

WOMBATS

50 YEARS ON



WOMBATS

50 YEARS ON

Second Edition



ENGINEERING APPRENTICES
JUNIOR EQUIPMENT AND ADMINISTRATIVE TRAINEES

No 12 Intake Apprentices and No 7 Intake JEATs

© Commonwealth of Australia 2011

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced by any process without prior written permission. Inquiries should be made to the publisher.

Disclaimer

The views expressed in this work are those of the authors and do not necessarily reflect the official policy or position of the Department of Defence, the Royal Australian Air Force or the Government of Australia, or of any other authority referred to in the text. The Commonwealth of Australia will not be legally responsible in contract, tort or otherwise, for any statements made in this document.

Release

This document is approved for public release. Portions of this document may be quoted or reproduced without permission, provided a standard source credit is included.

National Library of Australia Cataloguing-in-Publication entry

Title: Wombats : 50 years on / [editors, Mac Weller and Ken Stone].

Edition: 2nd ed.

ISBN: 9781920800611 (pbk.)

Subjects: Australia. Royal Australian Air Force--Ground support--History.
Australia. Royal Australian Air Force--Aviation mechanics--Training of--Australia.
Australia. Royal Australian Air Force--Management--Study and teaching--Australia.
Apprenticeship programs--Australia.

Other Authors/Contributors:

Stone, Ken.

Weller, Mac.

Australia. Royal Australian Air Force. Air Power Development Centre

Dewey Number: 358.4150994



Published and distributed by:

Air Power Development Centre

TCC-3, Department of Defence

PO Box 7935

CANBERRA BC ACT 2610

AUSTRALIA

Telephone: + 61 2 6266 1355

Facsimile: + 61 2 6266 1041

Email: airpower@defence.gov.au

Website: www.airforce.gov.au/airpower

FOREWORD

WOMBATS – 50 YEARS ON

I am pleased to provide this foreword to *Wombats – 50 Years On*, a book produced by the 12th intake of the Royal Australian Air Force (RAAF) engineering apprentice scheme, known colloquially as the ‘Wombats’ to commemorate the 50th anniversary of their 1958 enlistment.

Amongst the RAAF engineering apprentice fraternity, the Wombats have developed an almost iconic reputation. Their camaraderie is legendary and although they consider themselves to be an average bunch of blokes, they have made some extremely important contributions to RAAF capability over the years as aircrew, engineers, technicians, administrators and suppliers.

From a statistical viewpoint, their achievements are impressive. They produced some 34 commissioned officers from across all categories with two reaching air rank and seven becoming unit commanding officers. Additionally, their periods of RAAF service were for the most part lengthy. Generally, Wombats re-enlisted beyond their initial 15-year engagement period and most completed at least 20 years service. In fact, several served for 40 years, whilst one wore the RAAF uniform for 48 years.

Of course, success did not end with their military service. In their post-RAAF endeavours, Wombats have been very successful in commercial ventures as managing directors, consultants, business entrepreneurs, airline crew and even ministers of the cloth.

During my career it has been my privilege to serve with many Wombats. I had a Wombat as a squadron commanding officer, I flew with a number of Wombats as crew, Wombats serviced many of my aircraft, and they also occupied a number of senior appointments as I advanced in the RAAF. They all had the admirable qualities of dedication, skill and loyalty in common, and I experienced firsthand their great professionalism and teamwork. Indeed, they (I think mainly Wombats) say there are only two types of RAAF ex-apprentices—Wombats and those who wished they were a Wombat!

The intent of this book is threefold. Firstly, it details the life stories of some of the Wombats. Secondly, it describes the apprentice training system of the Wombat era and, thirdly, it places both the Wombats and the RAAF in the appropriate historical context and analyses both the positive and negative aspects of the scheme.

For these reasons, this book is more than simply a collection of stories from the RAAF School of Technical Training and the apprentices of the 12th intake. Indeed, the book details the RAAF of the era and comments on capabilities, practices and processes from a technical viewpoint.

Without reservation I am pleased to say that Wombats hold my utmost admiration and I commend this book, particularly to those interested in an alternative and unique

view of RAAF's history. *Wombats – 50 Years On* can be regarded as having distinct historic and military merit.

A handwritten signature in black ink, appearing to read 'A. C. H. T.' followed by a horizontal line and a diagonal stroke underneath.

Air Chief Marshal Angus Houston
Chief of the Defence Force
22 January 2008

APDC EDITOR'S PREFACE TO SECOND EDITION

The Second Edition of *Wombats – 50 Years On* has been published by the Air Power Development Centre as part of its commitment to Air Force history and to promoting a greater understanding of the evolution of the RAAF and the role of air power.

While it is essentially the same as the First Edition, published in 2008, it contains some minor changes and corrections, primarily identified by Mac Weller and Ken Stone, and the APDC Editor. The layout of the book also has been changed to a more contemporary appearance.

Every effort has been made to ensure the correct spelling of people's names and placenames; however, given the time period since many of these events took place, it has not been possible to double-check every name mentioned herein. Further compounding the problem is the fact that some names are misspelt in official records of the period. In addition, there are often several spelling variants for placenames.

Keith Brent
Editor
Air Power Development Centre
Canberra

July 2011

ACKNOWLEDGEMENTS

As the editors of *Wombats – 50 Years On*, we wish to acknowledge all those who assisted in the development and production of this book. In no small part this was through the efforts, support, contributions and encouragement of the organising committee for the 50th Wombat Anniversary reunion scheduled for March 2008, where the First Edition of the book was launched.

We are deeply grateful to the then Chief of the Defence Force, Air Chief Marshal Angus Houston AO, AFC, for his unstinting support of the Wombats over the years and particularly for his foreword to the book. The support by the Department of Veterans' Affairs of a financial grant under their program 'Saluting Their Service' is also gratefully acknowledged.

Appreciation is also extended to the then Chief of Air Force, Air Marshal Geoff Shepherd, and to Air Force Headquarters for assistance in the provision of the RAAF badge and other imagery and data.

Special thanks go to Wendy Griffin for her many hours of proof reading and to those Wombats who contributed substantially in authoring and advising on various parts of the book. We particularly thank all Wombats who share their personal biographies within this book that provide such a rich and enduring tapestry of the Wombats.

Readers should note that from a literary perspective and its value as a research document, *Wombats – 50 Years On* is an amalgam of fact and personal recollections. More particularly, it is an assembly of reminiscences, accounts, anecdotes and events surrounding the Service lives and further careers of a group of young men inducted into the Air Force in 1958, collectively known as the Wombats. Inevitably, there will be some errors of fact, some omissions, and some differences of opinion about the book's content, despite considerable care being taken to ensure its veracity.

In view of the above, the editors take no responsibility for the accuracy of any statement, opinion or advice contained in the text of any material submitted by any contributor to *Wombats – 50 Years On*. Our objective has been to simply chronicle the lives and times of the Wombats in an interesting and readable way, for the enjoyment of those that were a part of the experience and especially for future generations, linked by birthright to the Wombats.

Ken Stone and Mac Weller
Editors

*There are said to be just two kinds of RAAF ex-apprentices:
Wombats, and those who wished they were!¹*

¹ Geoff Schmidt.

CONTENTS

Foreword.....	v
APDC Editor’s Preface to Second Edition	vii
Acknowledgements.....	viii
List of Contributors	x
Abbreviations and Acronyms.....	xi
Chapter 1	
A Characterisation of the Wombats	1
Chapter 2	
Wombats – That First Year	19
Chapter 3	
Wombat Junior Equipment and Administrative Trainees.....	41
Chapter 4	
The ‘Blackhanders’ at Wagga	49
Chapter 5	
The ‘Queer Trades’ at Wagga	67
Chapter 6	
Those a Bit Different	87
Chapter 7	
Technical Wombats	101
Chapter 8	
The Wombats’ RAAF.....	135
Chapter 9	
Airborne Wombats	177
Chapter 10	
The Stirzaker Factor.....	227
Chapter 11	
Wombats After Hours.....	243
Chapter 12	
Wombats – An Ongoing Fraternity	275
Members of the 1958 Intake (Wombats).....	283

LIST OF CONTRIBUTORS

- Chapter 1 Mac Weller, Colin Macdonald, Ken Stone
- Chapter 2 Mac Weller, Ken Stone, Colin Bradford
- Chapter 3 Jan Paulga
- Chapter 4 Ron Brown, Colin Macdonald
- Chapter 5 Ralph Herron, Ron Gretton, Russ Garraway
- Chapter 6 Ken Stone, Tony Coad, Eric Firns
- Chapter 7 Ralph Herron, Mac Weller
- Chapter 8 Mac Weller, Dave Keast, Kev Griffin, Jim Riches, Phil Locke, Ken Stone
- Chapter 9 Mac Weller, Terry Wilson, Mick Haxell, Adrian Edwards, Ron Brown,
Bob Haywood, Warren Bridge, George Dean
- Chapter 10 Kev Griffin, Colin Bradford
- Chapter 11 Mac Weller, Ken Stone, Kev Griffin, Colin Macdonald,
John Gracey, Geoff Schmidt
- Chapter 12 Ken Stone, Kev Griffin, Mac Weller

ABBREVIATIONS AND ACRONYMS

1AD	No 1 Aircraft Depot
2AD	No 2 Aircraft Depot
3AD	No 3 Aircraft Depot
1AFTS	No 1 Applied Flying Training School
1ATF	1st Australian Task Force
1BFTS	No 1 Basic Flying Training School
2IC	second in command
AAP	Australian Air Publication
AC	Alternating Current
ADF	Australian Defence Force
AEMF	Airfield Engineering and Maintenance Flight
AGL	Above Ground Level
AM	Member of the Order of Australia
Appie	Apprentice
ARDU	Aircraft Research and Development Unit
ARVN	Army of the Republic of Vietnam [South Vietnam]
CAC	Commonwealth Aircraft Corporation
CAF	Chief of Air Force
CAMM	Computer Aided Maintenance Management
CAS	Chief of the Air Staff
CASA	Civil Aviation Safety Authority
CB	Confined to Barracks
CDF	Chief of the Defence Force
CLKE	Clerk Equipment
CLKEA	Clerk Equipment Accounts
CLKG	Clerk General
Clock Winder	Instrument Fitter
Cpl/App	Corporal Apprentice
CO	Commanding Officer
DAFMED	Director/Directorate of Air Force Medicine
DAFS	Director/Directorate of Flying Safety
DC	Direct Current
DCA	Department of Civil Aviation
DEFAIR	Department of Defence (Air Force Office)
DEPAIR	Department of Air [later became DEFAIR]
DFC	Distinguished Flying Cross
DI	Drill Instructor

DPA	Directorate of Personnel (Airmen)
DPO	Directorate of Personnel Officers – Air Force
EFATO	Engine Failure After Take-Off
EQASST	Equipment Assistant
FAC	Forward Air Controller
FGA	Fighter Ground Attack
FPDA	Five Power Defence Arrangement
Framie	Airframe Fitter
GAF	Government Aircraft Factories
Gunnie	Armourer / Armament Fitter
HQSC	Headquarters Support Command
JEAT	Junior Equipment and Administrative Trainee/Training
J/T	Junior Trainee
LAC	Leading Aircraftman
LACW	Leading Aircraftwoman
L/App	Leading Apprentice
LZ	Landing Zone
Medevac	Medical Evacuation
MT	Motor Transport
NASA	National Aeronautics and Space Administration
NCO	Non-commissioned Officer
NCOIC	Non-commissioned Officer in Charge
NSW	New South Wales
NVA	North Vietnamese Army
OAM	Medal of the Order of Australia
OH&S	Occupational Health and Safety
OIC	Officer-in-Charge
OTS	Officers' Training School
PAF	Permanent Air Force
PMEL	Precision Measuring Equipment Laboratory
PNG	Papua New Guinea
PR	Public Relations

RAAF	Royal Australian Air Force
RAF	Royal Air Force
R&C	Rest in Country
R&R	Rest and Recuperation
RAAF	Royal Australian Air Force
RAMP	RAAF Analytical Maintenance Program
RMIT	Royal Melbourne Institute of Technology
RNZAF	Royal New Zealand Air Force
RSTT	RAAF School of Technical Training
RTFV	RAAF Transport Flight Vietnam [subsequently became No 35 Squadron]
SAR	Search and Rescue
SAS	Special Air Service
SEATO	South-East Asia Treaty Organisation
SENGO	Senior Engineering Officer
SNCO	Senior Non-commissioned Officer
Sparkie	Electrician / Electrical Fitter
STOL	Short Take-off and Landing
Sumpie	Engine Fitter
TACAN	Tactical Air Navigation
TAFE	Technical and Further Education
Truckie	Motor Transport [MT] Fitter
USA	United States of America
USAF	United States Air Force
USSR	Union of Soviet Socialist Republics
VIP	Very Important Person
WOD	Warrant Officer Disciplinary
WOE	Warrant Officer Engineer
WOFF	Warrant Officer
WRAAF	Women's Royal Australian Air Force

THREE CHEERS FOR THE MAN ON THE GROUND

*Wherever you walk, you will hear people talk,
Of the men who go up in the air,
Of the daredevil way, they go into the fray,
Facing death without turning a hair,
But they seldom consider the flight mech, or rigger
With nothing but 'props' on his sleeve.
And the role that he plays ensuring the ways
that the bird will perform in the air.*

*There's scant recognition of his position,
Not often a mention or praise,
But the poor bloody erk who does all the work,
Is skilled in the technical ways.
His reward is just fine, when the bird's on the line,
seeing aircrew, for take-off, prepare,
But whenever there's trouble, it's 'Quick at the double'
that man on the ground must be there.*

*Each flying crew, could tell it to you
They know what this man's really worth,
They know he's a part, of the real Air Force heart
Even though he stays close to the earth.
He doesn't want glory, but please tell his story
Spread a little of his fame around.
He's one of a few, so give him his due,
Three cheers for the man on the ground.*

Author Unknown

CHAPTER 1

A CHARACTERISATION OF THE WOMBATS

THE NATURE OF THE BEAST

Consistent with RAAF apprentice traditions and somewhere towards the end of 1957, the first-year RAAF Apprentice and Junior Equipment and Administrative Trainee (JEAT) course of the day, the ‘Tadpoles’, chose the name ‘Wombats’ for the course commencing in January 1958. In originating that name, they could not have known that they had christened an intake which, in the annals of apprentice and JEAT traditions, would become the epitome of the apprentice spirit.



Customarily, the name endowed to an apprentice course was intended to convey the utmost sense of derision, ridicule and, if possible, profanity. In the case of the ‘Wombats’, the intention was to describe an animal that simply ‘eats, roots and leaves’. Moreover, the naming course worked secretly and tirelessly to ensure that the first letter of the selected name, when added to the initial letter of previous names, would spell out a word of the utmost crudity; for example, **A**nzacs, **R**ainbows, **S**unbeams, **E**tc.

It is not suggested that the Wombats were the best apprentice or JEAT course or that they produced the most non-commissioned and commissioned officers. Indeed, it is doubtful that either supposition is the case. However, what the Wombats possess is a blend of extraordinary spirit, kinship and esprit de corps which has lasted for 50 years. They would rather claim that, to an extent as great as any other course, they embodied the true spirit of RAAF engineering apprentices and JEATs.

To justify that very subjective and broad claim, the characterisation of the Wombats needs to be judged in terms of the nature and objectives of the RAAF Apprentice and JEAT Schemes, the nature of the Wombats themselves and, finally, how the Wombats performed both within the RAAF and after discharge.

It started somewhere back in the early days of 1957. All over Australia, in every State, there were thousands of 15 to 16-year-old boys; in the capital cities, in the country towns, on farms, some growing wheat, others milking cows or raising cattle and others at boarding school. All were wondering about their future. Compared to the era in the early 1940s when the Wombats were born, the times of the late 1950s had markedly improved, particularly in terms of national and economic security. But it was difficult for both the Wombats and their parents to not be affected by the grim days past of World War II.

The Wombats had been nurtured through those difficult times, only a decade or so removed from their prospective entry into the RAAF. World War II and its memories

were still clearly in focus, whether in terms of the dreadful incarceration of prisoners of war (POWs) at the hands of the Germans and Japanese, or the enormity of lives lost over Europe in Bomber Command, in the Mediterranean and North Africa and the South-West Pacific. Australia's sovereignty had been breached at Darwin and other northern areas and even Sydney itself. Australia had been believed by many to be under threat of an invasion from a Japanese Imperial Force.

But many of the Wombats' fathers had enlisted in the Navy, Army or Air Force and were absent from the family, defending the country from invasion. Some of these parents were serving overseas and these boys were yet to meet their fathers. Other parents of Wombats belonged to 'essential industries'—like farming, industrial war production, the mining of coal and electricity production. Those fathers were at home but worked long hours to support the war effort. Then after the war and its rations, it remained a time of austerity for parents and Wombats as they rebuilt their lives from the disruption of World War II. The threat had gone but the future was still uncertain. The decade of the 1950s was a period of rebuilding the wealth of a nation after a time of devastating war and the massive loss of life.

Patriotism to the nation and to the British Empire was still strong throughout the fifties. Wombats grew up in schools where 'Empire Day' was celebrated and the National Anthem was sung regularly. King George VI died peacefully in his sleep at Sandringham House on 6 February 1952 and they would remember the sombre announcement at morning school assembly and the Australian Flag at school being lowered to half-mast. They recall *God Save the King* being played by the school band as all stood to attention with some crying unashamedly. Then there came the celebration associated with the Coronation of Queen Elizabeth II on 2 June 1953 (the same day that Everest was finally conquered) in Westminster Abbey and then her visit to Australia in 1954 with Prince Philip, the Duke of Edinburgh.

Technology and its developments were to play a part in the Wombats' considerations of their futures. In 1956, Melbourne hosted the Olympic Games with some parts of Australia receiving television broadcasts of the events. Not many Australian families could afford a TV set, nor were many in range of the broadcast towers. Most of the Wombats saw the Olympics only via newsreels at the cinema or read about it in newspapers.

In the heady days of 1957, the nuclear threat was real with a so-called 'Cold War' between the superpowers of the USA, Britain, France and the USSR of daily concern. Wombats read of atomic tests in Australia. On 29 May 1957, a document called 'Tentative chronology of part played by scientists in decision to use the bomb against Japan' was released.

The 'Space Race' had commenced, threatening an intercontinental ballistic rocket tipped with an atomic weapon. Although optimism was tempered by the events of the

Cold War with the USSR, new and wondrous technology was regularly appearing; what would emerge next?

On 4 October 1957, the USSR launched Sputnik 1 into space, the world's first artificial satellite that orbited the earth. From homes around Australia, the Wombats-to-be stood and looked beyond the night skies into space, in awe and wonder—the space age had truly begun.

Qantas Airways ordered the Boeing 707 aircraft ahead of every other airline outside the USA. Qantas was planning and working hard to take delivery of those seven Boeing 707-138 jet aircraft between July and September 1959. Boeing 707 services to the United States were to begin in July 1959. Two months later the service would be extended to London via New York. Sydney–London services via India were to begin in October 1959.

Many Wombats perceived that technology was part of, if not the future itself. World War II had driven the aviation and space era into a major growth industry for both the civilian and military sectors. With this background to their lives, the question became: what were these 15 to 16-year-old boys to do? This was the big question they asked themselves in 1957. Stay at home on the farm and milk cows or harvest wheat? Get a trade apprenticeship at a local private or government organisation? Continue their education to matriculation? Each had a need, and that was common to all Wombats, to get an education that would lead to secure employment as they grew into adulthood.

