with WO2 Bob 'Curly' Russell (RAEME) was memorable. Bob asked if he knew anything about Wilson pre-selection gearboxes and, when told "a bit", took him to a room full of carcasses and assorted innards and said, "get that lot fixed up". Slim also recalls the mad motorcyclist, SSgt Syd "Bluey" Phillips and his escapades on the Hiroshima road, but that is another tale.

Late in 1952, Slim had his only home posting. He served with 264 Scottish Beach Bde on the Firth of Clyde until his promotion to Sgt five months later. He was then posted to the West Indies where he served with the Royal Welch Fusiliers in the British Guiana police action, and later in the British Honduras on Hurricane relief work.

Completion of an Artificer course in June 1957 brought promotion to SSgt, and a short tour in UK with workshops in Wales and the Midlands and as an advisor to 2nd Bn Scots Guards.

In October 1958, Slim's name came "out of the hat". He then spent three days at Harry Fergusons' (tractors), three days at Meadows Engine Plant (generators) and a long weekend on embarkation leave, before sailing for the Antarctic on the 470 ton Norwegian sealer, MV Tottan, in early November.

Slim spent 13 months "on the ice" as diesel/electric engineer at the British Antarctic Survey Base, Halley Bay. Apart from maintenance of tractors, generators and base electrical

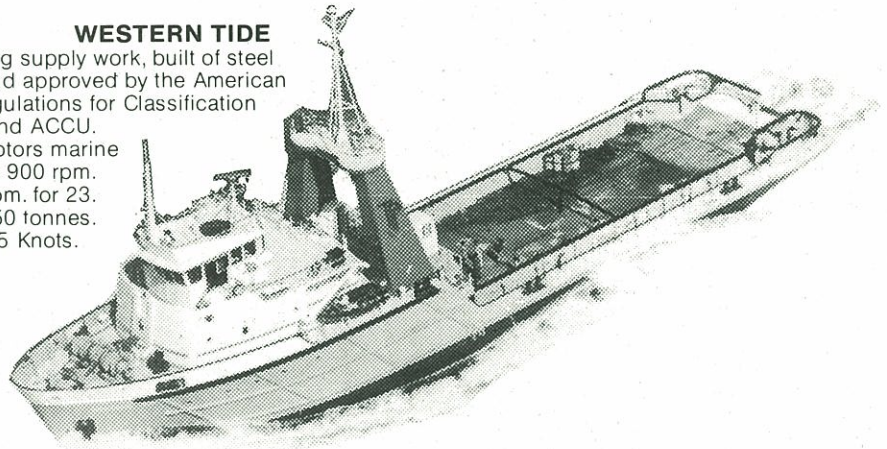
The largest builder of small ships in Australia

Our modern flow-line shipyard has all the extras:
On site fabrication shop/machine shop, superb building & launch facilities.
'in house' computer system handling 32 operating channels, computer based N.C. Cutting and we are in close proximity to major suppliers.

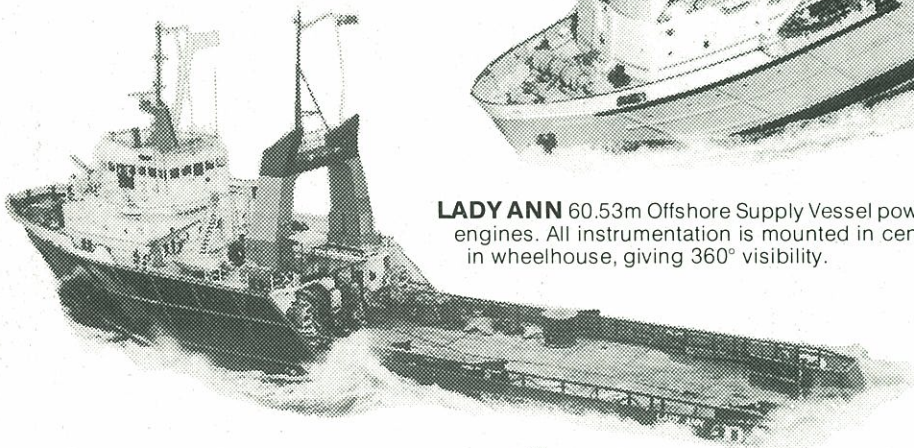
WESTERN TIDE

Designed for off shore oil rig supply work, built of steel welded construction, tested and approved by the American Bureau of Shipping Regulations for Classification plus A1 (E) and AMS and ACCU.

The two main engines are EMD General Motors marine diesels, each developing 2144 KW at 900 rpm.
Fully air conditioned accom. for 23.
L.O.A. 59.75m. Displacement: 1850 tonnes.
Speed: 13.65 Knots.



LADY ANN 60.53m Offshore Supply Vessel powered by 4 x 1,600 Daihatsu engines. All instrumentation is mounted in central console in wheelhouse, giving 360° visibility.



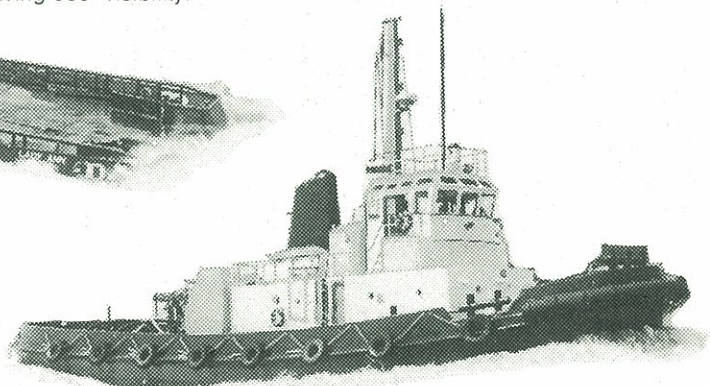
BARBARY

29m Tug Boat featuring a new style remote control, high velocity water/foam monitor from the wheelhouse. A free running speed of 12 Knots is obtained from the 2 Lister Blackstone EZSL8 Diesel Engines, each developing 1220 BHP at 1,000 rpm. Bollard pull of 41 tonnes, L.O.A. 29m. Draught 4.08m. Depth 4.7m. Beam 9.7m.



BELYANDO

35 metre twin screw tug boat with bollard pull of 75 tonnes. Powered by 2 EMD 16-645 E5 engines, L.O.A. 35m. Displ. 625 tonnes. The fully air conditioned interior will meet the highest standards.



Write today for further details and your copy of our latest brochure.



Carrington Slipways Pty. Ltd

Old Punt Road, Tomago. NSW Australia 2322

Tel: Newcastle 64 8071 Telex: 28185 Cable: Carrslips.

Middle East Sales Manager: John Skelton, PO Box 2179, Nicosia, Cyprus. Telex: 3215 Surnic Cy Att: Skelton

European Agent: European Marine & Machinery Agencies
22-26 Gore Road, New Milton, Hampshire, BH256RX, UK
Telex: 417170 Telephone: New Milton (0425) 61 8704

equipment, he found to his horror that he was also responsible for the care of a prototype Decca Radar set. Work on the latter was confined to moving it periodically to prevent snow drifts and very random modular changes which were accompanied by crossed fingers, fervent prayers and an implicit faith in British craftsmanship. At that time, Slim had not encountered the Series 3 Landrover.

In his spare time he was the doctor's chief assistant whenever surgery was required. He was also the number one patient. The doctor doubled as workshop assistant, as his main ambition was to own a small diesel powered boat, he wanted the maintenance experience.

Slim re-married in Capetown on his way "home" from the Antarctic. After a honeymoon in South Africa and a trip on the "Caernarvon Castle" he was posted to Northern Ireland and spent some time on the Command Inspectorate Staff.

Following a waterproofing advisors course in February 1962, Slim was posted to Singapore. During service with waterborne and REME units, he was promoted WO2 in June 1964. In September 1964 he was promoted to acting WO1 and posted to Borneo as OC 99 Gurkha Bde LAD. During the "confrontation" with Indonesia, Slim served alongside the RAR, had a short spell with the SAS and renewed his acquaintanceship with the Scots Guards.

Despite strenuous efforts to remain with the Brigade of Gurkhas, Slim was extricated by REME records, and early in 1966 went to the Army Apprentices School, Carlisle. The new "sentence" was two to five years, but in 1967, with substantive promotion to WO1, he was posted to Germany as ASM 3 Royal Green Jackets.

In the following years he saw service in Norway, Denmark, Holland, Belgium, France and Libya. In the final few months in the British Army he was senior ASM at 12 Field Workshop, Osnabruk where, among other things, he made arrangements to join the Australian Army.

Slim enlisted in RAEME in London on 2 Aug 1971 with the rank of WO2. His first posting was to TSU in Albert Park Barracks. On promotion to WO1 in October 1975, he served as SO3 Trade Management on the DGEME Staff. This was followed by a return to TSU as Coord Officer. Slim stayed as Capt Spt on the formation of MEA, until occupying the Capt B Vehicles position in April 1980. He was promoted Capt (PSO) in January 1981.

During his service, Slim has visited 55 countries, including Chile, Chad, Uruguay, Mexico, Guatemala and Trinidad, and served with 15 regiments of the line. He holds the following medals - Defence, War, Korea, UN Korea, GSM (Borneo and Malay Peninsula), LSGC and MSM.

313668 WO1 ARTHUR GEORGE COWLES

On 6th September 1944, a 15 year old lad joined the British Army as an Apprentice Fitter and Turner at AAS Aborfield UK, graduating in August 1947. His first unit was 9 Central Workshop, Bicester UK, and after only a short stay it was off to Libya with the 3rd Command Workshop, Middle East Land Forces at Benghazi. By 1951 it was Sgt Cowles, and back to attend courses at the REME Trg Centre at Aborfield and Bordon where his first contact with the Australian Army was made with SSgt (later Lt Col) Alan Bishop, attending an Artificer Instrument Course. In April 1953, now a SSgt, a posting to the trials team on the MK7 Centurion and Conqueror Tank for 4 months at the Royal Armoured Corps Centre, then it was off to the BAOR in Germany with the LAD 4 Royal Tank Regt for 7 years. As a WO2 in 1960, it was back to the UK to the School of Electrical and Mechanical Engineers SEME at Borden, attending both a 6 month conversion course, an instructor position for one year, and the formation of a Methods and Development Cell for 1½ years.

In March 1963 as a WO1, he went to Hong Kong to REME

Technical Services where his duties included preparation of Centurion tanks for the Australian/New Zealand Armies and as a gunnery inspector for visiting Commonwealth war ships.

In August 1965 a further Far East posting occurred, this time to REME Training Centre Singapore, in Armament and General Trades Wing. This posting involved basic trade training of Gurkha and Malay students and the Equipment Training of Malaya based Australian RAEME tradesmen. August 1966 saw Arthur returning to the UK and posted to the Equipment Inspection Service Team with HQ South West District in UK and after 3 years at the job he was discharged on 6 July 1969 completing 24 years, 284 days service.

During his final UK posting, Arthur made application to join the Australian Army and was accepted. In August 1969 he enlisted in Melbourne and was posted to RAEME Training Centre Bandiana where he still serves as an instructor with Armament Wing.

Medals Awarded: War Medal 1939-45, GSM 1962 (Singapore), LS & GCM (UK) and MSM.

1200232 SGT FRED DARROUGH

On 23rd February 1944, Fred enlisted in the Army undertaking his recruit training at Cowra, NSW. Unfortunately, Fred did not go overseas during the war, but had postings at Bonegilla, Vic.; Royal Park (Melbourne); Enfield (Adelaide); Canungra, Qld; Rooty Hill, Singleton/Greta, NSW, finally serving at Wallangarra on the Qld/NSW border with the 6th Australian Ordnance Park Workshop. It was off to Moorooka to be discharged on 19 November 1946.

Fred decided in May 1964 to re-enlist, and after basic training was trade tested as a Vehicle Mechanic with a posting to 24 Construction Squadron, followed by a move to N Comd Wksp at Bulimba in late 1964. He was detached to 16 Army Light Aircraft Squadron at RAAF Base, Amberley Qld, in February 1965 for three months and returned to Bulimba in

October 1972 (a typical 3 month Army Detachment Order).

In December 1973 Fred moved to Papua New Guinea where he served at the PNGDF Workshop in Port Moresby till December 1975 rotating back to 3 Base Workshop, Broadmeadows, Vic. But in 1977 it was back to PNG, this time to Wewak, a very enjoyable spot.

Sydney Wksp Company was waiting for his return in December 1978 where he managed to obtain a five year extension of service and will retire in 1985. (On retirement, Fred will be 60 years old).

You can currently find Fred as the Trade Repair Supervisor at DSU Rockhampton, Qld.

Medals Awarded: War Medal 1939-45, Australian Service Medal and the National Medal.



Unimog UL 1700L in action

The Mercedes-Benz Unimog

A versatile high performance military vehicle engineered to excel in extremes of terrain and climate

Mercedes-Benz, the world's largest producer of heavy duty trucks, is a major supplier of military vehicles. Mercedes-Benz has delivered more than 150,000 units to the German Army and has supplied vehicles to 65 armies worldwide.

The unique Mercedes-Benz "Unimog" UL 1700L is a proven 4x4 vehicle designed for first line tactical and general purpose military operations.

Features include hub reduction axles, coil

spring suspension, disc brakes, 170 h.p. turbo-charged engine, synchromesh gearbox, differential locks both axles, low centre of gravity, high side angle stability.

The new generation of Mercedes-Benz military vehicles shares the same concept as their commercial vehicles. This means economical maintenance, simplified driver and mechanic training and ready parts availability.



Mercedes-Benz Excellence in Engineering

Mercedes-Benz Australia, Mulgrave, Victoria.

4620MB

Boots and All

By Major A.J. Balsillie

History lives on through many things, old letters, photographs, in fact relics of every description that have a story to tell. An old pair of boots, on display in the museum at the RAEME Training Centre, tell of an Army Career which spanned over thirty years, saw two World Wars and the formation of RAEME as a Corps. The boots were worn by Lieutenant Colonel Robert Henry (Bob) Carlisle, MBE, who is now living in Toowoomba, and at 96 years of age he is truly the "grandfather" of our Corps.

Born in 1885 at the village of Hetton-le-Hole, County Durham, England, Bob was apprenticed as a fitter at the age of 15. He served a five year apprenticeship with the firm Reyrolle-on-Tyne, which is still operating today. After finishing his apprenticeship, he worked as a tradesman with Igranic Electric Co Ltd, (manufacturers of "electric controlling devices") before emigrating to Australia in 1912.

Bob came to Australia with his wife and two year old daughter in response to a call for tradesmen by the Victorian Government. However, on the eve of World War I, Bob enlisted in the Australian Permanent Military Forces, one of only ten selected from 300 applicants. He was allotted Army number VP1201, and as an Armament Artificer, the "new" Sergeant Carlisle was taken on strength of the Royal Australian Garrison Artillery at Point Nepean on 1st August 1914, his enlistment date. It was one of this Garrison's 6 inch Mk 7 guns that fired the first shot by British Forces against the enemy, when a German freighter, the "Pfalz", tried to leave Port Phillip Harbour on 5th August, about one and a half hours after Australia found itself at war with Germany.

Promotion to Staff Sergeant followed for Bob in 1916. It was the great battles of the Somme, later that year, with its demands for re-inforcements, that made it easier for the PMF members such as Bob, to gain overseas service. Also, the first use of tanks during that campaign aroused his interest in "machinery", so in 1917 he was able to enlist in the Australian Imperial Forces (AIF). Arriving at Plymouth in March of the following year, he was now a Warrant Officer Artificer in the Ordnance Corps, Inspector of Ordnance Machinery Branch (IOM). Bob's association with RAEME had just begun, as after several changes of title, it was this IOM Branch which was later to grow into the Australian Electrical and Mechanical Engineers (AEME) Corps.

At Woolwich, Bob was part of the first Ordnance Workshop of Australian denomination formed in England. In September 1918 he was taken on strength of the 17th Ordnance Maintenance Workshops in France. Part of the workload there was the repair of guns used by the Royal Australian Artillery. Weapons used at that time were the QF 18Pr Mk II, QF 4.5 Howitzer, BL 60Pr and the BL 6 inch Howitzer. Bob's earlier experience with the Garrison Artillery had prepared him for this task.

Back in England to attend an Inspectors Workshop Course of Instruction at Woolwich in April 1919, Bob visited his former employers, Ingranic Electric Co Ltd, and photographs of their workshop at that time are among Bob's contributions to the RAEME Museum. His tour of overseas duty, which earned him the British War Medal and Victory Medal, had come to an end and he arrived back in Australia in November 1919. On the day following his discharge from the AIF, he re-

enlisted in the Permanent Military Forces.

During the 1920's and 1930's Bob served in Queensland and New South Wales. He was progressively promoted to Lieutenant (1927), Captain (1932) and Major (1937), but because of the austerity measures during the depression years, these promotions were all "honorary"! The rewards for this dedication came when he was promoted to substantive Major and made a Member of the Order of the British Empire in 1942. On the 1st of July of that year he was posted to the Engineering Branch of the AAOC Directorate at Land (Army) Headquarters in Melbourne.

On the 1st of December 1942 Major R.H. Carlisle, MBE was transferred from AAOC to AEME. Bob had finally arrived in the Corps, which now remembers him for the role he played in its formation. He was appointed to the Headquarters of the Directorate of Mechanical Engineers (DME) as part of the team to organise the new Corps. After that, he was posted to HQ 3rd Australian Advanced Ordnance Depot, Wallangarra to command AEME troops there.

On 21st October, 1945, the day following his 60th birthday, after seeing another World War come to an end, Bob was retired with the honorary rank of Lieutenant-Colonel. During his long years of service, Bob had been allocated several Army Regimental numbers, including number 38 on the Register of the Corps of Armament Artificers. It is interesting to note that in 1946 his last Army number was cancelled and he was re-allotted VP 1201, the number given on the day he enlisted in 1914, 32 years previously.

For over 80 years Bob has been a Craftsman. The guns of his Army career as an artificer have now been replaced by the more delicate threads of needlework, and his tapestries are well known and admired. Bob's pride in RAEME inspired him to create a tapestry depicting the Corps insignia, which he gave to the RAEME Association (NSW) in 1978. At the same time he presented to the Corps his sword, which is now on display at the RAEME Museum.

In a few months, on the 1st December, RAEME celebrates its 40th birthday. Until recent years the need to record events relating to the early history of the Corps seemed unnecessary as there were still "old soldiers" like Bob Carlisle to provide any information required. Sadly, memories are dimmed by the passing years, so the time has come to be more positive about preserving our Corps heritage.

The RAEME Corps Committee responded to the need for housing the historical material accumulated over the years and last September the Corps Museum at Bandiana was officially opened (Vol 1, No 7 Page 20). Thanks are due to the many people who worked so enthusiastically towards this goal. Many other people maintained items and a history of events in their own particular area, and their efforts are the basis of the present exhibits. However, the Museum still needs practical and moral support from all Corps members, both past and present. Apart from Bob Carlisle's boots, there are other items belonging to personalities of the Corps. Another interesting exhibit is the Sam Browne belt - bullet holes and all! Worn by Colonel D.V. Golland OBE, during World War II. However, that is a story to tell at another time.

Footnote: Sadly, Lt Col. Bole Carlisle passed away in Toowoomba on the 31st May 1982.



Darwin Equestrian Centre

For experienced horse riding instruction and the most enjoyable trail rides visit the **Darwin Equestrian Centre** at the **16 Kilometre, Stuart Highway, Darwin.**

Darwin's newest tourist attraction . . . at the Darwin Equestrian Centre . . . in the main indoor auditorium visitors will see horses being educated, stockmen and jilleroos rounding up cattle . . . you can ride a horse yourself . . . or take a horse and buggy ride, or a hay ride through the countryside . . . take scrumptuous meals at the cooks barbecue or grab a snack at the station canteen . . . see different breeds of territory cattle and if you like, stay overnight at the bunkhouse. There will also be an outdoor Rodeo arena and a heliport . . . and of course you will be able to see the whole scene, as well as seeing Darwin from the air in one of Eagles helicopters.

The Darwin Equestrian Centre, 16 Kilometre, Stuart Highway, Darwin.
Telephone: (089) 84 3862. Telex 85594 Dn 039. G.P.O. Box 2213, Darwin, N.T. 5794.



Coolabah Motel

A MOTEL OF DISTINCTION

Large Family, Double & Single Units
All Facilities, Colour T.V., Pool,
Air Conditioned, Reception Area,
Laundry & Conference Facilities

POOLSIDE RESTAURANT
TROPICAL GARDEN SETTING

75 Bowen Road,
Townsville, Queensland

Phone: (077) 79 2084

Telex 47003

—SERVING THE NORTH—

HORTON MOTOR SALES (TOWNSVILLE)

- Leyland
- Landrover
- Rover
- Jaguar
- Triumph
- Volvo
- Subaru
- Volkswagen
- Fiat

SALES — SERVICE — PARTS
TOP QUALITY USED CARS

Phone Townsville

71 6031

SPARE PARTS 71 6071
792 FLINDERS STREET
TOWNSVILLE

TRADE TESTING — THE RIDDLE EXPLAINED

Certain cynics have been heard to mutter strange things about trade testing and the Manual of Army Employment (MAE). These mutterings have included some colourful Australian idioms which are unprintable in a august magazine like "Craftsman". In essence, they have been trying to say something along these lines:

"We trained hard, but it seemed that every time we were beginning to form into teams, we would be reorganised. I was to learn later in life that we tend to meet any situation by reorganising and a wonderful method it can be for creating the illusion of progress while producing confusion, inefficiency and demoralisation".

Gaius Patronius 66AD

This article is aimed at decreasing the amount of confusion, inefficiency and demoralisation that has occurred since the "good old days" when the MAE contained policy, methods of granting and relinquishing ECNs and trade tests for those ECNs. Everything was "well organised" and the MAE contained *absolutely everything* one ever needed to know about trade testing.

The MAE still exists, but in abbreviated form. Our copy, which is amended to AL32 (check yours) still contains the policy, organisation and procedures for trade testing. This is Chapter 3 (AL22) of the good book.

A quick reading of paragraph 311 of Chapter 3 tells us most of the categories for the candidate for trade testing. One situation which it is not clear on, is the retrade test for the soldier who isn't performing to expectations. This is clarified when you read MPA Vol 1, Chapter 39 Paragraph 3925b in conjunction with Chapter 3 of MAE.

Don't put Chapter 3 of MAE down now that you have found out who can be trade tested. We must read the rest of the chapter before launching into a great flurry of testing activities.

We know who can be tested but WHO can conduct these tests?

For RAEME ECNs, only RAEME Training Centre, 5 Base Workshop Battalion and the Maritime Wing of the Army School of Transport, as trade testing authorities, may conduct tests without prior approval from HQ Trg Comd (See paragraph 331 of Chapter 3 and Annex A to Chapter 3).

Experience shows that obtaining approval to conduct a trade test for the journeyman trades is seldom a problem. Higher level trade tests, however, are usually conducted in conjunction with proficiency and artificer training at RAEME Trg Centre.

From further reading of your MAE, you will find that it no

longer contains the trade tests. *It is now necessary to obtain the testing material from RAEME Training Centre.*

These approved tests are readily available.

To obtain a trade test package; all you have to do is ask (quoting, of course, your authority to conduct the test). The trade test packages contain administering instructions, the approved test and marking guides. When you receive the trade test package, you administer the test and mark it, after which you complete the AAF F128 up to and including Section 6, and return it together with the package to RAEME Training Centre. Having done this, your task is complete and you can look forward to receiving an approved certificate for the member's personal file and an RO Pt 2 from CARO.

It is advisable to extend your knowledge of trade testing beyond the simple exposition of it given above. To do this you should read the following:

MPA Vol 2 Chapter 29:

Employments

MPA Vol 1 Chapter 39

Grant, retention and relinquishment of employment category and associated pay procedure.

MPA Vol 4 Chapter 35

Pay structure.

MAE Chapter 3 para 313:

DEFARM CANBERRA AAK/MHB

DGEME 013679 of 06003Z

May 80

Recognition of civilian trade qualifications and the authorisation of Senior RAEME representatives to raise AAF F128 on sighting civil certificates, which negates the need to conduct trade tests and last but not least, in this quick reference section, some very important news for ARES units — trade testing procedures for the ARES are now the same as for the ARA.

DOD A514-29-23 (DGEME 1107/81) and

DOD A514-29-23 (DGEME 1108/81)

both dated 30 Apr 81.

RAEME Corps Policy on the training and testing of ARES soldiers in RAEME sponsored trades.

A complete reading of all the material mentioned in this article will bring you up to date on many other interesting pieces of information. Did you know for instance that the trades of welder, blacksmith and sheetmetal worker no longer exist? Are you aware that the trade of fitter electrical ECN 147 has been reintroduced?

Time to catch up isn't it?

Editors Notes: At long last, the much talked about trade of Clerk Production has been approved too! ECN 078-1 and 078-2. Further details will be promulgated through the command chain. The Corps policy on the ARES has been repromulgated as DOD(AO)AS14-29-23 (DGEME 1903/82) dated 15 June 1982.



iliou plumbing

4 ALSTONIA STREET, NIGHTCLIFF, NT.

P.O. Box 2456 Darwin

Licensed Plumbers. Prompt friendly service.
Domestic, commercial and industrial installations

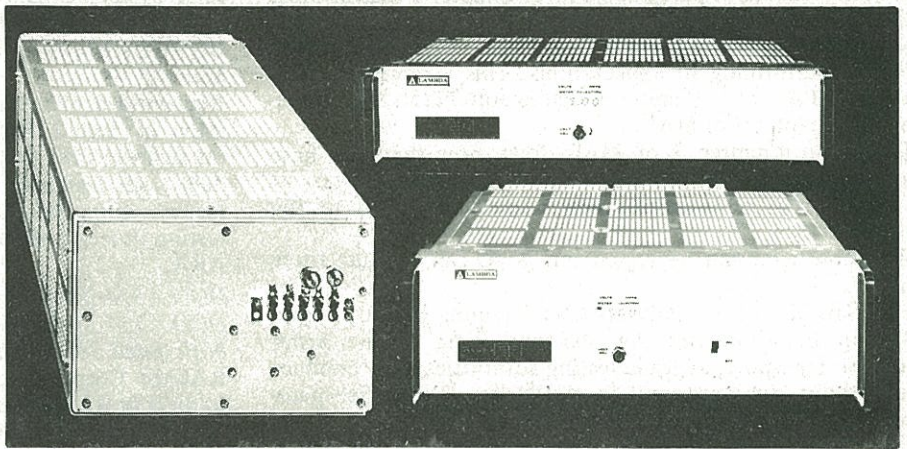
Phone: (089) 85 2370

Rugged, off-the-shelf
Mil-Std 810 C, DC Power
Supplies with fixed,
variable and dual
outputs from 25W to
1200W from . . .

LAMBDA

5 Year Guarantee!!

LAMBDA produce the
biggest range of standard
power supply units in the
world. **Contact K.D. Fisher &
Co. Pty. Ltd. for your 1982
catalogue of Lambda's Power
Semiconductors and D.C.
Power Supplies**



**'82 catalogue &
application notes
available now!!!**



K.D. FISHER & CO. PTY. LTD. P.O. Box 170, St. Mary's, 5042
14 Benjamin St., St. Mary's, 5042, S.A. — **Phone: (08) 277 3288,**
(07) 528 389, (02) 635 0799, (09) 381 4477, (03) 598 2333, (002) 285 997

RAEME TRAINING CENTRE — ADVENTURE TRAINING 1981

By Major Mario Larocca

During the period 2-13 Nov 81, RAEME Training Centre conducted an Adventure Training Exercise in the Kosciusko National Park near Yarrangobilly. The exercise involved, the exploration of a number of caves in the Blue Waterholes area, particularly the Cooleman Caves, the conduct of minor repairs to a number of settlers huts in the area, the climbing of Mt Bimberi and most of all, foraging for food to supplement the two, one day ration packs which had to last each man for 10 days.

Participants in the exercise were, firstly the hikers, Maj Larocca, WO2 Morris, WO2 Huggins, Sgt Philips, Cpl Rutland, Cfn Arnold, Cfn Ramsay and Pte Ballinger; the safety vehicle drivers, Cpl Heffernan, Cpl Mitchell; others, WO2 Harris, Sgt McKinna, SSgt Bloodworth (REME) and Sgt Kemp.

The exercise began on Monday 2 November with the group being driven to the exercise area. After a bumpy, dusty journey we were dropped off with essential clothing, bedding and rations and began the 7km hike planned for Day 1.

On Day 3 we explored caves in the Blue Waterholes area. The area was riddled with caves, some were marked on the map, others were not. The largest of the caves visited was the Cooleman Cave. This cave is very old, and extends for about 200m in two different directions. It is very large in places, and there are still some fantastic formations to be seen. Like many other caves, there was a lot of water filtering through and there was mud everywhere. In places we had to crawl through narrow gaps to proceed further.

On days 5, 6 and 7, we concentrated on foraging for food and repairing the old Currango Homestead located on the Currango Plain near Tantangara Reservoir. Foraging for food being uppermost in our minds by this stage — we were starting to show signs of weariness and hunger. Dandelions, Cat's Ear (similar to Dandelion except tastier), Witchetty Grubs, Daffodil bulbs, and a few other unknown weeds and berries were all available, but could only be eaten in small quantities. There was evidence of yabbies and fish in the reservoir, however we were not sufficiently adept to entice the fish or yabbies to commit suicide.

On day 6 we stalked a family of wild pigs with the aim of killing the boar and sow then capturing the eight sucklings and having fresh crackling for dinner. WO2 Morris and Sgt Philips were able to score two hits on the boar and one on the sow from a distance of approximately 15m with standard arrows, however, we only succeeded in scaring the pigs away, and after a chase for approximately 4km through close country, the pigs and dinner were lost.

The maintenance work on the homestead proved successful, and after three days, the abandoned homestead was habitable and reasonably comfortable. Natural materials from the surrounding countryside were used for the repairs. Old Currango is one of many homesteads built during the Depression and World War II years. They have since been abandoned, but are used by hikers and cross-country skiers as refuges from the



unpredictable weather in the high country. Most are showing signs of their age, but still provide a welcome refuge.

On day 8 the hikers walked cross country out of the Plains area and into the mountains proper, in preparation for the climb up Mt Bimberi. Mt Bimberi, at 6287 feet, is the fourth highest mountain in Australia. It is located on the border of NSW and ACT and is in the Kosciusko National Park. The vegetation on the slopes of Mt Bimberi varied from sparse gum trees, tea trees and rocky outcrops to vast areas of spagnum moss up to one metre deep. The view from the top of Mt Bimberi was spectacular, but short lived. Unfortunately for the hikers, the clouds rolled over Mt Bimberi soon after we reached the top, obstructing the view. It was bitterly cold and windy on Mt Bimberi, and after a short rest we made our way down.

Days 10 and 11 were spent hiking cross country to the RV Point. On day 11 we were required to cross over the Gurrangorambla Range which required scaling two mountains which climbed 400m with grades in excess of 60 per cent. That evening we were treated to a sumptuous barbeque — so ending 11 days of reduced rations and the exercise.

In the 11 days, we managed to walk in excess of 130km (carrying full packs for 60 of those kilometers), over a course which varied from wet, soggy, marshy ground to rocky outcrops.

The hikers attained an appreciation for living off the land and a better understanding of their environment. They carried out minor repair to four different homesteads, and in so doing, assisted in extending the life of valuable historical buildings.

The RAEME Training Centre Adventure Training Exercise was a success, and another example of the versatility of the RAEME Craftsman.

SO MUCH MORE THAN JUST A PLACE TO SHOP...



Macarthur Shopping Square is a Big City complex in a magnificent rural setting at Campbelltown. A lively community centre with free parking for up to 8,000 cars, and such facilities as a Mothers' room and amenities for the disabled.

Value, variety and convenience... A three storey David Jones, a huge Woolworths Supermarket, Best & Less, Countdown, Franklins and over 100 Specialty Shops and services, plus an adjacent Big W. Everything you want in a city, with the delights of the countryside. Make a day of it.

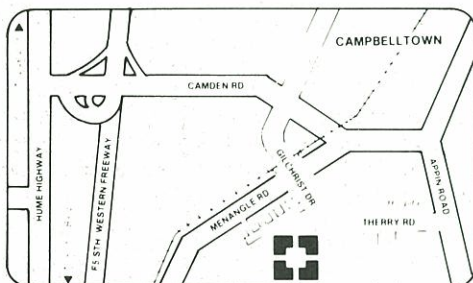
TUESDAY CLUB

Hey Girls! It's free to join and saves you dollars. Pick up your membership form from the Centre Management Office. Enjoy free morning tea, demonstrations, arts and craft classes, discounts, and more.



ROWDY RABBIT FAN CLUB

Hey Kids... you're all invited to come along and join Rowdy Rabbit's Fan Club. It's free. Enquire at Macarthur Shopping Square, Centre Management Office, or see me every Thursday in the Centre at 6.15 p.m.



We'll see you there at
MACARTHUR SHOPPING SQUARE

SHOP UNDER ONE ROOF IN AIR CONDITIONED COMFORT AT MACARTHUR SHOPPING SQUARE. PHONE (046) 26 1466.



RTC JOTTINGS

THE NEW FLEET BY MAJOR GAVIN BERRY

Recent decisions by the Minister for Defence to purchase a new range of Medium and Heavy GS Vehicles for the Army, have presented RAEME Training Centre with new training requirements. The Mack and Mercedes trucks are both significantly different to Army in-service vehicles and the automotive systems employed in them have not been taught on formal training courses for the Vehicle Trades before.

In preparation for the commencement of maintenance training on these vehicles, three members of RAEME Training Centre's Vehicle Wing staff have attended a repair course run by the manufacturers of Mack trucks. This course was for one week and was designed to introduce experienced vehicle trade instructors to the heavy truck and it provided the first opportunity for our staff to examine the equipment in depth. As a result of this valuable experience, courses are now being developed for introduction in the near future.

As the decision to buy the Mercedes UNIMOG came some time after the decision to purchase the Macks, no training for instructors has yet taken place for the UNIMOG. It is anticipated that an introductory course similar to that for the Mack trucks, will be run for instructors on the UNIMOG, so that they may be able to produce the course for RAEME Training Centre.

It must be remembered however, that the production of a good training course is not only dependant on training the instructors. All the hardware items from the basic vehicle to the major unit assemblies and repair parts must be on hand, as must the technical documentation and training aids that may be needed for teaching the course. After that, the writing and production of lesson plans, precis and associated training material must be carried out, before the first pilot course can be run. This whole process takes many months to complete but we can report that we are well on the way to conducting our first course on the Mack truck.

In the past, each individual configuration in the range of GS trucks has not been taught as specific equipment training. This was because all the automotive systems employed in these vehicles were covered in the range of courses attended by vehicle tradesmen at RAEME Training Centre. Petrol engines, braking systems and axle assemblies are good examples of this. But with the introduction of the new range of trucks, we will have diesel powered vehicles, different suspension systems and new drive-line technologies, our old methods must change. These and many other features of the New Fleet, dictate a requirement for totally new courses so that our vehicle tradesmen may handle the large maintenance task ahead of them.

1982 will see the commencement of the New Fleet courses at RAEME Training Centre.



THE DEVELOPMENT OF WELDING TECHNIQUES FOR SPECIAL ALLOYS

With the introduction into the Army of the Medium Girder Bridge (MGB) in the early 70's followed by the Leopard Tank family of vehicles and the Scorpion Turret in the mid to late 70's, a need arose within RAEME to develop the necessary special welding techniques required to carry out repairs to the sophisticated aluminium and steel alloys from which these equipments are manufactured.

To achieve this RAEME Training Centre, in conjunction with Maintenance Engineering Agency (MEA) and Materials Research Laboratories (MRL), were set the task of developing the techniques, and a course of instructions in these techniques. Once qualified at this course, selected metalsmiths ECN 235-2

would be equipped to carry out repairs to these special steel and aluminium alloys.

The role of MEA in this development was to organise the supply of specialised welding equipment and consumables, and direct liaison with MRL. MRL was to act as technical adviser and to carry out tests on experimental specimens produced at RAEME Training Centre, during the development stages of techniques and procedures.

In order to commence development of this course, it was necessary to identify the machines capable of carrying out repairs to these alloys. (Due to their composition and heat treatment, a minimum heat input is necessary). This criteria



SHELL REFINING (Australia) Pty. Ltd.

GEELONG REFINERY

At our Geelong Refinery, Corio, we have just completed a large expansion programme involving new plants, revamping of existing plants and we are updating some of our present control equipment including the installation of the latest pneumatic and electronic instrumentation, process stream analysers and supervisory computer systems.

We require the services of an

INSTRUMENT ENGINEER

The person we are seeking will have had more than 5 years experience in the process industry, preferably in oil or petrochemical plants, where they have gained experience in various facets of instrument engineering. Working experience with both pneumatic and electronic instruments is a prerequisite. Experience with process stream analysers, computer systems and P.L.C. installations is desirable.

The successful applicant will join a team of instrument engineers involved in the design, installation, commissioning and maintenance of instrumentation systems.

TRAINING: Shell run a wide range of training courses and the person selected will be asked to attend these as and when necessary.

QUALIFICATIONS: The ideal qualification for this position would be a degree or diploma in instrumentation or applied physics, however, applicants qualified in chemical, mechanical, electrical or electronic engineering will also be considered.

The person we are seeking will have the potential to assume a more senior position in the Company within a few years and this potential will already have been demonstrated by a high level of academic achievement.

SALARY: The commencing salary is attractive with immediate membership of our superannuation scheme.

HOURS: 35 hour week based on a 9 day fortnight with one day rostered off every fortnight.

Applications in writing marked "Confidential" giving personal details qualifications and experience should be forwarded to Mr. E.T. Lamb, Employment Officer, Shell Refining (Australia) Pty. Ltd., Refinery Road, Corio, Geelong, Victoria. 3214.



TELEVISION ELECTRONIC TECHNICIANS

The Engineering Department of ATN Channel 7, Epping, require the services of Electronic Technicians in the installation and development area. Applicants with experience in television system installation or maintenance preferred. Further on-job training will be given.

Preference given to holders of the E and C Certificate or equivalent.

Successful applicants will be offered good salary and excellent career prospects.

All inquiries should be directed to:

**Mr BOB BARTON (after 9.30am)
858 7595**

OPEN

OPEN

S
E
V
E
N

D
A
Y
S

T
H
U
R
S
D
A
Y

N
I
G
H
T
S



Importers of

HARLEY DAVIDSON

Custom & Replacement
Motor Cycle Parts

(02) 76 6979

83 PARRAMATTA RD., HOMEBUSH

can be met by using "pulsed" MIG welding machines. Machines from two different manufacturers have been ordered, the first of which should arrive at RAEME Training Centre in due course. The other major piece of equipment required was a machine capable of cutting aluminium in preparation for welding. This requirement was fulfilled with the procurement of a plasma arc cutting machine.

In addition to these major equipments, a large inventory of supporting equipments and consumables are required. These include such things as air grinders fitted with tungsten carbide burrs for preparation of Leopard armour, heat treatment and materials testing facilities, cleaning equipment and welding wires of suitable composition. Once this inventory is established at the Centre, and suitable plate, of the same composi-

tion as Leopard steel, and Scorpion and MGB aluminium is received, it will then be necessary to conduct trials for selection of a suitable welding machine, and develop suitable welding techniques and procedures.

To date, four new welding bays have been completed in Armament Wing. These will be used to house the new welding and cutting equipments when they arrive in the Centre. These bays have all the necessary electrical reticulation installed, and are fitted with an independent fume extraction system.

With the delivery of the first of the new equipment in December 1981-February 1982, selection trials and course development will commence, with the aim of conducting the first special armour alloy repair course in May-June 1983.



YOU SAID IT BY TESTING AND VALIDATION SECTION RAEME TRG CENTRE

Those of you who have recently attended a course at RAEME Trg Centre would have been subjected to the trauma of completing an end of course questionnaire (usually referred to as the infernal Trg 15). While most of the information gathered by the questionnaire is used to improve courses, the occasional response provides the instructors with some "light relief" which may endure long after the authors have been forgotten. We have produced here for your reading, a selection of these gems.

The first gem was received from a Queensland student obviously attending a course during daylight saving:

"The course was far too short; the hours we had to work were far too long"

One student certainly wasn't modest:

"Movies, if possible, should be updated and de-americanised to suit the higher Australian intellect"

While the following comment has come from a tear stained questionnaire completed by an RMC cadet:

"I was disappointed that we did not have an opportunity to see a tracked vehicle, operate or ride in anything. We have been in the Army for four months and all we have seen is a bitumen parade ground and rifle drill, here is our first chance to see a Leopard or APC and they are all in pieces!"

Another student was obviously not aware of the many small jobs that need doing:

"The tool kits issued on this course were not of very much use as they contained very little tools!"

For one reason or another, some students are not as open as they could be:

"Section 6 to 11 I have marked as no preference as I feel this is close enough to being non-committal"

This final comment came at the conclusion of a two page outburst which we took very seriously. These final two sentences destroyed us:

"Please do not think that the above are complaints. They are for the amusement of the staff because I know nothing will be done anyway!"



Engineering Supplies

Hoey Fry Pty. Ltd.

Cnr. Boundary and Water Streets, Spring Hill, Brisbane. Tel. 31 0161

A Major Supplier of Engineering Products to Industry.

Consult our Specialists for Any Problems Concerning.

- ★ Transmission & Conveyor Equipment
- ★ Welding Equipment
- ★ Filtration, Insulation & Chemicals
- ★ Hand Electric & Power Tools
- ★ Compressors & Spray Equipment
- ★ Fasteners & Ger.eral Lines
- ★ Hydraulic & Pneumatic Equipment
- ★ Abrasives, Tapes & Carbide Tools



IMD JOTTINGS

102 FIELD WORKSHOP (LIGHT) ANOTHER TYPE OF WORKSHOP

BY 2LT G.E. HARDING

I suppose most newly-graduated young officers have two main things on their minds as they leave the gates of their Alma Mater behind them; one is what will my next unit be like, and the other is just how difficult is my new job going to be?

Considering the first aspect, I quickly realised that I knew very little about my new unit, 102 Field Workshop (Light), except that it was in the Operational Deployment Force (ODF) and that it was, so I thought, a brand new unit. My recent course had only touched sparingly on the ODF and certainly an infantry-orientated course such as OCS did not go into the detailed difference between a light-scales field workshop and any other type of field workshop. In fact, what was the ODF, its genesis and its role?

Although I didn't know it, the answer to my last question would have provided me with the answer to the second of my original thoughts – just how difficult is my new job going to be? Having been with the unit nine months, now, I believe I know the answer to both questions and a lot more. It occurred to me that others in the Corps may well be wondering about the ODF, that strange thing north of the Burdekin and in particular, the reasons for the rapid disappearance of a large number of the RAEME personalities to swell the exclusive ranks of the EME units in the ODF.

Therefore, it is perhaps timely to not only give my impressions as a young officer marching into a new unit, but to pass onto the Corps in general some snippets of information on the ODF, and in particular, 102 Fd Wksp (Lt).

In 1979, the Government decided there was a need for something extra in Australia's defence structure – something which could react quickly should the need arise. This was the ODF, based on 3 Bde units, already located in Townsville. The establishment of all these units changed significantly to suit their new roles. Although 102 Fd Wksp did exist at the time, it was "part of, and indistinguishable from NQ Area Wksp". There was one thing that had to be done to give the ODF a full compliment of personnel – give 102 Fd Wksp its autonomy. This occurred in 1981, some six months after all the other ODF units reorganised themselves.

102 Fd Wksp was previously raised during the Vietnam conflict and disbanded on its return from active service. It was re-raised on 1 May 77 to support field force units in the Townsville area, but it was, as I previously mentioned, to remain indistinguishable from NQ Area Wksp. It was also to be under command of NQ Wksp and share that unit's living and working accommodation. While this was a tolerable situation, it was not suitable to a Fd Wksp and an organisation such as the ODF, which was expected to be capable of deployment as a homogeneous force at relatively short notice. Therefore, when the ODF was established in 1980, it was only a

matter of time before 102 Fd Wksp separated from NQ Wksp. Strangely, this did not occur until Feb 81 when the Command Status changed to under command HQ 1 Div.

Action to effect the separation had commenced one month earlier upon the arrival of the OC, Maj R.L.G. Grant. Since that day things have moved quickly as he had been given until 30 Jun 81, like all other unit commanders, to have their units ready for operational deployments. While the whole Wksp was on 28 days' notice to move from that day, an Advanced Workshop Detachment (AWD), designed to support an Infantry Battalion Group, was on 14 days' notice to move from 30 Apr 81.

Time was indeed short! In the next few months following separation much was accomplished. The remaining 50 personnel marched in to bring the unit to its authorised establishment strength of eight officers and 108 ORs. Receipting of stores and equipment continued in earnest. Issuing equipment to all ranks began. PT and regimental training started. Finally, a system of EME Support to the ODF units had commenced.

Changes were occurring everywhere, not only in the management of the unit, but in the personnel. As the unit's routine included a vigorous PT programme, body shapes altered. Weekly route marches and regimental training required by the Brigade Commander also conspired to change attitudes. Much has been gained from this demanding programme, not the least being that the unit started to quickly develop a spirit – its identity. This improved fitness soon became obvious and could best be gauged by the 3 Bde cross-country results where the unit finished a creditable 9th on aggregate out of 20 teams competing.

At this time, the unit still had a great deal more preparation to do. This took the form of a unit training exercise, designed to teach and revise basic infantry skills required by all RAEME personnel in a field workshop. Consequently, 102 Fd Wksp (Lt) deployed into the field for the first time, with all its vehicles and equipment. Later in the year, (1981) the unit deployed to High Range Training Area with the complete Brigade Maintenance Area.

These deployments were invaluable and were a natural following on from training at Lavarack. In addition, they were good preparation and a testing ground for Ex Kangaroo 81 in October.

During the turbulent period of raising the unit, a number of very important aspects, essential to the development of the unit spirit and morale, were finalised. The first of these was the selection of a unit mascot. It was decided a crocodile best suited the unit's burgeoning image as a "lean and mean" fixer of equipment. It now proudly adorns shirts and plaques and when the unit moved to its new accommodation, the parks

and wildlife people have agreed to provide a suitable green, hard-hided quadruped. The second was a unit "rag" to provide families and associates with unit news and quips from all facets of the workshop.

Getting everyone together to meet everyone else has been difficult because of the busy nature of the unit. However, one of the key elements in both raising the unit and drawing it together has been the enthusiasm shown by all ranks; *everyone* has pulled their weight. Naturally, a few of the characters in the unit have left their mark. Capt O'Brien and Sgt "Joe" Owens have tried successfully to quell the rumours that advancing baldness and age have nothing to do with fitness and their ongoing feud on unit PT periods has always found the "young fellows" wallowing in their wake, on the runs. The CSM, WO2 Barry Reid, had, despite the pain which he occasionally feels due to his PT efforts, a sense of humour and organisational ability which does both himself and the unit credit.

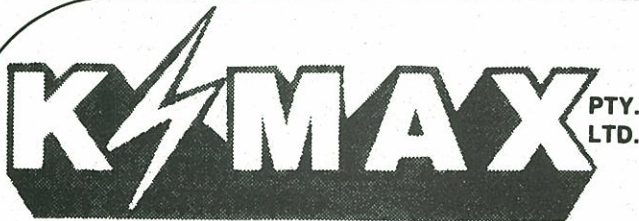
The QM, CQMS and their staff, despite their grumpiness

and tremendous workload, still are capable of issuing much needed equipment — when it's available. All Pls, despite lack of tools, machine equipment, poor working conditions and sometimes total inundation, have found time to not only produce work of an excellent standard, but time to provide facilities to improve the standard of the "Croc Shop" in the bush. The RPS Pl have also performed a herculean task in issuing much needed spare parts and building up the ODF holdings to the standard that is required by that force.

So much has been done since Feb 81. The unit is now raised and has developed a real working relationship, not only with its dependent units, but also with the other units in the area.

Although Kangaroo 81 was disappointing for its lack of work, it did show the unit that all the preparation in 1981 was realistic and worthwhile. It also showed me, as a newly-arrived officer, exactly what my new job was all about. I know its capabilities, its strengths and weaknesses, its procedures and most of its people.

102 Fd Wksp is on its feet, and I'm glad to be running with it.



KEN MARKS ELECTRICAL CONTRACTOR

- General Contracting • Power Generation • Refrigeration — Cool Rooms
- Air Conditioning

Genuine 24 Hour a Day — 7 Days a Week Service

Special Service to Out of Town Customers

ALICE SPRINGS (089) 52 4630 — After Hours: Alice Springs 52 1185
3 BROWN STREET, ALICE SPRINGS, 5750

BERRIMAH FAMILY BUTCHERS

"Pleased to serve & serve to please"

- ★ BULK ORDERS CUT & PACKED TO YOUR REQUIREMENTS
- ★ LOT FED ALICE SPRINGS BEEF
- ★ PRIVATELY OWNED & OPERATED

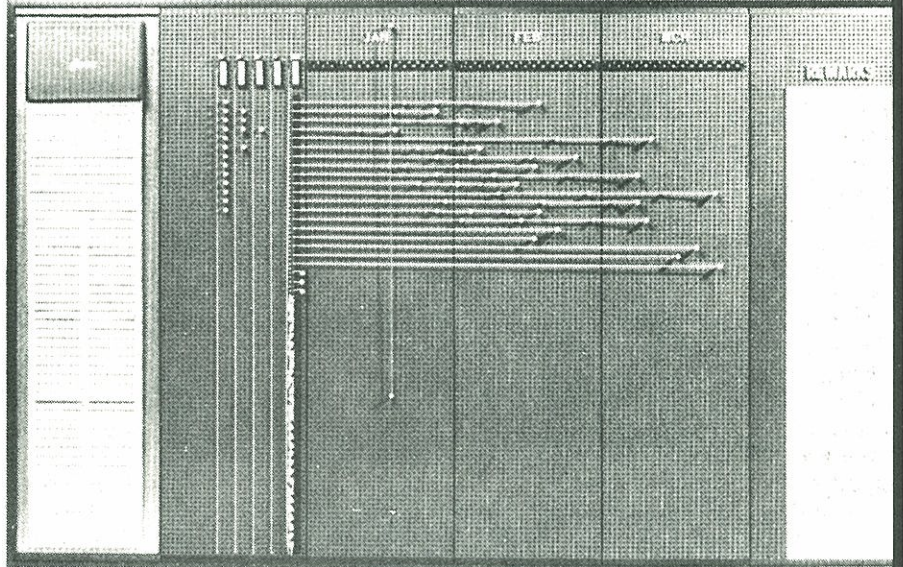
DARWIN (089) 84 3662
BERRIMAH RD., BERRIMAH (BERRIMAH SHOPPING CENTRE)



Charts of many parts

CHARTSIGN specialises in Planning, Maintenance, Manning, Establishment, Analysis Charts, as well as white and pin-in Bulletin Boards, Mess Boards etc.

CONTACT:
Ray Dellit
(RAE RETD)
Defence Services
Consultant
PHONE: (02)
982 3849,
982 8190



CHARTSIGN

The Economical Alternative

HASTINGS DEERING

[QLD.] PTY. LTD.

FOR
DIESEL AND NATURAL GAS ENGINES
ELECTRIC SETS
DIESEL MARINE AND TRUCK ENGINES



YOUR CATERPILLAR DEALER

KERRY ROAD, ARCHERFIELD
QUEENSLAND 4108 PHONE 275 9229

AN ODF WORKSHOP - WHAT IS IT?

By 2Lt G.E. Harding

INTRODUCTION

In "102 Field Workshop (Light) - Another Type of Workshop", I spoke about the experience of being involved in the raising 102 Fd Wksp (Lt). In this article I want to elaborate on the type of workshop the ODF Workshop is.