By 1957, these thousands of 15 to 16-year-old Australians were ready to step up and step out to a new and emerging adulthood but they needed a skill and a job. They needed an opportunity to jump-start their adult life in a new, interesting and emerging industry. Perhaps military aviation could provide such an opportunity.

In his book *From the Ground Up* detailing the RAAF Apprentice, JEAT and Diploma Cadet Schemes,¹ Chris Coulthard-Clark outlines the origins of both the Apprentice and JEAT Schemes. Various considered since the 1920s, the Apprentice Scheme was instituted in 1948 to address the drastic shortage of skilled tradesmen post–World War II, with four objectives:

- to put RAAF technical training on a sound basis,
- to provide the RAAF with the most highly trained and qualified technicians,
- to recruit the best types of youths, and
- to provide qualifications for employment after discharge.²

Clearly, the Apprentice Scheme was an investment by the Air Force, designed to satisfy its organic need of a technical workforce of highly qualified tradesmen through an ambitious aim of recruiting and training. This was quite a challenge and, indeed,

¹ C.D. Coulthard-Clark, *From the Ground Up: The Training of RAAF Technical Ground Staff 1948–1993*, Air Power Studies Centre, Fairbairn, ACT, 1997.

² *ibid.*, p. 16.

achievable only to the extent allowed by the quality and number of available applicants, and there certainly was no shortage of these.

Chris Coulthard-Clark records that in 1952, the RAAF introduced a scheme entitled the Junior Equipment and Administrative Training (JEAT) to ease manning difficulties in the administrative and equipment functions. Whereas the Apprentice Scheme produced technical tradesmen, the objective of the JEAT Scheme was to generate clerks (general, equipment accounting, and equipment) as well as equipment assistants.

In 1957, these two needs came together as the 12th apprentice intake of the RAAF Engineering Apprentice and JEAT Schemes. There were some 1500 applicants from across Australia processed for the 1958 Wombat intake with just 139 successful apprentice entrants. The RAAF got its quota of trainees for induction to the RAAF School of Technical Training (RSTT) at Wagga in January 1958 and 139 hopeful Australian youths fulfilled their first aim to be accepted by the RAAF into its Apprentice and JEAT Schemes. Thus, the formation of an intake of hopefuls named the Wombats progressed during 1957, to eventually materialise on 20 January 1958 when these young men took the Oath of Allegiance.

Interestingly, the original RAAF objectives of the Apprentice Scheme did not include that of providing a source of applicants for advancement to commissioned ranks, even though the scheme had such an objective by the late 1950s.

Bearing in mind that Wombats left home at 15 or 16, what convinced parents to effectively transfer parental responsibility for the latter half of their son's teen years to the RAAF and to let their sons travel, in some cases across the continent, to Wagga Wagga? In fact, what had led to their sons joining the RAAF Apprentice Scheme? Given that the scheme could offer only modest expectations for a position in life and financial reward, the outcome was unlikely to be either fame or fortune no matter what one's aspirations might have been at the time.

Although the Wombats were born during World War II, their parents had endured the Depression of the 1930s. World War II perhaps shaped a patriotic spirit, with the importance of job security and the value of a trade an endowment of the Depression. In the eyes of Wombat parents, the Apprentice Scheme was a solution to both. For some future Wombats, the war undoubtedly fostered an interest in aviation, perhaps through the novels and movies of the day or the reminiscences of returned airmen they had encountered.

However, and notwithstanding the modest prospects of income offered by the Apprentice Scheme, it offered parents of indifferent means (perhaps financial or family stability) an opportunity for their sons to at least advance in life with a trade and a guaranteed job. The cost was effectively the loss of a son from the home. Wombats exploited the opportunities of the scheme and ultimately benefited well, both within the Service and beyond, as attested by the biographies within this book.

Wombats generally had achieved an Intermediate Certificate level of education (Year 10 in contemporary terms). They had not advanced to the Leaving Certificate level (Year

12 equivalent) for a number of reasons; perhaps parents could not afford it or maybe the son lacked the aptitude to do so, or he had attended schools not affording a progression to matriculation level. At the time though, it was common to leave school at Intermediate Certificate level, and there was a surfeit of jobs and training opportunities available within the community. Many Wombats probably chose the Air Force in preference to more mundane occupations, with travel and adventure being prime motivators.

Thus, most Wombats were largely a product of family circumstance and their achieved levels of education. A person would not normally join the Apprentice Scheme if his parents were reasonably wealthy because security and employment could be otherwise provided or a higher standard of education achieved. An aspiring RAAF entrant holding a Leaving Certificate would be drawn instead to the RAAF College or direct entry aircrew, with the prospect of commissioned rank.

Without Leaving Certificate qualifications, Wombats were not destined for RAAF College or aircrew. In RAAF life their lot was to get a trade and advance through the non-commissioned ranks, unless other opportunities presented themselves along the way. For some, their fundamental aim was to achieve exactly that; and of course this was a perfectly valid, honourable and worthy aim, with many Wombats advancing through the ranks and living very fulfilling and challenging lives. From the RAAF's viewpoint, they provided extremely valuable service consistent with the objectives of the Apprentice and JEAT Schemes. Others had more ambitious plans for advancement where their initial training courses became but a means to an end.

Opportunity was also an incentive for people to join the scheme. Many Wombats came from backgrounds where parents could ill afford to send their sons on to further schooling. Some came from broken families and carried powerful motives to get away from home. The incentive of opportunity was something of a step of faith for many. For example, recruiting literature did not contain a lot of information on opportunities for advancement in education standards. To some extent this was taken for granted, given that there were education subjects within the apprentice curriculum—although the RAAF's First Class Certificate of Education, awarded to apprentices on graduation from RSTT, was essentially a worthless piece of paper, not even recognised by the RAAF for commission or other purposes.

For those who were not 'Boffins' or in the Diploma Scheme (who gained their Leaving Certificates or equivalent education standards whilst apprentices), working full-time on RAAF duties did not readily lend itself to gaining Leaving Certificate qualifications for career progression to the commissioned ranks. For those that were able to achieve this, they certainly had a hard slog and deserve due recognition.

Direct commission from the ranks to engineering categories, without higher education qualifications, demanded that a person complete 10 years at sergeant rank before being eligible even to apply for commission. For other categories, the criteria was 10 years and to be a substantive sergeant in rank.

What further influenced parents to release youths into an armed service was probably the commitment made by the RAAF to nurture and care for their sons as apprentices and JEATs. In effect, the RAAF carried an obligation to act as surrogate parents. As Chris Coulthard-Clark acknowledges, 'by assuming the role of guardian from the parents of

these under-age youths, the Air Force became responsible for providing all the physical necessities of food, shelter and clothing, as well as ensuring that the form and nature of their continued upbringing was to an acceptable standard.³

This commitment carried a number of forms. For instance, the ration entitlement for apprentices was more extensive than for adult trainees and reflected the RAAF's responsibility to provide adequate nourishment for the needs of developing youths. The prohibition on alcohol and the compulsory church services were other forms of the RAAF exercising its sense of pseudo-parental responsibility. Prior to enlistment, the Officer Commanding RAAF Station Forest Hill wrote personally to every prospective Wombat's parent 'to welcome you as the parent of one of our prospective Apprentices and to assure you that he will receive the very best of care and personal attention during his stay with us.'

However, the generosity of the RAAF did not extend to pay and allowances which were, even allowing for the provision of accommodation, board and clothing, consistently below comparable levels of pay in civil fields of apprenticeships. Wombats received A£7 14s 4d (\$15.43) per fortnight on enlistment.

Perhaps the most notable trait of the Wombat fraternity was the camaraderie that developed within its ranks. This was not in itself unique amongst the RAAF apprentices but certainly the Wombat spirit of camaraderie, both during their apprenticeship and in subsequent service, was amongst the strongest of any intake.

Rationally, putting over one hundred 15 to 16-year-olds from different backgrounds together, while placing them under the pressure of being away from home for the first time and then subjecting them to considerable restrictions under the name of 'discipline', would seem doomed to fail. The Wombats were also from diverse locations—some from Sydney were 'street smart' and knew all about the emerging rock-and-roll star Johnny O'Keefe while, in contrast, others that were from the country were just green adolescents. Ultimately though, the Wombats were one of the closest knit groups of all the apprentice and JEAT intakes; acknowledged with a degree of envy by many other intakes.

Many views have been put forward as to why the Wombats bonded so closely throughout their apprenticeship and then stuck together after graduation. Not only are a large majority of the Wombats mates, but their closest friends are Wombats. So what is the reason for this Wombat camaraderie?

In the 1950s, Australia was rebuilding after World War II and experiencing an economic boom time. Tradespeople were very important to this growth. By 1957, there was a period of high employment and the chance of picking up a job straight from school, even at the age of 15, was almost guaranteed. Many Wombats undoubtedly had turned down multiple offers of employment to take up their careers in the Air Force. The parents of these young people, many of whom had left school themselves at the age of 14 or soon after, still remembered the pain of the Depression with its high unemployment, and the belt-tightening required during the war. Consequently in 1957, given that it was

³ *ibid.*, p. 33.

A Characterisation of the Wombats

the norm to leave school at age 15 years, commencing an apprenticeship was seen as being particularly attractive to parents—‘get a trade lad’. As a result, some 1500 teenaged boys applied for RAAF engineering apprenticeships and JEAT training in 1957, to start the following January.

The Wombat selection board that toured each State was composed of RAAF officers who knew how to make sense of the different education systems and their standards. The Services were a step ahead of most industries in Australia and selected not only by personal interview and school results, but also used aptitude, intelligence and psychological testing. This provided recruiters with some objectivity in the selection process. Subsequently, only 139 applicants were accepted. Eventually, as the years went by, with parents more likely to push their boys on to Year 12 and then perhaps university, the number of boys available for the apprentice system fell dramatically. Furthermore, those that were available were probably at the bottom of the academic scale, often as dropouts, rather than, as previously, those with high academic wherewithal, simply lacking the opportunity for school progression.



Wombats at Spencer Street Station, Melbourne,
En Route to Wagga Wagga – January 1958

For the RAAF, this conundrum was the consequence of raising the general schools' leaving age and changing tertiary education availability. Suddenly, rather than selecting from the cream of the crop, as it previously enjoyed, the RAAF was confronted with selecting from a different cohort of secondary students.

The Wombats therefore had a reasonable degree of cranial capacity and it became clear that many of them, if they had been afforded the opportunity at school by their parents, could have subsequently passed Year 12 or better. Psychological testing ensured the selection of boys who had initiative, sound values and social skills—foundation stones for leadership.

It would be fair to concede that psychological testing unearthed many strong personalities and some used their innate leadership abilities to lead others on a 'march' into mischief. The Wombat selection board did make some curious decisions, but those Wombats who did not meet the required academic and airmanship standards were dismissed from the course, mainly during the first year of training.

By 1958, the RAAF had developed a sound formula for assimilating and training apprentices. However, the administration staff, particularly Drill Instructors, were considered by most Wombats to be unnecessarily overbearing. An exception was Warrant Officer George Stirzaker, whose detailed story is told in Chapter 10. The Wombats, being one of the earlier intakes, were together for three years, and confronted the strict discipline meted out by forming a tight bond. In essence, it was a case of 'us versus them' (the staff).

Once trade training started, it became obvious that the Wombats were a special intake. At the end of first year, many who had no technical training before they joined the RAAF were obtaining top grades in practical fitting. During years two and three, most exceeded the trade standard required of them. A large number were selected to undergo Year 12 studies at night, while still doing their trade subjects during the day. The Wombats' training accomplishments led to pride in achievement, not only amongst individuals but also for the Wombats collectively.

The travelling selection board recruiting Wombats also consisted of officers who were keen on sport and were quite disposed to considering boys who played sport. The result was that many Wombats competed in sports and played in competitions in Wagga Wagga and the surrounding districts. More often than not, the Wombat teams were opposed to teams whose players were much older. This did not seem to alter the high number of successes, even in the football codes where the opposition players were bigger and stronger. So talented were the sporting Wombats, in the inter-Service apprentice sports in third year they swept all before them. Successes in sport spawned many leaders and helped galvanise the intake.

After graduation, the camaraderie established during apprenticeship days continued. After 15 years, when the Wombats had returned their obligated years of RAAF service, most signed on for a further engagement; more than 50 per cent served past 20 years and 20 per cent beyond 30 years. From the 15-year mark, reunions were held every five years. These reunions were attended by more than 50 per cent of the Wombats. The high re-enlistment rate and reunion attendance strengthened the ties established during

A Characterisation of the Wombats

apprentice days. At the 50-year Wombat reunion, the number of attendees is expected to be in excess of 80 per cent.

Following the extra academic studies that were completed during their apprenticeship, 15 Wombats were selected for engineering cadet training. Fourteen went to the Diploma Cadet Squadron in Melbourne, and the bulk of these spent a further three to four years together. The extra years established even stronger friendships amongst these Wombats.

Once the Wombats entered the RAAF workforce, they excelled in many areas. Those who were commissioned served in a variety of officer categories; for example, aircrew, engineering, administration, accounting, environmental health, and air traffic control. About 15 per cent of Wombats, both officers and airman, served in Vietnam. Once the Wombats left the RAAF, many did extremely well in the commercial and public sectors. Thus, the pride in each other and in the Wombat name flourished well after the apprenticeship finished. Often it has been said, 'There are two types of apprentices and JEATs: those who are Wombats and those that wished they had been.'



The RAAF 'Blues' Rugby League Team of 12 Wombats and an Oyster, 'Marbuck' Petersen (back row on right)

Wombat camaraderie is a combination of many factors. Social circumstances at the time and induction selectivity ensured that the Wombat intake was a special group with high potential. Subsequently, talented individuals, replete with strong personalities,

Wombats – 50 Years On

emerged from training. The successes that followed instilled pride in the Wombats which lead to the camaraderie still evident to this day. Undoubtedly, regular reunions, made successful by the willingness of the Wombats to attend, have reinforced this bond.

From a less positive perspective, some would claim that the Wombats were a rebellious lot, indifferent to discipline and with questionable powers of loyalty. Their rebellious nature might be characterised by the fact that they were the only course to have had the privilege withdrawn of an end-of-course graduating ball. 'The powers that be' advanced a proposition at the time that this was due to an outbreak of hepatitis on the base. This they claimed prevented them from providing hospitality to the public visitors that were to have attended the event. There was questionable credence to this claim and to some it seemed more likely that it was a cynical exercise to finally strike retribution on the Wombats, before they left Wagga.

Clearly though, the Wombat apprentices were to leave their mark on Wagga, that ninth day of December 1960, by putting on a spectacular marching out parade. It was the first time ever that such a parade had featured the slow march, and as they left the parade ground the RAAF Central Band played the Wombats off, to the airs of *When the Saints* —, in special recognition by the band of the outstanding display of precision drill performed by the graduates.



Graduation Parade Inspection – 9 December 1960

A Characterisation of the Wombats

Discipline was an ongoing issue for the Wombats at Wagga with many enduring long and frequent periods of 'confinement to barracks' for frivolous misdemeanours, mostly associated with the consumption of alcohol or absences without leave. The latter were mostly stays beyond permissible hours for reasons of imbibing in alcohol or fraternising with girls.

Wombat loyalty was hard won and it existed at two levels, within the Wombat fraternity itself, and beyond. At the first level, loyalty between Wombats was paramount and remains so 50 years later. This is not to suggest that there were not tensions between Wombats. Indeed, there were difficulties which sometimes had to be settled by fisticuffs. However, by and large, the Wombats were fiercely loyal to their own.

At the second level, loyalty and respect had to be won and it was given grudgingly. One who captured it wholly was Warrant Officer George Stirzaker, the Warrant Officer Disciplinary (WOD); this is outlined in Chapter 10. Others who gained a measure of loyalty were trade instructors for their technical skills and knowledge, some coaches of sporting teams for their commitment to apprentice participation, some chaplains (although this could be divided) and even some Drill Instructors (but generally more so in later years as memories dimmed and former sins were forgiven).

In the make-up of the Wombat psyche, some might say that a rather cruel streak could be sometimes observed. Generally, it was evident in pranks played by Wombats, although it could easily be misconstrued as being from the sheer exuberance of youth. One incident involved Lawson Stein who took his recently built model aircraft onto the apprentice parade ground for its first flight. He had spent hours constructing a beautiful model and he soon had it flying in quite superb fashion. However, scores of apprentices gathered on the edge of the parade ground and started hurling rocks and clods of dirt at it. Eventually, the model aircraft was hit and it crashed spectacularly to the delight of many. Lawson trudged off the parade ground rightfully dejected.

Indeed, many pranks were simply that of high-spirited youths occasionally wanting to test the bounds of the restrictive disciplines being applied by the RAAF.

There is a two-year age difference across the Wombat intake because, on enlistment, some were only just 15 whilst others were all but 17. In teenage years, this age difference can be quite significant and it was so at Wagga where the maturity and development of Wombats varied greatly. Many came from quite sheltered backgrounds, not having previously been exposed to the largesse of the real world.

Peer and competition pressures existed at every turn. From the earliest of days, apprentice Wombats were keen to establish their own bona fides and standing. Above all, most had strong incentives to pass the course, so academic and practical trade skills and achievements were keenly sought; some just wanted to pass whilst others knew that they had to pass very well if they were to advance. For others, the fear of returning home a failure was a great incentive to succeed. Those with aspirations for professional engineering training had additional pressures to reach appropriate academic standards.

Sporting prowess also provided a good opportunity to establish one's standing amongst his peers or to wish his prowess was more outstanding than it actually was.

The apprentice rank system provided an opportunity for individuals to be visually recognised by staff as having sufficient trustworthy qualities to be left in charge of their

peers and be given other responsible duties. The rank also provided the individual with extra privileges. So rank brought with it degrees of prestige and was therefore sought after by most.

After the initial year, selected apprentices were promoted to the acting unpaid ranks of corporal, sergeant and flight sergeant, with one apprentice ultimately being promoted to warrant officer apprentice just prior to the completion of the course. Selection appeared to be based on desirable criteria. Good marks in tests and sporting achievement were measurable attributes that were taken into account. Other attributes though were more subjective and included perceptions of maturity, intelligence, personality, conscientiousness, good behaviour and confidence. Most Wombats that were promoted had been members of the Air Training Corps before entering the Permanent Air Force, which seemed to influence their selection as apprentice NCOs, rather than any inherent qualities held, over and above those of their peers.

It appeared that the staff were particularly anxious to unearth those that had leadership qualities. Unfortunately, sometimes they erred and confused notoriety, brashness, brazenness and rowdiness as indicators of strong leadership—conversely, the passive and quiet were often overlooked even though they may have possessed the desirable, but latent, talent. But this made for a healthy mix and, in later life, many Wombats who did attain rank as apprentices did not, by choice, aspire to leadership positions while the reverse also occurred.

Thus the apprentice rank system was not a particularly effective means of establishing underlying leadership qualities and therefore a guide to prospective opportunities for advancement after graduation. For example, 48 per cent of the Wombats subsequently to receive commissions gained no rank as apprentices. Perhaps it was also coincidental that nobody whose name commenced with a letter after 'S' in the alphabet achieved apprentice rank! The inability of some apprentices to gain promotion became a quite serious issue for them, particularly if they were aspiring to commissioned rank and wanted to exhibit qualities of leadership.