Before going into its role and characteristics, it is worthwhile briefly looking at the manner in which the ODF might deploy. No set scenario is as yet laid down for the ODF Brigade, but it must be capable of rapid deployment by land, sea, or air or a combination of these, to locations either in Australia or overseas. As such, all units are essentially air portable and are reasonably well packed ready to move on 28 days' notice.

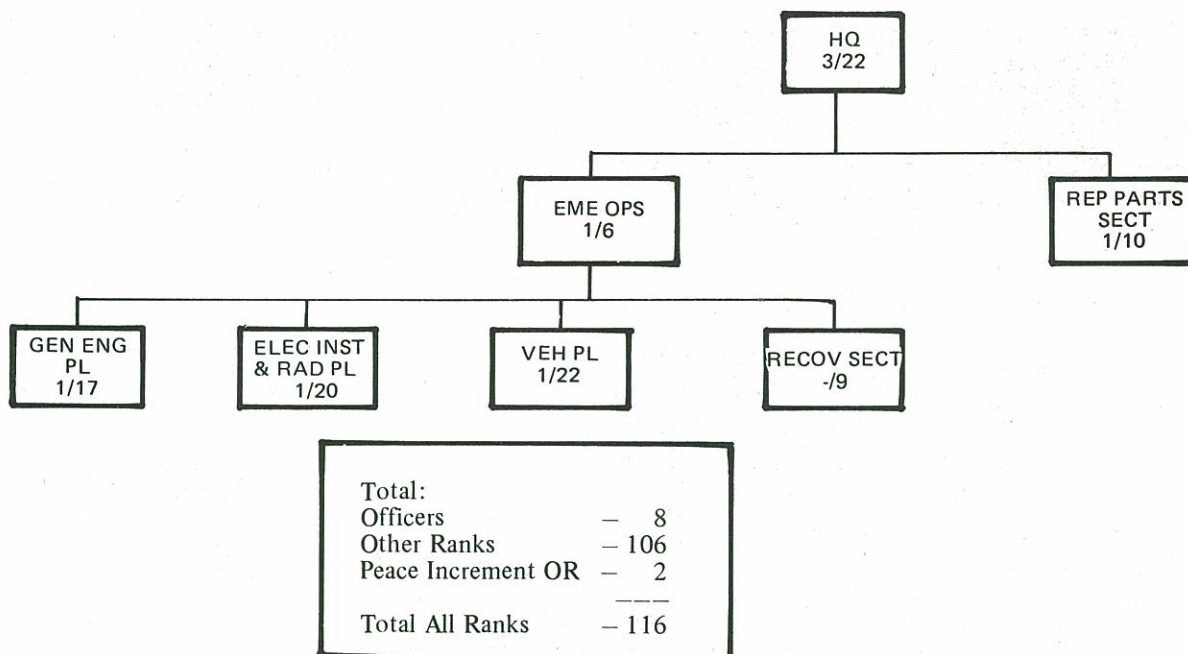
When scenarios are considered, it is generally expected that an element, probably a battalion group, will be air lifted to the area of operations. This will be followed by the remainder of the Brigade. At this stage the ODF will be given third line support by an ODF Logistic Support Group (LSG). It should be noted that there is no third line EME or Repair Parts support in the LSG and this is meant to come from the ASA.

ROLE

The role of the *light* scales workshop is to provide second line repair and recovery for a *light* scales Brigade.

ORGANIZATION

I think the organization can best be explained by the following diagram:



CHARACTERISTICS

The first characteristic of note, which is readily apparent from a quick glance at the organizational chart, is that the ODF workshop is not established with a Forward Repair Group. The workshop does, however, have the capacity to field an Advanced Workshop Detachment of about one officer and 14 tradesmen in support of the Battalion Group.

A second difference between a normal field workshop and the ODF field workshop is the establishment of personnel and major equipments.¹ The Divisional Field Workshop has a war establishment of 10 officers and 160 other ranks, whereas this workshop has a wartime establishment of 8 officers and 124 other ranks, and an authorised establish of 8 officers and 108 other ranks. Currently the unit is manned to 111.

Our weapons and vehicles are different from that of the compared workshop, in that 102 Fd Wksp (Lt) has approximately half the LMG fire power and only 35 vehicles. Thus to move the workshop over the ground, sufficient transport support is required to move about 30 personnel and most of the stores in the Category A, B1 and B2 stores. The other difference is in major equipments. The workshop is entitled to modules, and shelters, medium and light, but until these are designed, manufactured and issued the unit will continue to use the standard technical landrover and trailer as well as its three electronic repair vans (ERV).

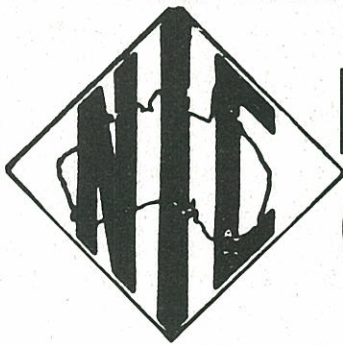
Apart from the ERV the workshop is air portable in MRT aircraft: probably its most important characteristic.

Another important characteristic is the area the workshop occupies in the field. This is approximately 800m² in moderately wooded country. An interesting characteristic of the workshop is that the equipment it takes into the bush is the same that is used in base. The unit does not possess any fixed installation tools or equipment, and when it is deployed it leaves behind empty buildings. This has advantages and disadvantages.

One pleasant aspect of the establishment of this workshop is the generous issue of radios. This allows EME operations to be supremely flexible and utilise the resources of tradesmen and recovery mechanics very effectively.

CONCLUSION

I hope that through the two articles, readers will now be aware of both what the ODF is and how this unique workshop



N.I.C. INSTRUMENT COMPANY

(A DIVISION OF ANSETT TRANSPORT INDUSTRIES (OPERATIONS) P/L)

Head Office:

Parer Road, Airport West, Victoria, 3042

TELEPHONE: (03) 342 1122

Cables & Telegrams: NATINCO MELB.

Telex: AA31157

NSW: 1-7 Sydney Street, Marrickville, NSW, 2204. Telephone: (02) 519 8931

63 Birch Street, Condell Park, NSW, 2200. Telephone: (02) 708 2111

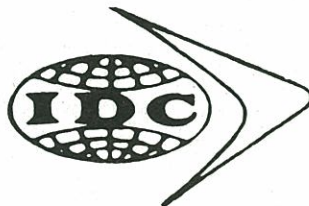
QLD: 11 Cordelia Street, South Brisbane, QLD. 4101. Telephone: (07) 44 2111

W.A: Cnr. Gt. Eastern Highway & Boulder Avenue, Redcliffe, W.A. 6104.

Telephone: (09) 277 4655.

NIC offers the Armed Forces a Nationwide Service in Aircraft Instruments, Electronics and Communications, with all branches offering careers to experienced personnel.

SERVICE
AGENTS FOR:



CHADWICK



HELMUTH

LEAR SIEGLER, INC

supports it. Light scales is not a term which is bandied around without thought. It is a real requirement, and although it produces difficulties, it does ensure that ODF can deploy in the required time frame with enough assets to achieve its mis-

sion. 102 Fd Wksp (Lt) is part of that organization and is doing its part to achieve the aims of the ODF.

¹ *Div Fd Wksp MLW Part One, Vol 6, Pam 2, Aide-Memoire, 1981.*



LEAN & MEAN OR WAS THAT "FAT AND FIERCE"

By Lt M.B. McGinley

It's certainly been a time for change at NQ Wksp Coy as we've now successfully recovered from birthing 102 Fd Wksp in Jan 81. Apart from being a bit cramped and spread all over Townsville, the unit is prospering and eagerly awaiting the construction of the new co-located NQ Wksp/102 Fd Wksp premises.

It's not all sunshine and song though, sometimes we even get sent off into the deep, dark weeds to remind us that one day the ODF will get us all. When the offer came up to be the second Log Comd unit to get to "Tully" or if you prefer - the 1 Div Battle School, well . . . what could we say?

Of course all the boys said, "no, no, we don't want to go", but they couldn't fool HQ; who knew they were dying to get up there and see if the rumours were true. And now we know - they are! If the fauna doesn't get you, the flora will. We all enjoyed ourselves so much with LtCol Mansford and his Merry Men that we've decided to make it an annual event????

As you probably don't know, we seem to act as a holding area for members going to ODF units, so every time you turn around there's a new face sitting in someone's old chair.

"The Boss" is still Maj Glen Duus, whose steady hand, sharp eye and fearless nature is guiding us through uncharted waters. As with most unit commanders, onerous tasks must fall on his shoulders such as being Supervising Officer of the Sports Fishing Club. Luckily, however, it gives him a chance to put his boat and lines into the water - can't let the lines get too dry can we sir. Capt Mike Stark has been sent to Canberra to serve his time, and his successor Lt Bruce McGinley is still trying to work out how Brisbane, Adelaide or Perth got misconstrued to Townsville. Must have been when he said - "somewhere warm". *Editor's Comment: You obviously don't appreciate the humour of the powers to be in "Sunny" Downtown Canberra.*

WO1 Rod Cheyney has left to open his own business in Townsville, thereby opening the way for yet another Art Armt WO1 Norm Rains. So now both NQ Wksp Coy and 102 Fd Wksp are firmly in the grip of the black trades and doing very nicely thank you.

A few snippets from the Wksp rag - "The NQ Query" won't go astray at this point; you can guess whether the author was a greaser, fitter or long hair type.

"The centre piece of the workshop is Veh Pl. They do anything, anywhere, anytime. Their staff ranges from 2 to 22, depending on who has been loaned out. No job is too big or too small, just get in the queue and keep your fingers crossed that there is someone home!

"The unit has its own Resort on Cleveland Bay at Kissing Point staffed by a brilliant crew of enthusiastic gents, and of course, one lady. They'll cater for your every need (well almost) whether you need it or not."

Probably the most unusual task we've had for some time was camouflage painting the then Task Force's vehicles in October 81 for use on K81. A production line was set up in the open ground near 102 Fd Wksp and assorted personnel were ferreted out from all over the place to paint the TF in "can't-see-me" patterns. Two weeks of frantic activity with two six-hour shifts a day, produced roughly 500 Tropicallly Cammed Land Rovers, Trucks, Wreckers, Plant, A vehicles and one previously grey Airforce Land Cruiser belonging to a still smouldering TFALO. Many people were involved but we'll give a plug for our two blokes, SSgt Bruce Sansom and Cpl Dave Cullen who lashed themselves to a spray painting unit as supervisors throughout the task; well done team.

Not to be out-done, the GE boys at Kissing Point tried their hands at "Camming" four Companies' worth of weapons also for K81. SLRs, M16s and M60s all came under the artistic direction of Cpl Des Rodgers and LCpl Tony Rykers. The finished articles indicate the pride they take in their craftsmanship, a job well done.

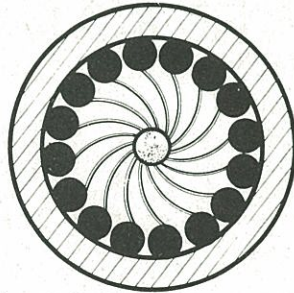
Our contribution to the sporting world was not without its successes and traumas. In the Interunit Volleyball - we were looking good! (Work that one out for yourself). The result in the Interunit Basketball - a modest second was obtained. Pride of place, and rightly so, is the Lawn Bowls where a Championship win was recorded. I have to put this in for colour and the ASM (leader of the pack), otherwise he'd go red!

So, on that high note NQ Wksp Coy (where it's terribly hot and we all run around in our shorts and light shirts throughout the year) send our greetings to our brothers in the deep south and the east and the far west, and hope you have a year as exciting and as interesting as we know ours is going to be.



FLEX-HONE™

**FOR AN IMPROVED
SURFACE FINISH IN:
Engine, Brake,
Hydraulic and Most
Other Cylinders**



- Lessen Friction
- Increase Life
- Improve Performance
- Lower Blow By
- Reduce Oil Consumption

Flexible, Compressible and Self Centering.
Sizes available from 6.4mm to 914mm diam..
Supplies and Technical Literature available from

**AYROSS TRADING &
DISTRIBUTING CO.**
PO Box 47, Ascot Vale, Vic. 3032
Telephone: (03) 3177732



KINDLY SPONSORED BY

FORMWELL Constructions

MAJOR CONSTRUCTION WORK COMPLETED —

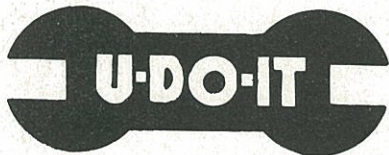
- ★ Horton Highway
- ★ T.A.B. Building, Albion
- ★ Cairns Base Hospital
- ★ Mareeb Hospital

**ALL TYPES OF CONCRETE FORMWORK
FOR FREE QUOTES PHONE—**

341 4912

A.H. 341 2385

10 GLENGALA DRIVE, ROCHEDALE, 4123



**DO IT YOURSELF CAR
REPAIRS
EXTENSIVE RANGE
OF TOOLS
EQUIPMENT & PARTS
AVAILABLE**

**U-DO-IT
SERVICE
CENTRE Pty. Ltd.**
204 Wyndham Street,
Alexandria, 2015
PHONE: (02) 699 1766

WEST END MAZDA

**187 George Street,
Parramatta
PHONE: 635 3300**

**AUTOSENSE COMPUTER
ANALYSING OF
All makes and models
All other repairs carried out
efficiently & guaranteed**

HAS ANYBODY SEEN 131

By Cpl C. Brighton

There we all were, sitting quietly in Holsworthy bothering nobody when suddenly (suddenly in Army timing being a period between one day and someday), we disappeared as if by magic and reappeared in Enoggera. This sudden absence created a large vacuum and air rushed into the camp as the law of nature requires.

Anyhow, the move went very smoothly according to plan. There were no breakdowns during the convoy, no family problems for the married members and everybody was given plenty of money to assist their move. Each married member was allocated a beautiful, well kept, married quarter with established gardens, and living in members were allotted a magnificent new barrack block. Obviously some of you readers doubt my word, but then you probably don't believe in Santa Claus or the Easter Bunny either.

We have settled in quite comfortably here in Queensland. We have a new Workshop building in which everything works (with the obvious exception of our tradesmen). We have lights that light, extractor fans that extract, sprinklers that sprinkle, an oil eating machine that eats oil and an ASM that complains – so everything is as it should be.

On our arrival we were issued a new OC who is referred to as the TC for reasons known only to our parent unit. He is settling in quite nicely, and his doctor assures us that there is very little chance of a second nervous collapse. Apparently the first was caused by trying to deal with ninety complaints per day, but now that the rate has dropped to twenty per day he should be able to cope.

On the physical fitness front, we have surged ahead. With the new PT tests, the new/old BE tests and the local hilly

terrain, we have reached levels of endurance never before thought possible. Some minor injuries have occurred due to attacks by mountain goats during cross-country runs, but losses are within reason so we will press on.

Around the sections, the never ending tasks continue. Radar section is now being run by not one, but two Sergeants. We find it necessary to have two so that they can talk to each other, thus allowing the termites to continue uninterrupted on their repair tasks.

GE section is now under the control of Cpl Paul Fairminer who has introduced a new priority system for jobs. Under his new system, jobs can now be put off a bit longer, but strictly according to priority.

Vehicle section fixed a vehicle in February, and when the celebration ended in early September, they started straight away on another one. All of L/Cpl Pat O'Mallons friends (I hope both of you are reading this) will be happy to hear that he has completed the painting of his toolbox and will be painting the number on it after the Christmas leave period.

Naturally enough, both stores are working flat out and consistently producing work of a high standard. All requests for parts or tools are fulfilled immediately and the Storemen are always available to assist in the day to day running of the Workshop. In addition to the above, we also write the submission to the RAEME Craftsman.

In conclusion, all members of the Workshop extend congratulations to Landrover Number 111387 on having reached 21 years of age. Could this be the oldest Rover in service? Could this be the oldest Rover in the world? Only the next issue of the Craftie can provide the answer.



A CRAFTY SCORPION ABROAD

By Cfn S. Fritsch

Walking across the tarmac of RAAF Base Garbutt, I thought to myself – “well, I'm off to see the exotic South-East Asia”. In fact, I was a member of the composite rifle company, made up of soldiers from B Sqn 3/4 Cav Regt, 4 Fd Regt RAA and 1 RAR. As the engines of the 707-B roared to take-off pitch I felt a little apprehensive about my new employment of 2½ months duration.

Twenty-four hours later I discovered what I was in for. QRF (Quick Reaction Force) Palarda Training Centre, the Malaysian Army Basic Training Camp.

The more gruelling phases of the 2½ months were broken

by small exercises including a small boat handlers course, and being winched from the sea by RAAF SAR. Of course, the small bouts of leave presented an excellent opportunity to visit those tourist venues seen in glossy travel magazines, as well as the renowned night life of Bangkok and Singapore.

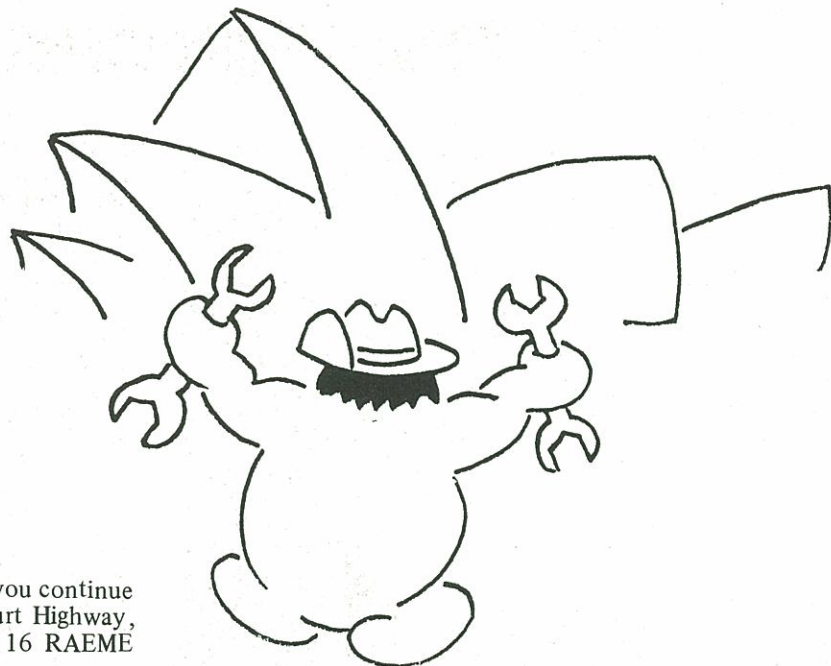
Back at Butterworth I did manage to retain my Crafty identity performing minor repairs to our vehicles.

Near the end of the trip I was just starting to feel settled in and felt reluctant to come home, but now that I'm home, it's good to be back.



2MD JOTTINGS

The Forgotten Army



Many of you will remember Kapooka. Well, if you continue approximately 25 kilometres north along the Sturt Highway, you will come across a forgotten army. We are 16 RAEME personnel on course at RAAF Base Wagga.

The RAAF base at Wagga Wagga has the responsibility of training RAAF tradesmen and apprentices in aircraft trades, well, this bastion of learning has been infiltrated by the "dreaded" green machine.

Our current strength is 16; comprising 9 TES(Air) students (course duration 20 months), 2 Engine Fitter students (course duration of 9 months), 2 Airframe Fitter students (also here for 9 months) and 3 on a Basic Fitting course which will culminate in an Airframe course.

On the TES(Air) course are Cfn Greg Dickson, Joe Szeliga, Tony Cook, Tony Harrison, John Raidal, Bill Cannon and Geoff Ferry. Cfn Ted White enjoyed RAAF hospitality so much whilst he was here on an Engine Fitters course that he has returned to do the TES(Air) course. Cpl Charles Lenarcic has, after eight years, seen the light and is transferring from the MP's to RAEME.

For those who are interested, TES(Air) course is approximately 20 months long; 3 months being Initial Fitter training, filing, hacksawing, etc. The next stage is Instrument Fitting This entails a variety of subjects, some of which are Flight Instruments (theory and practical), Electronics Engine Instruments and on to Compasses and Aircraft Systems. This section is approximately 14 months long. The final phase is with the Electrical Fitters where you learn aircraft wiring, batteries, motors, generators and so on. All in all, a very hectic and satisfying 20 months.

The Engine Fitting course normally commences after a 3 month basic fitting course at the RAAF base, but if you are already an Army tradesman, this is waived.

The first 4 months of the course are a rehash of trade practices and basic engine construction, covering both recipri-

cating and jet engines. For qualified tradesmen, it is mainly revision, but after this the actual fitters phase begins and the subjects become harder. Some of the phases covered are jet engines, turbo-props and heli-systems.

At the moment the RAEME personnel on this course are Cfn Wayne Price of 22 Const Sqn Wksp and Danny Sharpe, via 4 Base Wksp Bn.

Currently attending the Airframe Fitters course, are Cfn Rhys Morgan of 127 Sig Sqn and Phil Sullivan, also from 22 Const Sqn Wksp. The initial stage consisted of a week of solid schooling, covering subjects such as Theory of Flight, Hydraulics, Ground Handling of Aircraft, General Servicing of Aircraft and Airframe Constructions. They have at present completed 4 months here and are now classified as "Mechs". Upon completion of the next half of the course, they will be RAAF qualified Airframe Fitters.

Newly arrived at RAAF Base are LCpl Dan Epple, a plant operator from 20 Div ENGR SPT SQN, Martin Hillier, Clerk Admin., who liked aircraft so much whilst posted to 173 Gen Spt Sqn he decided to learn how they worked, and Scott Kimber from 1 RTB. These members are now doing their basic fitting, and afterwards will be doing Airframes.

The Army contingent at RAAF Base Wagga, though small, makes its presence known to all. The reputation we have developed since we have been here is unique. We, being Army, are not afraid to say what we think.

If you are considering changing trades or starting into the Aircraft trades, be aware that this is a training establishment and discipline is a major part of training. You will also be wearing green, and there is colour prejudice amongst the 2,000 "blues".



**ONE
STOP
Enoggera
Self
Service
355 1256**

**454 Samford Rd.,
GAYTHORNE, Qld. 4051**

OPEN: 7am to 9pm.
7 DAYS A WEEK

Free Home Deliveries
CONVENIENCE
GROCERY SHOPPING

KINDLY SPONSORED BY . . .

BEENLEIGH TRACTOR SUPPLIES
WHOLESALE & DISTRIBUTORS OF
SECOND HAND MASSEY FERGUSON
TRACTORS & IMPLEMENTS
287 3506
Lot 1, Old Pacific Highway, Yatala, Qld. 4207

The Fighting 101st



101st Field Workshop Entrance, Ingleburn.

The imposing arch standing sentinel at the entrance to 101 Fd Wksp, Ingleburn, will have been doing its job for twenty-two years when December 1982 rolls around. Unfortunately, or fortunately, depending on your point of view, it cannot relate all of the unit's history, nor the personal stories that unfolded here and passed by without record.

Perhaps the following might cause ex-members to reminisce and other readers to understand the origins and present day functions of 101 Fd Wksp, RAEME.

June 1957, saw the 101 Infantry Workshop formed in Puckapunyal to provide second line RAEME support to the 1st Independent Infantry Brigade. The brigade itself had just been formed and constituted the first Field Force formation of the Australian Army. Major D.R. Brockwell is recorded as the first Officer Commanding of the new RAEME unit. Later Officers Commanding included some of the Corps present day senior officers.

"Grand Slam" conducted near Mackay, Queensland in 1959 was the first major exercise in which 101 Infantry Workshop supported the brigade. On the units return from "Grand Slam" in July 1960, it moved from Puckapunyal to its present location in Ingleburn. Our unique arch was erected at that time and officially opened. A commemorative nameplate of this event claims the arch was originally erected at Britcom Base Workshop, Japan as the entrance to Sturdee Barracks and had been brought to Australia in May 1956. Incidentally, 101 Fd Wksps present location was the original site of RAEME Training Centre before it moved to Bandiana.

By the end of 1963 the unit had been re-named 101 Field Workshop. With five major exercises having been completed in support of the 1st Independent Infantry Brigade since its formation, 101 Field Workshop departed for South Vietnam in May 1966 to form part of 1 Australian Task Force based at Vung Tau. From here it carried out its role of field repair and recovery until relieved by 102 Field Workshop about twelve months later.

After re-establishing itself at Ingleburn the unit entered into a reinforcement and promotion subject training role. At this

point in time the historical information available in the unit peters out. One assumes the unit gradually, as the Vietnam War finished, adopted its present day role of field repair and second line recovery to divisional units. Members of 101 would be appreciative of any information that our readers can provide to fill the gaps in our history.

Today, the unit has a posted strength of 116 Officers and ORs, and is commanded by Major Jeff Howe. Major Howe has strong views on the role of the workshop and its need to be able to defend itself when deployed in war. Hence an ex-member marching back into the unit might be surprised to find all of us out on a 15km route march, preparing hastily for a workshop deployment, "digging-in" the CP or living in fully developed weapon pits. All this is hard work and differs with some other's views of our wartime working situation, but our Officers and NCO's have adapted to the boss's tactical scenarios. Workshop production continues to be achieved in the face of enemy probes on our perimeter, hostile air activity and much digging.

Back at home in INGLEBURN things aren't quite that bad as our photographs show. Although lacking in modern facilities, we manage to provide repair and recovery support to units of 1st Brigade (formerly 1st Task Force) and carry out our unit training activities.

On the lighter side, past and present sportsmen of 101 Field Workshop have succeeded in earning our title "The Fighting 101st". Every member of RAEME must have heard of our immortalised tug-of-war team. We are very proud of our fourth successive win in the 1st Task Force competition, and our third in the inter-service. Forever striving to be Champion of Champions, we acquitted ourselves well in 1981 at the Australian Championships, succumbing by only one loss to the Australian Champions. Even as this article is being written, our team is preparing for another crack at the championships at Maitland on the 20th February 1982. The strain on the rope and the faces of our champions in training is full testimony to the team's dedication. (See photo).

Running a close second to 9km cross-country runs and tug-of-war, Rugby is our favourite past time. Boasting a team with a large proportion of "aerial ping-pong" players, we again threw our weight and skill into the 1st Task Force competition in 1981. For the second year in succession we found ourselves pitted against 17 Construction Sqn in the Grand Final. Ably led by Cpl Bob Jaegger, "The Fighting 101st" took the game to the opposition, and won with the one and only try by Cpl "Weaner" Parker. A fitting end to a season in which we had remained undefeated and carried on a winning tradition.

Never to be outdone in any competition, we returned from exercise K81 in December 81 and put together a scratch team for the Task Force Athletics Carnival. Once again we made our presence felt. Through the efforts of Lt Pete Cleasby-Jones, Cpl Bob Jaegger, LCpl Danny Rooke and Cfn Bruce Hansen, we captured the minor team competition. A fine performance, which left us with a winning margin of only one point from 1 Tpt Sqn.

101 Field Workshop is looking to another hectic training and work programme for 1982. With six exercises planned before June 82, we are making hasty preparations to meet all of our commitments. The only break to be seen at the moment is the celebration of our 25th birthday in June 82.

By then, 101 Field Workshop serving members will have a few more tales of exercises and sporting achievements to relate to our guests and visitors. Here's hoping you ex members are there to celebrate with us.



The ASM, WO1 Barry Woodberry, caught returning from his PMC duties

Cpl Jim Owen titivates the injectors of "Shirlee" while "Cactus" stands by.





Cpl "Pouch" Kunde getting the TELS truck ready for exercise "Roadrunner V".



Tug-of-War Team: Capt/Coach WO2 Kev Stewart (front), exhorts Cpl Toodle, LCpl Rocky Stone and Capt Dick Boyce to pull that "bloody" gum-tree down.



Cpl Hansen prepares GE stores for "Roadrunner V".

GENEROUSLY SPONSORED BY

The McIvor Highway Hotel

(LANCE & DOREEN CRISP)

★ Icy Cold Beer on Tap ★ Lunches Mon-Fri,
12-2, Teas Fri & Sat 6-8pm ★ Good
accommodation and Home Supplies available

**65 McIvor Rd., Bendigo
(054) 43 5065**

Master Painter & Decorator

g.e.c. stemick

★ Complete Home Decorating Service
★ Wallpapering Specialists
★ Minor Alterations & Repairs
RADFORD ROAD, HOWARD SPRINGS
(off 25km Stuart Highway)
PHONE DARWIN 83 1149
G.P.O. Box 4094, Darwin, N.T. 5794
**IF NO ANSWER RING DARWIN
81 9046**



BEST WISHES FROM

ALBION HOTEL Stawell

(BRIAN DICKINSON & IAN SCHILLING)

★ Enjoy a meal in our Bistro or Counter
Meals 12-2 and 6 o'clock onwards
★ Full range of beers, wines and spirits
★ Cold Ale on Tap

Gold Reef Mall, Stawell— (053) 58 2080

mufflers

L & D EXHAUSTS CAR EXHAUST & MUFFLER SYSTEMS

★ Mufflers for all types of vehicles ★ Custom Made
Exhausts ★ General Repairs ★ Tune Ups
**EXPERT MECHANICS
ALICE SPRINGS 52 2871**

3 Fogarty Street, P.O. Box 3166, Alice Springs 5750

L & D EXHAUSTS

HOWITT HOME BUILDERS PTY. LTD.

QUALITY NEW HOME BUILDERS

**PHONE:
(053) 39 5798**

*Your Plans or Ours,
Commercial and Industrial
Member HIA — Reg 7711*

OBLIGATION FREE QUOTE

**1220 Howitt Street,
Wendouree, Ballarat, Vic.
After Hours: Stan Saw (053) 31 4075**

G.M.H. REPLACEMENT PARTS

and Accessories
are available for Commercial and
Passenger Vehicles at

Eagers PARTS

EVELYN ST., NEWSTEAD, PH: 253 9212

ALSO AT: **TOOWOOMBA** Victoria St. Ph: 32 1533

ROCKHAMPTON 160-164 Denison St. Ph: 27 6400

MACKAY Gordon & Wellington Sts. Ph: 57 2771

TOWNSVILLE 554 Sturt St. Ph: 71 3161

1940-45 "A DAY IN THE LIFE OF AN "ARTIFICER" AAOC RAEME BY BULLPUP

The morning broke cold and foggy and the crunch of iron shod heels reverberated against the solid brick walls of the "Erection Shed" which housed the Battery Telephone Switchboard and the Tiffie's office which served as sleeping quarters for the senior Tiffie assigned to the Fortress.

The iron shod heels quickened to a "Double", then split in halves, one half going south, the other, north. They belonged to the morning watch of the 9th Heavy Brigade on the way to relieve the night watch, and begin the dawn, Preparation for Action Tests.

The senior Tiffie, now up and dressed (Working Blues) emerged from the building, greeted his junior partner who slept at Barracks, and directed him to No2 Gun, Emplacement 17, Cape Banks. The Tiffie, muffled to the ears and hands in pocket meandered a tortuous path across the Parade Ground cum football field towards Gun No 1.

It was not by choice the Tiffies went to the guns. It was standing orders that obligated the presence on the guns at all times when the guns were – in action, drill times, morning and afternoon preparation for action, or simply maintenance.

I was the Tiffie, and stood silently watching every movement of the massive yet beautiful machinery, noting air pressures, air and water blast – an important action function, (water being cut off during drill), making adjustments and taking readings during the times that the entire crew was "off the gun" following the commands "Detachment Rear" barked out by the Bombardier George Hogdale who was the No 1 of the Detachment.

Out of the mist and the still invisible Gun No 2, though a mere 120 years away, came the recognisable voice of Bombardier Col Wise, as he put his crew through their drill following the Preparation for Action Tests on that gun. "Detachment Rear" – "Change Round" – "Number" – "Take Post". The last order initiating a scramble as the squad broke up and individuals rushed to take their places in changes brought about by "Change Round".

Every individual was trained to every post on the gun so that a possible casualty was immediately replaced by a Command from the No 1 – the officer or NCO in charge.

Drill was now over, and breakfast time fast approaching, so pickets were posted, the preparation crew assembled, to be marched back to Barracks to be fed.

Still the fog persisted.

What a beautiful setting for a "phoney" alarm. No sooner the thought than the deed – bells rang, sirens wailed – and it was "on". The "Arty" boys had barely sat down to breakfast than began a hearty scramble – for guns, O-pips, Command Post etc, and switchboards "cleared the lines from all outside calls except Military".

The poor Tiffies? Still unfed, unwashed, unhappy but excited, turned back on their tracks towards cleanliness and provender, to return to their respective guns, to experience perhaps, their first taste of action!

Though conversation between members of the troops was forbidden, conversation between the NCO's was not, and much speculation was made as to whether it was as suggested – a real alarm or a "phoney" to test the capabilities of the, as yet untried, Radio Direction Finder as it was then known (Radar subsequently) recently installed on the Blue Fish Point?

Actually, it was a "phoney" and was a test of the fog-bound coast by the wonderful invention installed at Blue. The foggy conditions were "just what the doctor ordered", and the "Search" and "Scan" programme was initiated.

Up and down the fog obscured horizon, the Beam was deployed and the machine, yet in its infancy, could latch on to an object in its path – yet a silhouette was at that time not possible. Scan, scan, scan – suddenly an object is observed between the instrument and the horizon.

Over the Comd lines comes an excited, awe stricken voice, "vessel – unidentified – moving south – estimated speed? Could it be? It was! 120 knots! absurd!" – the whining and whistling of the wheels within the apparatus bore out the fact – estimated speed 120 knots. What sort of battleship had our enemy brought against us? The apparatus is crazy, yet two things remain to do – *believe it*, or reach for a hose pipe to cool it down and put it out of its misery.

It was now "off the screen", but the information had been relayed to the Fortress whose whole Hydraulic System of Traverse could not hold, but, wonder of wonders, a breeze blew the offending fog to tatters and revealed – two ominously beautiful cruisers, lying at "Hove To" just off shore, in a position that the lowest depression mark could not reach.

Had they been foe instead of friend they would have blasted Blue Fish, Nore and Banks right off the map. It surely was a good test of the RDF.

Later, communications identified the object – vessel, unidentified, range? Proceeding south, estimated speed, etc – as a Beaufort Bomber on Dawn Patrol, skimming the waves to get below the fog.

BULLPUP
John P. Drummond
SSgt (Retired)
65 Kleins Road, Northmead, NSW

Wright's Motel & Licensed Restaurant

FAMILIES WELCOME

- ★ Good comfortable accommodation
 - ★ 18 air conditioned units equipped with colour television and telephones
 - ★ Fully licensed restaurant
 - ★ Specialising in good home style cooking—roasts, etc.
- Open 6.30 till 8pm

RESERVATIONS OR ENQUIRIES PHONE:
HUGHENDEN 271 or 275

CALL IN OR WRITE TO:
20 GRAY STREET, HUGHENDEN, 4821
P.O. Box 7, Hughenden

PHILIPS LIGHTING KNOW-HOW

You can depend on our vast experience in the design and manufacture of:

- ★ Incandescent Lamps
- ★ Fluorescent Tubes
- ★ Home Lighting Fittings
- ★ Commercial Lighting
- ★ Industrial Lighting
- ★ Flood Lighting
- ★ Street Lighting
- ★ Mercury and Sodium Chokes and Transformers
- ★ Fluorescent Ballasts and Components

PHILIPS LIGHTING INDUSTRIES

FREDERICK STREET, BELMONT, W.A.
PHONE: (09) 277 4199

PROUD TO SUPPORT R.A.E.M.E.

ALBION HOTEL

MINE HOST—ROSS MORRISON

- ★ Icy Cold Beer on Tap
- ★ Full Range of Wines and Spirits
- ★ Tasty Counter Snacks

Murray Street,
Finley, NSW, 2713

TELEPHONE: (058) 83 1004

Alco Panel Works

- ★ Complete Car Service
- ★ Insurance & Contract Work
- ★ Free Quotes
- ★ Towing Service

DARWIN 81 3289

Rear of 31 Stuart Hwy., Darwin

NICKS

TYRE & BATTERY SERVICE

Specialising in most popular brands of tyres & tubes.

UNIROYAL, GOODYEAR, OLYMPIC, ETC.,

Truck Tyres, Fittings & Repairs — Mag Wheels—Fittings

Wide range of car accessories

Enquiries Phone (087) 33 2285

204 Mount Gambier Road., Millicent, 5280

Kindly sponsored by . . .

PIZZA SUPREME COFFEE LOUNGE

Try our Large Range of Pizzas or our Restaurant Style Meal

Telephone: 605 1206
Oxford Road, Ingleburn, NSW

BEAM ELECTRICAL

Specialising in all Auto Electrical Repairs to Generators, Starter Motors, Alternators and Regulators

- ★ Re-winds to Armatures and Stators
- ★ Repairs to Power Tools
- ★ Agents for Bosch, Lucas, Email, and Leece Neville
- ★ Contractors to Defence Forces

73 GREY ST., SOUTH BRISBANE, 4101
TELEPHONE: (07) 44 6117

DAVID KNELL & ASSOCIATES

COMMERCIAL PHOTOGRAPHERS

(07) 229 1377

417 Wickham Terrace,
Brisbane, 4000

PROUD TO SUPPORT THE ARMY ENGINEERS

CENTRAL HOTEL

MINE HOST: VAL PLATO

- ★ Icy Cold Beer on Tap
- ★ Full range of wines & spirits
- ★ Tasty Counter Snacks

Tower Street, Leonora, W.A.
Telephone: (090) 37 6042

3MD JOTTINGS



Upper Murray 1981

BY WO1 RON MOON

"Upper Murray 81" was an Adventure Training trip organised by 3 EME Gp for RAEME Personnel in Victoria during Oct/Nov 81.

Led by Major Ron Jervis and under the guidance of WO2 Steve Pearman and WO1 Ron Moon, the group followed the Murray River from its source to a point upriver from Biggara, a distance of 110kms.

The adventure came thick and fast, and actually started on the recce when Maj Owen Robinson, Capt George Vander, WO2 Steve Pearman and myself headed bush. Rough tracks, barely out of the grip of winter snows, were littered with the debris of the long hard winter, and the 20 odd kilometres from Round Mountain to the top of Davies Creek High Plain took 3½ hours. With snow, hail, sleet and rain carried on an icy wind, our little group of intrepid travellers sought the shelter of a cattleman's hut on the high plain. It was a cosy and warm abode for the night, but next morning nobody owned up to being the "phantom snorer"!! It must have been a wild possum!!

Two weeks later the main party set off from Broadmeadows and travelled via Bairnsdale, Omeo and Benambra to an overnight camp on the edge of Limestone Creek.

Next day the party established a small base camp at Cowombat Flat. Our camp, on the edge of the clearing and beside one of the three streams that join near the "Flat", soon took on a look of permanence as tents and a bush shower were erected. Cfn Ian Davidson (Davo), led the fishermen in trying to see if the fish were on the bite. Only small ones were biting, but the stories of the ones that got away were something else!!

The "Flat" and surrounding area has an interesting history. Back in 1869 Alexander Black had been tasked with the surveying of the NSW/Vic Border and fixing the official source of the Murray — the closest spring to Cape Howe. He was also tasked with establishing a series of cairns from the spring to Cape Howe, thereby "setting" the border — a four year task in rugged country, and in those days extremely remote.

Pioneer graziers moved into the area soon after, and established permanent buildings, the ruins of which can still be seen today.

In 1953 the "Flat" hit the newspaper headlines when a DC-3 Aircraft crash landed there. Miraculously nobody was killed, but the rescue operation and the subsequent recovering of most of the aircraft resulted in a track being cut into the

"Flat". Today, parts of the wings of the aircraft are the most obvious sign of the accident at the site, and in the Benambra Pub part of the wreckage, and a plaque, commemorates the part played by locals in the rescue and recovery.

These days the "Flat" is quiet — the NSW side protected within the Kosciusko National Park as a Wilderness area, and the Victorian side is soon to be protected within the Tingaringy National Park. Wild horses, kangaroos, dingoes and wombats are the most common visitors, with the occasional keen human bushwalker and camper making their presence felt.

From a point on the Mount Cobberas track, Cfn Dave Dunn led the push through thick scrub across some rugged country to Forest Hill.

The main cairn of Alexander Black — "Station No 1" near the crest of Forest Hill was easily found and was in surprisingly good condition. Photos were taken, both for private use and for the Victorian Department of Crown Lands and Survey who had shown great interest in our trip.

Moving downhill, our group searched for and found the three major springs of the Murray and a small cairn identifying Spring No 1 — the closest to Cape Howe and officially the start of the Murray. After a light lunch on the grassy flats, our group followed the river downstream back to Cowombat Flat. The river — hardly the proper name for the trickle of water that is the Murray at this point — kept vanishing underground for brief periods before suddenly reappearing some 20 to 30 metres downstream. The walk back to Cowombat Flat was very pleasant, with the remainder of the day spent exploring the area around the "Flat".

Our pleasant stroll came to an end next day when, with Cpl Noel Mills leading the way, we left the "Flat" and headed off down river. Within a few hundred metres the country closed in and the valley sides became steeper. We followed the river for a couple of kilometres and were then forced to climb out of the valley which was fast becoming a gorge. The climb up to the crest of the Pilot, or Cowombat Ridge, was designed to save us time and a number of miles as the river swung south into a narrow gorge. Not wishing to miss out too much of the river, we swung south along the ridge dropping off on its western side back into the river valley. The descent was tricky across rock slabs and precipitous drops. Complaints like "Nobody told us you needed to be a bloody mountain goat for this exercise", or "I thought this was a rafting exercise", were voiced as we crashed through the scrub. Crashed being the operative word!!

Our lunch stop beside the river was pleasant, and a group decision to wade down river had us on our way in quick time. In parts, the river became quite deep and the rocks very slippery resulting in a number of personnel taking unwanted dips.

A bit more bushwalking/ridge climbing had us descending onto the flat land around Macarthy's and finally into our small camp and the rafts that were to carry us on the rest of the trip.

Up early, the party inflated rafts, packed their gear and were on the river by 0810 hours.

WO1 Pete Pantic and Cfn "Nick" Cashman took the truck and Land Rover around to Tom Groggin via Benambra, Sassafras Gap and Corryong — a long hard day's drive across mountain roads and tracks.

Meanwhile the rafters were having problems of their own with shallow water, gravel races, and a large log jam slowing their progress. Lunch time came with only 6kms being covered — a big percentage of that 6 kms being done on foot, dragging the rafts. In the afternoon another 10 kms were put behind the group, but at terrible cost to the rafts. All floors were badly damaged and two boats had damaged flotation sections.

Our camp that night was bashed out of the scrub and the rafts dragged up and repairs carried out until 2230.

TANCRED

MEATS

RETAIL — WHOLESALE — CATERING

RETAIL (Stuart Park) PRESLEY ST.,
DARWIN 81 9485

NIGHTCLIFF 34 PROGRESS DRIVE,
DARWIN 85 3248

and at: **JACK THE SLASHER
FOOD BARN**

WINNELLIE MATARAM STREET,
DARWIN 84 3105

WHOLESALE AND CATERING

(Stuart Park) PRESLEY ST.,
DARWIN 81 9485

"THINK TANCRED — MEAT AT IT'S BEST"

PRESLEY STREET (Stuart Park)
DARWIN 81 9485

Meet Mario,
Friendly Proprietor of . . .

The Baker's House

Shop 11,
Winnellie Shopping Centre,
Winnellie, N.T. 5789

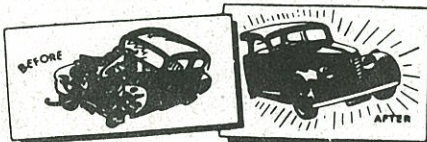
Members: SPECIALISING IN DELICIOUS
HOT BREAD AND CAKES

Try our choice of Cakes, Buns, Rolls,
Pastries, Bread, etc. ★Come in and see
our large range — Specials available.

Trading Hours: 7.30am-6.30pm —
7 Days a Week

TELEPHONE:
(089) 817641 for orders

A.F. JACKSON QUALITY CRASH REPAIR SERVICE



WHATEVER YOU DRIVE WE ASSURE YOU
OF FIRST CLASS WORKMANSHIP
Call in at . . .

219 Unley Road, Unley, 5061
or Telephone: **(08) 271 6378**

NO JOB TOO BIG OR TOO SMALL

GENUINE VIETNAMESE CUISINE
& SAVOURY, SWEET PANCAKES

VIETNAM RESTAURANT

RESTAURANT — COFFEE LOUNGE

476 Anzac Parade, Kingsford NSW

(opposite Kingsford SCC)

Telephone: **663 4072**

(Council car park at rear)

KINDLY SPONSORED BY . . .

RAILWAY HOTEL

MINE HOSTS: DAVID & CHRIS BRIGGS

★ Well-stocked bottle dept ★ Full range of wines
and spirits ★ Icy cold beer on tap

Call in at
Ilford Road, Kandos, NSW
PHONE: (063) 79 4403

WELCOMING ALL MEMBERS & VISITORS

ROSEBUD EX SERVICES CLUB

★ For that Cold Beer on Tap in our Friendly
Atmosphere ★ Counter Meals & Tasty Snacks
available every day ★ Don't forget your Home
Supplies

117 Eastbourne Road, Rosebud, Vic. 3939

PHONE: (059) 86 1066

Secretary/Manager W01 David Wain

Even so, the following morning found the worst damaged pontoon *FLAT*. A little soul searching and we ended up stuffing a li-lo mattress into the section and partially inflating it – it worked.

By lunch our group had covered over 7 kms, and in the afternoon it was noticeable that the river had improved and we even had a decent rapid to shoot. The night camp was another bush bashing episode on one of the few flat areas that we saw during the day's run. The stop point for the rafts could have been better though – trying to stop wild bucking rafts at the end shute of a rapid and get them into a bank proved a difficult and dampening experience.

By this stage everybody had stopped worrying about the boats and repairing them. They were still afloat, even with no floors, but some were only just!

More rapids and faster water were the order of the day on our third day on the river. People kept going for a swim more often, even though they were not planned swimming excursions. During the morning's run one of the boats (Maj Ron Jervis and Capt George Vander) blew an inflation section apart – the “bang” being heard 400 metres downstream. The tried and true practice of using a li-lo was attempted again, but as all that was left of the pontoon was shredded rubber, it was only partially successful.

Progress was slowed and the rain and wind came to dampen our spirits as the group pushed slowly on.

Sometime during this stage the boat of Capt Naresh Malhotra and yours truly decided it had had enough and impaled itself upside down and under a big jutting log. With much swearing and cursing the raft was finally persuaded to relinquish its hold on the log and the party got underway again, picking up our assorted gear that had been so unceremoniously dumped and carried downriver.

With a number of people suffering from their dunkings in the river and the harsh weather conditions, we stopped about 6 kms short of the Tom Groggin camp, lit a fire and had a late lunch, after covering only 12 kms in 7 hours. Steve and “Davo” went for a short jog (5 kms) along the track to the main road (The Alpine Way) and the camp at Tom Groggin. Returning with the vehicles, the group loaded the rafts, and after some hairy moments on the slippery steep tracks, finally reached the welcome sanctuary of the well established camp at Tom Groggin.

Day eight of the exercise found all the group busily mending the boats – out of seven starters only five could be made serviceable for the next stages.

With a few “fresh rations” seconded from different people and also from the nearby village of Thredbo, WO's Geoff Cartwright and Bob Lentile excelled themselves in cooking up a good feed for everybody. We all ate very well during our day's forced rest at Tom Groggin, if you could call a day mending rafts, resting.

An easy day's run through some exciting rapids had Noel Mills and myself really enjoying the action. One particular rapid, just after we started, was an event in itself, involving a difficult approach and a good 3 to 4 foot drop into a large pool. It was a case of a brief paddle to line the boat up and then hands on as one went over the drop. Great fun!! Our rafts were tied up just above the stretch of the river called the Murray Gates and we were then ferried back to a new camp a couple of kilometres upstream.

With some spare time, once again the fishing rods came out, and “Davo”, with Cfn Frank McClellan helping him, managed to subdue a nice trout – estimated at 4 to 7 pounds. By all accounts, at one stage the tussle was a vigorous hand to hand combat to quieten the struggling monster. Cfn Paul Quilligan, among others, also tried his hand at fishing, but only came back with tall tales and a Murray River Crayfish, which turned out to be a female with eggs. To the dismay of most, she was

returned to the water.

The Murray Gates had become known to everybody on the trip as the “big adventure”. Unfortunately, only 10 people could experience it and so it was that our smaller group in the 5 rafts, donned helmets, lifejackets and set off.

The “Gates” comprise 3 major rapids over a distance of 4 kms. Numerous smaller rapids kept the excitement coming thick and fast.

It was during this early stage that Pte Andriessen took a swim, camera and all. The major rapids turned out to be long stretches of turbulent white water with a couple of significant drops somewhere in the middle. They proved to be exciting and hair-raising as each boat careered down the shutes completely at the whims of the river. Most people took a swim with the longest effort being achieved by Steve Pearman when he came out of the boat at the top of a rapid and then proceeded downriver for 80 to 100 metres, feet first, until he managed to grab a passing rock. As I came bouncing past within a few feet of the rock he made a desperate leap for the boat. Within seconds we were hurtled over another drop, down some more white water, and then into safer calmer water where we could finally gather our wits and discuss our latest episode punctuated by many adjectives.

Adrenalin was flowing during these hair-raising rides, and it never ceased to amaze me how people got back into boats after they had been temporarily misplaced. Excitement and fear, I guess, made arms twice as long and much stronger, as a clawing hand would grab for a portion of the boat after a quick dunking in wild, white water.

Then disaster!!!

“Davo” and Cfn White (“Whitey”), in a boat, missed the stop point at the top of a rapid. Paddling madly for the other side they were caught in a shute of water which carried them quickly downstream and into a large semi-submerged log.

A flurry of flailing arms, foam and water, and the raft was slammed under the tree with “Whitey” trapped between log and raft. Head and shoulders above water he directed operations as Frank McClellan and Davo tried to extricate him. In the end, in a frenzied slashing of knives, the raft was deflated and Whitey – very white himself by now, was dragged to safety.

A little subdued, the group pushed on – 10 men in 4 rafts – a little crowded but still intact. Remnants of canoes were often seen on the edge of the river, high on the cliffs or trapped underwater. Pete Andriessen, while trying to get a photo of a busted canoe high on a cliff face, disturbed a Tiger snake, which resulted in Pete and Frank beating a hasty undignified retreat.

The country was very impressive, and the river very fast. Once downriver from the “Gates” the rapids were further apart and not as vicious. Even so, I managed to fall out on an easy 2-3 foot drop, but I did not stay in the water too long – it was fear in my case that made me bounce back into the boat.

That evening, after recounting the stories of the Gates, it was decided to finish the exercise at that point. A camp had been established near a small hut on Little Bunroy Creek, and next morning it was a matter of a quick pack and hit the road for the trip back to Melbourne.

Apart from the cleaning, returning of stores, the paperwork and reports to be written, the exercise “Upper Murray 81” had come to a successful end. A number of firsts were achieved during “Upper Murray 81”:

- The cairn – Station No 1 of Alexander Black, had been officially sited for the first time since 1870, and details taken for the Victorian Department of Crown Lands and Survey.
- The group were the first known party to follow the river from its actual source to a point near Coleman's Bend.

c. They were the first group to raft downriver from such a high point on the river. Most rafters/canoists start their journey at Tom Groggin.

One of the many wits on the exercise penned a few lines regarding the rafting section of the trip:—

*“Seven little rafts
Floating down the river
One hit some sticks
Then there were six*

*Six little rafts
Floating down the river
One took a dive
Then there were five*

*Five little rafts
Floating down the river
One holed a floor
Then there were four*

*Four little rafts
Floating down the river
All got there
with a scare . . . and a repair!!”*

Reports on native birds and animals have been sent to the appropriate organisations while bushwalking and canoe/rafting information has been sent to Kosciusko National Park, and canoeing and bushwalking organisations.