Mac Weller was one who regarded his inability to be selected for apprentice promotion—with his graduation from the Apprentice Scheme as a Leading Apprentice—to be one of the great disappointments of his 40-year Service career. This almost convinced him that he had insufficient leadership qualities for commissioned rank. After all, how could a person unable to gain selection for an apprentice rank realistically expect to be regarded as having sufficient leadership qualities for commissioned rank?⁴

To a considerable degree, the timing of the Wombats' entry into the RAAF in 1958 was very propitious from the perspective of both the RAAF and the Wombats. By the late 1950s, the RAAF Apprentice and JEAT Schemes had matured and settled down into regular and well-established routines of recruitment, Service assimilation and conditioning, personnel management and trade training.

⁴ Obviously, this was not the case, as Mac Weller was one of just two Wombats to reach air rank status and the only one to be promoted to Air Vice-Marshal in the 'real' Air Force.

A Characterisation of the Wombats

Opportunities for advancement had been developed with the introduction of the 'Boffin' and Diploma Schemes for apprentices. Programs for improvements in accommodation and RSTT facilities saw the Wombats moved into new double storey brick accommodation blocks in 1960.

Although the Wombats of the day protested mightily about discipline and general standards, in reality they were the recipients of fairly well-established education and trade training regimes, recreational facilities (with the exception of a base swimming pool) and sporting arrangements, and enjoying a brand new, state-of-the-art Airmen's Mess. Indeed, the food at Wagga was always good and far exceeded the standards that many apprentices might have had in their own homes. Steak nights on Wednesdays were a feature of the menu. RAAF catering far surpassed that of our Army and Navy compatriots, as was discovered during various inter-Service sports visits made to Balcombe and HMAS *Nirimba*.



New Airmen's Mess Shortly After Opening – c. 1960

In terms of the Service and its own development, the Wombats entered the RAAF at a very favourable time. Whereas the fifties was a period of relative stagnation, the sixties and seventies were decades of great change and growth in the RAAF. Indeed, it was a halcyon period for the RAAF with the introduction of advanced aircraft and associated technologies, new technical management systems and the deployment of much of the RAAF's operational force to South-East Asia. Within a few years of graduating, the Wombat could find himself involved with Sabre, Hercules, Mirage, Caribous, Iroquois, P-3B Orions, Macchis and several new VIP aircraft. Moreover, he could expect to see service in South-East Asia.

Compared to the post-World War II aircraft that formed the majority of the Wombats' training aids at Wagga (Vampire, Wirraway, and Lincoln), the new aircraft

of the RAAF contained huge changes in technology. Airframe and engine fitters encountered supersonic systems; instrument and electrical fitters faced inertial navigation systems, fire control systems, and power generation and distribution systems; whilst the armament fitters had to adapt to guided weaponry. Training in electronics had become an overriding requirement.

The old EE77 technical management system on which Wombats trained at Wagga had been replaced by the EE500 system and the 7000 series technical publications system had also been introduced. Both systems were required to meet the requirements of the new aircraft which, with extensive systems, had pressing technical information management challenges and increased repair arising rates.

By the mid-sixties, the RAAF had committed 40 per cent of its operational force to South-East Asia with deployments to Butterworth to meet the Five Power Defence Arrangement (FPDA) and Indonesian Confrontation commitments, Ubon and Vietnam. The inevitable reality was that many Wombats found themselves in South-East Asia often within a few years of graduation.

Prophetically, in an address by an officer to Wombats at the Base Cinema during their years at Wagga, the involvement of most of those in attendance in a war in South-East Asia within the next few years was predicted.

A significant number of Wombats saw active service in Vietnam at either Vung Tau (No 35 Squadron – Caribous, and No 9 Squadron – Iroquois helicopters) or Phan Rang (No 2 Squadron – Canberras). They served as fitters, aircrew and engineers, with Mick Haxell awarded a Distinguished Flying Cross (DFC) and Kev Griffin mentioned in despatches.

Vietnam was a nasty war for its participants that was devoid of national support and, in fact, was popularly opposed by most of the nation. In common with many other Vietnam veterans, Wombats suffered from post-traumatic stress to the point that one took his own life.

With its overseas commitments, the RAAF was also expanding so that some Wombats could expect much improved promotion prospects through the sixties and seventies. Times in rank reduced and some were promoted to acting ranks to meet the pressing personnel requirements in South-East Asia. However, for others in mustering such as armament and motor transport, outstanding tradesmen waited inordinate times (commonly 11 years from enlistment) just to be promoted to corporal, and for the ambitious this no doubt led to them seeking alternatives within and without the Service.

Providence also allowed the Wombats to benefit from the RAAF's technical training paradigm of the fifties and sixties. Not only did it produce most highly qualified apprentice graduates, they were qualified to work also in a wide range of maintenance tasks ranging from squadron flight lines to depot level maintenance activities in aircraft depots. During the course of their training, many Wombats wondered at the months devoted to basic fitting skills and ancillary trades of blacksmithing, welding, carpentry and metalworking to the extent that many thought the training to be excessive.

In reality, and although undoubtedly both extensive and expensive, the training system produced very competent and proficient tradesmen. By the time a Wombat had completed his three years of training and then the prescribed two additional years of on-

A Characterisation of the Wombats

the-job training, he had become thoroughly conditioned to the RAAF and its aviation maintenance system to the point where such a tradesman had a very extensive trade knowledge, skills and confidence which allowed him to respond to the challenges of the era.

Employment in the aircraft depots was particularly valuable because it allowed Wombats to develop skill and confidence in being able to handle complex maintenance functions, such as overhaul and repair and salvage. Additionally, these skills were to prove invaluable for Wombats in later years, particularly on active service where the need to repair battle damage using innovative methods not covered by existing repair manuals was paramount. So, although the average Wombat no doubt resisted the tedious work environment and the intensive routines and processes of the depots, they nonetheless became far more competent tradesmen as a result of the experience. Ironically, although only recently graduated from RSTT, Wombats were able to suggest technological solutions to technical problems of the day at these depots, with innovations such as heat-shrinking reinforcement rings to aluminium gun cradles for Sabre aircraft being an example.

Compared to latter-day training approaches, the apprentice system was probably resource intensive but it delivered a product that was ideally suited to the RAAF of the day and indeed the nation. To a significant extent, the RAAF Apprentice Training Scheme was an important element of the overall national skills acquisition program, and an advantage effectively discounted when the scheme was eventually abandoned.

In terms of judging the accomplishments or otherwise of the Wombats, any assessment needs to reflect their ability to advance in the RAAF, how they reacted to the challenges of the RAAF and also their success after discharge.

From an analytical perspective, the Wombats can mount some reasonably impressive statistics. Twenty-five per cent of their graduating number gained commissioned rank in the RAAF—two achieved air rank status and six became group captains, and eight commanded RAAF units, with two being commanding officers of flying squadrons—10 became warrant officers; some were managing directors of successful businesses; and 15 flew as RAAF aircrew; whilst a number served in civil aviation aircrews and regulatory bodies.

That the Apprentice Scheme became a fertile source for the RAAF to recruit many of its commissioned officers is a reflection of the degree to which the scheme exceeded its original objectives. Perhaps more importantly and given that the warrant officers and senior non-commissioned officers (SNCOs) actually provide the heart and soul of the RAAF's technical capability, the degree to which apprentices were promoted to the non-commissioned ranks is particularly representative of the Apprentice Scheme's objectives being met. With a significant proportion of its graduates advancing to both commissioned and non-commissioned ranks, the Wombat fraternity certainly epitomised success beyond the original objectives of the scheme.

In terms of the objective of whether Wombats were 'the most highly trained of qualified technicians', one avenue of assessment is to consider the degree to which they were able to accommodate changing technologies of the 1960s and 70s and, additionally,

the extraordinary challenges of employment in the RAAF elements deployed to South-East Asia.

The apprentice training syllabi did not include details of the advanced technologies of the sixties, probably because it was too difficult for the RAAF to arrange such training. After all, it was difficult enough to get the training for those directly associated with the acquisition projects. For example, as apprentices, Wombats did not learn the aerodynamic theories of new aircraft such as the Mirage or helicopters. Nor was it the case that Wombats were trained specifically in battle damage and the deployment of aircraft on active service.



Photo by Wombat Denis Hersey

Wombats All

L – R: Instrument Fitter Dave Keast, Crewman Andris Lapins, Airframe Fitter Brian Broderick, Engineer Officer Mac Weller and Pilot Mick Haxell.

Rather, it was a case that Wombats had to have had sufficient training to be able to adapt to new technologies and the challenges associated with active service. Effectively, Wombats were exposed to testing times and challenging technologies and many were tested in the ultimate crucible of active service and that most exacting function of an air force's basic charter; namely to 'fly and fight'.

Another avenue of assessment of their expertise as qualified technicians is to consider the impact that Wombats had on the RAAF. Throughout the sixties, Wombats were the tradesmen of the trenches. By the late sixties and early seventies, they had advanced to positions where they could influence the RAAF of the future. Some were instructors (both flying and technical), some were in charge of squadron trade sections and some were engineer officers in squadrons, whilst others were in diverse staff functions. Most

A Characterisation of the Wombats

played some very fundamental roles in establishing the standard and capabilities of air and ground crews, whilst others were responsible for developing management systems such as Computer Aided Maintenance Management (CMM) and the RAAF Analytical Maintenance Program (RAMP).

As they advanced in rank into the 1980s and 90s, Wombats were in positions of command of operational squadrons, technical wings and schools, and heads of policy directorates and acquisition projects. Accordingly, they had a profound impact on force capabilities, the development of operational and technical policies, and the introduction into service of new aircraft such as the CT4, the P-3C and the F/A-18. By the mid-1990s, those elderly Wombats still remaining in the RAAF had the good fortune to be able to influence the highest command levels of the Service.

As outlined earlier, many Wombats served in South-East Asia and also with peacekeeping forces in the Middle East. The success of that service is reflected through the overall performance of operational squadrons in Vietnam, Malaysia and the Sinai, and also by the fact that a number of Wombats were decorated for their efforts in these areas.

Vietnam particularly provided challenges for the RAAF's technical workforce. There, long hours were worked in difficult and, at times, dangerous circumstances. The ex-apprentices' depth of training and skills came to the fore in Vietnam. Often, repair schemes had to be developed quickly and without referral to either the RAAF or contractor support organisations. Maintenance had to be undertaken as operations permitted and always with the utmost integrity if the operational capability of the aircraft was to be sustained. Wombats played their part in this most intense of aviation environments. In perhaps not an unbiased view, it is believed that the Wombats gave sterling service in Vietnam.



RAAF Base Forest Hill – c 1958

One engineer officer was very grateful for his apprentice training as a Wombat in his role with No 9 Squadron. This was not just because he could personally apply hand skills, but rather that his practical training at Wagga allowed him to fully appreciate what his maintenance workforce were capable of, particular in the repair of battle damage. He regarded his relationship with the squadron workforce, (that included a number of Wombats) as one of his Service highlights.

The final objective of the Apprentice Scheme was that the measure of success would be reflected in the employment and contribution that the apprentice made, not only to the RAAF, but also following their service—*ipso facto*, Wombats succeeded outstandingly. In other words, a measurable deliverable was the value of their service, not just to the RAAF, but also to the community at large.

After discharge from the RAAF, Wombats made their way in an amazingly diverse range of functions. They were truck and bus drivers, airline pilots and flight engineers, public servants, consultants and managing directors, farmers and cattlemen, aircraft restorers, men of the cloth, quantity surveyors, safety officers, public affairs coordinators, project managers, small business entrepreneurs, strategic business analysts, IT specialists, trainers and assessors, and design engineers.

Finally, the success of the Wombats as a course can be measured to an extent by consideration of the awards made to them during the course of their RAAF service:

- On active service, Mick Haxell was awarded a DFC and Kev Griffin was mentioned in despatches.
- Terry Wilson was awarded an Air Force Cross (AFC).
- Six Wombats received appointments to the Order of Australia—Col Bradford (AM), Felix Parker (OAM), Ron Gretton (AM), Barry Watson (AM), Mac Weller (AM), Terry Wilson (AM).
- Bart Valom was awarded a British Empire Medal (BEM).

By any reasonable measure of judgement, the Wombats were as successful as any other apprentice or JEAT course and fully achieved the objectives of the respective schemes. But such an assessment fails to capture one important characteristic of the Wombats—their almost indefinable and innate spirit of comradeship.

Despite being just a bunch of average blokes, the Wombats have stuck together for over 50 years. Never have they let time, the success or failure of individuals, rank, religion, race or creed interfere with their relationships. Through thick and thin, they have remained steadfastly loyal to each other. Perhaps this inherent quality of mateship is their greatest achievement and legacy.

CHAPTER 2

WOMBATS – THAT FIRST YEAR

THE BASIC WOMBAT

Geographically, Wagga Wagga, as an inland Australian city, was established on the banks of the Murrumbidgee River. The name is Aboriginal in origin and translates to ‘a place of many crows’. Wagga Wagga was declared a city in 1946, with a population of just 19 235 registered in the 1954 census. From January 1958 the city was to be the ‘home away from home’ for Wombats for the next three years and, indeed, for many Wombats it was to become their home in the future.

When the Wombats arrived at Wagga Wagga Railway Station a sign announced, ‘Welcome to the Garden City of the South’.

The new arrivals were pestered by the ever-present flies and the sun that shone harshly in a cloudless sky with a light wind blowing that was insufficient to cool the parched land. This was the Australian inland during summer, where long hot days, searing heat and parched earth combined to assault the nostrils. Wagga Wagga’s highest recorded January temperature statistics are 44.8°C maximum and 31.4°C mean. In contrast, the maximum recorded low is -4.5°C. At Wagga Wagga the Wombats would experience temperature extremes of far greater range than at any other RAAF base.

Travelling to the RAAF base, they passed extensive river flats, amid undulating terrain that supported acres of lucerne, lush from irrigation. Huge red gums thrived along the river banks but the surrounding paddocks were bare, except for a few sheep and cattle grazing on wheat stubble. They climbed through the sleepy village of Forest Hill and entered their new home, through a gated, red-brick, guard house and an avenue of prunus trees leading to the base domestic area. Beyond that, brick-fronted hangars and assorted classrooms awaited their future.

Travelling by steam train, the intake had arrived in batches over a two-day period. The northern NSW, Queenslanders and Sydney folk arrived on the morning of 18 January, together with the group from the West. The Victorians and South Australians did not turn up until the early hours of the 19th and disturbed the sleep of those who had arrived earlier, as they uncaringly stomped into the huts at around 3 am. In those days the Victorian trains terminated at Albury, NSW, where a gauge change was involved. NSW used the 4 ft 8.5 in (1435 mm) standard gauge rail track and Victoria the 5 ft 3 in (1600 mm) wide gauge. This delayed by well over an hour the transfer at Albury for the southerners.

The train travel in itself was a bit of an adventure with those from the West and outback Queensland taking several days to get to Melbourne and Sydney. Some of the Wombats had come from Far North Queensland and travel for them involved a bus ride into Cairns of four hours, a steam train ride from Cairns to Brisbane of two nights and a

Wombats – 50 Years On

full day on the 3 ft 6 in (1067 mm) narrow gauge train, an eight-hour wait in Brisbane to catch a train from Brisbane to Sydney overnight, a few hours wait in Sydney then a 10-hour train journey to Wagga Wagga for a total elapsed time of about 70 hours or three days. But it gave those people a great opportunity to bond, with the result that by the time they got to Wagga, quite a number had already formed firm friendships.

With passengers crammed into the old dogbox style carriages and a frightfully slow steam engine chugging along through a hot summer's night, sleep was barely possible; some tried to sleep on the luggage racks or the floor. So after travelling all night, they arrived dog-tired and dirty from the grime of the steam train's smoke.



Wombats of Sartorial Splendour c. 1958
(Nearly got the jacket buttons right! (Ed.))

They arrived in all manner of dress; some in very conservative garb whilst others were right up with the latest fashions of stovepipe trousers and slicked back hairstyles. Dress was not the only distinctive garb. The Wombat haircuts were a sight to behold! There was nothing uniform about how the Wombats had their hair cut. But within 48 hours of arrival, every Wombat knew the meaning of 'uniform' as it applied to hairstyles.

Other differences were evident. The Queenslanders and northern New South Welshman carried their belongings in their 'ports', whilst the southerners had their 'cases'. Then there was the South Australian pronunciation of 'schoooooool' and the Victorian Wombats' pronunciation of Newcastle as 'Newkastle' as opposed to 'Newcarstle'. In 1958, Wombats soon perceived that the Australian dialect was anything but uniform.

On arrival at Wagga Wagga, the new intake clambered into RAAF trucks for the 12-kilometre trip east to RAAF Base Forest Hill, named after its location. The RAAF base had been built on a flat hill called Forest Hill, elevation 212 metres above sea level. It was large enough on top to build a runway. Hence, the trucks carrying the Wombats climbed from the Murrumbidgee plain in which Wagga Wagga is situated to Forest Hill and thence to the RAAF School of Technical Training (RSTT).

The first step was to claim a bed space in the 80 foot x 20 foot (24 m x 6 m) fibro huts. First-year apprentices were accommodated in an open barracks style hut with lino floors. Each bed space became a home, despite the lack of privacy, with just a wire framed bed, lockable wardrobe, bedside table and chair, and a bedside mat (which came later) as furnishings. A corporal or sergeant apprentice from either the senior or intermediate courses occupied a fully enclosed room in the corner of each hut and acted as the Hut NCOIC (non-commissioned officer in charge).

The huts, had been built during World War II, and provided apprentice accommodation until third year, when the double storey brick quarters were commissioned. The huts were built of wood and fibro sheeting. There was no insulation, flyscreens, heating or cooling, and for safety reasons we were not allowed to use personal bar-radiator heaters during the night.

The first-year huts were open dormitories, but after the first year the huts allocated were divided into four separate rooms with four apprentices per room. The open huts had only two power points, one at each end, and one light switch that controlled all the lights. Some apprentices, including the 'Boffins', were accommodated in 'igloo' style huts made of corrugated iron—again with no insulation. As a result, condensation built up during the night and dripped from the roof when the sun came up.

On cold nights, of which there were many, most apprentices wore their second pair of overalls over their pyjamas and placed their greatcoats on top of the bed as an extra 'blanket'. Some huts even rostered one of their own each night to go around to each bed and put the bedside mats on top of the beds. However, for a short time in first year, there were no bedside mats and, when it was very cold in the mornings, most dressed standing on the bed to stop their feet from getting cold.

As far as can be established from the Personnel Occurrence Report (POR) of the day, the original complement of Wombats who arrived at Wagga Wagga Railway Station in January 1958 consisted of 151 apprentices and 37 JEATs. Of these, 22 were 'banana benders' (Queenslanders), 77 came from NSW, 46 were Victorians, 11 hailed from South Australia, Western Australian 'sandgropers' amounted to 25, whilst there were seven Taswegians. The precise number of new arrivals is somewhat uncertain since one was back-coursed from the Tadpole course, together with a number of other Tadpoles transferred to JEAT training. One also came from Radio School and some arrived days later.



An Igloo Hut – c. 1958

Far more certain is that 104 Wombat apprentices and 35 JEATs graduated. All were, of course, embarking on a career journey with a fundamental change to their way of life, which would irrevocably set their future paths. For those who graduated, it was a path leading ultimately to friendship, marriage and partnerships, family responsibilities, employment, vocation and residential domiciles.