1. *Members of the team take a break at the historic cairn “Station No. 1” on top of Forest Hill before pushing on to the source of the Murray. Left to right: Maj. Ron Jervis, Cfn Greg White, Frank McClellan, Paul Qulligan and ‘Nick’ Cashman.*
2. *Cpl Noel Mills and WO2 Steve Pearman lead the group on a calm and easy section of the river above Tom Groggin.*
3. *Major Robinson and Capt. Vander watch the style of WO2 Steve Pearman as he clears one of the many fallen trees off the track during the course of the recce.*
4. *Among the snow gums and near the track junction at Cowombat Flat, Capt. Naresh Malhotra pitched his abode. While the rest of us lived in the luxury of a tent Capt. Malhotra reckoned we were too soft!!*
5. *Cpl Noel Mills and WO1 Ron Moon ride a small rapid—backwards, yet again!!*

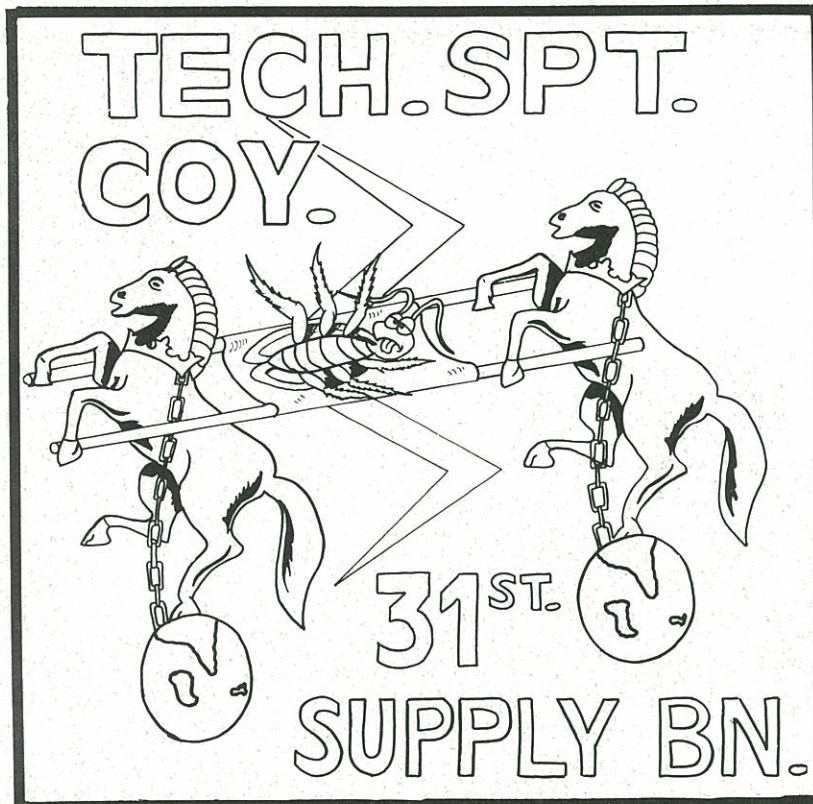




4.

5.





TECH. SPT. COY. 31st SUPPLY BN.

BY CAPT A. NADUDVARY

It was only in recent months that, whilst perusing through my back-issues, I realised our oversight in not introducing our sub-unit to readers of the "Craftsman". In setting out to remedy our omission, I have been mindful that our Editor has not given me a licence to bore you.

To outline the role of the Coy in a sentence, and since a picture is worth a thousand words, I'll let our Coy motif depict it; the provision of technical support to the Battalion. Our form of support is wide and varied, from the inspection of Depot stocks to the maintenance of unit equipments, and on occasions even limited support with privately owned technical equipments. Whilst our responsibility is limited to unit repairs, the needs of the Battalion sometimes dictate a somewhat flexible interpretation of these responsibilities.

Such an example occurred during the recent RAAOC Corps Banner presentation parade practice, where two 62.5 KVA generators were providing power to transportable ablutions for the troops accommodated in tent lines. One of the generators was found to have a "cooked" stator, with the result that the troops were without hot water. Having decided to carry out the repairs "in the field", approval was received to issue the necessary controlled stores (within 20 minutes). With the aid of an M816 Wrecker and the technical assistance of staff from RAEME Training Centre, members of the Coy had repaired the generating set the same day. It was to the credit of the civilian members of the Coy that they remained on the job (without overtime pay!) until it was completed at 1930 hours.

To provide variety and occupational therapy, our lunch-times are frequently spent in diversifying our technical skills – of late, bricklaying. Having been "donated" about 1,500 secondhand bricks, they were duly cleaned, and under the expert supervision of our resident "jack-of-all-trades" a brick gas barbecue was constructed. The unveiling ceremony was

a most successful event, involving family members as well.

Now I hope you don't get the inference that all we do here is work – no – there is also time to play. The Coy recently competed in the traditional Mad Hatter's Regatta raft race. In true thoroughbred fashion, officials insisted on a 30 kg handicap (a full Esky) which held the team back to 4th place. Our craft "Esra Tew" (you are meant to read it in reflection), acquitted itself well, the six manpower inboard however, proved to have excessive liquid consumption.

While still nursing the odd blister, and a dented ego, the Coy "launched" its annual (not to be interpreted at taking a whole year to complete) Adventure Training activity. We set out to paddle two inflatable 10 man boats down the Murray River, 90 km, over a long weekend. We experienced some minor difficulties at the outset – the steel barbecue and Esky full of fresh rations caused some stowage problems. Determination overcame the problem and we eventually cast off with our planned load on board. Our Army Survey map showed a meandering 45 km to Howlong, our planned first day's destination. What no-one warned us about were the numerous uncharted channels which exist along the way. There is nothing more deflating to morale than to call out to a local fisherman (at mid-afternoon) "how long to Howlong?" and receive the reply "another 30 miles mate". Yep, you guessed it, we took the wrong turn some ways back. I won't bore you with the details of the rest of the journey (it was almost dull by comparison), suffice to mention that we paddled about 65 km during that first day and we barely had the strength to carry the barbecue and Esky onto shore that night. Plans for our next activity are well under way, with our intrepid navigator commencing a course in celestial navigation.

As I have mentioned at the outset, I wanted to introduce our sub-unit. If from these few lines you feel you would like to join our band of merry men (and two women), we always welcome hard working and hard playing members to our team.



*The Merry Team of Tech Spt Coy: Back row (l-r): Cfn Bob Willis, Mr "Snow" Palmer, Cpl Fred Tybussek, Cfn "Porky" Portlock, Cfn Rick Weir, Cfn Dave Grieve, Cpl Noel Pianta, Cpl Russ Stanley.
 Front Row (l-r): WO2 Ross Gertzel (ASM), SSgt Ray Brodie, Mr Ron Barron, Sgt "Blue" Heafield, Cpl Vince Voncina, Mr Barry Todd, App Danny Forwood, Sgt Arch Connell, Mr Colin Marley, Mr John Hughes, Mr Leo Toussaint, Miss Leanne McCall, Mr Bill Griffiths, Cfn Neil Richards, Mrs Josie Pierpoint, Mr Ted Gibbon, Capt Steve Nadudvary (OC).
 Absent: Sgt Darryl Cobb, Cpl Peter Brough, Cpl Chris Cooper-Roughley, Cfn Ross Boucher, Cfn Bob Melville, Mr Jack Squires, Mr Milan Petrovic (our resident Jack-of-all-trades), and Mr Lloyd Pickrill.*

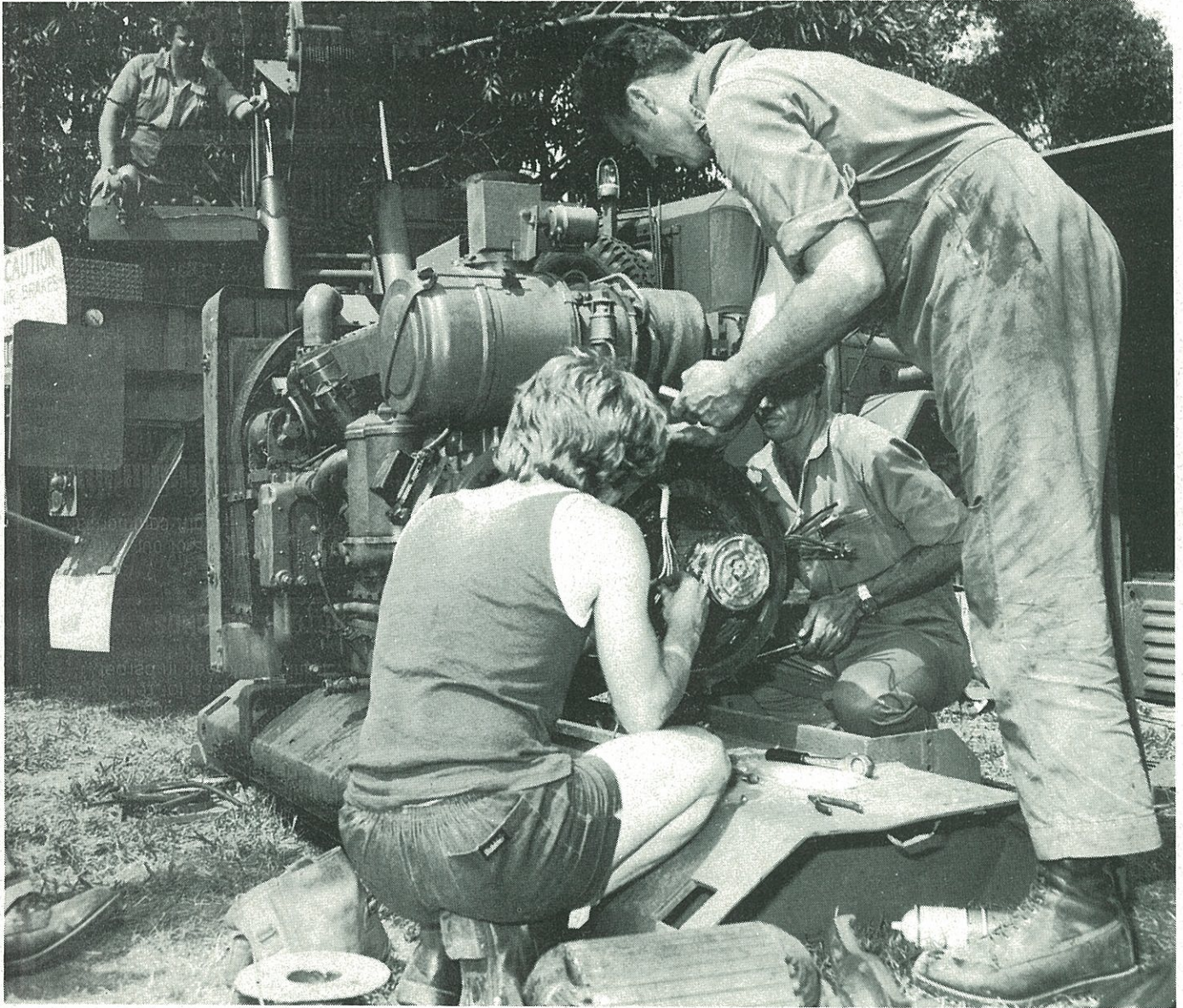
PROUD TO SUPPORT THE ARMY ENGINEERS

LIM'S RAPID CREEK HOTEL~MOTEL PTY. LTD.

First Class Air-Conditioned Accommodation at reasonable rates
 EXCELLENT MEALS — FULL BAR FACILITIES

PHONE (089) 85 3000 — 10 Casuarina Drive, Nightcliff, N.T. 5792

Repairing the 62.5 KVA generator.



KIT-KAT coffee lounge

PROUD TO SUPPORT RAEME

Air Conditioned
Restaurant

Take Away Foods

35 Cavenagh Street — DARWIN 81 2591

Smithy's Tyre Service

DISCOUNT TYRES

MAG WHEELS

WHEEL ALIGNMENT &
BALANCING

COMPLETE MECHANICAL
REPAIRS AND SERVICING

PHONE: 399 6507 or 398 3333

107 Avoca St., Randwick, N.S.W.

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

Peter Worthy
(10th Intake Army Apprentice)

Noel James
(12th Intake Army Apprentice)

TRADE MOTORS

326 Melton Rd.,
Northgate, Qld. 4013
Telephone: (07) 266 4581

Also At:
Shed B3, Army Vehicle Depot,
Banyo

The Carpet Tile Bulk Warehouse

CNR. FIRST AVENUE AND EAST PARADE, EASTWOOD — TELEPHONE 858 3499 / 858 3866

FIRST RELEASE

LOOP BERBER (WOOL FEEL) FROM \$5.35. (TILES THAT LOOK LIKE BROADLOOM)

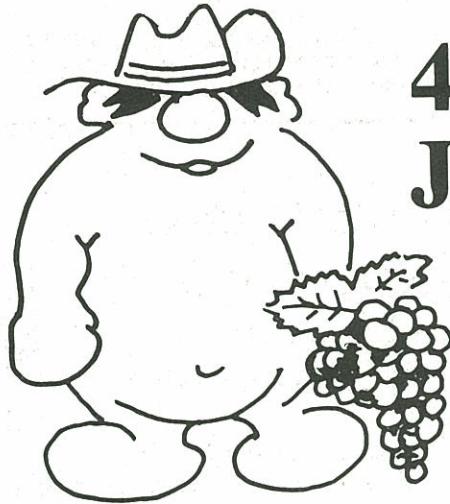
THE ADVANTAGES OF CARPET TILES

1. DAMAGED AREAS: Instant repair, easy to match and cheap! **2. THE SHAPE CHANGE ADVANTAGE:** Unlike carpet, tiles adjust to changing floor plans. Take from house to house or room to room. **3. INSTANT FLOOR COVERING:** Buy this morning, lay this afternoon **4. NO INSTALLATION COSTS IN TILE:** Do it yourself or \$1.10 per square metre. No underfelt expense. No waste expense. **5. HUGE RANGE:** There was a time when tiles were only available in hard to clean bristle. This is no longer so. Tiles now available in any carpet style. In many styles you cannot see the joins — i.e. a carpet appearance. **6. SAVE TIME:** As we take back any surplus for refund, there is no need for the time consuming measure and quotes. Just give us the rough measurements and we'll give you the number required and approx. price. 7 Days after purchase for refund. **7. TILES LAST LONGER THAN CARPET:** Swap them around to share the wear. Avoid the heavy traffic work look in carpet.

CHEAPEST IN SYDNEY — IN LUCK, FACTORY SECONDS

— BERBER FROM \$2.49 EACH

Stockists for: ★ Duro ★ Heuga ★ Versatile ★ Van Heugten of Holland ★ Plush & loop Berber carpet tiles of our own design and specification (looks like broadloom) ★ Hanmar commercial grade ★ Econotile ★ Renta Tiles — light commercial



4MD JOTTINGS

On 9 December 1981 Major Paul Hopper and Captain Keith Plummer of Adelaide Workshop Company were presented with 3 MD District Commander's Commendations for services at Melbourne Workshop Company.

The Commendations were presented at a parade at Keswick Barracks by the Commander 4 MD, Brigadier A. Clunies-Ross. Major Hopper's Commendation read:

DISTRICT COMMANDER'S COMMENDATION



48627 MAJOR P.D. HOPPER



ROYAL AUSTRALIAN ELECTRICAL AND MECHANICAL ENGINEERS

I commend you on the performance of your Duty as Officer Commanding, Melbourne Workshop Company.

During your period of Command you displayed, and engendered a very high standard of discipline, enthusiasm and devotion to duty.

By your leadership you have raised the productivity and quality of work of your unit to record levels, which has provided a marked increase in service to the operational units supported. By your zeal, initiative and dedication you have brought credit to your Unit, Corps and the Army.

26th August 1981

Stewart Kendall

BRIGADIER

COMMANDER 3RD MILITARY DISTRICT

Captain Plummer's Commendation read:

The Corps congratulates these officers who, by their actions and performance, have brought credit not only to themselves but to the Corps as a whole.

DISTRICT COMMANDER'S COMMENDATION

43933 CAPTAIN K.A. PLUMMER



ROYAL AUSTRALIAN ELECTRICAL AND MECHANICAL ENGINEERS



I commend you on your performance of Duty in the position of Captain, Electrical and Mechanical Engineering at Melbourne Workshop Company. You have given outstanding service at all times and the efficiency, reliability and dedication to duty displayed has been of the highest order.

You have by your initiative, enthusiasm and clear appreciations improved the unit's management systems and techniques which has ensured the rapid and efficient repair of equipment. By careful resource management, innovation and the application of sound judgement to a high degree you have increased the support provided to operational units, and you have brought credit to your Unit, your Corps and to the Army

26th August 1981

Stewart Kendall

BRIGADIER

COMMANDER 3RD MILITARY DISTRICT

L-r: Mrs Linda Hopper, Maj P.D. Hopper, Mrs Geraldine Plummer, Capt K.A. Plummer, and Stephen Plummer 2½ years.





INVENTORS OF THE TOILET ROLL FILTER

FRANTZ FILTERS SAVE . . .

BY

- EXTENDING OIL DRAINS
- EXTENDING FULL FLOW FILTER LIFE
- EXTENDING ENGINE LIFE
- PROVED BY OIL ANALYSIS



- PROVIDES AN INSTANT ENGINE ANALYSIS BY EXAMINATION OF THE ELEMENT WHEN REMOVED
 - ACTS AS AN OIL COOLER
 - AVAILABLE FOR ENGINES, AUTO TRANSMISSIONS, FUEL AND HYDRAULIC SYSTEMS.
 - FRANTZ OIL FILTER AND FRANTZ FUEL FILTER ARE SUITABLE FOR CARS—TRUCKS—BUSES—INDUSTRIAL—AGRICULTURAL AND FARM EQUIPMENT.
- FOR SPECIFICATION AND APPLICATION INFORMATION ON THE ORIGINAL "TOILET ROLL" FILTER CONTACT:



AUSTRALASIAN DISTRIBUTORS: K. Jones & Co. Pty. Ltd., 116 Ipswich Rd., Woolloongabba, B'bane. 4102. Ph: (07) 391 6380, 391 6385.

NEW SOUTH WALES: Sydney. J & M Gannon, P.O. Box 28, Narellan, 2567. Phone (02) 606 5575
 VICTORIA: Melbourne. L. Trewin, 2/364 Maroondah Highway, Nunawading, 3131. Phone: (03) 878 0044.
 Stanhope: Stanhope Engineering, Johnson's Rd., Stanhope, 3623. Phone: (058) 57 2422
 A.C.T.: Mawson: Liennoco Filter Service, P.O. Box 104, Mawson, 2607. Phone (062) 86 2387

WHY SHOULD YOU CHANGE LUBE OIL?

Power Farming Comments . . . "A good question, to which you can get various answers according to the vested interest to whom the question is directed. For ten years or more we've had a running skirmish with distributors of various oil additives and so-called "toilet roll" bypass filters, in effect endorsing neither. Pushing the case for clean oil, Kevin Jones, Australian distributor for the Frantz Oil Cleaner, discusses certain aspects of engine lubricating oil life and the filtration and capabilities of the toilet tissue element as used in the Frantz bypass filter.

Mobil Oil of Australia's Technical Bulletin No. 865 states that except in very unusual circumstances oil does not 'wear out', 'break down' or otherwise deteriorate to such an extent that it needs to be replaced. What happens is it becomes contaminated.

The question then emphasised in the same paper is: "How often should engine oil be drained?" It is also emphasised that there is no simple answer to this question and from the bulletin it is apparent that we drain oil, not because it has deteriorated, but because it has become contaminated with various harmful substances, and the greater the rate at which these enter the oil, the sooner an oil drain will be necessary.

The things that influence this include engine condition, method of operation, and conditions under which the unit is operating. A vehicle that is used mainly for short distance stop-start running will require more frequent oil drains than one used for regular long distance travelling.

A worn engine with leaky piston rings will contaminate the oil quicker than a new engine in good mechanical condition. A vehicle operating in dusty conditions will require more frequent drains than one operating on good bitumen roads.

While oil itself does not wear out, the additives in oil do become depleted (not worn out) much like washing your hands or dinner dishes; if you have very dirty hands or dishes, more detergent or additive will be used up.

The same applies in an engine. One operating in good clean conditions on good bitumen roads will not use up as much additive as a dirty engine operating in dusty conditions; also an engine filtered clean will use less additive than a dirty, unfiltered one.

The only true way to determine when to drain oil, as nominated by major engine manufacturers and oil companies, is by oil analysis using laboratory tests. After several test periods a time interval (litres of fuel consumed, hours, weeks, distance etc) for the oil drain can be established. However, a new series of tests should be run if filters, oil brands or grades are changed.

The next single most important item affecting oil and engine life is a filter. While manufacturers have improved filtration over the years, they have also conditioned users into regularly changing the full flow filter to protect their engine.

This system still leaves a lot to be desired. The engine in a motor car required an average of 11.3 litres per minute to adequately lubricate the system. Should the full flow filter become clogged or on cold starts of a morning when your oil is thick, then it would starve the engine for oil and the user would be up for a costly overhaul. To protect the engine against this, every full flow system without exception has a by-pass valve built into the system (either in the filter or in the filter housing). This valve opens and allows unfiltered oil to pass directly to the engine under these conditions. These valves are designed to open at between seven and 15 psi differential across the filter.

The manufacturers recommend you use only their filters because if you buy a cheap replacement type, then this valve may be too small and it may result in oil starvation which could cause excessive engine wear, while the genuine one will be accurately calibrated to the correct opening pressure to suit the engine for which the filter is designed.

Any full flow filter that will remove particles down to five microns in size is considered to be the top of the range.

The fitting of a by-pass filter in addition to your full flow filter will not affect the flow of oil to the motor, as the oil passing through a by-pass filter is returned directly to the sump.

The Frantz filter is a bypass filter that will remove particles down to 1/10 of a micron in size, as proven in tests by Research Engineering Laboratories in California. The Frantz filter is fitted as an additional filter to work in conjunction with the engine manufacturer's filter.

It is not recommended that a Frantz filter or any other very restricted type filter be fitted in lieu of the full flow filter, as any attempt to do so would restrict the flow of oil to the engine resulting in a costly overhaul, unless a very large by-pass valve was installed, reducing its efficiency to that of your normal full flow filter.

The fitting of a Frantz bypass filter as an additional filter will not void your warranty provided the manufacturer's full flow filter is left to operate as he designed it. However, if the manufacturer's filter is replaced by another filter, your warranty would almost certainly be voided.

The replacement element used in the Frantz filter is a tightly wound 500 sheet two-ply roll of facial quality toilet tissue. As the oil is filtered

lengthways between the layers of paper, it is essential that the paper be tightly wound and fitted into the canister tightly. The tighter the pack the finer the particle size removed.

Testimonials from satisfied users supported by oil analysis tests prove that oil drains can be extended almost indefinitely under normal circumstances, the condition of the engines when dismantled being far better than experienced under normal oil and filter service.

However, when the filter is serviced the oil has to be topped up to replace oil held in the filter roll, so really in small amounts over a long period you would still be changing oil.

Because all the contamination is held in the roll and the oil in the sump is clean, it will not be necessary to drain the oil, hence the misconception that with Frantz you will never change oil again.

The most important point to be made now is that oil analysis is necessary not to determine an oil drain but to determine a filter change and make sure we are operating with 100% clean good oil for the whole operating period instead of only for a short period after an oil change as at present.

Two other points often raised when oil drains are extended are fuel dilution and acids.

Fuel dilution is a result of a mechanical malfunction such as dripping injectors, ruptured fuel pump diaphragms, worn rings etc, which can be corrected when detected in an oil analysis. The oil companies say that fuel dilution up to 5% is acceptable; any test showing in excess of 8% would require an immediate change.

Sulphurous or corrosive acid is a chemical result of moisture mixing with other acids in oil and the by-products of combustion, and as each element in the Frantz filter is capable of absorbing up to 170 ml of water (also proven by Research Engineering Laboratories of California) this action is reduced. Frantz filters have many copies of oil analysis on hand proving that even after 150,000 km there is no fuel dilution acid built up and the TBN or additive remaining is within the oil companies' accepted limits.

As a final comment and proof of their efficiency, Frantz filters are sold on a 12 months money-back guarantee to keep your oil analytically clean if fitted and serviced as per the manufacturer's recommendations and using the right element.

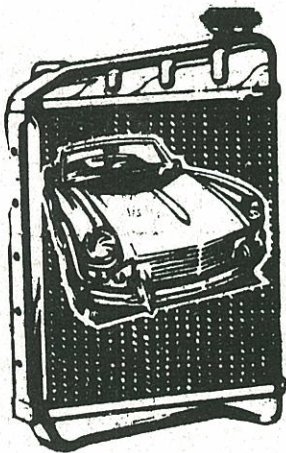
**TANCRED
BROS. PTY. LTD.**
RETAIL—WHOLESALE—CATERING

TANCRED

MEATS

**THINK TANCRED — THINK MEAT
AT ITS BEST**

Sturt Mall, Shops 1 & 2,
Wagga Wagga, N.S.W. 2650
Phone (069) 21 5192



**CLEANOUTS
NEW CORES
FITTED
CHANGEOVER
SERVICE**

338 4642

**ESSENDON
RADIATOR
SERVICE**

29 Moore Rd., Airport West
(Off Mathews Avenue)



MONIER

**SECURE ROOF
SYSTEMS**

Today's Most
Popular
Roof Tile

A Division of
MONIER LIMITED



**333 EPSOM AVENUE,
BELMONT, W.A.**
PHONE: (09) 277 1477

**TERRITORY
PEST &
WEED CONTROL**

- ★ COMPLETE PEST CONTROL IN ALL DOMESTIC AND INDUSTRIAL SITUATIONS
- ★ SPECIALISING IN TERMITE TREATMENTS TO THE REQUIRED AUSTRALIAN STANDARDS
- ★ PROPERTY INSPECTIONS
- ★ INDUSTRIAL WEED CONTROL
- ★ FREE QUOTES AND ADVICE ON ANY PEST CONTROL PROBLEMS

**Phone DARWIN
(089) 27 3218**

24 Hours, 7 Days A Week
18 CALVERY ST., CASUARINA

6MD Jottings

Hobart Wksp Pl would like to convey this unit's thanks to Adelaide Wksp Coy and North Queensland Wksps for the arrangements made on behalf of Sgt Jim Robinson, our visiting Ex Long Look member. By all reports, he thoroughly enjoyed himself and managed to put on a substantial amount of weight during his short visit to these units.

Being such a small industrious unit, it is rather difficult to find some interesting material to write about, but this is about to change, because the unit is planning a recovery adventure training exercise later this year.

Briefly, the exercise is to consist of the recovery of mining

equipment that was in use early this century on the West Coast of Tasmania to the site of the Pioneer Memorial Museum at Zeehan.

The major task planned is the dismantling and recovery of the Oceana Mine mine head. This structure is approximately 27 meters high and is fabricated from heavy steel tubing and angle iron. The structure must be partially dismantled and recovered over rough terrain. The task will test the skill and ingenuity of all personnel involved as well as provide us with the material for an interesting article to be published in a later edition of the RAEME Craftsman.

7MD Jottings

WELCOME AGAIN FROM THE TOP END –

Since our last submission, a lot of events have occurred.

We have had a couple of new arrivals in the guise of WO2 P.C. Smith, Cpl (Desert) Sands, Cfn Les (Winnie) Winspear, Cfn Ian Pfitzner and last, but not least, Cfn Jon McAlister.

On the departure side we have lost WO2 Spike Leayr, Cpl Con Mihailou (OCS), Cfn Greg Lowe and Cfn Les Hyde. Another person to be leaving in the very near future is Sgt Mick Fardy to the School of Artillery, Manly.

Things have been steaming along at a merry pace. In the 7MD Volleyball competition the Wksp team, captained by Mick Fardy won against HQ 7MD. Three members of the Wksp team were also in the civilian competition. The team blitzed their rivals to take out the Grand Final. These members were Mick Fardy, Desert Sands and Jon McAlister.

Now that NORFORCE is on the ground, more bush work seems certain. Another new member to the Larrakeyah area is Cpl Peter Woods, a new Vehicle Mech, who has been posted from the Perth area to join NORFORCE.

Bye for now from the Top End.

RAEME Association (NSW)

The tenth Annual General Meeting of the RAEME Association (NSW) was held in Sydney on the 5th February 1982. A large number of members were in attendance, and as usual, our hardworking "Chef" Bob Usher provided the necessary sustenance prior to the meeting.

The Officer Bearers elected for 1982 are:–

Patron, Brigadier Harry Martins, OBE; President, Joe Marment; Senior VP, Michael O'Donohoe; Junior VP, Dave Gallon; Secretary, Brian Wicks; A/Secretary, Doug Whitehouse; Treasurer, Norm McNevin; A/Treasurer, Harry Chapman; Auditor, Dave Brown; Welfare Officers, Ray Preston, Harry Chapman, Ken Clarke; Committee, Ron McCrea, Pat Quigley, Bob Usher, Gwilt Shaw, Bob King, Joe Culican, Ken Clarke, Noel Christian.

A special vote of thanks was given to our retiring Secretary Laurie O'Brien for his untiring efforts in producing our quarterly newsletter.

The membership of the Association has increased during the year and now stands at over 230 members, new members are always welcome – for information on membership contact: Brian Wicks, 5 Mountainview Crescent, Penrith, NSW, 2750. Ph: (047) 311255 (x 217).

To encourage you to join the Association, the following are the Aims and Objectives of the Association.

- a. Stimulate interest and promote the Corps as a whole.
- b. To preserve the memory of comrades who have died.
- c. To maintain fellowship between serving and discharged RAEME personnel for their mutual benefit.
- d. Instill the traditions and background of the Corps as a whole.
- e. To take an active and intelligent interest in the Australian Military Forces.
- f. To provide complementary financial assistance to members, former members of the Corps of RAEME and their dependants in the case of hardship, in addition to that obtained by pension or other sources.
- g. Any other activities as approved by a General Meeting of the Association.

Also, ordinary membership is available to the following people who have served in:

- a. Australian Army Ordnance Corps (Mechanical Engineering Branch);
 - b. Australian Electrical and Mechanical Engineers;
 - c. The Royal Australian Electrical and Mechanical Engineers;
 - d. Royal Australian Electrical and Mechanical Engineering Staff at Formation Headquarters; or
 - e. Electrical and Mechanical Engineering Corps of other forces of the British Commonwealth.
- Hope to hear from you soon.



SUN & HEAT CONTROL WINDOW FILMS

One of the Most Efficient Methods ever
developed for controlling unwanted heat gain
or loss through existing windows

MOTOR VEHICLES, CARAVANS, OFFICES, HOMES ETC.

25 DALY ST.,
DARWIN **81 5019**

GILES ST.,
KATHERINE **72 1734**

Termite Experts

DARWIN (089) 84 3799

After Hours: Darwin 85 2717

- ★ Pre-treatment of new home sites & termite infestation control with retreatment & timber replacement Warranties for up to 25 years.
- ★ Pre-purchase "Safeguard" Home Reports & Pest Certificates
- ★ Over 100 years experience in all types of pest & termite control.



Rentokil
termite proofing



Rentokil Pty Limited,
8km Stuart Highway,
Winnellie, N.T. 5789

Why Go South? We Make it Here

HANDFORD INDUSTRIES PTY LTD

Manufacturers of:

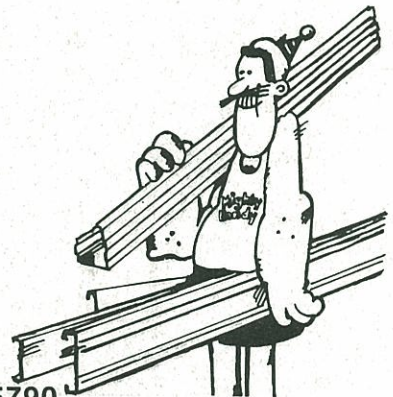
- Paneldek Roofing • Corrugated Roofing
- Paneldek Fascia Gutter • Box Gutter
- Flashings • Sheet Metal Products

Produced in:

- Galvanised • Zinalume • Colorbond

74 McMINN STREET, DARWIN, G.P.O. BOX 544, DARWIN, 5790

TELEPHONE: Darwin (089) 81 2218 or 81 2219 (Telex: 85514)



FIRST HOME?

Then Read This...

There are few opportunities of obtaining tax-free gifts, but if you plan in advance you can obtain one for your first home.

Grants of up to \$2000 (\$3000 if you have children) are available from the Federal Government to people who buy or build their first home. You can be young or old, married or single, but if you're under 18 at the time you buy or start to build, you must be married or engaged, and if you are not an Australian Citizen, you must have the right to permanent residence.

Grants may be made for houses, flats or units, new or old, in the city, in the country or on farms. However, you must intend to reside in the home within a reasonable time and have a secure tenure over the property recognised by the Department.

Value limits apply to the value of the home, and these vary depending on the date you commence to buy or build. This commencement date is called the "Prescribed Date". It marks the end of your savings period and is the date to which conditions of eligibility are related.

The total value of the home must not exceed the upper level of the value limit:-

For period 1 Jan 1977-24 May 1979 - No limit.
 25 May 1979-18 August 1980 - \$35,000 - \$40,000
 19 Aug 1980-30 Sep 1980 - \$45,000-\$55,000
 1 Oct 1980 - \$60,000-\$70,000

(Depending on savings, the maximum grant may be paid if the value of your home is below the lower limit, it reduces progressively within the two limits and cuts out at the upper limit).

You must have savings for at least 12 months before your prescribed date in an acceptable form. These are with banks, building societies, credit unions or as land, but for further

details refer to the explanatory leaflet. Savings for periods of 2 and 3 years may entitle you to a higher grant.

People who have acceptable savings for one year are eligible for grants of up to \$667, after two years up to \$1333 and after 3 years up to \$2000.

Withdrawal may be made from your savings, but these may affect the amount of grant payable. However, it is important to have savings for a continuous period of at least one year and up to three years.

If you have children at your prescribed date and that date is on or after October 1980, you can receive a Family Bonus. If you have one child this bonus is \$500 or if you have 2 or more it is \$1000. This bonus is not affected by value limits and is an additional \$500 or \$1000 providing you qualify for a grant and of course, have children when you sign your contract or commence to build.

Application forms and leaflets are available from Banks, Building Societies and Credit Unions. They will also provide you with certificates showing your savings at relevant dates which will be the basis of calculation of your grant when you apply.

You can obtain detailed information as well as leaflets and application forms from the Department of Housing and Construction in your State.

You should start saving NOW if you have not already done so.

If you have already acquired a home but have not yet applied, then enquire at the office or apply NOW.

Editors Note: Since this article was accepted for publication there have been changes to the Home Grants legislation. Prospective applicants should confirm details with the Department of Housing and Construction.

TYRES FOR BIKES

The Motor Cycle Tyre Specialists

- ★ Free machine fitting
- ★ Free static balancing
- ★ Full range of commuter tyres
- ★ Competitive Prices

At 12 Ross Street, Newstead
 PHONE (07) 52 3204

Best Wishes from JOHN & JEAN
 BONATO and Staff of the

CLUB HOTEL

DRYSDALE STREET, BRANDON, QLD. 4808

- ★ Good Homely Accommodation
- ★ Excellent Dining Room
- ★ Icy Cold Beers on Tap
- ★ Popular Brands of Wines and Spirits
 Stocked in our Bottle Department
- ★ Catering for all Parties, Weddings, Functions
- ★ Tasty Counter Lunches Served 12 noon to 1pm
 Monday-Friday.

Enquiries Phone:

(077) 82 5313

DEGNAN IRISH & CO.

ACCOUNTANT & TAX AGENTS

RING 920 5207—922 7179

Or Write to P.O. Box 275, Summerhill, 2130

Specialist also in Strata Unit Management

We are experienced in all facets of
Defence Force Tax Returns



When at the Chermide Drive-In, take a
break and enjoy a good coffee and
snack at the . . .

**"GOLDEN SWAN
COFFEE SHOP"**

**MYER drive-in Shopping
Centre, Chermide,**

Brisbane, 4032

Phone: (07) 590 805

*Pick up that delicious BAR-B-Q
chicken on the way home*

AUSTRALIAN & N.Z. DISTRIBUTORS

IHI TURBOCHARGERS

KITS FOR MOST ENGINES
PETROL & DIESEL
OVERHAUL & SERVICE
FACILITIES FOR ALL MAKES OF
TURBOCHARGERS



357 6697 or 356 1254

RYMEC DEVELOPMENTS Pty. Ltd.

416 Glenmore Road, Paddington

- ★ All Panel Beating and Spray Painting
 - ★ Colour Matching ★ Insurance Work
 - ★ Chassis Straightened ★ Rust Repairs
- FREE QUOTES

B & M BODY WORKS

132 LYTTON ROAD, BULIMBA, Q'L.D.
TELEPHONE: 399 7846 or 391 7565 (ALL HOURS)

MECHANICAL REPAIRS & SERVICE

(07) 391 4324

- ★ All Makes & Models ★ Servicing and
Specialising Japanese Vehicles

Shaftson Service Centre

Alf Stanaway (Prop)

Cnr. Bourke & Elliot Sts., Woollongabba, Brisbane, 4102

Hellyer Auto Electrical Service

Moorebank

Complete Electrical Service
30 Alfred Rd., Chipping Norton, NSW, 2170
All Army Personnel more than welcome
Phone: (02) 726 5365

N.F. SHARMAN

Member Master Plumbers Assn.
Licensed Plumber — Drainer, Gasfitter

- ★ Bathroom Renovations ★
- Installations and Maintenance
Domestic & Commercial

PHONE: (07) 355 6120

**107 Cutbush Rd., Everton Park,
Brisbane, 4053**

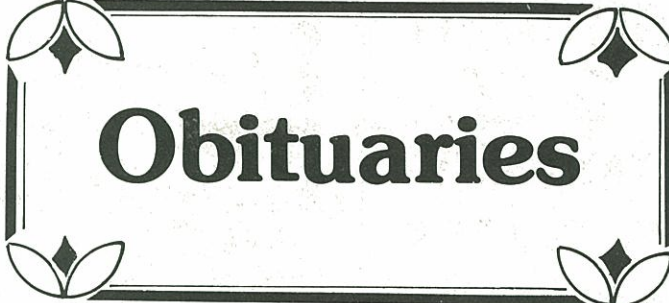


**R.A. LISTER
AUST Pty. Ltd.**

Industrial, Rural & Marine Diesel
Engines. 3½ to 250 bhp. Technical
Advice — Sales & Service

**316 Evans Rd.,
Salisbury North, Qld.**

Telephone: 277 6311



Obituaries

1794 — WO1 A.J. GARSIDE

In early May 1982 Tony Garside passed away in the state he so often lauded "beautiful, beautiful Queensland".

Enlisting on 23 July 1948, Tony was one of the group which pioneered the Army Apprentices School at Balcombe, an establishment he in turn hated, criticised, defended and loved.

After graduation from "The School" in December 1951 he was posted to Eastern Command Workshop and soon after to Southern Command Workshop at Broadmeadows.

As a Control Equipment Electrician Tony had an affinity with Ack Ack gunners and spent many weekends shooting along the south coast of Victoria.

After a period at Army Headquarters Melbourne, Tony was selected for posting to Puckapunyal as SSgt Armament Artificer Electrical to tend to the needs of the new Centurion tanks, a task he completed splendidly.

Tony not only undertook every task with energy and skill, his desire to pass on his knowledge soon saw him posted to RAEME Training Centre where he became widely known to members of the Corps.

1970 saw him serving with the 106 Field Workshop in South Vietnam.

After nearly 28 years service Tony elected discharge in Queensland where he immediately put his military expertise to work in 1 EME Services Unit at Bulimba, the unit he continued to serve until he passed away.

This most skilful and entertaining ex-apprentice will be missed by a great number of friends, not only in RAEME but from most other Corps.

He was my friend.

Major G.J. Hawker

211021 — WO1 SID OLINSKI

Sid was born in April 1931 and he enlisted in the Australian Army as a vehicle mechanic. Sid was very well known in workshops in the Broadmeadows and Puckapunyal areas.

In June 1967 Sid went to Vietnam with 'A' Sqn 3 Cavalry. He later served in Papua New Guinea both in workshop and headquarter postings, returning to Technical Services Unit in Melbourne in December 1977 taking his discharge in October 1978.

Sid is one of the former Corps identities and he will be missed by all of his mates. Our condolences go to his family from all the Corps members.

34521 — WO2 BILL DYSON

Bill enlisted in August 1952 training as a fitter and turner. After service at 3 Base Workshop he was posted to Malaya serving during the Malaysian Emergency with 28th Commonwealth Brigade. He returned to Australia in December 1957 serving in units in Victoria, including Melbourne Area Wksp, 3 Base Wksp, 21 Const Sqn Wksp, HQ Southern Command (EIS Team), his final posting being TSU Broadmeadows.

Bill took his discharge in August 1976 after 24 years service. He was awarded the LS and GCM and the Meritorious Service Medal in September 1975.

Our condolences go to his wife and family from all who knew him.

ENGINEERING

Storey & Keers Pty. Ltd.

BOILERMAKERS
ENGINEERS

98 Louisa Road,
Balmain, 2041

PH: 820 461

KEENSERTS®

Thread Repair Inserts



THE SAFE, SURE WAY TO REPAIR STRIPPED THREADS —

- Conforms to U.S. Military and N.A.S. Standards
- No Special tooling required — standard drills and taps are all that are necessary for thread repairs with "Keenserts" — exceptions are V.W. crankcase stud kits — spark plug kits and Cummins engine stud kits.
- Provides high strength and reliability — one length per size provides maximum pull out strength — breaks grade 8 bolts in test after test.
 - Impossible to cross thread when installing
- No special skills required — installation procedure can be learned in minutes.
- Available size range U.N.C. and U.N.F. 8 gauge to 1 3/4" I/D inclusive — metric 3mm to 24mm — Spark Plug 10mm — 12mm — 14mm.

DISTRIBUTORS IN ALL STATES

Sole Agents for Australia & New Zealand

SPECIALISED ENGINE COMPONENTS

38 Commercial Road, Fortitude Valley,
Brisbane, Australia, 4006

Telephones:

(07) 52 4475, (07) 52 8414, (07) 229 3322
AH: (07) 399 3647

TAKE—AWAY GALORE

For Delicious Australian or Lebanese Take Away
you must try the delicious food from —

JACQUES FOOD BAR

A full range of Australian Take Away Meals which includes
Fish & Chips, Hamburgers, Steak Sandwiches, Crab Sticks,
Barbecue Chickens and Sandwiches.

We also have a great range of tantalizing
Lebanese Food available which includes
SHOWARMA (Topside Beef Marinated) served
on Lebanese Bread with our special Salad
Dressing, Falafel, Kafta, Shish-ka-Bab, Tabouli
(Lebanese Salad), Homos (Lebanese Dip).

PARTY ENQUIRIES WELCOMED

Special service and discounts will apply to all Army
Personnel — Our address is

Cnr Hoxton Park Rd & Florida Rds,
West Liverpool, 2170
TELEPHONE: 600 8870

Promotional Editorial

Keensert System of Thread Restoration

In these inflation-ridden times, repair bills begin to skyrocket when someone else is paid to do a job that you could handle in your own garage without expensive tools or elaborate equipment.

That's why KEENSERTS, a system of thread restoration,



has been introduced to the automotive industry. KEENSERTS thread repair inserts are marketed in a wide range of types and sizes...to facilitate the repair of stripped threads in a jiffy. Tridair Industries, U.S.A., has for many years been an acknowledged leader in the manufacture of threaded inserts and thread repair kits for aerospace, military, electronics, and industrial uses; and more recently for automotive, marine, recreational vehicle and motorcycle repair. Now they add a safe, sure way for the fix-it-yourself-er to repair

stripped threads in steel, iron, aluminium, and plastics...even diecast. KEENSERTS inserts allow fast permanent repairs of damaged, worn or stripped threads and it is claimed the insert can't be crossthreaded or misaligned, which is all too easy with traditional helical wire inserts. Spark Plug thread repair inserts of high strength aluminium are said to give the closest thing yet to the original hole. The insert can't back out someday with the plug; it includes positive sealing against compression leaks: and heat transfer from the plug easily equals the original. The manufacturer says that no special tools are required—just use a standard drill and standard tap. KEENSERTS can be threaded into the tapped hole with the fingers, insert depth being controlled by the prepositioned KEES. The KEES stop the insert at the exact depth, then are driven down to mechanically lock the insert in place in the parent metal or material, thus preventing rotation under torque loads. Available in National Coarse, Fine and Metric threads, KEENSERTS and application wall charts are available from the sole Australian agents, Specialised Engine Components, 38 Commercial Road, Fortitude Valley, Brisbane. Phone: (07) 52 4475

One of the major research projects undertaken by Fourth Year cadets as part of their Graduate Diploma in Military Aviation has been the Defence Studies Thesis. "Has been" because after 1981, the Diploma will no longer be offered to students. Flying training will replace academic studies in the Fourth Year from 1982 onwards.

Following the precedent established in 1979, each cadet undertaking the Diploma was required to individually nominate a topic for his thesis. This enabled students to select topics that were of special interest to the individuals, provided that the topics were related to the Defence environment.

The standard of theses submitted in 1981 was extremely high, with three submissions being outstanding. These three were:

Does Terrorism Pose a Serious Threat to the RAAF? — Senior Air Cadet Pappas

A Pilot Training Philosophy for the RAAF — Senior Air Cadet Francisci.

A Defence Strategy for Australia — Senior Air Cadet Williams

Because of the restricted nature of some of the research material in each of the first two theses, the thesis by Senior Air Cadet Williams is published here.

A DEFENCE STRATEGY FOR AUSTRALIA

By Senior Air Cadet M.R. Williams, BSc

'At a time of low or intermediate threat strategic guidance cannot be expected to be sufficiently specific to enable us to determine the force structure.'

*Admiral Sir Anthony Synnot
Chief of Defence Force Staff (1)*

INTRODUCTION

1. The strategic circumstances governing Australia's security have undergone a fundamental change during the past decade. These changes have been brought about by three major events:

- a. the withdrawal of British troops from East of Suez,
- b. the promulgation by former US President Nixon of the Guam Doctrine, and
- c. the withdrawal of United States ground forces from South East Asia.

2. In the 1950s and 1960s the Australian Defence Policy was based on the concept of 'forward defence'. The primary threat to Australia was seen to be communist insurgency in South East Asia, and under the Forward Defence Policy this threat was to be combated by conducting counter-insurgency operations in South East Asia in conjunction with Australia's allies, and in particular the United States. In return the US alliance was generally regarded as guaranteeing the defence of Australia itself. (2)

3. Australia's changed strategic circumstances have led to the adoption of a defence policy based on self-reliance, the so-called 'Defence of Australia' concept. As a result, strategic thinking now focuses much more on the direct defence of the Australian continent, Australia's Island territories, its maritime and air approaches, and its vital interests. Moreover, at least up to very major contingencies, Australia must accept the principal responsibility for its own defence. (3)

4. Despite the re-orientation of Australian strategic thinking, the actual strategy associated with the Defence of Australia concept has never been rigorously defined by the Government. The consequent diverse interpretations of the concept have led to criticism of the lack of a 'clear and coherent operational strategy for the defence of this environment'. (4) Without a clearly defined strategy it is difficult for defence

planners to plan the most suitable peacetime structure of the Australian Defence Force (ADF), or the most suitable equipments for it.

5. The aim of this thesis is to examine the defence strategy options available to Australia, in line with the Defence of Australia concept, and hence to suggest a suitable strategy and a suitable structure for the force in being.

THE AUSTRALIAN DEFENCE ENVIRONMENT

6. Geography has been accepted by most strategists as being the primary component of a nation's power. (5) Australia's geography is arguably its major strategic asset, since its remoteness necessitates long approaches over the sea from all directions except the North and North West, where New Guinea and the Indonesian archipelago provide the only natural strategic corridor.

7. Australia is vast and underdeveloped, with the exception of the urban, industrial concentrations in the South Eastern and South Western coastal fringes. It has extensive maritime resources areas. Seaborne trade is an essential part of Australia's economic livelihood, in respect to both overseas and coastal trade. The national communications infrastructure of roads, railways, telecommunications networks, ports, and airfields is not well developed except in the South East and South West.

8. These factors suggest that there are two aspects of vital importance to the defence of Australia. These are the preservation of our seaborne trade, coastal and overseas, and the protection of the relatively densely populated and highly industrialized areas of the continent. In the case of a lodgement on the Australian mainland an enemy has to cross the seas around us. In both instances, therefore, our ability to control our sea lines of communication and air approaches is

J. & D. Smash Repairs

Panel Beating
Spray Painting
Private & Insurance Work

WORKSHOP:
5 REGENT CRESCENT,
MOOREBANK
(02) 602 5522

Also 24 Hour Towing Service
7 DAYS A WEEK — 601 1313

BEST WISHES TO ALL
ARMY PERSONNEL

GI

MOOREBANK

(02) 601 6228

OPEN:

MON.-FRI.: 7.30am - 5.00pm
SAT. MORNING: 7.30am - 12.00 noon

Complete Service and Repairs to
all Makes and Models
Obligation Free Quotes — Checks & Minor Adjustments

G.I.

Automatic Transmissions

40 HEATHCOTE ROAD, MOOREBANK

ALLISON Transmission Specialists



SALES & SERVICE
Trucks, Earthmoving,
Marine

Authorised Allison Dealers

DAL-TRANS PTY. LTD.
(02) 609 1455

A/H 588 2650

Verrell Street, Smithfield, NSW.

Kindly sponsored by . . .

Garden Beautiful Queensland

LANDSCAPE CONTRACTORS & DESIGNERS

We specialise in all aspects of Domestic & Commercial
Landscape Design & Construction — State Wide Service
INDOOR GARDEN HIRE SERVICE

CONCRETE & BRICKLAYING CONTRACTORS

TELEPHONE: 335 2053

Contractors to Carool at Rainbow Bay,
Gold Coast

R.J. Cappelletto

TAXATION CONSULTANT

**Suite 1,
103 New South Head Rd.,
Vaucluse, N.S.W. 2030.**

Fully Qualified and
Experienced in all matters
regarding Taxation Law.

For an Appointment
Please Phone:

337 5777 AH: 527 1571

New offices will soon be open in
the Sutherland Shire of Sydney
and the City Centre.



EXPORT AWARD

PREMIUM QUALITY
PORCELAIN ENAMEL ON STEEL

Beautyware

- BATHS
- BASINS
- TROUGHS &
• SHOWER BASES
in FASHION COLOURS

L.D. MEE
INDUSTRIES
PTY. LTD.

92-102 Keys Road,
Moorabbin, Vic. 3189
P.O. Box 104, Moorabbin, Vic. 3189

TELEPHONE:
555 8800

Telex: ELMEE AA36868

of vital importance, and our defence strategy must be based on this requirement.

THREATS TO AUSTRALIA'S SECURITY

9. Before a viable defence strategy can be postulated it is necessary to have some idea, however broad, of the types of threat which Australia may have to be defended against. According to Doctor Robert O'Neill (6) there are essentially three levels of threat which could arise:

a. **Low Intensity.** Threats to Australia's sovereignty short of the use of violence, through infringements of territorial waters and the 200 mile Exclusive Economic Zone by fishing, mining, scientific, and espionage activities; through infringements of our coastline and islands by smugglers and illegal immigrants; and through infringements of our airspace for espionage and smuggling purposes.

b. **Mid Intensity.** Threats to Australia's peripheral interests supported by small to moderate forces such as assaults by terrorists from abroad, disputes with neighbouring countries regarding international boundaries, seabed boundaries, and free use of narrow waters, or regional confrontations based on major policy differences.

c. **High Intensity.** Threats to Australia's vital interests supported by major force elements such as the attempted severance of our international sea and air links, major raids by sea, land and air, limited lodgements on Australian territory and outright invasion.