This was no mere watershed in one's life journey. This was a quantum leap that changed the course of life for every Wombat forever. There was no going back; there was only a way forward. Such was the complete impact wrought upon every Wombat by this acceptance of the opportunity offered by the RAAF to these 15 to 16-year-olds from all over Australia, set to undertake a technical education with an attached job opportunity for 12 years thereafter. Their commitment was equivalent to the span of their lives thus far—one might say a 'life sentence'.

Indeed, as noted in the introduction, the journey had really commenced some six months earlier when the applicants for the Wombat intake presented themselves at recruiting offices in their respective capital cities. There they underwent medical examinations, interviews and a range of tests to establish their education standards and social and technical aptitudes for an engineering or clerical vocation within the RAAF and its aircraft and technical equipment.

Soon after arrival at Wagga, it was off to the Barracks Store to be issued with bedding. It was no doubt a comical sight to see young 15-year-olds staggering back to their quarters with blankets, palliasses, counterpane, pillow, sheets and pillowcase, all being balanced under their arms and over their shoulders. Comical or not, it was a fair physical effort for any 15-year-old but for those of smaller stature, such as Widgery and Caldwell (pictured opposite with rifle), it was well nigh impossible. This was something mother had previously taken care of without the slightest notice or acknowledgment by young Wombats—save those who had attended boarding school. Suddenly each Wombat, fresh from 'civvy street', was thrust into domestic servitude.

Wombats – That First Year

They made their own beds, cleaned their own shoes, washed and ironed uniforms, and kept their living area clean and tidy, to the standards required by the Service. This was a great and menial imposition upon these teenagers, quickly morphing into men. Yet, being the emerging men they were, they soon knuckled down to the task!

Wombats were also issued with some basic but very important accoutrements that were to become indispensable during their stay at Wagga. A set of 'eating irons', (comprising knife, fork and spoon) that habitually resided in the deep narrow side pocket of one's blue overalls, was essential. So too was the canvas shoulder bag (in which Wombats carried a mass of lecture notes, precis and reference books); the brass fittings of which had to be polished weekly.



Apprentice 'Shorty' Caldwell with .303 Rifle

Wombats became skilled in the use of 'Brasso' not only for shoulder bag fittings but also the brass on their rifle slings and the buckles and the keepers of their parade belts.

Next stop along the path of joining the RAAF was to be issued with Service uniforms from the L Group Clothing Store. Again, this would have been an amusing sight as lines of 15-year-olds queued to receive uniforms, caps Service Dress, berets, the blue apprentices' cap band and triangles, badges, underwear (of a design no self-respecting Wombat would wear). There were three shirts without fitted collars (six collars and a pair of collar studs issued separately), three hard towels (and these were surely designed to repel water rather than absorb it), the ubiquitous blue overalls which were to become the Wombat's staple garment for the next three years, boots, shoes, socks, the quaintly named 'housewife' (a clothing repair kit with needles, buttons and thread), shaving gear and an assortment of brushes.

Wombats – 50 Years On

Within a day or so of arrival, all Wombat entrants gathered in the unit 'gymnasium' (simply a basic Bellman hangar fitted with a wooden floor) to be formally inducted into the RAAF. The central point of this procedure was for each recruit to recite an Oath of Allegiance with a hand on the Bible. Again, this was conducted in a somewhat comical way for there were not enough Bibles to go around. This required the Wombats to be gathered in groups, with each trying desperately to place a hand on a Bible.

Indeed, it is doubtful that this was achieved by all as hand piled upon hand while bodies squeezed into a tight circle. Suffice to say a number of the Wombats in point of fact, failed to actually enlist in the RAAF in a formal, legal, sense—having but notionally clasped the Bible.

Also issued to each Wombat was a .303 Lee Enfield rifle, together with a dire warning from the Drill Instructor (DI) for each rifle's number to be immediately memorised by its 'owner'. The rifle came with a bayonet and scabbard but, fortunately, the RAAF did not issue ammunition at that time!



No 1 Flight – 1958

Front (L – R): Lenox, Crawley, Andrews, Watts, Cant, Whitchurch, Hurford
Centre (L – R): Hall, Griffin, Gretton, Viereckel, Hobby, Eller, Wilson
Back (L – R): Sydes, Dodd, Cupitt, Wicks, Keast, March, Massicks

Personal ablutions were conducted in separate blocks and these facilities also amounted to a bag of mixed blessings. In most cases, they were far removed from the sleeping accommodation and necessitated a 100-metre dash, there and back, on frosty midwinter mornings. They were no place for prudes either, as no doors were fitted to shower and toilet cubicles, and rarely did a toilet have either a seat or a cover. Conversely, the blocks had running hot water and flushing toilets, which were luxuries for some Wombats (particularly those from the bush). These facilities were intensely hot during summer and bleak and frigid during the Wagga winter, essentially being wooden framed, tin sheds.

The toilet block outside the Basic Hangar was a particularly frigid place in winter with corrugated iron walls which had gaps at the top and bottom that allowed the fog and wind of a cold Wagga day to swirl around one's bare buttocks. This ablution was known as the 'Basic Club'. An apt title, as the Wagga weather from autumn through to spring was so frigid that if wet washing was left on the line overnight in winter the cold would freeze the clothes solid.

Personal cleanliness was the order of the day. At some stage, morning or night, everybody was expected to shower and shave. This routine meant that your nearest ablution block became a place for all kinds of rituals. In the warmth of summer, apprentices went to the showers with rubber thongs on the feet, to prevent tinea, a towel around the waist, a ready-to-go toothbrush clenched between the teeth and a pair of black RAAF-issue socks draped over the shoulder to be washed. In winter, some wore a pair of overalls to keep warm while dashing between the hut and the shower block in the cold air.

Many showered at different times in the evening because the boiler-heated water was more likely to be hot. Late at night in summer, the user would often be confronted with having to scoop many green, stink beetles out of the washbowls or dodge the many other insects, particularly moths and mosquitoes that had invaded the place attracted by the lights. Those that left the task to the morning ran the risk of having to take a lukewarm or cold shower because the demand of over 300 apprentices and additional adult trainees became too great for the boiler to keep up. Sometimes the boiler attendant failed to turn up early in the morning and there was no hot water at all.

Personal hygiene was such an important issue and so very keenly observed that any person believed not to be showering or washing regularly was arbitrarily given a cold shower and scrubbed with a bass broom by their peers.

Those first few days at Wagga were a mixture of many varying emotions. There was some excitement at joining the RAAF but this was quickly countered by the realisation of the degree to which Service discipline was imposed.

Bastardisation from the second and third-year apprentices had to be borne and tolerated. Similarly, Service routines and the domestic living arrangements had to be accepted. Some individuals had bouts of extreme homesickness, and it was not unusual to find a young apprentice sitting on his bed, head in his hands, trying to figure out just what exactly he had got himself into. For some, it became quite overwhelming to the point that many simply left within the first few weeks.

The final enlistment process (and probably the most trying) was the medical examination; in particular, the inoculations. Some one hundred and fifty 15 and 16-year-olds queued up in alphabetical order for multiple inoculations and vaccinations; the queue snaked out the door and around the side of the hospital. People stood for an hour in the hot summer sun waiting for their turn to come. Whether through sun or fear, some were affected to the point that they simply keeled over before or just after the needle jabs. Too bad for those having surnames beginning with 'W' or 'Z'—they had a long wait for a blunt needle. The after-effects were just as devastating, as throughout that night many succumbed to the side effects of the inoculations.



No 2 Flight – 1958

Front (L – R): Mascord, Featherston, Herron, Stow, O'Donovan, Zucker
2nd Row (L – R): O'Halloran, Large, Darch, Bridge, Allen, O'Hara, Baker
3rd Row (L – R): Ryan, Waters, Broderick, Tickner, Bishop, Stott
Back (L – R): Wren, Lee, Kropman, McKay, Haywood, Church, MacIntyre

After the enlistment processes had been completed, the Wombats embarked on a three-week period of General Service Training that largely consisted of foot drill (marching and parade drill) and rifle drill. Six flights were formed and the Wombats spent hours on the apprentice parade ground under Wagga's hot midsummer sun and the eagle eyes of the Drill Instructors marching to and fro. The summer heat was barely tolerable, commonly rising close to 40°C or above.

Drill was virtually an all-day affair and the newly issued dark blue overalls were stiff with dye and dressing. Additionally, the new leather ankle boots were inflexible and unyielding. There were some respite breaks in the shade of the small pine trees that lined three sides of the 'bullring', but no water or drink was provided.

In retrospect and, although it was not a pleasant experience at the time, it did have its amusing moments. Conversely though, it had its difficulties and was, at best, an arduous, endurance test.

Not all Wombats took easily to marching; stepping off on the left foot was difficult for some, as was swinging arms in the correct sequence or halting on the next step after the order had been given on the left foot, as it came to the ground. Any mistake brought instant retribution from the Drill Instructor, and the parade ground rang to their bellowing, 'You horrible little man, you', 'Get your arms up shoulder high', 'Left foot first you bloody idiot'. Any Wombat with two right feet always copped a verbal bashing from the members of his flight after the delayed 'Dismissal' incurred because **all** in the flight had failed to march in unison.

Wombats – That First Year



Drill, Apprentice Parade Ground – c. 1958

For 15-year-olds, the conditioning process was physically exacting with drilling proceeding daily for hours on end with an occasional 10-minute break every hour or so. It was conducted either on the apprentice parade ground or the main base parade ground. Both of course were in the full sun of a Wagga Wagga summer, with the tar of the former sticking to boots and the dirt of the other destroying the polish of one's boots.



A/App Gretton – Stand at Ease – c. 1958

Wombats – 50 Years On

Being newly issued, the blue overalls were hot and sticky, and the new boots were not nearly worn-in after the initial six-week period so blisters were common in the early days. Soon after arrival, the Wombats were introduced to the phenomenon of spit polishing shoes and boots. The introduction arrived at the instigation of the second-year course, the Tadpoles, who coerced Wombats, under duress, to spit polish their footwear as well as the Wombat's own. Much time was spent sitting on one's bed rubbing the toe area of boots and shoes furiously with a soft cloth and the liberal application of spit and polish to effect a mirror-like shine—nowadays they are issued with patent leather shoes!



No 3 Flight – 1958

Front (L – R): Affleck, Heck, Bryksy, Hahn, Whately, Lenghaus, Cupit
Centre (L – R): Weir, Worner, Clayton, Franks, Flintoft, Stott, Villa,
Schmidt, Smith, Holmes, Schirmmeyer
Back (L – R): White, Bailey, Riches, Blaxland, Forrest, Locke, Coad

Rifle drill was perhaps the most trying. Imagine a 15-year-old trying to hoist a heavy .303 rifle with bayonet attached (weighing a total of about five kilograms) briskly to the shoulder and then to the 'present arms' position. For some of smaller stature, the length of the rifle and fixed bayonet well exceeded their body height. With rifle drill, those who could not bang in unison the butt on the parade ground or slap the barrel in the 'present arms' were subject to a verbal bashing after we were 'Dismissed' from drill.

No doubt this was an emotionally draining time for those young Wombats who could not perfect the timing of rifle drill or just found it difficult to manage the heavy and awkward .303 rifle because of their stature.

Interspersed amongst the foot drill was an introduction to ground defence. Here, the 15-year-old was taught the practice of combat with a fixed bayonet so that hours were spent charging up to a straw-filled bag on a stake to thrust the bayonet in, twist it and withdraw. Towards the end of the six weeks, the recruits went to the range for live firing

of the rifle. Again, this was a challenging exercise for many with their young and tender shoulders being bruised by the relentless recoil of the rifle.

A very welcome surprise for many Wombats was the quality and quantity of food served in the mess. Indeed, both aspects surpassed what most of them had been accustomed to in their family home where, for example, steak and chicken were seldom seen luxuries. Wombats eagerly awaited the weekly steak night with great anticipation. A fully cooked breakfast, with as much cereal and toast as one wanted, was the norm of the day.

Wombats were growing youths and food a necessity. Hungry Wombats with 'hollow legs' devised schemes to exceed their ration intake and trips to the night canteen were common. One night a small group headed off to the Airmen's Mess, intent on acquiring large tins of pineapples, apricots, pears, etc. to relieve their tummy rumbles. The lightest Wombat was selected to be lifted up to access the mess via an unlocked window. The lift went well, until the Wombat swung his feet over the window ledge and stood up. In noticing the softness of his landing, he looked down and saw that he was standing in his Service boots to his knees, in the next day's porridge! With a quick exit, the still hungry, empty-handed group fled the scene—none opted for porridge the following day!

Mess queues were always challenging, particularly if a Wombat was to get his sustenance and still meet his tight schedule of parades, lectures and study. Some Wombats would arrive very early for breakfast and it was not unusual to find an apprentice dozing whilst standing in the mess queue amongst the frost of a keen winter's morning.

It was not just at breakfast that there was a long queue for every meal. Getting in first was of high priority to all Wombats. One day, to get a bit of a head start, a few Wombats left the Basic Hangar a 'little early' and snuck back to their hut. Lying on their comfortable beds playing a bit of soothing Elvis music, the dulcet sound of a Drill Instructor was heard approaching. Two Wombats jumped off their beds and hid behind their lockers and one hid inside his locker. As the Drill Instructor approached the hiding ensemble, he yelled in his normal quiet DI voice, 'Come out you little bastards, I can see you.' He was referring to one of the Wombats behind the lockers, but each of the Wombats thought the Drill Instructor was referring to him personally. Suddenly the instructor was surrounded by miscreants as two popped out from behind their lockers, with another bursting from within his locker. The Drill Instructor's face was about two inches from the locker door, and as the door opened he nearly died with the smiling face of a Wombat in his personal space being his last memory! His immediate and predictable reaction was to utter the well-known words of encouragement, 'You're working again this weekend, Apprentices.'

After the six-week conditioning period, the Wombats started in earnest on their three-year trade instruction journey in the Basic Hangar, where they spent the remainder of 1958 learning basic fitting skills. 'Basic' was interspersed with short visits to supplementary trade training in the machine shop, metalworking, welding, blacksmithing and carpentry shops. This was an exciting time for most Wombats because they got their hands on tools and machinery so as to learn basic fitting. In retrospect, most Wombats have retained those skills throughout life and can turn their hand to woodwork, metal turning, welding and fitting even in their sixth decade.

Flights were also re-formed at this stage with the 'Boffins' becoming No 1 Flight. The 'Boffins' comprised a group of Wombats selected for their educational qualities, with an objective of undertaking additional study over a two-year period to pass the NSW Leaving Certificate and to matriculate. The 'Boffins' studied English, Maths 1 and 2, Physics, Chemistry and Geography in extra study periods undertaken during evening classes on Tuesdays, Wednesdays and Thursdays. English and Geography classes were taken by the Headmaster of Wagga Wagga High School, Mr Smythe, on Wednesdays with classes starting as late as 9.30 pm. Maths and Physics were taught by RAAF education officers on Tuesdays and Thursday. The 'Boffins' were something of an odd bunch and, in contemporary terms, the description 'Nerds' would be most fitting.

The Basic Hangar was simply a facility where, over a 12-month period, some 100 plus Wombats became proficient in basic fitting practices and associated hand skills; a side product was that they also learned a technical discipline leading to patience, perseverance, determination and the ability to follow procedures precisely. The hangar was fitted out with a large number of workbenches, each had six work places with vices that allowed the student to conduct practical work in basic fitting, covering chipping, filing and measurement. With six Wombat flights, each flight was allocated about four to five benches and they were located in the northern half of the hangar.

A SNCO general fitter was allocated to each flight as an instructor and remained with the flight for the year. Consequently, quite a close relationship developed between the Wombats and their basic instructors. The instructors might have been vexed by the persistent high spirits of the youths in their responsibility but perhaps also gratified and rewarded that eventually the Wombats did become skilled in fitting. For the Wombats' part, they grudgingly acknowledged the proficiency and trade knowledge of these general fitters, who themselves had come to their trade through apprenticeships.

A toolbox was issued to each Wombat. It comprised a basic range of metalworking hand tools, such as files, chisels, micrometer, ball-peen hammers, vernier calipers and a combination square. These were the tools that enabled the Wombats to develop skills in general fitting. In just a few weeks, Wombats became accustomed to a world of chisels, files and hacksaws, blueing and scribing, and fits and clearances, and developed an ability to measure within several thousandths of an inch using micrometers and vernier calipers. They became adept in the use of squares and surface blocks and tables, at sharpening twist drills and using drilling machines and grinders.

Some apprentices used the grinders as a means to getting a 'sickie'. The practice was to open one's overalls and then, standing close to the machine, to grind heavily a piece of steel. The sparks that struck the perpetrator's torso left an impressive 'rash' to test the diagnostic skills of the Base Medical Officer.

At first they were able to chip, then file and finally scrape a metal surface flat and to check that flatness on a test table. It was not uncommon for apprentices to be covered

Wombats – That First Year

from hands to elbows with Prussian blue from this process.¹ After working patiently with chisel and file for hours, they understood the joy of the final half-dozen strokes of a file leading to a product coming to within prescribed tolerances or, conversely, the despair that the test piece was now irretrievably under tolerance. After a month or so, Wombats could distinguish by eye the difference between a .002 and .005 inch (.051 and .127 mm) gap.



At Work in the Basic Fitting Hangar – c. 1958

Wombats were introduced to the tool store at the end of the hangar where one was issued with equipment required for the training exercises. Naturally, cleaning rags were required especially when blue was used in scraping a metal block to a flat surface (discussed above). Some Wombats were told, 'Go to the store and ask for some rags

¹ Prussian blue is a dark blue, crystalline, insoluble pigment used for spotting metal surfaces, such as surface plates and bearings, for hand scraping. A thin layer of Prussian blue is applied to a reference surface (the 'standard') and, when the work piece and standard are touched together, the high spots on the work piece will be coloured by the dye. These high spots are then scraped off and the process repeated until the desired tolerance (degree of flatness) is achieved.

monthly; only to be suitably embarrassed when they realised their gaff. Others queued for ages for 'propeller pitch', or cans of 'autumn tone' paint, not to mention 'left-hand nuts for populating tools'. There were many such tricks played upon unsuspecting Wombats, early in their trade training.

Wombat pranksters also targeted other gullible souls in basic training. Bruce Dicker well recalls the adult trainees at one end of the hangar with apprentices at the other diligently filing, chiselling, hacksawing and filing. The adults had their names in large letters on the back of their overalls. This provided a great source of fun for Bruce and Col Bradford. The idea was to pick out a name from quite a distance (for example, Vella) and quickly call out his name as loudly as possible, then to lie low and observe the perplexed Vella searching the hangar to establish who actually wanted him. The other victim of this larrikin behaviour was a person called Sarafoff who was actually Col's favourite target.



No 4 Flight – 1958

Front (L – R): Paterson, O'Neill, Macdonald, McLoughlin, Stuart-Sutherland, Lapins, Baxter
Centre (L – R): Barrett, Sheil, Brown, Dicker, Burr, Horsburgh
Back (L – R): Matters, Crow, Vaughan, Hodgson, Bradford, Garraway, Edwards, Hersey, Firms

Basic fitting consisted of both practical and theory, and many hours were spent in classrooms learning the intricacies of the vernier caliper and micrometer, as well as basic metallurgy. Progress was steady and measured by examinations for theory and trade tests to measure practical achievement. Initially, the practical tests comprised a range of test pieces with flat plates that had to be square and straight and to size within .005 of an inch (.127 mm). Later, the test pieces were of more useful items, such as clamps, machine vices, and T-handle tap wrenches and tap and die wrenches.