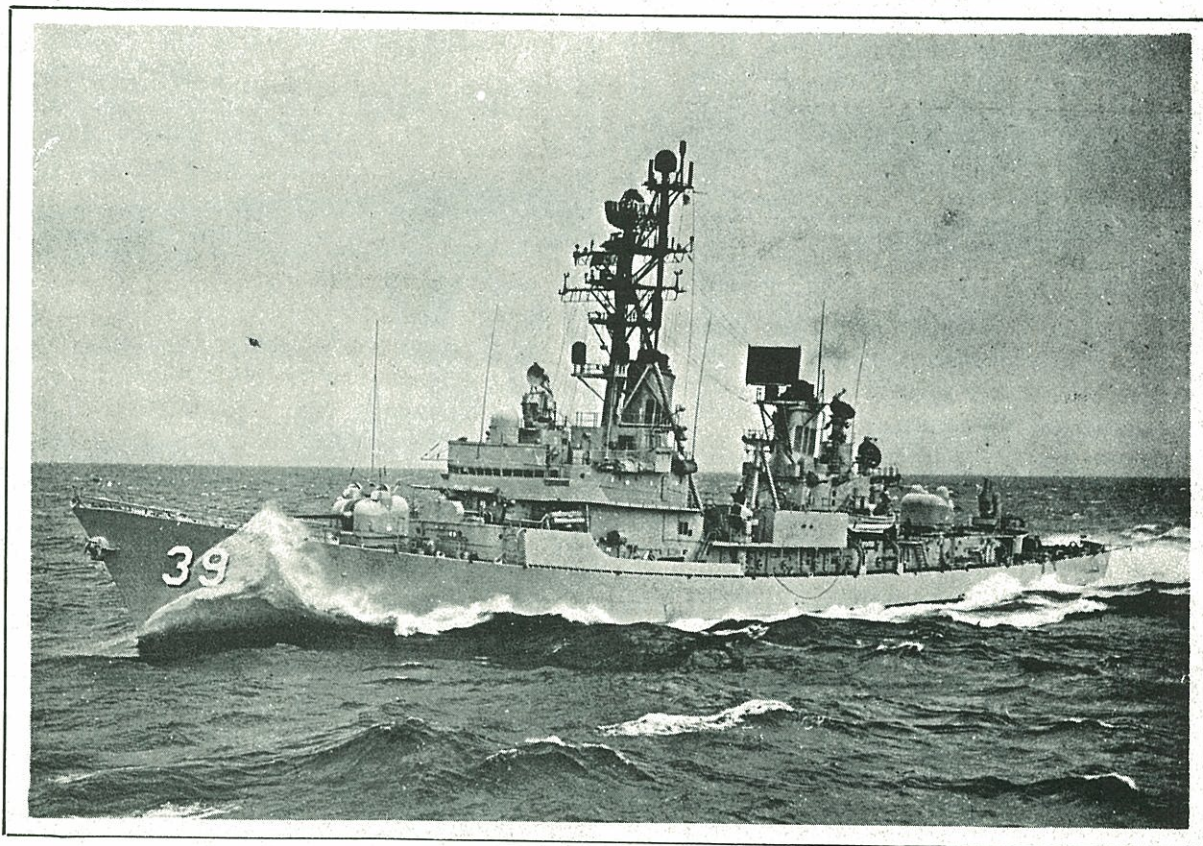
10. The probability of these threats appearing is related to their ease of presentation. Low intensity threats already exist, and thus the defence force must maintain at all times a capability to deal with these threats at very short notice. Mid intensity threats, which are purely politically motivated, can also occur with little or no warning, as no buildup of military forces is required. These threats also require a rapid response by the ADF. The Army's Operational Deployment Force in Townsville is designed to cope rapidly with low intensity and mid intensity threats.

11. High intensity threats depend upon both political intentions and the deployment of substantial force elements. There would thus be some reasonable period of warning time expected before these threats were fully developed. However, recent events in the Middle East, in Afghanistan, and in Asia indicate that the warning time may in fact be quite short, and thus we cannot afford to base our defence strategy on the assumption of a long warning time. (7)

12. The military capabilities required to prepare for these threats have been recognised by the Government. The Minister for Defence, Mr Killen, stated in the 1976 White Paper on Australian Defence that Australia must maintain a standing capability to react rapidly to low and mid intensity threats. (8) He also stated that Australia must have a surveillance capability and intelligence gathering service that can give timely warning of the development of high intensity threats. Admiral Synnot has pointed out that 'our Defence Force must not be closely tailored to meet a particular scenario. It must be versatile, containing a wide range of capabilities as a base for any expansion necessary to meet a developing situation.' (9)

13. In a statement to the Katter Committee on 18 March 1981, Admiral Synnot said 'We do not see any country with the capability of attacking Australia in this region. It would take any country a considerable time to get that capability.' (10) This syndrome of 'no perceived threat' has led to general public apathy concerning Australia's defence, and is the principal reason for the current lack of a rigorously defined defence strategy.

14. The need to eliminate this apathy and to develop a suitable strategy can best be demonstrated by considering those factors which could make Australia an attractive target for hostile action. Australia is well endowed with mineral and maritime resources. It has large areas of excellent farming land. It is underpopulated and underdeveloped. On the other hand, Australia's Asian neighbours are generally overpopulated, with food being scarce to the point of famine in some areas. Most of these countries have limited mineral resources and maritime



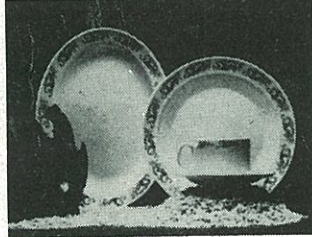


Proud to be of Service to the Armed Services

**Australia's Own Commercial
Crockery**
Featuring . . . **New! Floreat Lightweight**



ORION
Super Vitrified



DYNASTY
Wholly Manufactured
in Australia

Extensive range of shapes and attractive decorations available.

BRISTILE WIDENS THE CHOICE — Traditional "Savoy" Hotel China — Now new "Floreat" Lightweight. Bristile is stocked and distributed throughout Australia by all leading suppliers to the Catering Industry

For Information:

- NSW — Suite 6, 11-13 Harthill-Law Ave., Bardwell Park, 2207
- Victoria — 3 Wellington Street, Windsor, 3181
- Tasmania — Bristile Agencies Pty. Limited (Victoria)
- South Aust — F.L. Rungie & Son, 230 Halifax Street, Adelaide, 5000
- Queensland — Geo. Wills & Co., 262 Adelaide Street, Brisbane, 4000
- W.A. — Bristile Ltd., Porcelain Division, 580A Hay Street, Subiaco

DON NEWELL MOTO MART



We Have Over 30 Years Experience in Motor Cycles

Specialists in The Worlds Motor Cycles
Sales, Service, Spare Parts

Our workshops are staffed by qualified tradesmen

- Honda •Yamaha •Moto-Guzzi •Maico •Accessories •Tyres
- Clothing etc.

Phone Us, Advice is Free

Two Locations . . .

- 52 2314 — 339 Wickham St., Fortitude Valley
- 379 7199 — 2197 Ipswich Road,
(Next to Wayne Hill Holden) Oxley

*Glad to be of Service
to Members of the RAAF,
Point Cook and
Laverton.*

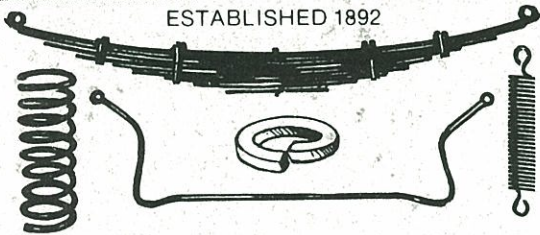
PAT'S BODY WORKS

- ★ Panel Beating ★ Spray Painting
- Insurance Work is a Speciality
- Free Quotes**

**Cnr. Duncan & Aviation Roads,
Werribee South, Vic.
PHONE: 742 1578**

HENDERSONS

ESTABLISHED 1892



SPRING REPAIR AND REPLACEMENT SERVICE

Hendersons, major suppliers to Australia's original equipment manufacturers of cars, trucks, buses and agricultural machinery

HENDERSON'S FEDERAL SPRING WORKS PTY. LTD.

**83 Alfred Street, North Melbourne,
Victoria**

PHONE: 328 2411



Chinese Cuisine

**Anthony Plaza,
Smith St. Mall,
36 Smith Street,
Darwin, 5790**

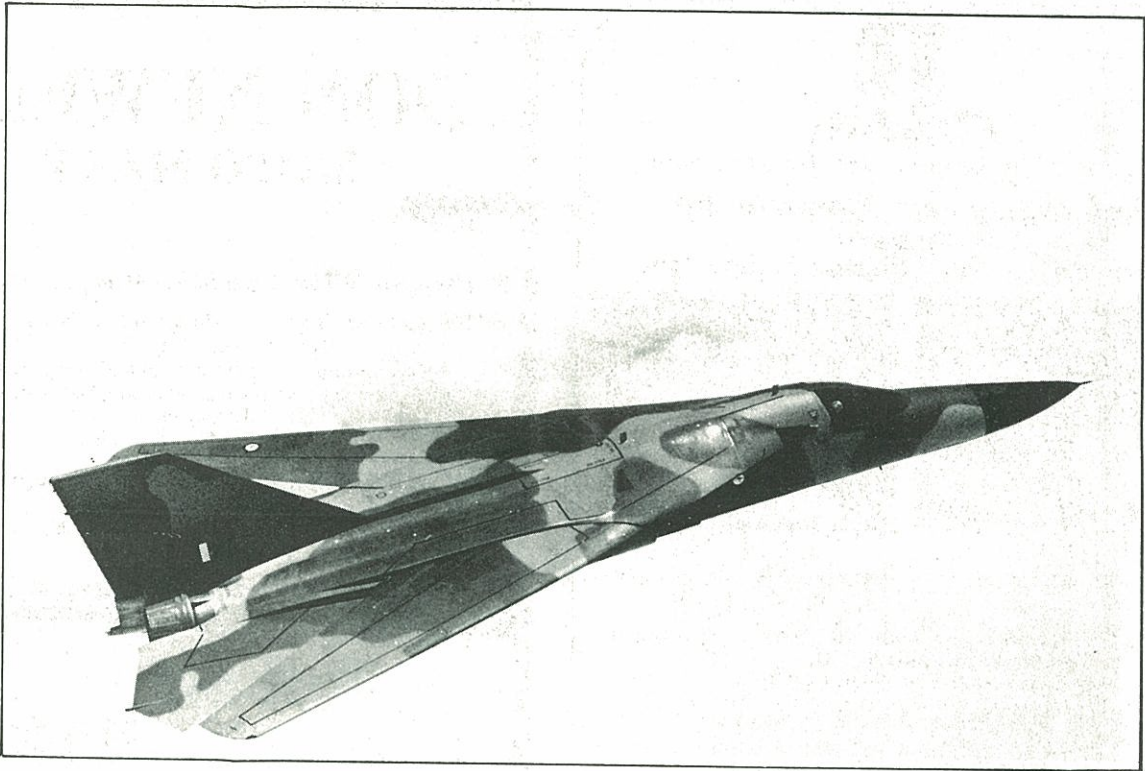
Cosmopolitan Foodhouse

Chinese & Australian

Special Weekday Luncheon 11.30 - 2pm

Fast Service —

Also Catering Service
DARWIN 81 9158



resources, and rely heavily on imports from Australia. Thus, whilst Australia is not under threat at the moment, a change in Australian foreign trade policy or in the attitude of our Asian neighbours could easily lead to the existence of a threat.

THE ANZUS TREATY

15. Since 1951, the American alliance, formalised under the ANZUS treaty, has been regarded by the Australian defence establishment, and the community in general, as essential for any defence against a fundamental threat to Australia's security. However, the ANZUS treaty must be viewed in the light of President Nixon's Guam Doctrine of 1969, which states that the United States would in future look to America's allies to do more for themselves militarily, and to generally become more self-reliant. (11) In other words, limits and conditions were placed on United States aid.

16. As a result of the Guam Doctrine it is now being acknowledged that American support to Australia might not be automatic. The 1976 Defence White Paper emphasised that it was not the Government's policy, nor would it be prudent, to rely upon United States combat help in all circumstances. Indeed it was possible to envisage a range of situations in which the threshold of direct US combat involvement could be quite high. The White Paper further stated that the Government recognised that an alliance did not free a nation from the responsibility to make adequate provision for its own security, or to help support stability and security in its own neighbourhood, should this requirement arise. (12)

17. United States support in any given contingency would be dependent upon the specific identity of the national adversary, the nature of the issue at the basis of the controversy, the threat to Australia's national integrity, and the long term US strategic implications.

18. Although doubts do exist, the ANZUS treaty still makes an important contribution to Australia's security. Through it Australia has access to US equipments, intelligence, and combined training exercises. A memorandum of understanding on logistic support was tabled in Parliament by Mr Killen on 25

March 1980, which provides 'an important body of principal for logistic support to the Australian Defence Force during peacetime, during periods of international tension or in circumstances of armed conflict'. (13) The US maintains strategically important defence installations within Australia, a fact which may tip the balance in favour of US aid to Australia in a given situation.

19. The existence of the ANZUS treaty also provides a valuable psychological deterrent against attacks on Australia. A potential aggressor would need to be relatively sure that the US would not interfere before any hostile moves were made against Australia.

THE FUNCTIONS AND ROLES OF THE DEFENCE FORCE

20. Before considering the defence strategy options available to Australia, it is necessary to define the roles and functions of the defence force. The 1976 Defence White Paper states that the first responsibility of Government is to provide the nation with security from armed attack and from the constraints on independent national decisions imposed by the threat of such attack. (14)

21. In order to fulfill this responsibility, joint operations doctrine defines the common function of the ADF as being to:

- a. deter aggression,
- b. ensure the security of Australia and its territories,
- c. uphold and protect Australia's national interests, and
- d. contribute to United Nations supervisory and peace-keeping forces.

22. Doctor R. O'Neill, of the Strategic and Defence Studies Centre, has defined four operational roles for the Defence Force to enable it to carry out its function. The Defence Force must provide:

- a. timely warning of strategic developments;
- b. a rapid reaction force to deal with low and mid intensity threats which can arise almost instantaneously;
- c. deterrence of high intensity threats against Australia or Australian interests;
- and
- d. a capability for armed combat in the event that

LOCKSMITHS

Steel Security

Doors — Grilles — Gates
Made to Measure
— Fitted or Supply Only



ALL TYPES OF
DEADLOCKS INSTALLED

SAFES—DOMESTIC AND
COMMERCIAL
KEY OR COMBINATION
SUPPLIED & INSTALLED



**R & W BRIDGE
PTY. LTD.**
(Established 1907)

**128 PARRAMATTA ROAD,
CAMPERDOWN, 2050**
PHONE: 515135 or 519 5570
Contractors to the Dept. of
Administrative Services

GERGELY & CO.

TAXATION CONSULTANTS

ACCOUNTANTS

**FULLY EXPERIENCED
IN ALL ASPECTS OF
TAX RETURNS**

**4/76 Campbell Pde,
Bondi, NSW, 2026**

**TELEPHONE:
309 2822**

Best Wishes to All Army Personnel

Best wishes from

WHITTAKERS PAINTING CONTRACTORS

Reg. 1069

INTERIOR DECORATING

256 Warrick Road, Duncraige, Perth

Phone: (09) 44 0780



SHAMROCK DOMESTIC CLEANING & IRONING SERVICE

Available

All Suburbs

Phone: (07) 265 4898

Hazel O'Ferrall

Robert Piticco

Specialists in Concrete Reinforcement
Steelwork & Placement

For a prompt quote on your next project

PHONE: 356 5607

4 Ballina Street, Kelvin Grove, Qld.

Koala Welcome Inn

Whilst in the Riverina,
stay with us in first class
accommodation with all
facilities available

**22 Thompson St,
Wagga Wagga, 2650**

Call in or Phone
We will be pleased
to assist

**Telephone:
(069) 21 4873**

deterrence fails.

The defence strategy options available to Australia can now be considered, with a view to selecting the strategy that best fulfills the above requirements.

DEFENCE STRATEGY OPTIONS AVAILABLE TO AUSTRALIA

Deterrence

23. The military definition of deterrence is 'the prevention from action by fear of the consequences. Deterrence is a state of mind brought about by the existence of a credible threat of unacceptable counter action.' (15) A deterrent strategy recognises that it is more cost effective to deter a potential aggressor from offering a threat than to maintain the force structure and make the sacrifices necessary to defeat him after he strikes.

24. Successful deterrence involves both capability and credibility. According to Albert Wohlstetter, a viable deterrent system must be capable of 'stable, steady state peacetime operation, within economic feasibility, and not prone to accident; the force must be able to survive the enemy's offence; there must be an ability to make the decision to retaliate and to communicate it to the deterrent force; and the force must be able to destroy its targets in spite of the passive defences that may protect them.' (16)

25. One advantage that is inherent in a deterrent strategy is that it is effective even when there is no perceived threat. This is particularly relevant to Australia's current strategic situation. A successful deterrent strategy will deter all potential threats, thus providing Australia with control over its threat environment, without being dependent upon any specific threat being identified by Australia.

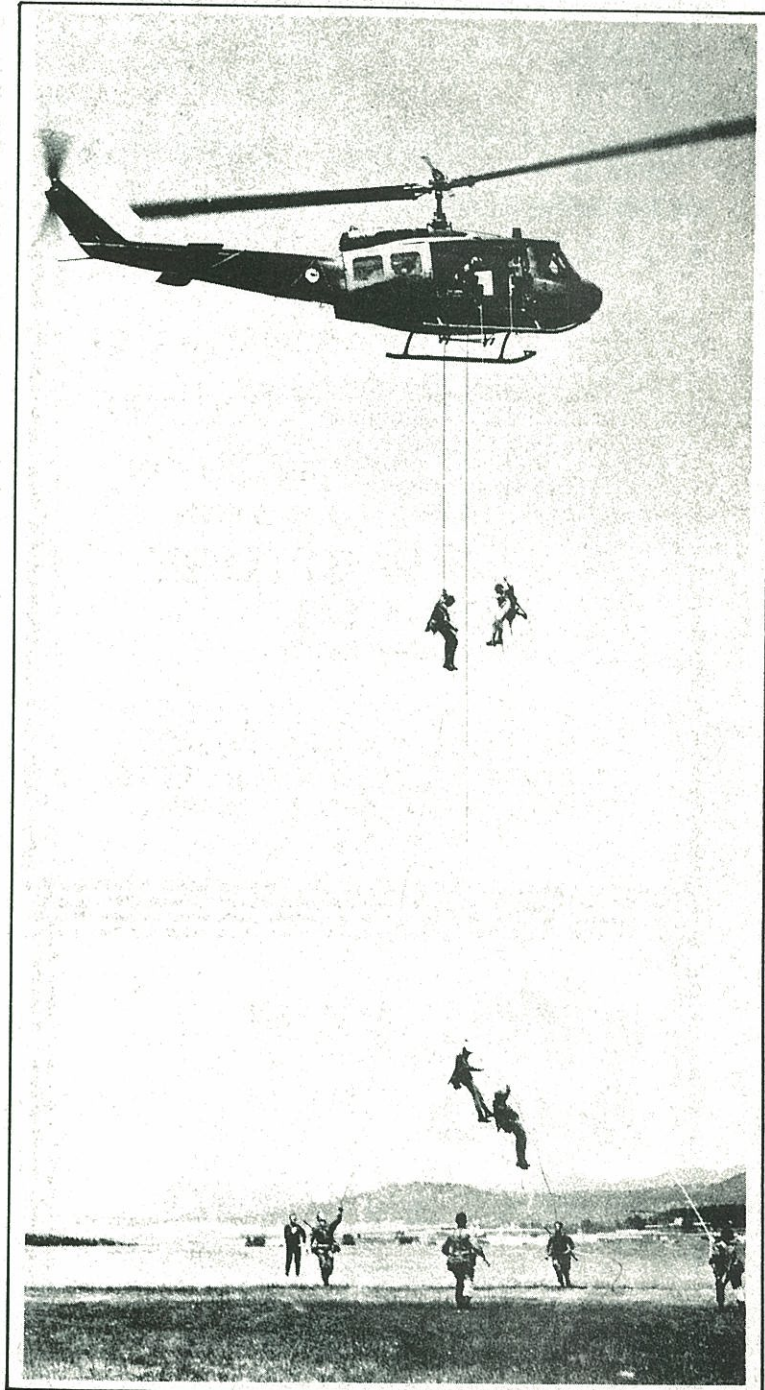
26. There are, however, some problems associated with a deterrent strategy. A potential aggressor must believe that the cost of the threatened Australian retaliation was worth the strategic advantages that would be gained by carrying out the action contemplated. In other words, Australia must make an accurate assessment of the costs that a potential aggressor will be prepared to pay if it is to have a credible deterrent force. It is also necessary to ensure that the deterrent force elements have an adequate war fighting capability in the event that deterrence fails. (17)

27. Whilst a deterrent strategy may be effective against high intensity threats, it may well lack credibility for deterrence of low and mid intensity threats without the risk of causing escalation. Thus, whilst deterrence is an extremely effective strategy, the Defence Force must also contain elements which are not specifically designed for deterrence.

Nuclear Deterrence

28. Nuclear deterrence is a specialised form of the deterrent strategy discussed above, but its implications are such that it warrants separate discussion. The aim of nuclear deterrence is the same as that of conventional deterrence, that is, to convince a potential aggressor that the strategic advantages gained by any military action against Australia will be far outweighed by the cost to the aggressor of the Australian retaliatory action. Clearly, nuclear weapons have such an awesome destructive capability that no national enemy could afford the costs suffered in a nuclear attack.

29. There are, however, a number of problems associated with the adoption of a nuclear deterrent strategy by a country like Australia. Because of general world opinion concerning the use of nuclear weapons, and the very real danger that any operational use of nuclear weapons could trigger a global nuclear war, Australia could only afford to exercise its nuclear



option in a case of fundamental threat to its national integrity. Thus a nuclear deterrent strategy would lack credibility against all but a major, high intensity threat to Australia.

30. Another problem associated with the acquisition of nuclear weapons by Australia would be the de-stabilising effect that this would have in our region. Other countries in the region could be expected to view such a move as being unacceptably aggressive and provocative, and could feasibly break off diplomatic relations with Australia. Such a move could also lead to a nuclear arms race within the region, and this would further de-stabilise world security. Finally, other countries in the region could feel so threatened by an Australian nuclear capability that they would make a preventive strike against Australia. This is the very action that a deterrent strategy is designed to deter.

31. In conclusion, it would appear that unless other



DOWELL DIESEL

Diesel Fuel Injection Specialists Authorized

Cummins, CAV Simms Service

We stock a large range
of change over Cummins
Also stocks of components

- Fuel Pumps
- Injectors
- Water Pumps
- Oil Pumps
- Air Compressors

33 The Concord, Bundoora, 3083
P.O. Box 119, Bundoora, 3083
Telephone: 467 6573 A.H.: 465 2940



CRUSADER 1st CHOICE ALWAYS

Specialist Supplier-Stockist of Quality A1
Electronic Components for Communication
Industry—Research etc.

Write/Phone/Telex for Free Technical Data

CRUSADER ELECTRONIC COMPONENTS PTY. LTD.

P.O. Box 14, St. Peters, NSW, 2044,
Sydney, Australia
PHONES: (02) 519 6685, (02) 519 5030,
(02) 516 3855 — Telex: 23993

HANSEN & YUNCKEN (SA) PTY. LTD

Building and Civil
Engineering Contractors,
Welcome Enquiries all
Branches of Dept. of
Defence

360 West Beach Road,
Netley, S.A.
Telex: AA88432
Telephone
(08) 352 2099

GEARBOX-DIFF-CLUTCH



Car Transmissions — Automatic Transmissions
Manual Truck Transmissions

*Changeover reconditioning or repair work of any
description.*

- We offer a complete changeover and repair service.
- Free pick-up and delivery in the metropolitan area.
- Efficient radio-controlled service, representatives will call.
 - Terms available to approved applicants
 - Transmissions specialists
 - All exchange units are guaranteed
 - Free test drive and quotes.
 - C.O.D. service to country members speciality

C. & J. TRANSMISSIONS PTY. LTD.

*Contractors to Dept. of Defence — Special
Attention to Service and Civilian Personnel*

Guildford: 13 Clark Street,
Guildford. N.S.W. 2161

Phones: 632 9810, 632 4888, 632 6421
A/H: 609 2770



countries within the Australian region acquire a nuclear capability, then it would be strategically unwise for Australia to develop its own nuclear deterrent force.

Pre-emptive or Preventive Attacks

32. Pre-emptive or preventive attacks can also be considered as potential defence strategies. A pre-emptive attack is an attack initiated on the basis of incontrovertible evidence that an enemy attack is imminent. A preventive attack is one initiated in the belief that an enemy attack, while not imminent, is inevitable, and that to delay would involve greater risk.

33. It is immediately apparent that such a strategy is entirely dependent upon the collection and interpretation of intelligence for its success. The intelligence community must be sufficiently competent to fully monitor Australia's strategic environment, and to identify any developing threat. The decision-makers must be able to recognise when military action becomes inevitable, and they must be prepared to make the decision to carry out the pre-emptive or preventive attack, even in the face of a probable public outcry, both from within Australia and from the rest of the world. The attack must successfully destroy the enemy's capability to launch a retaliatory strike.

34. Such a strategy has several problems associated with it. The intelligence community may not spot the developing threat, especially if it is only a small scale raid. The decision-makers, because of uncertainty or political pressures, may not be prepared to make the decision to attack. This was the case with Israel and the 1973 war, when the Israeli Government,

despite intelligence reports which indicated that attack was imminent, did not act until it was too late. There is also a danger that this strategy will become unnecessarily provocative, thus itself inviting a preventive attack.

35. It would thus appear that a pre-emptive or preventive strategy in isolation is not sufficient for Australia's defence. However, if an imminent threat does become apparent, then Australia must not hesitate to make a pre-emptive strike in order to minimise the risks of the threat being successful.

The Hypothetical Contingency Approach

36. The hypothetical contingency approach is another strategy that Australia could choose to adopt. This strategy recognises that the period of likely warning of a major threat to Australia could be quite short, thus precluding the acquisition of long lead time items in response to the threat. It is based on the generation of hypothetical contingencies or scenarios which defence planners see as being the most likely threats to Australia.