During first year, the basic fitting instruction was interspersed with short two-to three-week training stints in allied trades, such as machine shop, metalworking, carpentry, welding and blacksmithing. Whilst these sojourns were a welcome break from

Wombats – That First Year

the tedium of the Basic Hangar, they also gave the Wombats an excellent appreciation of other trades which in future years would be of particular value. For those who eventually became engineer officers, this allied trade knowledge was extremely valuable because it gave them an understanding of what was achievable from the general engineering support sections of Air Force depots and squadrons.

At an early time Wombats learned that not only were they to undergo technical training, they were also required to maintain their accommodation and living quarters. Daily duties required them to prepare their persons (showering and shaving—why and how does a 15-year-old shave?), clean their overalls, polish boots and clean and tidy living spaces. Each day, beds were stripped of linen and the sheets and blankets formed into a bed-roll. Bed spaces and the common areas of the hut had to be swept and waste bins emptied, before dashing off to the daily parade at 7.30 am.

The really testing time, though, was Monday evening each week, which was appropriately designated as 'Panic Night'. The linoleum floors of the huts were polished by hand and buffed with great wads of steel wool, until they gleamed. Garden beds had to be weeded and raked, and a designated ablution block of toilets and showers scrubbed and cleaned. Additionally, that night Wombats had to prepare themselves for the weekly Officer Commanding parade that was held each Tuesday morning.



A/App Leaney – 'Panic Night'

Additionally apprentices were rostered for base duties, with mess duty being probably the most detested. In first year, half-a-dozen Wombats were rostered to work in the mess on weekends, where duties involved cleaning spuds, scrubbing pots and dispensing butter. The duty was thoroughly disliked and involved long hours from early morning to late at night undertaking the most menial and dirty tasks imaginable. There were literally thousands of plates to be washed and those that were allocated to this duty barely finished the dishes from one meal before the next was being served. The mess had rudimentary dishwashers, which allowed for a sporting challenge. The aim was to get the rotating plate carrier up to a high speed and then throw plates into it; the inevitable result was many smashed plates.

The rostered duties did not come around regularly but it meant losing any free time, either for the whole of Saturday or the whole of Sunday; working from early in the morning until well into the evening. The tasks were unofficially graded from bad to good in the following order: washing pots and pans, laying out the table condiments, helping the cooks serve the meals, general cleaning up in the eating area, and handing out butter, which was normally 'rationed' to one piece per individual. The last two to arrive were given the job of handwashing the endless number of huge pots, pans and dixies. While scrubbing these in two huge stainless steel tubs, the water became very greasy with fat and slopped over trousers and boots.

Another task that went with the washing-up included helping the 'pig man'. This man had the contract for removing the food scraps and he took them away in large bins located in a small fly-wire enclosure at the back of the mess. The main task was to move each bin close to the enclosure door and then to hold the door open. Despite the fly-wire, the enclosure was full of flies, and the smell, including the 'pig man' and his truck, was dreadful.

One particular Wombat was habitually engaged in the dreaded 'working weekend'. This was not by choice; it was thrust on him by the overzealous Drill Instructors, almost every Friday afternoon for some minor misdemeanour. On one weekend, this Wombat was working in the mess on a Sunday night, and was dragging a large garbage bin into the waste storeroom with the help of another Wombat. The Wombat helping him to perform the operation spied their closeness to the open grease trap, and at the edge gave the bin a quick shove. Into the trough went the bin and his fellow Wombat. The poor unfortunate could not pull himself out of the trough because the sides were too slippery and the trough too deep. No-one rushed to his aid. Quite the opposite, all and sundry were called to witness his predicament, and to savour the moment, if not the foul smell! Eventually he was rescued, and was last seen in squelching boots, heading for the showers, cursing loudly.

One of the few perks of working in the washing-up room was the opportunity to 'pinch' a few bars of the washing soap which came in very large bars and was sought after for washing overalls. After mess duties, various methods were used to clean the fat-ridden boots in an attempt to bring back their shine. One enterprising Wombat thought of the idea of covering the boots with an inflammable liquid and lighting them in the hope the fat would burn off. The results were predictable and the boots were burnt badly. It sounded like a good idea at the time!

Wombats – That First Year

Many Wombats also expressed their new-found independence and absence from parents by taking up smoking in first year. No doubt this expression of independence was to have a future health impact on some Wombats. Some young Wombats resisted the temptation to smoke but were looked upon as a minority, somehow different. Fortunately though, there was never any great peer pressure to take up smoking, although there was considerable peer discussion on the subject. It was an individual's choice based upon the social norms of the day and the lack of common knowledge of the link between smoking and cancer. Smoking persisted though, even after the Wombats were shown a horrendous film on the ills of smoking as part of General Service Training. It should be remembered though that just a few years beforehand there was a cigarette ration within the military.

Smokers felt that policy change immediately in their hip pockets. A packet of 'tailor-mades' cost 2s 6d (\$0.25), which had to be found from the weekly wage of A£3 15s (\$7.50). Many smokers resorted to 'roll-your-owns', particularly towards the end of the fortnightly pay period. 'Roll-your-owns' required considerable dexterity to produce a cigarette in the short time allowed for 'smoko'. Also, they could taste quite foul if, unfortunately, one had oily or greasy hands such that the oil permeated the tobacco. What it did to one's lungs is another question.



Apprentices Herron and Sydes (fagging-on) with Des March (centre)

An insurance salesman visited huts in the first year selling life insurance. He did good business amongst the apprentices and many Wombats befriended him and even sent him Christmas cards long into the sixties. His name was Reg Melvin and he helped many an apprentice and even went guarantor for them at McMullin & Love Menswear shop, once they were allowed into civvies. Reg was certainly an outstanding mentor for many Wombats.

The short phases in allied trades, such as welding, machine shop, carpentry, metalworking and blacksmithing, provided welcome breaks from the drudgery of basic fitting quite apart from their inherent value in providing Wombats with an understanding of the skills involved in other RAAF trades. However, each trade provided its own challenges and humour.

Wombats – 50 Years On

With its lathe work, the machine shop was a challenge for many Wombats. Under the careful tutelage of machinists over a few weeks, apprentices slowly became relatively skilled in sharpening their own cutting tools, setting material in four-jaw chucks to an accuracy of .001 of an inch (.0254 mm), turning outside and inside cylinders, and finally cutting threads.

Loud hysterical vocal comment could often be heard over the hum of the banks of old Le Blonde lathes as a Wombat's final, careful, cut to the required size of the test piece turned into a major catastrophic gouge. A similar result could occur at any time, particularly when taking a final cut to achieve the required root diameter of a square thread if the lead screw lever was not engaged at precisely the right moment. The worn controls of these lathes often resulted in the most minor adjustment either not registering at the cutting tool, or alternatively advancing beyond reason.



No 5 Flight – 1958

Front (L – R): Weller, Thompson, Widgery, Pike, Bushell, Jones, Dambergs, Sanderson
Centre (L – R): Tasker, Harding, Mattiazzi, Hunter, Humphries, Bower,
Benton, Maxey-Fisher, Donkin
Back (L – R): Butler, Mackie, Larter, Dean, Brooker, Wood, Gracey, Buzzini, Reeks

Welding was a popular allied trade because it had clear future value; whether from a professional or 'do-it-yourself' perspective. Most people were able to pick up the necessary skill in oxy-acetylene welding of mild steel plates but the real challenge was in welding aluminium. Many apprentices recall how they carefully developed the most perfect moving 'puddle' of molten aluminium on the top surface only to suddenly find a molten mess running underneath the plates when they had finished. A favourite prank

in the welding shop was to fill some long sections of stored piping with acetylene and then ignite the gas; the result was a resounding ‘boom’ throughout the welding shop and adjoining buildings.

Conversely, blacksmithing was seen almost as being archaic in nature with questionable value towards one’s apprenticeship or future employment. Each student had a forge in which he carefully raised and sustained a fire. The sergeant in charge of blacksmithing was a strange character, who gained the understandable title of ‘Psycho’; he was renowned for berating students about the state of their fire and telling them very loudly to ‘get it hot’ and then just as often, ‘not that bloody hot’ as the student withdrew his job from the forge dripping with molten material and with sparks flying everywhere. But the sergeant was a very skilled artisan with a forge and a hammer. Many Wombats still have their cold chisels that were carefully forged, hardened and tempered in the Wagga blacksmith shop.

Bruce Dicker recalls that if one left the air on to the forge, a toolbox lid open, or a piece of coke on the floor then it was ‘see me tonight’ from ‘Psycho’. This meant at 1700 hours when the course lined up to march off, he would call out the names of those people whom he had caught out during the day. Bruce could not quite work out how ‘Psycho’ was always able to remember a number of names all day. Watching him after a ‘see me tonight’ instruction was issued, it became apparent that ‘Psycho’ had a system. The strategy was to go to a small table, open a drawer and write the names of the offenders on the bottom of the drawer in chalk. Bruce checked this out and, bingo, there it was. From then on Bruce deftly erased his own name and substituted Bradford’s. Then, at 1700 hours, Col got a big surprise as he and the rest of the guilty party had to stay back and sweep up. When Bruce confessed to Bradford, they had a great time thereafter nominating all and sundry for after-hours sweeping duties.

Outside the formalities of training, there was little spare time when apprentices were not engaged in domestic chores. Washing clothes was a major ordeal and getting them dry afterwards, in just one or two drying rooms, another challenge. At first there were no washing machines and everything was laundered by scrubbing on a duckboard table, rinsing in concrete tubs and then ringing out the excess water by hand—not even mangles were supplied. With the introduction of washing machines (c. 1959) came the advent of ‘Blue OMO’ washing powder, much to the amusement of many an apprentice, with lots attributing the name to some queer, red-headed, individual.

The Base Cinema was quite an attraction during free time and the low cost of entry certainly permitted escapism on a grand scale. The movies were quite recently released films and the cinema was well fitted out with cinemascope screen and a qualified operator, who was a member of the long-lost RAAF mustering of cinema operator.



No 6 Flight – 1958

Front (L – R): Wassell, Crust, Rowe, Stone, Leaney, Valom
Centre (L – R): Smith, Marshall, Eames, McCracken, Woodrow, Moore, Watson
Back (L – R): Cain, Haxell, Edwards, Hartley, Locke, Boyce, Caldwell, Jacques, Stein, Smith

Initially, after the first six weeks of training, apprentices were allowed to venture into Wagga Wagga on alternating Saturdays and Sundays. There were few buses available and for many it meant hitchhiking or walking the 12 kilometres to town and back. The first Saturday that Wombats were released from Forest Hill must have been quite a sight for motorists on the Sturt Highway, as close to one hundred and eighty 15 and 16-year-olds, ventured off base for the first time. Once in town there was little to do other than to explore the main streets, shops, etc. and to ogle the local talent. Later there would be dances and other interests such as rollerskating to enjoy. In Wagga Wagga many a Wombat found his first girlfriend and many of these relationships evolved into lifelong partnerships as husbands and wives.

Finally, at the end of 1958 and after 12 months of fairly intensive training in basic fitting, turning and allied trades, the Wombats had developed sufficient technical skills to commence their specialist trade training. But what trade was it to be?

Towards the end of the year, each Wombat was able to submit his preferences; that is, he could select airframe, armament, electrical, engines, instruments or motor transport trade. A few weeks later, the school advised what trade the RAAF actually wanted one to do. In many cases, this was at variance with the wishes of the individual but there was no right of redress or appeal.

The graduation ball of the third-year intake of 'Rosebuds' was a significant upheaval at RSTT, which occurred at the conclusion of the Wombats' first year of service, as an eventful celebration. That event is recorded here to highlight the severe implications with respect to Service discipline—or, more accurately, the lack thereof—that occurred

Wombats – That First Year

on the night. For many Wombats, it was their first, if not only, experience of large-scale insubordination, bordering on rebellion.

Some Wombats, but mainly the second-year intake of Tadpoles, acted as waiters for the ball, perhaps with a motive of getting access to alcohol served at the function. These were probably the fortunate ones because, as the night wore on, the graduation degenerated into a serious state outside of the venue, spilling into the apprentice accommodation area, with a total loss of Service law and order.

A number of Wombats, who perhaps unwisely chose to sleep in their huts, were assaulted by drunken revellers from the ball. The incident was something of a nightmare with serious injuries sustained by some Wombats. A number of RSTT officers and NCOs were drunk and disorderly, and one was threatened with lynching. Many Wombats spent the night in serious concern for their wellbeing; one even took refuge in the box reserved for the cricket nets.

The following morning, the parade ground was a shambles littered with bottles and broken glass. A court martial ensued with disciplinary action taken against a number of individuals. One officer was terminated from the Service and the Commanding Officer of RSTT had his command withdrawn after the events of the Rosebud graduation.

This was a dark end to what was otherwise an exciting episode into work life by the Wombats who endured that first year of apprenticeship training.



Wombat Waiters at the Tadpole Graduation Ball – December 1959



Wombats will long recall the arrival of the Meteors for their retirement at Forest Hill and their fabulous flying display overhead – c. 1958

CHAPTER 3

WOMBAT JUNIOR EQUIPMENT AND ADMINISTRATIVE TRAINEES

‘SHINY BUMS’

Shortly after the RAAF formally began training apprentices, moves were initiated to extend the concept to clerical trades in order to make up manpower deficiencies. During these deliberations, the Air Member for Personnel made the point that ‘for the engineering and radio mustering to be fully effective they had to be supported by equipment and administrative mustering trained to a comparable standard.’²

There were two further arguments for some form of junior training to ease the manpower problem in equipment and administration. Firstly, it was seen as a means of countering a perception that there was too great a time lag between the age the average boy left school (15 years) and the minimum age at which he could enter the RAAF (18 years)—many potential candidates had by then been absorbed into careers with civilian employers. Secondly, it was noted that many unsuccessful applicants for RAAF engineering and radio apprenticeships ‘were in fact very suitable for clerical and equipment mustering,’ and many had even expressed interest in these avenues of employment.

After details regarding such matters as pay, allowances, superannuation and leave were approved, the Junior Equipment and Administrative Training (JEAT) Scheme began.³ The first course of Junior Trainees (J/Ts – this abbreviation was used to denote the JEAT classification) were selected by the three-man panel constituted in November 1951 to select candidates for the 1952 intake of apprentices.⁴

Due to an initial lack of accommodation for the new scheme at the RAAF Technical College at Wagga,⁵ the solution was to send the trainees to the RAAF Station at Rathmines, NSW. Originally set up as ‘Detachment C’ of the RAAF Technical College, the unit had its own local commander who was under the direct command of the Commanding Officer of RAAF Technical College.

² Coulthard-Clark, *From the Ground Up*, p. 90.

³ *ibid.*, p. 94.

⁴ *ibid.*

⁵ RAAF Technical College was renamed RAAF School of Technical Training (RSTT) on 1 December 1952.

The initial course was of just 18 months duration and was equally divided between initial classroom instruction carried out at Rathmines and ‘second-phase’ practical training planned to be carried out on-the-job at units.⁶

Detachment C remained at Rathmines until December 1953 when it was disbanded and absorbed back into its parent unit, the Technical College (which by this time had been renamed RSTT), as part of the Apprentice and Junior Trainee Squadron (AJTSQN).

At Wagga, the JEAT course continued to evolve. As a recruiting brochure from June 1955 made clear, the ‘educational and commercial training’ carried out under the scheme with the aim of producing ‘skilled administrators’ had undergone further refinement. Now trainees were required to spend a year at RSTT, followed by a six-month posting to a unit. Originally JEAT course members were prepared for only three clerical musterings—Clerk General (CLKG), Clerk Equipment (CLKE) and Equipment Assistant (EQASST)—but from the fifth intake, a fourth mustering, Clerk Equipment Accounts (CLKEA), was added.⁷

As the scheme progressed, quotas for JEATs were often filled by diversion of candidates who failed to gain selection for radio and engineering apprenticeships in order to reach the required intake level. There were also applicants who were medically unsuited for apprenticeships for reasons such as colour blindness, etc. who transferred to the scheme.⁸

At Wagga, the JEATs were accommodated in their own huts among those of the much larger population of apprentices and were somewhat dismayed to discover their presence was actually resented. One member of this group said, ‘I suspect it was principally because we were there for a shorter period, and were slightly better paid.’⁹ Additionally, the basic enlistment period for J/Ts was seven and a half years (18 months training and a six-year enlistment) in contrast to 15 years for apprentices.

The pay scales for J/Ts were in fact different from those of apprentices. J/Ts under 16 received slightly less than a first-year apprentice but, thereafter, they received more than first-year apprentices. Moreover, apprentices received free uniforms throughout their period of training, whereas once J/Ts reached the age of 17 they were expected to provide their own replacement uniform needs from a clothing allowance similar to that paid to all airmen. Additionally, the second-year J/Ts enjoyed more leave privileges than the second-year apprentices.¹⁰

As the J/Ts were only programmed for 18 months training, they were normally recruited at a slightly older age than the first-year apprentices. This was one way of preventing the problem arising from graduating J/Ts still being under the age of 18 years.

⁶ Coulthard-Clark, *From the Ground Up*, p. 96.

⁷ *ibid.*, pp. 95 and 98.

⁸ Information of D.E. Lord, 20 April 2007.

⁹ Corporal (later Rev.) B.W. Green, 28 June 1996, as quoted in Coulthard-Clark, *From the Ground Up*, p. 96.

¹⁰ Information of D.E. Lord, 20 April 2007.

Wombat Junior Equipment and Administrative Trainees

‘Not only did they have to wait around, in effect, for up to 12 months before legally they could be employed as airmen in an adult mustering but they also could not receive full adult pay before then. Until they reached 18 they were paid at “Recruit, Minor” rate.’¹¹ This situation applied to at least two Wombat J/Ts.¹²



Wombat Clerks General – c. 1958

Front (L – R): Walsh, Campbell, Calliess, McGrath
Back (L – R): Kalenkowski, Sprague, Parker, Lyford, Lord

The JEATs were integrated into the wider world of the apprentices, even down to using the course names adopted by each new intake. “The new set-up was not wholly to the liking of the JEAT intakes, who found that they endured the worst of the system of fagging which was in operation but, because their course lasted only a year, were denied the opportunity to “dish it out” subsequently as a senior.”¹³

The 7th JEAT course, the Wombats, underwent an initial period of two weeks of General Service Training (GST) before embarking on a four-week period of initial clerical and administrative training, and assessment in typing, shorthand and administrative and equipment procedures. After this initial period, J/Ts were assigned to a specific mustering for the remainder of the course. This was felt to be a combination of aptitude of the students and also based on previously determined quotas per mustering.¹⁴

¹¹ Coulthard-Clark, *From the Ground Up*, p. 97.

¹² Information of M.A. Blakiston, 30 April 2007; and C.F. Payne, 19 May 2007.

¹³ Sergeant G.F. Peace, 30 June 1996, as quoted in Coulthard-Clark, *From the Ground Up*, p. 97.

¹⁴ Information of M.L. Clark, 20 May 2007.

However, the musterings were not always the first choices of the member and at least one protested sufficiently to be given his first choice.¹⁵

The Officer-in-Charge of the Clerical and Equipment Training Flight was Flight Lieutenant C.J. Fagan and the instructors included Flight Sergeants J. Wright and G. Squires, and Sergeants C.H. Golding, T.A.S. Hare and C. O'Brien.

The CLKG group was then streamed as a separate unit within the JEAT Flight and were trained to become touch typists and stenographers (shorthand at 80 words per minute), and received training in administrative and personnel procedures.

The three equipment musterings shared a common equipment core training syllabus in equipment procedures as well as being streamed into the specialist areas of their mustering. For example, the CLKEs spent hours learning to touch-type (30 words per minute). The EQASSTs learnt packaging and preservation, transportation, warehousing practice and aircraft parts recognition and familiarisation. The CLKEAs received training in double-entry bookkeeping and audit practice. In addition, the CLKEAs were used to prepare the Clothing Cards for the graduating third-year apprentices prior to their final kitting and other 'live' accounting tasks allocated by Base Squadron (BSQN).

All J/T students were trained to pass trade tests to the flight sergeant level which often made them appear to be 'know-it-alls' when they first arrived at their respective units.¹⁶

The Wombat JEAT course also underwent the normal General Service Training, physical training (sport) and education in English and mathematics. The course also participated in speed-reading trials which were conducted by the Education Flight of RSTT.¹⁷

During the first year at Wagga, the equipment members of the course visited No 2 Central Reserve, Albury on a daytrip, and spent a week in Melbourne visiting local industries such as the Commonwealth Aircraft Corporation (CAC) and Government Aircraft Factories (GAF). Fortunately, the visit to Melbourne coincided with Melbourne Cup week and the J/Ts were accommodated at No 1 Stores Depot, Tottenham.

'Although the JEAT intake did their year basically with the new apprentices, by the end of that single year they were expected to be ready to march out with the third-year apprentices on graduation – which meant that the Drill Instructors drove the JEATs "pretty hard".¹⁸

The Wombat course believed that Corporal Barry ('Penguin') Handley took on the task of getting the JEATs into shape for the graduation parade as a bet with the other Drill Instructors and airfield defence instructors. After the graduation parade, the course presented him with a silver cup and this brought tears to his eyes.

¹⁵ *ibid.*

¹⁶ C.A. Makin, 30 June 1996, as quoted in Coulthard-Clark, *From the Ground Up*, p. 102.

¹⁷ Information of D.E. Lord, 20 April 2007.

¹⁸ Warrant Officer D.E. Lord, 29 June 1996, as quoted in Coulthard-Clark, *From the Ground Up*, p. 97.



JEAT Graduation

There was indeed some resentment by the Rosebuds (10th intake apprentices) regarding the presence of the first-year J/Ts on 'their' graduation parade. This was possibly a consequence of the J/Ts being effectively only two-thirds trained and having not yet passed their final trade testing, which was to take place six-months later.

As the first year ended, two Wombat J/Ts were given promotion.¹⁹ The promotions were obviously necessary to command the JEAT Flight on the graduation parade.²⁰ Additionally, several CLKG and CLKEA²¹ trainees were required to remain at Wagga as second-year trainees, consequently this accorded with the standard apprentice rank system within the Apprentice and Junior Trainee Squadron.

At the end of 1958, the equipment musterings (with the exception of three CLKEAs who remained at Wagga) and three CLKGs²² were posted to No 2 Stores Depot, Regents Park for six months on-the-job training. After a short period at 2 Stores Depot, the CLKGs were transferred to the three Command Offices in Melbourne for on-the-job training.

The J/Ts who remained at Wagga experienced slightly different circumstances. The CLKEAs were fully employed in the Base Squadron Accounting Section and consequently thought of themselves more as members of that unit.²³ The CLKGs received on-the-job training in the Apprentice and Junior Trainee Squadron and Base Squadron Orderly Rooms, and also received additional classroom training in their core subjects.

¹⁹ E. Kalenkowski to Sergeant, and V.P. Sprague to Corporal.

²⁰ In the event, I.K. Senior substituted for Sprague who had been hospitalised. Information of I.K. Senior, 18 April 2007.

²¹ N.V. Cummings, B.S. Field and J.W. Madden.

²² G.G. Lyford, F.J. Parker and V.P. Sprague; information of F.J. Parker, 1 June 2007.

²³ Information of D.E. Lord, 20 May 2007.

The on-the-job training at 2 Stores Depot in 1959, for the majority of the equipment trades, was conducted at Regents Park with Bankstown used for accommodation. The JEAT Flight travelled between the two locations in trucks or, occasionally, buses. They were pretty much treated as normal airmen (with the exception of access to the airmen's bar). However, a separate service area and, later, a milk bar, staffed by WRAAF members, was provided for recreation in the Airmen's Canteen area.

As Bankstown had no guard gate (there was a public road running through the camp), the JEATs enjoyed considerably more freedom than they would have had if they remained at Wagga. However, discipline was still enforced with several members being confined to barracks or given extra duties (usually in the Officers or Sergeants Messes) as punishment.²⁴

At 2 Stores Depot they were allowed to wear civilian clothing when off duty, they were not confined to the barracks areas after hours, and they enjoyed freedom of movement during weekends. Many Wombats who had not been to Sydney before were able to travel extensively during this period. A major appreciation was the employment of many young, single girls at Regents Park and contact was swiftly established within and outside working hours.

Whilst at the Stores Depot, the CLKEs and EQASSTs were rotated through Richmond for two-week periods to gain experience in operational duties, such as fuel farms and air movements. The course also spent several days visiting local industries in the Sydney and Port Kembla areas. Sporting events were occasionally arranged for the course—such as softball against the WRAAF members. After a fire at the WRAAF quarters, the course was used as labourers to clean up the residue as a 'sports' afternoon.²⁵

At the end of six months, the J/Ts detached to 2 Stores Depot and Melbourne returned to Wagga for three weeks final trade testing, kitting and posting with the rest of the course.

The Wombat JEAT course began with 37 members (four were ex-Tadpole apprentices)²⁶ and, of these, 34 graduated.²⁷

During their Air Force service, many ex-Wombat J/Ts transferred from their basic musterings to other fields. Principally, the CLKGs soon remustered to Clerk Administration (CLKA) as they saw that their prospects for postings and promotion were greatly enhanced, despite an initial drop in pay scale. At least five Wombat J/Ts were commissioned.²⁸ Of these, one attained the rank of wing commander and the others all reached squadron leader. Some ex-Wombat J/Ts transferred to various

²⁴ J. Paulga and M.L. Clark recall working in the mess kitchen and being supplied with drinks and food by the stewards during their extra duties.

²⁵ Information of I.K. Senior, 18 April 2007.

²⁶ E. Kalenkowski, J. Paulga, C.F. Payne and E.L. Whalley.

²⁷ J. Coen, J. Foran and K.J. Welsh did not graduate. However, Foran and Coen transferred to the PAF—Coen became a surface finisher and Foran a stores hand who later remustered to EQASST.

²⁸ R.W. Bull, M.L. Clark, D.B. Jones, F.J. Parker and J. Paulga.

Wombat Junior Equipment and Administrative Trainees

trades and duties, including electronic data operator,²⁹ helicopter crewman,³⁰ linguist,³¹ loadmaster,³² and plant operator.³³



Wombat JEAT Equipment Trainees – c. 1958³⁴

Front (L – R): Field, Wall, Leifels, Cummings, Hawkins, Hruza
2nd Row (L – R): Payne, Daly, Chilby, Bull, Watkins, Biddle
3rd Row (L – R): Senior, Leach, Whittle, Courtney, Coen, Foran, Bowman, McDonald
Back (L – R): Whalley, Paulga, Madden, Hughes, Jones, Martin, Clark, Blakiston

The Wombat J/Ts were the last course comprising four musterings. The last JEAT course, comprised wholly of CLKE, graduated in 1960.

There are differing interpretations for the JEAT Scheme's demise. Conclusions were drawn by senior RAAF management that 'the scheme had not attracted "personnel

²⁹ W.T. Courtney.

³⁰ E.J. Parker.

³¹ D.E. Lord.

³² C.F. Payne.

³³ J.W. Madden

³⁴ This photograph shows the Equipment Trainees; the Administrative Trainees (CLKGs) appear on page 45.

of the right calibre”; the wastage rate was high; and it was more economical to train adult recruits.³⁵ In commenting on the quality of the trainees, Chris Coulthard-Clark observed:

So far as the complaint about the quality of trainees is concerned, it was pointed out that a number of these were ‘failures’ from the trade apprentice scheme (not just candidates diverted at the selection stage but members who had actually failed on course) and these could be expected to ‘have a reduced level of motivation and interest to succeed in such training’. Close examination of JEAT courses discloses that only five instances occurred where ‘drop-outs’ from the Apprentice Scheme were re-enlisted as junior trainees; four of these individuals joined No. 7 Course and all graduated, so [they] certainly cannot be said to have been failures.³⁶

The fifth instance of a ‘drop-out’ (referred to above by Coulthard-Clark) related to a Wombat apprentice who graduated as an Oyster JEAT with No 8 Course.³⁷

Chris Coulthard-Clark also noted:

While oral evidence confirms that some JEATs were disappointed at not being given their first preference of a place in the Apprentice Scheme, it is clear that this aspect provides only a part of the story.³⁸

Undoubtedly, the RAAF felt the impact of the JEAT Scheme in fields well beyond its original narrow focus. For a start, not all graduates stayed in clerical or equipment trades and over subsequent years at least a dozen transferred into other musterings and categories.³⁹

Ultimately, no fewer than 50 former JEATs became officers, representing about 20 per cent of all graduates ... Within the figure of 50 officers, there were two who became group captains – C.A. Makin (No. 4 Course) and N.K. Wainwright (No. 8) – 12 wing commanders and 26 squadron leaders .. This record was a considerable achievement for such a small group, and effectively dispels doubts about the JEAT Scheme’s overall value to the Air Force.⁴⁰

³⁵ Coulthard-Clark, *From the Ground Up*, p. 99.

³⁶ *ibid.*

³⁷ A.R. Baxter.

³⁸ Coulthard-Clark, *From the Ground Up*, p. 99.

³⁹ *ibid.*, p. 103.

⁴⁰ *ibid.*

CHAPTER 4

THE 'BLACKHANDERS' AT WAGGA

TRADE TRAINING OF THE 'FRAMIES' AND THE 'SUMPIES'

Traditionally, the 'blackhand' trades of the RAAF's aircraft maintenance system comprised the airframe and engine fitters; colloquially known respectively as the 'framies' and the 'sumpies'. Their respective trade responsibilities related to the maintenance of aircraft structure (airframes, landing gear and hydraulics) and aircraft propulsion systems (jet and reciprocating engines, fuel systems and propellers).

This was to change in the early nineties as the RAAF rationalised its aircraft trade structure and, in the case of the 'framies' and the 'sumpies', these trades were amalgamated into the single aircraft technician trade. However, by that stage, Wombats had largely left the Service, apart from an elderly few in senior ranks who often had to oversee the introduction of the rationalisation and its inevitable problems.

WOMBAT TRADE GROUP NO 12 AIRFRAME FITTER APPRENTICES – 'FRAMIES'

In terms of aircraft development, airframes are said to go way back; even predating Pontius as a 'pilot' and Mortis as a 'rigger', at the advent of aviation.

Having successfully completed first year and the basic training phase (filing blocks of metal into funny shapes or grinding them on the side of a grinding wheel—a real 'no-no', if you got caught), it was now time for a group of Wombats to commence their aircraft trade training as 'framies'.

Those selected for the airframe mustering were divided, alphabetically, into two flights:

- 'A Flight' included Brian Broderick, Ron Brown, Les Butler, Mike Dambergs, Brian Darch, George Dean, Adrian Edwards, Kevin Featherston, John Gracey, Tony Harding, Mick Haxell, Bob Haywood, Barry Humphries and Peter Jones.
- 'B Flight' accommodated the rest: Tom Karpys, Peter Kropman, Phil Larter, Barrie Leaney, Ken Moore, Alby McCracken, Les Mackie, Roger Sanderson, Peter Tickner, Robin Weir and Hugh Worner.

Trade training commenced with elementary aerodynamics and the principles of airframe construction. After being taught the physics involved in aeroplanes flying and their basic construction, we moved on to the assembly of the aircraft involving elementary erection and truing.

This led to the second phase, erection and truing, flight controls, and undercarriage operation. Next, the different methods of repairs on aircraft were explored, such as how to effect metal repairs to wing and fuselage while maintaining and ensuring structural integrity, and plastics and fibreglass repairs, remembering that the composites we have today were not even thought of in those days; indeed, fibreglass was only just being introduced.

There were not many aircraft left in RAAF service at the time still using fabric covered flight control surfaces, with the DC-3 and Winjeel probably being the exceptions. This necessitated learning the art of fabric repairs using 'dope', which in a confined space gave everyone a 'high'. The art of splicing nylon and metal rope was mastered, a skill that would come in handy for boat owners in later years.

The repairs course led into aircraft finishes and their effect on aerodynamics. Basically, completing this stage of training was a step towards understanding the overall make-up of the aircraft structure. With this behind us, it was now time to learn the systems that permitted an aircraft to fly.

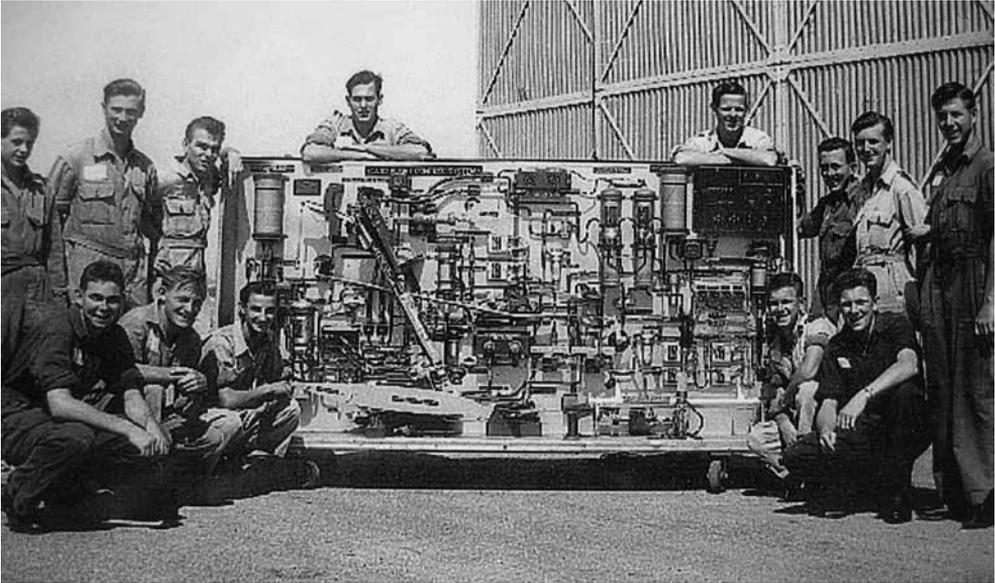
Airframe apprentices were given a basic introduction to engines and the internal combustion engine principles of the 'Otto' cycle—induction, compression, combustion and exhaust (this was more likely described as 'suck, squeeze, bang and blow')—as applied to the Gipsy Major engine fitted to Tiger Moth aircraft. We then advanced to jet turbine engines, the Rolls-Royce Derwent (Meteors); the Nene and Goblin (Vampires), both of which were centrifugal flow engines; and the Avon, an axial flow engine, fitted to Sabre aircraft.

The final first-year phase for airframe apprentices was hydraulics and pneumatics. Here the basics of an aircraft hydraulic system were taught, its individual components and its operation. This included system application to undercarriages, flaps, flight controls and brake operation, involving the laws of physics. Cutaway models of components were used to show visually the workings of each component, to make understanding so much easier. The same approach was taken with pneumatics. Firstly, how pneumatic systems were employed in aircraft and then their application to aircraft undercarriages and flaps, air conditioning and pressurisation, air cycle machines, heat exchangers, anti-icing, de-icing and brake systems.

Outside of specific trade training in second year, phases were completed in engineering drawing, electrical technology, general fitting, machine shop practice, metallurgy, heat treatment and welding; of course not forgetting the blacksmith shop—'make it hot' and 'get back behind the line'—where the heat from the forges was very welcome on the cold winter mornings. Additionally, the education subjects (English, maths and physics) continued, together with good old General Service Training, 'square bashing', ceremonial drill and defence training.

In the third and final year at RSTT, an in-depth study of the aircraft systems covered in the previous year was carried out, this time using actual aircraft systems under the subjects Aircraft Auxiliaries I, II and III. A working rig of a Sabre hydraulic system was used to demonstrate system operation of flight controls and undercarriage retraction and extension. It also allowed hands-on fault-finding and simulation of certain component malfunctions. Component structure, assembly and operation were also studied in detail.

The 'Blackhanders' at Wagga



Wombat 'Framies' of B Flight with Training Rig

As many of the hydraulic and pneumatic systems were electrically controlled, an additional phase of Electrical Technology III was included. This ensured an understanding of electrical circuits in hydraulic and pneumatic systems where sequences of operation were controlled by microswitches that in turn activated electro-hydraulic valves used to actuate the systems.

As with systems components and operation, the course included advanced erection and truing. Emphasis was on practical work using aircraft. Front and rear sections of an aircraft fuselage, as well as wings, were removed. Components were then reassembled to be fully functional, ensuring all dimensions, angles and degrees of movement were correct. This included additional practical work, with the removal of major components (undercarriage, flight controls, etc.) and their replacement in accordance with maintenance manual tolerances. Component overhaul was included, as was reconditioning; for example, resealing undercarriage oleos, flap and landing gear control valves, etc.

To prepare for aircraft operations the next phase was line servicing and flight routine, which included marshalling, refuelling, and pre- and after-flight servicing. Aircraft starting and taxiing were included as practical hands-on training using actual aircraft.

The last phase was on modern developments with an update on the systems of modern aircraft in RAAF service at the time, such as the Sabre, Neptune and Hercules.

As with our second year, a continuation of educational studies in maths, physics, and English was ongoing throughout third year. It goes without saying that no Service course would be complete without the field training, map-reading and 'square bashing'; indeed, the training here led to that wonderful passing out parade where all Wombats performed so well.



Leading Apprentice Alby McCracken put theory into practice to build his own gyrocopter.

In finishing, it would be an injustice not to recognise and pay thanks to all the instructors who had the task of making tradesman out of a bunch of young lads. They must have been very good at their job as all of us Wombats turned out OK! So, thanks go to Flight Sergeant 'Snow' Jensen, Corporal Jack 'Hipshot' Wilson, Corporal Allan Coates, Sergeant John Dennis, Sergeant Gilmore and Sergeant Jack Mullins, from airframe trade training. Apologies too, to those whose names escape us, but no less thanks for the contribution they all played in the success of the 12th Wombat Airframe Course.



Airframe Apprentice Ron Brown graduated as the Wombat's Warrant Officer Apprentice in 1960

**WOMBAT TRADE GROUP
NO 12 ENGINE FITTER APPRENTICES – 'SUMPPIES'**

The 'gunnies' had their patron saint but the 'sumppies' had their heroes. The foremost hero was Nicolaus Otto who co-founded an engine manufacturing business in 1864 in Cologne, Germany. This company exists today as 'Deutz AG'. In 1876, Nicolaus Otto filed a patent in the USA for the four-stroke cycle engine, a gas internal combustion engine with intake, compression, power and exhaust strokes, now known as the 'Otto Cycle' in his honour.

It was against an exciting history of engine and aviation pioneering, development and advancement that Wombat apprentices entered their trade callings in January 1959. The engine fitter trade at RSTT was colloquially known as the 'sumppies'. This was a reference to the engine crankcase sump that contained the lubricating oil blackened with suspended carbon particles that had the effect of blackening our hands. We sprog Wombat 'sumppies' were about to participate in this exciting and ever-evolving industry.