37. According to Commodore K.D. Gray, account must be taken of Australia's unique environmental characteristics and strategic situation in selecting these scenarios. A national enemy is selected and assigned realistic force capabilities. Based on these capabilities a national threat is developed for a defined time scale. The most appropriate defence strategy can then be developed, and by considering a number of scenarios the common defence requirements can be identified and built into the defence force structure. (18)

38. The only major attempt to use this concept in relation to





Renault, Fiat and Lancia enthusiasts know where to go to find expert spare parts advice and servicing, the Enthusiasts — Annand and Thompson. Or if you're enthusiastic about a new Renault, Fiat or Lancia come and talk to us at Breakfast Creek Road, Newstead Brisbane Phone 52 0161.

We're enthusiasts too!



PRA 1149

**TERRITORY WRECKING CO.
ALICE
SPRINGS**

**WRECKERS & PARTS
CASH FOR ALL LATE
MODEL CARS & TRUCKS**

FREE PICKUP in Alice Springs Area —
USED PARTS AT A SAVING

STOCKISTS OF:

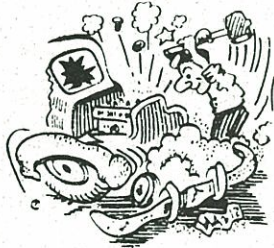
★ BERKLEE EXHAUSTS ★ EISE TRUCK EXHAUSTS

ALICE SPRINGS (089) 52 3060

AFTER HOURS ONLY ALICE SPRINGS (089) 524138, 524862

24 HOUR TOWING SERVICE — 7 DAYS A WEEK

WRECKING YARD, STUART HIGHWAY, MOUNT NANCY



**BRISBANE
MOTOR
TRIMMING**



SPECIALISING IN:

- ★ 4 WHEEL DRIVE CANOPIES & FRAMES
- ★ VINTAGE CARS ★ PRESTIGE INTERIORS,
HOODS, SEATS, CARPETS, ETC.

48 0557

19 Shoebury St., Rocklea

**“SHORTY'S
QUALITY MEATS”**

**Continental
Butchers**

NO ORDER TOO LARGE OR TOO SMALL
QUALITY BEEF, LAMB, PORK, VEAL,
SMALLGOODS

Alice Springs (089) 52 1443

Corner Hearne Pl.
& Kekwick Ave., Alice Springs

**DARWIN
WORKER'S
CLUB**

21 CAVENAGH STREET,
DARWIN, N.T. 5790

OPEN 7 DAYS A WEEK
MEMBER'S MOST WELCOME!

**TELEPHONE:
(089) 81 5591**

the structure of the ADF was that of the Central Studies Establishment's Naval Air Power/Tactical Air Weapons Systems (NAP/TAWS) project in 1970-74. (19) The aim of this study was to determine the character and place in the Australian force structure of an aircraft carrier, and to study land based Tactical Air Weapons Systems.

39. In order to assess the various strategic tasks that air power might be required to satisfy, a number of scenarios were generated. Force structures were then derived 'which are satisfactory in various combinations of the scenarios'. (20) The seven scenarios finally selected were:

- a. internal disturbances in Papua New Guinea (PNG),
- b. threatened secession in PNG,
- c. surveillance of the USSR in the Indian Ocean,
- d. limited operations in Indonesian waters,
- e. low level Indonesian incursions into PNG,
- f. Indonesian incursions into PNG leading to limited war, and
- g. defence of the island archipelago against attack by a major power.

40. The NAP/TAWS project had no effect on the Australian Defence Force structure. Ball and Langtry point out that the reasons for this are indicative of the general problems associated with the hypothetical contingency approach. (21)

41. The force structure cannot be designed to cover every conceivable contingency which may arise, and thus there is always a danger that a force structure based on a given set of contingencies may prove totally inadequate to deal with the threat which does eventually arise. Strategic circumstances can change quite rapidly, and scenarios that are relevant one year may be irrelevant the next. The scenarios chosen for the NAP/

TAWS project were based on the concept of forward defence, and when the Australian policy became one of defence of Australia, these scenarios were considered to be irrelevant.

42. It would appear that the hypothetical contingency strategy does have some relevance to Australia's defence. Because of Australia's geographic environment, attacks can only come on, above or below the sea. The scenarios approach thus suggests that Australia should have a well-developed maritime capability, both offensive and defensive, including the use of both naval and air forces. It is possible, however, to envisage a number of scenarios in which a maritime-oriented defence force would be inappropriate. Australia cannot afford, therefore, to base its defence strategy solely on the hypothetical contingency approach.

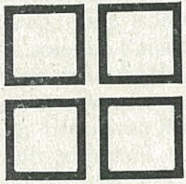
The Core Force Concept

43. The capabilities of the ADF are currently decided on the basis of the core force concept. According to Grazebrook (22) the core force concept seeks to provide:

- a. a capability of dealing with existing threats and threats which could arise at short notice, and
- b. a basis of technology and personnel from which a larger force could be developed within the expected warning time.

44. Grazebrook subsequently defines the core force as a group charged with maintenance of expertise using modern but numerically limited equipment as a basis for rapid expansion subsequent to the emergence of a major threat. This definition agrees with that given by Admiral Synnot to the Katter Committee on 18 March 1981. (23)





BEAUMONT TILES (N.T.) PTY. LTD.

One of the largest displays of wall & floor tiles in the Northern Territory

When next in town why not drop into our display centre

Darwin 81 9616
27 Stuart Highway, Darwin



KAREN LEE

ONE STOP SHOPPING
LINGERIE,
FOUNDATION WEAR,
DAY & EVENING WEAR

PHONE DARWIN 81 3917

64 Smith Street, DARWIN



W.A. SOLOMON AND CO. Pty. Ltd.

ALUMINIUM SPECIALIST

• Bull Bars • Roof Racks • Boat Racks

Ph: (089) 84 4196 — Ask for Bill

GENERAL ALUMINIUM WELDING

millions of dollars, with practically no risk to Australia. The cost and effort to establish whether a port has been mined, and then to clear it if it has, is totally disproportionate. A fleet of minehunters and minesweepers would be required.

61. Australia does not currently have a mine warfare capability. If we are to adopt a strategy of deterrence then both offensive and defensive mine warfare capabilities must be acquired. If potential aggressors believe that Australia has the capability to mine their home ports or sea lines of communication, then they will be deterred from offering threat or they will be forced to make a disproportionate response to defeat the Australian capability. Clearly, mine warfare can be used in combat in the event that deterrence fails.

Air Warfare

62. An effective air warfare capability is another excellent deterrent. A potential aggressor will be deterred from threatening Australia if he believes that Australia has the capability to carry out air strikes against selected strategically important targets in his homeland or against his invasion fleet and ground forces.

63. To defeat an Australian air warfare capability, an enemy would require an effective air defence system, including:

- a. radar units capable of extended early warning at both low and medium level;
- b. target identification and assessment;
- c. a data transmission system with the ability to provide accurate, secure real-time information;
- d. a command and control system capable of real-time response;
- e. a secure communications systems;
- f. electronic countermeasures;
- g. surface to air weapons for point and area defence; and
- h. fighter aircraft capable of all weather, all altitude interception.

64. As well as this, if an enemy was to launch an invasion, he would need to have either air superiority, or an organic air defence system for his invasion fleet and ground forces. These requirements all necessitate a disproportionate response by a potential aggressor.

65. Australia will have a very good air warfare capability when the New Tactical Fighter is finally acquired and added to the present force. The F-111 provides Australia with a long range offensive strike capability, and the F-111 and P3 Orion can be used for maritime strike. The purchase of refuelling tankers, and modern, precision guided, stand-off munitions, would greatly enhance the present capability.

CONCLUSION

66. The changes in Australia's strategic environment that have occurred over the past decade have led to a fundamental change in Australian Defence Policy, from Forward Defence in conjunction with our allies to Defence of Australia. The Government has yet to define a defence strategy applicable to this concept. Thus, with no clearly defined strategy, and no immediately discernible threat to Australia, it is difficult for defence planners to plan for a force in being which is suitable to the peacetime defence role.

67. Although there are many defence strategies available to Australia, a combination of deterrence and the core force concept is the most suitable. A strategy of deterrence does not have to be developed to counter any specific threat; rather it is designed to be effective against all threats.

68. The Australia deterrent force should consist of elements which require potential aggressors to make a disproportionate response in order to defeat them, and which are capable of inflicting such damage on an aggressor in reaction to a threat that the strategic advantages gained by the action are out-

weighed by the cost of the Australian retaliation. The deterrent force should also consist of elements which can be used for the actual war-fighting in the event that deterrence fails.

69. If the deterrent strategy fails, then the ADF must be able to expand in different directions, along more conventional lines, to meet the specific threat which has arisen. It must already have the long lead-time equipments and capabilities which are required to meet the threat. These elements may not necessarily be appropriate to the deterrent force structure, but they must be part of the core force which is to be expanded to meet the threat. A combination of deterrence and the core force concept is thus the best strategy for the defence of Australia.

NOTES AND ACKNOWLEDGEMENTS

1. Synnot, A.M. Admiral. 'The Changing Challenge of our Defence Force', in Young, P. *Pacific Defence Reporter*, P.Y. Logistics and Holdings Pty Ltd, Sydney, March 1976, p14.
2. Langtry, J.O. and Ball, D.J. 'Australia's Defence at the Crossroads', in Young P. *Pacific Defence Reporter*, P.Y. Logistics and Holdings Pty Ltd, Sydney, April 1980, p60.
3. loc cit
4. loc cit
5. Kelloway, R.N. Squadron Leader. *No Threat! No Strategy? An Analysis of Australia's Strategic Options when no Threat is Apparent*, Unpublished paper prepared at the Joint Services Staff College, 1978.
6. O'Neill, R. *The Structure of Australia's Defence Force*. The Strategic and Defence Studies Centre, Working Paper No 10, 1979, pp2-4.
7. One study of warning times preceding all conflicts since 1939 has found that the average warning time from first indication of impending war to the firing of the first shots has been 14.3 months, with a fifty percent probability that conflict could occur in less than four months. See Speedy, I.M. Lieutenant Commander. 'The Trident of Neptune', *Defence Force Journal*, Ruskin Press, Melbourne, January/February 1978, pp7-16.
8. Killen, D.J. Minister for Defence, *White Paper on Australian Defence*, presented to Parliament November 1976, Australian Government Publishing Service, p13.
9. Synnot, A.M. Admiral. 'The Australian Defence Force - Evolving for the Future', in Young, P. *Pacific Defence Reporter*, P.Y. Logistics and Holdings Pty Ltd, Sydney, June 1979, p17.
10. See article entitled 'Admiral Synnot talks to Katter Committee' in Young, P. *Pacific Defence Reporter*, P.Y. Logistics and Holdings Pty Ltd, Sydney, April 1981, p61.
11. Booker, M. *The Last Domino*, Collins, Sydney, 1976.
12. Killen, D.J. *Australian Defence*, op cit, p10.
13. Report on the Defence Minister's Statement given to Parliament on 25 March 1980, in Young, P. *Pacific Defence Reporter*, P.Y. Logistics and Holdings Pty Ltd, Sydney, April 1980, p49.
14. Killen, D.J. *Australian Defence*, op cit, Introduction.
15. Joint Services Staff Manual Glossary, JSP (AS) 101.
16. Wohlstetter, A. 'The Delicate Balance of Terror', *Foreign Affairs*, January 1959.
17. For a discussion on the relationship between deterrence and actual war fighting, see Langtry, J.O. and Ball, D.J. *Controlling Australia's Threat Environment*, Australian National University, 1979, pp17-21.
18. Gray, K.D. Commodore. 'Some Defence Concepts for Australia', *Journal of the Royal United Services Institute of Australia*, November 1980, p18.
19. For a discussion on the NAP/TAWS project see Langtry, J.O. and Ball, D.J. op cit, pp6-7.
20. loc cit
21. loc cit
22. Grazebrook, A.W. 'The RAN in Perspective', in Young, P. *Pacific Defence Reporter*, P.Y. Logistics and Holdings Pty Ltd, Sydney, December 1977/January 1978, p18.
23. 'Admiral Synnot talks to Katter Committee', op cit, p61.
24. Synnot, A.M. Admiral. 'The Australian Defence Force - Evolving for the Future', in Young, P. *Pacific Defence Reporter*, P.Y. Logistics and Holdings Pty Ltd, Sydney, June 1979, p17.
25. Langtry, J.O. and Ball, D.J. op cit, p4.
26. loc cit
27. For a discussion on the concept of disproportionate response, see Langtry, J.O. and Ball, D.J. op cit, pp22-32.

R.A. DOCKING

ELECTRICAL

156 RATHDOWNE STREET
CARLTON, VICTORIA

Electric Motor Repairer and Rewinder
Commercial and Domestic cleaning
equipment

SOLD AND SERVICED

Telephone 347 6694.



Now Available to all
Restaurants and
Caterers from
Leading
Wholesalers

SNOWY MOUNTAIN TROUT (TUMUT)

Snowy Mountains Rainbow Trout
Are Mountain Fresh, high in nutrition, low in calories and a gourmet delicacy of
the highest quality.

Order from your nearest wholesaler distributor and if you have any problems
obtaining Snowy Mountains Rainbow Trout Contact:
**Snowy Mountains Trout (Tumut), P.O. Box 91,
Tumut, N.S.W. 2720 — Phone (069) 47 5512**

Trout sizes range from 180 gram (6½ oz) to 333 gram (12 oz) Prices range
from \$1.18 to \$2.16 per serve
Delicious recipes available on request

UNEEDA AUTO SERVICE Pty Ltd

81-87 Moray Street, South Melbourne, 3205

Specialists in:
Body Repairs, Chassis Repairs, Spray Painting.

Insurance Work a Specialty

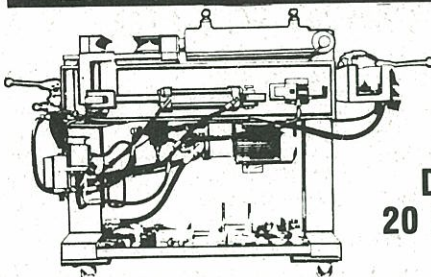
Selected R.A.C.V. Repairer

**Member
of**

**PHONE:
699 8082**



MARTINS MUFFLER SERVICE



- ★ Exhaust System
Manufacturing
- ★ Standard & Sports
- ★ General Tube & Pipe
Bending
- Stainless Steel Systems

**Darwin 81 4392
20 Stuart Highway,
Darwin**

RUSURBE

**Creative Advertising
Commercial Artwork
Typesetting Service**

Please contact Graham Aston
and discuss your needs on
598 9720

RUSURBE

PTY. LTD.

35 Willis Street, 598 9720
Hampton, 3188. 598 9555

AUTO ELECTRICAL SERVICE pty.ltd.



EST.
1934

NORTH SYDNEY 92 0966

- Complete Auto Electrical Repair Service
- Authorised Service Agents for: Lucas - Bosch
- N.R.M.A. Registered • Exchange Units
- Spare Parts and Accessories • Lucas Batteries
- Car Air Conditioning Specialists*

43 FALCON ST, CROWS NEST 92 0966 (3 LINES)



Proud to support the Army Engineers

IRON CLAD HOTEL

MARBLE BAR, W.A.

Mine Host: Jim Lynas

- Icy Cold Beer on Tap
- Full Range of Wines & Spirits
- Tasty Counter Snacks

PHONE: (091) 761066

AUTO CLUTCH SPECIALISTS

A DIVISION OF
MELBOURNE CLUTCH & BRAKE SERVICE PTY. LTD.



CLUTCH KITS

MELBOURNE CLUTCH & BRAKE SERVICE
PTY. LTD.

5 Boundary Street, Port Melbourne, 3207.
Phone: 64 4250

79 Murphy Street, Richmond, 3121 Phone: 428 3645

AUTO CLUTCH SPECIALISTS

537 High Street, Preston, 3072. Phone: 478 2466
136 Springvale Road, Springvale, 3171. Phone: 547 1333

**FERGUS' FISH
& SNACK BAR**

KINDLY SPONSORED
BY
ROBIN & EVELYN COOK

**FOR THE BEST
TAKE-AWAYS
IN TOWN**

Chickens—roisserie,
seasoned and BBQ'd burgers,
toasted sandwiches,
fish a specialty and heaps of other tasty
snacks. Special discount given to all
sporting clubs. Functions. Also morning
and afternoon teas

Call in at:

**17 MAIN STREET,
ATHERTON, QLD. 4883.
or ring 91 1507 for orders**

Gerni
HIGH PRESSURE
WATER CLEANERS

Gerni
318

AIRLESSCO
PAINT
SPRAYERS

**Trench
Wench**

48.8027

VIKING EQUIPMENT PTY. LTD.

Viking Equipment offers your business these unique and versatile products.

Gerni, the number one high pressure water cleaner super cleans faster and more efficiently without the use of excess water.

Trench Wench digs a better

trench quicker and tidier than previously possible.

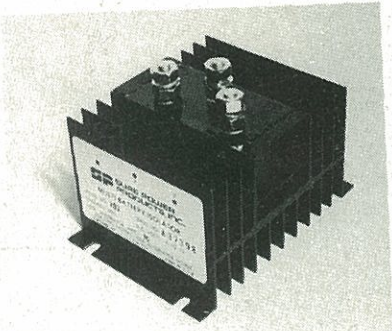
Airlessco airless paint sprayer saves you money and does the job in half the time.

Phone Viking Equipment Pty Ltd on 602 3666 now for a free, no obligation demonstration.

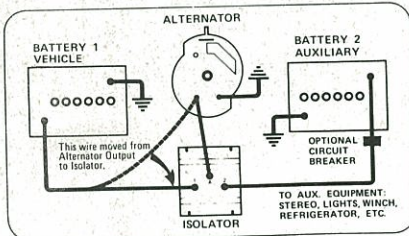
Cnr Kelso Cres & Newbridge Rd, MOOREBANK NSW Phone (02) 602 3666

QLD: 275 1683 VIC: 793 1892 TAS: 26 1044 S.A.: 268 7981 W.A.: 361 7377

**TROUBLE FREE
BATTERY ISOLATION**



The SURE POWER Battery Isolator electronically isolates your auxiliary battery from the vehicle battery, allowing you to operate your extra accessories or equipment without draining the starting battery. The engine alternator will properly charge each battery while you drive.



This typical diagram shows how easy the Sure Power Isolator is to install in your existing system.

Models for all vehicles, boats and alternator capacities.

One, two or three batteries — one or two alternators.

and — SURE POWER DUVAC for all mixed voltage systems. Dual Voltage Controls for:

- 12 volt running 24 volt starting.
- 12 volt equipment on 24 volt machine or vehicle

For further information contact

ROBERTSON & MARCHANT PTY.LTD.
P.O. Box 147, Concord, NSW, 2137
40a Crane Street, Concord
Telephone: (02) 747-1548



**MAGAZINE ART
PTY. LTD.**

**ADVERTISING
REPRESENTATIVES
AND PUBLISHERS**

- Publication Management and Distribution
- Qualified Feature or Managing Editors
- Publication Designing, Printing and Publishing
- Artwork and Design, for advertisers
- Sale of Advertising Space
- Contract Advertising, sales at agreed rates
- Feasibility Consultants in respect of your publication
- Competitive Printing

Head Office:
35 Willis Street, Hampton, Vic. 3188
Telephone: 598 9555

Sydney Office:
2nd Floor, N.R.M.A. Building,
17 Newland Street,
Bondi Junction, N.S.W. 2022
Telephone: 387 1957

Queensland Office:
3rd Floor, Fashion Valley,
Fortitude Valley, Qld. 4006.
Telephone: 52 7967

South Australian Agent:
Kelly Walker and Associates
60A Glen Osmond Road,
Parkside, S.A. 5063
Telephone 272 3521

Kindly Sponsored by . . .

**BEAZLEY'S
RADIATOR SERVICE**

Repairs — Clean-outs — Recores
Cars — Commercial — Farm Machinery
Warranty Service Agent for Natra & Nippondenso

We are pleased to be of Service to the Armed Forces

Phone
Wodonga (060) 24 5480
A/H 24 5748
Cnr. Osburn & Kendall Sts., Wodonga



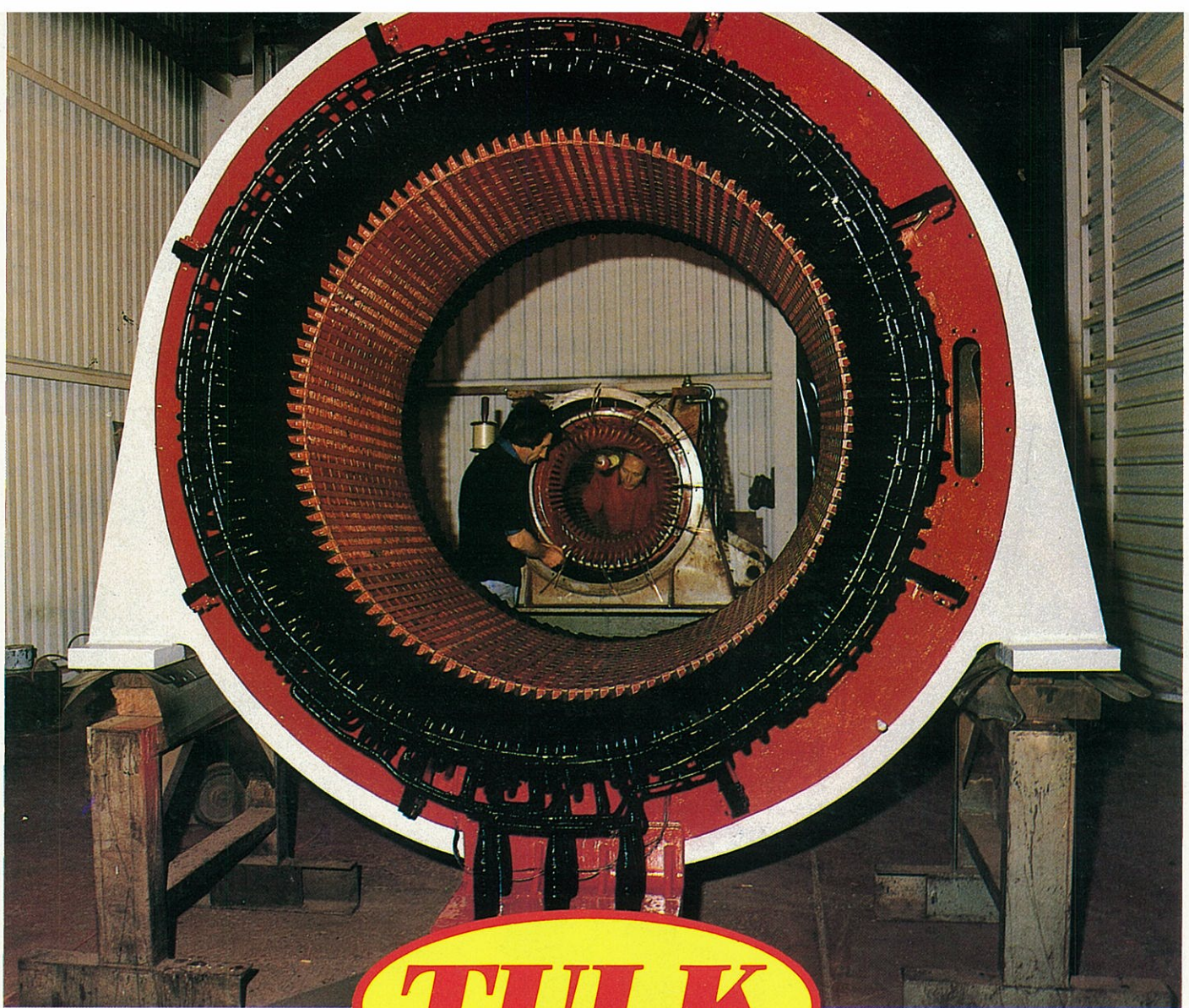
**HEAVY LIFT
SPECIALISTS**

**PULLENS 24 HR TOWING
& BREAKDOWN SERVICE**



7 DAYS A WEEK
391 2500 or 391 2605
36 Rotherham St, Kangaroo Point

Anywhere — Anytime in Qld & NSW. Currently Contracting to the Army.



TULK

Electrical Engineers

On site service anywhere in Australia/South East Asia

Consider Tulk on site rewinding capability before shipping large motors and generators long distances. On site repairs/rewinds make sense: Quicker turnaround — Better economics. Tulk can provide on site winding supervision using customer labour, alternatively, we provide full winding crew. Remote locations do not present a problem and our on site service extends to the Philippines, New Zealand, Papua New Guinea and throughout Australia.

- In house wire mill
- Coil manufacture HV/LV AC/DC
- Vacuum pressure impregnation
- Spin curing of commutators

**Motor rewinds to
24,000 volts.**

- Dynamic Balancing (15 tonne)
- Shaft manufacture and repair
- 300 tonne hydraulic press
- 60 tonne crane capacity

**For Service Any Time Anywhere
F.R. Tulk and Co. Pty. Ltd.,**

23 King Edward Road, Osborne Park, 6017, Perth, Western Australia.
Ph: (09) 446 6444 — Telex: 92953 — A/H (09) 448 5620, (09) 401 9380, (09) 349 9043.



John Deere 755 hydrostatic drive loader.



John Deere tandem drive all-wheel drive graders.



John Deere log skidders.



John Deere excavators.



John Deere backhoe loaders.



John Deere four wheel loaders.



John Deere 850 hydrostatic drive dozer.



John Deere scrapers.



John Deere tree harvester.

The world's most technologically advanced construction and industrial equipment is right here in Australia.

John Deere have always been innovative in industrial equipment, and right now the machinery shown here is probably the most advanced of its kind in the world.

It is also tough, durable, easy to maintain and service and built to work in the toughest conditions from desert to jungle.

Competitively priced, productive to operate with low running and owning costs, it is backed

by exceptional service and parts availability to cut downtime to a minimum.

John Deere construction and industrial equipment is well worth investigating. Talk to our construction people at Chamberlain John Deere Pty. Ltd., Welshpool Road, Welshpool, Western Australia 6106. Telephone (09) 362 0362.



CHAMBERLAIN JOHN DEERE PTY. LTD.