How did we manage this feat? We were streamed into trades in the second year of our apprenticeship. Twenty of us were named to start in January 1959 as the 12th intake of engine fitter apprentices—'sumppies'. The choice of trade was not exactly ours alone. Though we were asked to nominate our preferred trade, the RAAF decided. How we were chosen for engine fitter trade training appeared to us 'appies' at the time to have been somewhat of a black art. We believed so much in this black art that we dismissed, at 16 years of age, any notion the RAAF might have used reasonable and intelligent selection criteria. Five decades later we recognise we had undertaken psychological and IQ testing in the first month of first year at RSTT. We also recognise that in first year we were all subjected to the same basic trade training that was designed to determine our mechanical and other technical attributes. Training was provided to all 'appies' in filing, chiselling, measurement, drilling, welding, machining, blacksmithing and woodwork. We built models and metal tools. During that first year, the RAAF was quietly going about collecting data on each Wombat to provide a trade aptitude profile. What appeared to be a black art was reasonable criteria for our selection to the 'Sumppies' Flight.

Many apprentices were not conscious of the profiling in progress in first year. We are now sure that the grades we achieved in these basic trade subjects, as well as the psychological and IQ testing, were used by 'them'. By 'them', we meant the unknown staff at RSTT whose task it was to decide our fate and our future trade in the RAAF. We held our collective breath at the end of the first year until we learned at a parade (how else?) the trade to which we had been assigned in second year. In a certain sense, this determined our career in the RAAF. In many cases it also influenced our career outside the RAAF.

That parade in 1958 had an impact on our lives that reached forward some 50 years. Now that's an impact! For most of us we did not appreciate its far-reaching significance.

Wombats – 50 Years On

Twenty Wombat names were called at that parade to form the sprog 'Sumpies' Flight for 1959. This became the roll call:

Geoff ANDREWS
Allan BOWER – 'Al'
Warren BRIDGE – 'Hobo'
Ian CLAYTON – 'Stretch'
Bruce DICKER
Warwick EDWARDS
Kevin HOLMES – 'Shorty'
Andris 'Andy' LAPINS – 'Loopy' (later to become known as 'Bear')
Ken LARGE – 'Boris'
Colin MACDONALD – 'Fact'
Fred MASCORD – 'Sexy'
Bob MATTIAZZI – 'Blue'
Robin MAXEY-FISHER – 'Stumpy'
John PATERSON – 'Patto'
Jim ROWE – 'Like, what's happening?'
Peter SHEIL – 'Mary'
Lawson Dale STEIN – 'Von'
Brian WASSELL
Doug WATERS – 'Gadgets'
Terry WILSON – 'TC' / 'Teece' was to come later

There were six flights in first year. There would be six flights in second year. Each would be assembled around specific trade training. The above named 'sumpies' knew each other during the previous 12 months of basic training. However, we had been distributed throughout the Wombat Squadron in the first year. Now in second year as 'sumpies', we would march, learn, play sport and do many things together from January 1959 for two years. This had a strong bonding effect. There was emotion associated with selection to a particular trade. For some it was a shock. For many others their personal preference agreed with the RSTT selection to a particular trade. Most were happy with the trade selection announced. We settled down to accept our lot as apprentice 'sumpies'.

The superiority of our trade over the others was supported by endless debate. We pompously argued: 'You can't fly without an airframe; but an airframe is just an expensive container without an engine'. The rejoinders were many and various, such as: 'Without the 'sparkie' the engine and the instruments do not work!' and 'Without instruments how do you go anywhere with precision?' 'Even if you get wherever you were going, how can you wage war without weapons', asserted the armourers, taking a superior stance borne of the knowledge that their trade predated aircraft. You can imagine such circuitous

The 'Blackhanders' at Wagga

arguments fostered much rivalry between trade flights. It also produced a bonding that was not lost on the staff at RSTT.

Two 'sumpies'—Terry Wilson and Colin Macdonald of the Engine Fitting Flight—were selected to do extra academic studies over and above their trade training. They did this at night, with additional classes and study mostly at weekends. Terry Wilson undertook university entrance examinations and passed. Colin Macdonald undertook Diploma Cadet entrance exams to the Royal Melbourne Institute of Technology (RMIT) and passed. Terry Wilson was in the elite group known as 'Boffins'.

Our instructors were NCOs with considerable experience in engine fitting. Those who shaped our knowledge and future, included:

- Warrant Officer 'Wimpy' Hughes, who was WOE (Warrant Officer Engineer) of the Engine Hangar and ruled the other instructors with an iron fist. He was a portly WOE who loved his 'treadly' but who suffered, as the other NCOs delighted in moving his 'treadly' from the place he had last parked it!
- Flight Sergeant 'Chappie' Munn was a great instructor, who later became a RAAF engineer officer, such was his capability. He loved his cricket. He taught us Rolls-Royce Merlin theory and supercharger carburetion.
- Flight Sergeant 'Doggy' Nelson was the instructor who first introduced us to the theory of aircraft engines in the course known as Preliminary Engines. He gave us the grounding we needed for our future life. He taught us on the theory of the Otto cycle, modified Otto cycle, basic carburetion and ignition, etc., for which we had to take copious notes as well as read the precis notes written by the instructors on these subjects. It was said that 'he had forgotten more about engines than we had learned'. He was an ex-RAF World War II guy with plenty of experience. He also had a daughter who was the subject of amorous intent from one of our members!
- Sergeant Gene Tunny (nicknamed 'Yabbie Pump') taught us about the Rolls-Royce Avon and constantly reminded us that you cannot 'park' your Sabre at 40 000 feet after the engine quits (something Terry Wilson appreciated when he later flew the Sabre as a pilot in the RAAF).
- Sergeant Vic Baker used to regale us with stories of his involvement in the Korean War. He was not impressed with how cold it got in a Korean winter and was similarly unimpressed with the winters at Wagga.
- Sergeant Kev Worthington is remembered as a good instructor who taught us how to start turbojet engines in aircraft.
- Corporal Len Peake is remembered as being a good bloke. He was later commissioned, showing his true potential.
- Corporal 'Baldy' Larkin taught us about propeller theory, in particular Hamilton Standard propellers. He also taught us about Pratt & Whitney Wasp Junior and twin-row radial engines, which we found difficult at the time.

The officer-in-charge (OIC) of engine trade training during our tenure was Flight Lieutenant Geoff Cramp. To us ‘sumpies’, he was next to God in importance and power. We all agreed that he was a great bloke and a wonderful inspiration. He wore wings on his uniform! That set him apart and said it all. We recall one day Flight Lieutenant Cramp flew a Winjeel over the base. It had to have been arranged, as our instructors suspended lectures and invited us to assemble in the forecourt of the Engine Hangar. To us sprog engine fitters it appeared Flight Lieutenant Cramp was doing manoeuvres directly over our hangar. No doubt, he was not but then our young and fertile imaginations conjured up all sorts of capabilities and situations. He impressed the hell out of us ‘sumpies’. Not only could he fly but could also do aerobatics with what appeared to us to be precision, consummate skill and ease. It made us proud to have an OIC of the Engine Flight who had such capabilities. Many of us were extremely envious of his position and capability, and it caused us to aspire to such things. Terry Wilson was one of our number who achieved that aspiration in the RAAF.

Geoff Cramp (‘Sir’ to us) had an amiable personality and a pleasant smile that could easily get you off guard, but he also had a bite. In May 1960, an enthusiastic group of Wombats, many of whom were ‘sumpies’, formed the Go-Kart Club. Squadron Leader Wraith, Commanding Officer of the Apprentice Squadron, supported us and made things happen at RSTT on our behalf. It is always good to have a mentor with position and authority. He found the resources, both human and logistic, to allow us Go-Kart Club members to start work on 4 June 1960 to manufacture and assemble our own go-karts! In a contemporary report by Colin Macdonald in *The Apprentice Journal 1959–60*, he observed, ‘It was mainly through the efforts of WOFF Irvine, who gave much of his time to work both Saturdays and Sundays for many weekends, that eight Karts were completed.’ Not only was Warrant Officer Irvine involved but many of the NCOs from the trade training area also assisted at the behest of Squadron Leader Wraith. This go-kart activity led to an incident that caused Colin Macdonald to never forget the bite that Flight Lieutenant Cramp had, as his OIC.

Access was given to the Machine Shop and the Welding Shop. One Sunday, Col Macdonald, with permission of the Warrant Officer in Charge of the Machine Shop, used a lathe to make some go-kart axles. Unfortunately for Col, he did not clean the lathe after use. Next day, Flight Lieutenant Cramp had an irate Warrant Officer in his office. Colin Macdonald was summoned from classes. Unsuspecting of his misdemeanour, Col climbed the stairs and reported to the OIC’s office like a lamb to the slaughter. Thereupon a ‘dressing down’ was administered by Flight Lieutenant Cramp to the satisfaction of the Warrant Officer. With his tail between his legs, Col was dispatched forthwith to clean the lathe, again to the satisfaction of the Warrant Officer. Some ‘sumpies’ at the time mused with mirth that it was more of a frogmarch to the Machine Shop than an amiable escort. That lathe got such a cleaning!—and another, and another until the Warrant Officer concluded Col Macdonald would never again walk away from a workbench or machine tool without cleaning up. The dressing down was beneficial to an ego-puffed flight sergeant apprentice. The lesson carried throughout his life.

The 'Blackhanders' at Wagga

The Wombats involved in building the go-karts were privileged to drive the go-karts during Air Force Week. That experience coupled with the knowledge gained in manufacturing the go-karts, was a great memory to take away from RSTT.

The RAAF was in transition in 1958. World War II had ended only 13 years earlier. Many of the World War II fighter and bomber aircraft used the Rolls-Royce Merlin reciprocating engine. The P-51 Mustang fighter and the Lincoln bomber were two such aircraft serving in the RAAF at that time. In the Engine Hangar at RSTT was a de Havilland Mosquito also powered by two Rolls-Royce Merlins. The Merlin engine was a 12-cylinder, reciprocating, supercharged liquid-cooled, in-line V-engine. Yet these aircraft were to be phased out of service and thus too was the Rolls-Royce Merlin.

The Rolls-Royce Avon Mk 20 and 26 were axial compressor, turbojet engines that powered the CAC-manufactured Avon Sabre fighter. This aircraft was a re-engined modification of the North America Sabre fighter. The Rolls-Royce Avon Mk 21 and Mk 109 engines also powered the Australian-built Canberra bomber.

The Avon Sabre aircraft (A94-101) was the first Australian-built Avon Sabre and first flew on 3 August 1953. During a test flight of this very aircraft at Avalon Airfield on 21 August 1953, the pilot, Flight Lieutenant Bill Scott, took the aircraft to a height of 42 000 feet (12 800 metres), put it into a dive and at 36 000 feet (11 000 metres) broke the sound barrier (at an approximate speed of 1042 kilometres per hour), thus becoming the first aircraft in Australia to exceed the speed of sound.

After initial flying in the hands of the manufacturer, the aircraft was loaned to the RAAF's Aircraft Research and Development Unit (ARDU) in April 1955 for testing. Upon returning to the Commonwealth Aircraft Corporation (CAC), the aircraft was authorised for conversion to an instructional airframe in August 1957, and was received at Base Squadron Wagga in March 1958 for use by the RAAF School of Technical Training. By June 1977, the aircraft had been transferred to Point Cook on account of its historical significance, and was placed on display at the RAAF Museum, where it remains today.

The Rolls-Royce Avon represented the future of jet engines in the RAAF. We Wombats were proud to be on the cusp of a transition in training in engine fitting in the RAAF.

The Australian Vampire jet fighter was manufactured by CAC, and was powered by a Rolls-Royce Nene engine—a centrifugal compressor turbojet engine. Virtually all of the Vampires at Wagga were the single-seat fighter version. There was only one two-seat Vampire T35 trainer at Wagga during the Wombat period of training. It resided in Engine Section at some stage. The two-seat T35 trainers were fitted with the de Havilland Goblin engine. The H-1 Goblin engine was designed in World War II from April 1941. The H-1 Goblin also powered the first flight of the Gloster Meteor on 3 March 1943.

The Gloster Meteor, was the first operational Allied jet fighter in World War II. The RAAF acquired 113 Meteors between 1946 and 1952, 94 of which were the F8 variant. The F8 Meteors saw extensive service during the Korean War with the RAAF's No 77 Squadron. The squadron flew its Meteors on their first combat mission on 29 July 1951.

A Pratt & Whitney R-985 Wasp Junior engine powered the Winjeel trainer flown in aerobatics above us at RSTT by Flight Lieutenant Geoff Cramp. This nine-cylinder,

air-cooled, 985 cubic inch (16.14 litres) radial engine produced 450 horsepower and weighed 668 pounds (303 kilograms). It featured a built-in, centrifugal supercharger and direct-drive propeller. The CA-25 Winjeel was introduced to the RAAF as the primary trainer in 1955, just two years before the Wombats joined the RAAF.

There was also the DC-3 that was powered by a Pratt & Whitney R-1830 Twin Wasp engine. This was a two-row, 14-cylinder, air-cooled, radial engine. Being air-cooled radial engines made them quite different in design to the in-line V-configuration, liquid-cooled Rolls-Royce Merlin.

It did not come as a surprise to the Wombat 'sumpies' to be told they would be learning all about reciprocating engines for most of the first year of engine trade training. But we were to start on jet engines at the end of first year and continue jet training all of the second year. Moreover, in second year, 'sumpie' Wombats would not be doing the overhaul of a Rolls-Royce Merlin reciprocating engine, as had No 11 Course, but of a Rolls-Royce Nene jet engine. To put that news into perspective, the original Whittle gas turbine engines until 1943 had reverse-flow burners. Rolls-Royce reworked the Whittle design to feature straight-through combustion chambers, similar to the layout of the de Havilland H-1 Goblin. The Rolls-Royce Derwent ran for the first time in July 1943 and was fitted to the Gloster Meteor in March 1944. Wombats were to learn about jet engines on the history-making designs of Whittle and Rolls-Royce. It could not be more up to date and high tech than that! At 17 years of age, the design of the Rolls-Royce Nene was conceived even after the Wombats had been born!

But every 'sumpie' has to start at the bottom. So studies began in January 1959 in a block of subjects known as 'Preliminary Engines', based around the Gipsy Major. Corporal Apprentice Robin Maxey-Fisher wrote a graduation article in *The Apprentice Journal* 1959–60. In this contemporary article, he observed:

The instructors began by baffling us with long, complicated words and phrases to explain the intricacies of pre-lim engines. Somehow or other, we all crossed the first hurdle and were then broken into two small flights, A and B.

A and B Flights made separate trips to Sydney during the year (1959). Whilst there, they visited 2AD [No 2 Aircraft Depot] for two days, Rolls-Royce, Londaes, Qantas, CAC and other establishments which gave an insight into the trade 'outside' the RAAF.

In the first few weeks of Preliminary Engines, trade training was under Flight Sergeant 'Doggy' Nelson. The de Havilland Gipsy Major is a 4-cylinder, air-cooled, in-line engine used in a variety of light aircraft in the 1930s, including the famous Tiger Moth biplane. The engine was effectively a de Havilland Gipsy engine modified to run inverted so that the cylinders pointed downwards below the crankcase. This allowed the propeller shaft to be kept in a high position without having the cylinders blocking the pilot's forward view over the nose of the aircraft.

The Preliminary Engines study course was thorough and detailed. It went through every aspect of the Gipsy Major's design and operation. This included a series of lectures on engine electrics: simple battery and coil ignition system, elementary magnetism and

The 'Blackhanders' at Wagga

electricity, rotary armature magneto, magneto timing, impulse starter, and rotating magnet magneto. This was followed up by lectures on carburetion and culminated in a lecture on the test running of the Gipsy Major engine. Most lectures were followed by a practical in the Engine Hangar on the component of the engine being studied.

In the engine test area on the north-west side of the Engine Hangar resided a Gipsy Major engine, mounted on a test cradle that was reminiscent of a coffin standing on its end. It was a sinister-looking device. The Gipsy Major engine hung upside down as in the aircraft and the wooden prop protruded into the air from its propeller shaft. This engine powered the de Havilland Tiger Moth that had been the backbone of the RAAF pilot training from 1939 through to 1957. No doubt, Flight Lieutenant Geoff Cramp had in the past flown the Tiger Moth and placed his life in the hands of the Gipsy Major engine serviced by 'sumpies'.

It took some months for Flight Sergeant 'Doggy' Nelson to drill into Wombat 'sumpies' the theory of the Preliminary Engines course. He also emphasised safety around operating engines. Reciprocating engines had propellers that could make minced meat of a person if they walked into the plane of the propeller. The turbojet engine could suck one bodily into its intake doing much damage to the human as well as the engine. The engine exhaust, particularly of jet engines, was incredibly hot and blew at a fierce rate. 'Doggy' Nelson was most concerned about the safety of both humans and engines. We were never sure which he valued the most! Engines had the potential to kill and people the potential to damage RAAF engine assets; a confluence of human and engine was to be avoided.

As teenagers with testosterone coursing through our veins and our minds inevitably on the opposite gender, the instructors knew how to get the safety message across. A crudely drawn lecture diagram depicting a young woman having her clothes engorged by a jet engine and leaving her naked caused much Wombat mirth against the seriousness of the message.

Then the day dawned in mid-1959 when engine test running was introduced; the training and warnings were over; now it was time to face that coffin-like engine stand. Some referred to it as the 'Flying Wheelbarrow'—due to the two large handles protruding to the rear by which it was pushed like a wheelbarrow. 'Doggy' Nelson and WOE Hughes demonstrated the technique of an engine start. They made it look easy and with no visible emotion.

As the Flying Wheelbarrow was faced, the objective was to start the Gipsy Major engine by hand, using the 'swinging the prop' technique. As 16 or 17-year-olds at the time, with no driver's licence, there was much bravado until the time arose to step up and swing the propeller, as taught. Apprehension sharpened one's memory, tightened one's anus and dried one's throat. Magneto timing and the impulse starter instruction were recalled, together with the need to avoid the dangerous propeller 'kick back' during starts, was well understood.

'Switches off', was called in an almost alto-tenor voice caused by the choking off of emotions in the throat. 'Switches off', was the more confident modulated reply from the Wheelbarrow control station. 'Throttle closed', followed by the reply, 'Throttle closed'. Swing the propeller slowly to prime the cylinders (this was done after 'tickling' the

carburettor). Doubtless, each Wombat thought, 'I hope that damn ignition really is off!' That done, now to start the engine. Check for fire extinguisher ready. Yell, 'All clear?', pause and look to see it was safe followed by, 'Throttle set?' 'Throttle set!' came in reply. Then the command 'Contact', followed by the reply 'Contact'. Now that bastard engine was alive! The magneto switches had been turned on in the Flying Wheelbarrow. The engine now had the potential to kill! The spark plugs could ignite the fuel/air mixture in the cylinders. Swing the prop and step back. Brurrmph! Brummph! as the engine burst into life with lots of noise and white smoke escaping from the exhaust. Shit! That was scary.

The propeller accelerated and then disappeared into a circular blur just 20 centimetres in front of one's face. Incredibly, arms moved even faster out of the way! The 'sumpie' at the controls then advanced the throttle. The engine roared and the starter moved away saying a quiet prayer of thanks not to have been consumed. Then, take a deep breath, a smile and simply hope that one's mates did not detect ragged emotions. Each had a turn at the propeller and the throttle. Sometimes the engine did not start! It was a case of 'Switches off; Throttle wide', followed by the confirming reply. Only after the confirming reply had come, and your faith that the magneto switches were actually 'off' and the impulse starter thus disarmed, did you tentatively approach the prop and commence to turn it slowly backwards to clear a flooded engine. Too rich a fuel/air mixture will not ignite in the cylinders. The engine might not have been thumping but hearts certainly were; the adrenalin was coursing through veins, temples were throbbing, and lungs gulping in air. Throttle use had to be preferred to arm-swinging propeller starts! Yet it was noted years later, when flying powered gliders, the swing of the prop to start the engine was not anywhere as daunting as that first time. We had been there, done that! Engine starts using electric starters or gas cartridges would never be as thrilling or as scary as the first-time swing-start of a Gipsy Major Engine on the Flying Wheelbarrow.

Talking about engines and starting, the Tadpole 'sumpies' in third year had overhauled the Rolls-Royce Merlin and that was the last Merlin to be done by 'appies' at RSTT. The third-year 'sumpies' did their engine runs on the Merlin engine test stand. After that, the engine was just mounted there in the test stand as an ornament. In our third year, WOE Hughes invited some Wombat 'sumpies' to run the Merlin in the test stand, 'just for the experience', even though we would not be doing that in third year. The Merlin started, bursting into life on command. Wow! What a deep throated rumble. What a sweet noise! What raw power! This was the engine of the Battle of Britain! And to have such power under the palm of one's hand, responsive to command, caused one's ego to treble in size! It caused the heart to pump faster. The Merlin exhaust made a Harley-Davidson exhaust sound like a whimper in comparison. It was a great experience to be remembered for life.

Then, to Wombat delight, WOE Hughes waved a signal at Corporal 'Baldy' Larkin that the Merlin was out of the syllabus, indicating we could give it all it had. Throttle to the wall. He did not care if we broke it! Now that was a challenge to 17-year-old Wombat 'sumpies'. He must have known something we did not. All we could do was to cause the engine test stand to vibrate with the noise and strain against the thrust of the propeller. In our mind's eye we saw the engine rip clear off its mounts. Then reality dawned; we noticed the 44-gallon (200-litre) drum that was part of the coolant system of the test

The 'Blackhanders' at Wagga

stand. The coolant was boiling over! And still the Merlin roared, straining against its mounts. Finally, WOE Hughes called our attempt to a halt. The Rolls-Royce Merlin had defeated us! Later he explained, "The natives would not be impressed with all that noise." That was the first introduction to those outside the engine fitter trade being sensitive to the noise created during engine runs. Years later, enclosed engine test cells with sound attenuation devices to appease 'the natives' had become a reality.

While looking closely at the Rolls-Royce Merlin engine, Wombats studied the radial engines designed by Pratt & Whitney. The cylinder layout of the latter was not like the in-line V-configuration Merlin. The radial, we soon found out, had a master cylinder that controlled the rotation of all pistons around a single, massive crankshaft.

While training in Preliminary Engines now made it easy to understand the intake, compression, power and exhaust strokes of the four-stroke Otto cycle engine, its application to the design of radial engines took some learning. Considerable time was spent in class to appreciate its design before going into the hangar to look at the components, especially the crankshaft and master cylinder design. These were tough grinding hours trying to get one's mind around these novel concepts.

Then there were carburettors. Wilhelm Maybach in Germany patented the concept of the carburettor in 1893. It had fuel metering and throttle capability. Conversely, in 1903 the Wright Brothers first engine for the 'Flyer' had a fuel metering system but no throttle. Thus, their first engine only ran at 'full throttle'! From 1893 to 1958, the carburettor had gone through some mind-boggling and complex changes to meet the challenges posed by flight. Some of these challenges were variation of air density with altitude, inverted flight, the effects of high *g*-force turns, and supercharging of the intake air. Wombats needed to understand the chemistry of the combustion process and the impact of Charles' Law inside a cylinder. This included understanding how the air/fuel mixture was achieved and maintained through all altitudes, attitudes, *g*-forces and air temperatures. Stoichiometric air-fuel ratio was instilled, being required for successful combustion of aviation gasoline was a ratio of 14.6:1 (that is, 14.6 parts of air to 1 part of fuel by weight). A carburettor metered out aviation gasoline to achieve that stoichiometric air-fuel ratio inside each cylinder of the engine. What was before us was a fuel metering system that was a very complicated mechanical analogue computer. At 16 and 17 years of age, analogue computer theory, its integration with the chemistry of combustion and the big strange new technical words were daunting concepts. The operating diagrams of the design of the carburettor appeared as a maze. For some it became a matter of learn by rote, trusting that later on understanding would dawn.

Wombat 'sumpies' were introduced to engine starts in aircraft, actually sitting in the pilot's ejection seat. Safety procedures were taught for sitting in an ejection seat. An ejection seat had the potential to kill as well as save pilot's lives. On flight lines, 'sumpies' did engine diagnosis with the engine running in the aircraft and our training included using engine diagnostic charts to identify engine problems in situ. Sometimes this required an engine fitter to ground run an engine in an aircraft, either to diagnose the problem or confirm the problem had been fixed. This too was mind-bending work at 16 and 17 years of age. No background experience, except the instructor's lecture, could assist.

First year of engine fitting also encompassed aircraft ground handling. While the culprits shall remain nameless, even 50 years on, an object lesson in 'hangar rash' occurred during this training while manoeuvring a Meteor jet into a tight corner of a Bellman hangar. There were two wingmen, one positioned naturally at each wing extremity, plus a tailman and man in the cockpit, as well as one on the steering bar attached to the nose wheel. The rest of we Wombat 'sumpies' were along the leading edge of the wing providing the motive power. Almost done, a metallic 'crunch' from the tail section as it projected and deformed into the shape of the Bellman hangar steel stanchion. Automatically, pushing stopped, as simultaneously the sound's implication was understood. Then after a respectable pregnant pause, the tailman called, 'Whoa!' The WOE was not impressed! However, it was extremely hard to suppress the laughter that welled inside our gut.

The incident incited a lecture about 'hangar rash' and the high cost of aircraft repairs. It was tersely pointed out that General Duties pilots became upset if their favourite flying toy was unserviceable due 'hangar rash' that could, indeed should, have been avoided. On a more serious note, our WOE reminded us that in time of war an aircraft damaged by 'hangar rash' was an aircraft not available for service in defence of the country! He tugged on our guilt strings to reinforce this lesson.

Near the end of second year, Wombat 'sumpies' were introduced to a power plant that neither had black oil inside nor was it reciprocated. We were introduced to the continuous process, internal combustion gas turbine engine. Not only was it a mouthful but we could be likened to delving into some secret society. After all, the jet engine was introduced into war service mid-1944, following a short development from 1936 by Air Commodore Sir Frank Whittle, OM, KBE, FRS, Hon FRAeS (1907–1996). Otto was good but Whittle became our superhero. We dropped his name at every conversational opportunity. In our minds, our association with his name improved our standing as 'sumpies'! By our reckoning at the time, the operational introduction of the turbojet was only 15 years prior! We observed we were older than the first certified gas turbine jet engine! Moreover, we were aware that the dawn of the civil jet airline industry was on the horizon. The jet engine was 'black' cutting-edge science—as 'sumpies', by association, we were at that cutting edge.

The big question was, how did the jet engine develop its thrust? The lecture precis notes handed out by instructors stated on the very first and second pages, in scientific and mathematical terms, how the jet engine developed its thrust. The classical teaching by the instructors was supported by diagrams showing that thrust was derived by a change of velocity of a mass of air rearward. The instructor invested his breath in blowing up a balloon then releasing it in the classroom. Its acceleration away from the instructor's hand upon release is recalled, together with the noisy rush of air exhausting out of the small orifice at the rear of the balloon. The balloon's erratic trajectory terminated abruptly as the balloon ran out of escaping air and it fell limply to the classroom floor. There was much exclamation and laughter by this class of 'sumpies'. Jet engine theory, how simple could it get!

However, it appeared to be a riddle, a puzzle, that a gas turbine at the rear of a combustion chamber coupled to an air compressor in front of the combustion chamber

The 'Blackhanders' at Wagga

would sustain itself. This arrangement appeared to be as close as one could get to perpetual motion. The riddle was resolved years later when thermodynamic mathematics was understood. During training it was known that hot air came out of the exhaust at high velocity and made a fearsome sound. Then there was the sound of the rotating machinery inside; the characteristic compressor and the turbine whine. One grew to love that whine and the smell of the burnt kerosene emanating from the exhaust. That smell was engraved in the mind and continues to this day, invoking memories of one's career whenever encountered.

Somehow an understanding was gained that the air leaving the exhaust was moving backward relative to the aircraft, even when the aircraft was travelling forward at 500 mph (805 km/h)! If it moved backward at only the speed of the aircraft there would be no exhaust, no thrust—the plight of the balloon explained. Theory lessons served only to reinforce that there was much more to learn about the theory of jet engines. Despite this, confidence and egos grew through delving into this latest aircraft engine technology. This was 'the' trade in which to be.

There was the added fascination of the Lucas fuel pumps on the Derwent, Nene and Avon, the latter going by the striking name of 'Double D'. It was the wonders of the constant pressure, variable delivery principle with its swashplate, plus the barometric pressure control and the plethora of half-ball valves. Terry Wilson was particularly fascinated, as were the rest of the Wombat 'sumpies'! The gas in the centre of the flame tube reaches 2000°C. If that temperature ever reached the metal forming the flame tube it would melt very quickly. Burn-outs of flame tubes had been experienced in the early years of development. Having a constant pressure, variable flow pump allowed the engine designers to focus the flame downstream of the burner nozzle. A variable pressure fuel flow could cause changes to the shape and size of the flame. This would be very undesirable.

The pressure had to remain near constant while more or less fuel was delivered according to the demands of the pilot. This was different to the reciprocating engines but achieved the same result—a continuous metering of fuel from the burner nozzles so as to achieve the correct 15:1 fuel/air mixture for burning, irrespective of thrust, altitude, attitude, *g*-force or air temperature. We were also fascinated by the 'cooling holes' in the burner cans that shaped the flame and strategically introduced cooler air into the burner so that once the gas exited the burner its overall temperature had cooled from 2000°C to around 800°C. Moreover, the cool air bypassing the burner altogether kept the outer case made of aluminium even cooler.

Perhaps pulling a jet engine apart, reassembling it and running it in the test stand might help to understand how the components operated together. From that exercise, an understanding of turbojet theory was to emerge. Third-year engine fitting was spent doing just that. According to a contemporary account, this phase on reconditioning the Rolls-Royce Nene lasted a full 16 weeks. Before going to the shop floor the Rolls-Royce Nene flow diagram had to be understood so as to comprehend the function of the internal components of the engine.

The layout of an overhaul shop was being understood—strip, clean, inspect, repair, assemble and test run being the short explanation of the process. Time was spent in each

stage of the process. The tag 'sumpie' well fitted the strip and clean stages as dirty work elements, no doubt also giving rise to the trade categorisation of 'blackhanders' being so appropriate.

The strong chemical cleaner vapours in the cleaning bays assaulted noses and lungs, and it was a relief to move on. The inspection stage introduced us to di-penetrants and magnaflux, as well as ultrasound and magnifying glasses.

Fits and dimensional tolerances, wear of metal airfoils by carbon contained in the gas stream, heat cracks, chemical cracks, fatigue cracks and stress cracks were covered in the inspection process. If worn or broken components (out of tolerance, fatigued or cracked) were not found and replaced then component failure within the reassembled engine could result in a catastrophic failure during flight. Ensuring each and every component assembled back into an overhauled jet engine was fully serviceable and within the tolerances allowed by the RAAF and/or the manufacturer was essential. So inspection was the core critical business of any engine overhaul facility.

Just as there was a sequence to be followed to disassemble a jet engine using special tools, a strict sequence for assembly of a jet engine, again with special tools, also applied. Any inability to read and understand the technical manuals and their jargon could also spell disaster. This jet engine maintenance and overhaul was no 'kids game', it was serious business.

People's lives are at stake in the air and on the ground; aircraft assets are at risk and high costs are involved for an engine failure. These and many other mantras weighed heavily upon young minds in this third year of apprenticeship, proceeding through the engine shop.

To ensure this phase of training was consolidated, both A and B Flights were taken to No 1 Aircraft Depot for a week, after which many shaken, prematurely grey-headed, SNCOs were left behind at the Aircraft Depot.

On return to Wagga, the day came to install the Rolls-Royce Nene into the test stand and to start and test run the turbojet engine. The speed governor for the compressor had to be set, with adjustment by screwdriver at the top of the Nene, just over the centrifugal compressor outlets. The noise was around 120 dB or more. The engine was run fast with high thrust, with the control adjusted up or down according to the instructions of the controller in the test stand. Standing that close to a jet engine is something one never forgets, after experiencing the engine involuntarily pulsing the chest and eardrums.

Test running a turbojet engine meant taking many readings of temperature, pressure, fuel flow and oil temperatures at a specific thrust and recording them. No doubt, the SNCOs compared the data to the manufacturer's specifications and given a good correlation, the engine passed the acceptance test. This was explained as theory but, thank heavens, graduation for Wombat 'sumpies' did not depend upon a final acceptance test of an overhauled engine. Essentially, it was just a walk through the process that allowed familiarity with what would be required in the future as real Air Force engine fitters.

The three years each 'sumpie' spent at RSTT prepared him for his life's journey. It was sound and thorough training that stayed with each Wombat 'sumpie' throughout his working life. It was not that highest expectations had been fulfilled, for dreams always

The 'Blackhanders' at Wagga

outdistance personal capabilities. However, each graduating Wombat 'sumpie' was posted from RSTT at Wagga into the RAAF to serve the nation. Each Wombat 'sumpie' left with an incredible amount of potential invested in him by RSTT. That potential has been realised to a great extent both individually and as a group. The RAAF gave much but what was delivered was much more than was expected in return.

A debt of gratitude is owed to our pioneering heroes, Nicolaus Otto, Wilhelm Maybach, the Wright Brothers and especially, to Air Commodore Sir Frank Whittle. However, it was the Wright Brothers who at the turn of the 20th century had the vision and the capability to succeed in showing the world that powered flight was possible.

As Wombats we joined the industry in the mid-20th century and saw the advent of supersonic flight in operational military aircraft. In the late 1950s, we had the experience of military and commercial aircraft capable of transcontinental flights, of man in space and, marvel of marvels, in July 1969 of man walking on the moon. All these milestones occurred in only a short 10 years from when we began our 'sumpies' course at RSTT.

What a cracking pace of development, with hypersonics on the threshold of reality! This pace of development was made possible by the never-ending competitive quest for aerospace engines that develop greater thrust or power, at lower weights, burning less fuel and with greater durability while creating less noise.

We never stopped learning; life never got boring; how fortunate were we?



Wombat 'Sumpies' with Meteorite 875 – c. 1959

Front (L – R): Maxey-Fisher, Bridge, Edwards, Mascord, RSTT Instructor,
RSTT Instructor, Wassell, Bower, Holmes, Sheil
Centre (L – R): Waters, Wilson, Mattiazzi, Stein, Macdonald, Paterson, Andrews
Back (L – R): Clayton, Dicker, Large; (Cockpit): Rowe, Lapins

CHAPTER 5

THE 'QUEER TRADES' AT WAGGA

TRADE TRAINING OF THE 'SPARKIES' AND 'CLOCK WINDERS'

Throughout the time of the Wombats in the RAAF, the electrical and instrument fitters (together with radio technicians) were known as the 'queer trades'. This was largely based on them being 'a bit different'. Additionally, their extant technologies and the introduction of electronics around that time were seen as somewhat mystical, particularly by those older World War II people of the fifties. Of course the term did not have quite the same connotation as attributed 50 years later, being more closely aligned colloquially to the 'Nerds' of nowadays.

The electricians ('sparkies') were involved in aircraft power generation and distribution; it was a world of starter gennies, inverters and buses. Whereas, in the case of instrument fitters ('clock winders'), they were also different in the sense that they enjoyed a couple of perks that engendered a certain amount of jealousy from other trades. Instrument fitters looked after not only the cockpit indicator systems, but also many of the systems which connected aircrew ergonomically to aircraft. Their world was one of the basic 'suck and blow' instruments, gyros, accelerometers, autopilots and the ubiquitous hairspring. However, both trades were at the forefront in reacting to the technologies of the sixties as analogue avionic systems became much more prevalent on aircraft such as the Mirage and Orion and, later, the F-111. Flight control systems on supersonic aircraft also added to the technology of the 'queer trades' with rate dampeners and linear actuators.

WOMBAT TRADE GROUP NO 12 ELECTRICAL APPRENTICES – 'SPARKIES'

Powered flight means different things to different people, but for the average 'sparkie', no thoughts of jet or reciprocating engines, but rather their 'queer trade' predilections to AC-DC.

Wombat electrical fitters were lucky in many ways. Whether this was from the diversity of their upbringing, their backgrounds or their geographical origins, from which to feed off of one another, great camaraderie was forged through minor and major trials over their three-year training period together. Alternatively, it could have been their timely coming together in an era of technological change. Regardless, the Wombats took advantage of their luck and generally prospered in the world of their choosing. The Wombat Electrical Fitters Flight was formed in January 1959 after the successful completion of the initial year of General Service Training, formative education and basic trade training from January to December 1958. It was in the days we learned that cold

chisel usually meant a severely lacerated thumb or forefinger and not a yet-to-be-formed rock 'n' roll band.

Significant to the Wombats at the time, was the introduction to the RAAF of a range of new aircraft types including the Sabre and Canberra. These could generally be referred to as second-generation jet aircraft with all of the associated system, component, armament and technology advances of the time. The Hercules introduced multi-bus electrical systems and significant redundant and triple-redundant technologies.

These technological advancements had an impact on the training needs of RAAF apprentices and a significant impact on the electrical trade training requirements of Wombat electricians.

The course syllabus covered the rudimentary requirements of direct current (DC) and alternating current (AC) theories, the properties of magnetism and the chemistry of lead-acid battery operation. The logical progression was to DC and AC motor theories and all of their many and varied types, controls, performance losses and usage computations. These led to DC generator and commutation theory, with the resultant need for DC voltage regulation.

Through the introduction of the Canberra, Sabre and Hercules aircraft, alternating current theories and their relevance to the operation of single-phase and three-phase inverters and engine-driven alternators became necessary. This in turn led to star and delta circuitry implications, and then to transformer theories and the introduction to hysteresis curves and all of their associated power losses.

The Hercules introduced a converter that changed DC into single-phase AC. This was another concept of an alternative aircraft power source.

Meanwhile, there were the theories related to ignition spark coils, magnetos and, because of the introduction of jet engines, high energy ignition units. This led into the specialist motor theories of DC starter motors, ranging from the basic automotive engine starter motor to the inertia wheel dog-gear meshed starter motor (Dakota) or the full grunt 24 volt, 800 amp DC starter motor of Vampire, and Macchi aircraft.

Electrical theory of electrical apprentice training was rounded off with thermionic valve theories, starting off with the simple diode valve and progressing through to the double pentode valve, with all types of permutations in between. The Hercules fire warning 'fire eye' system and other basic systems (radio communication aside) were the end users of the valve technology. This led to the transistor age of aircraft system controls.

Wombat electricians and instrument fitters were among the RAAF's aircraft tradesmen to be trained in transistor theory. Concurrent with specific aircraft trade training, Wombat electricians also studied motor transport electrical, marine craft electrical, domestic household wiring and statewide electrical power distribution grid systems, airfield lighting and mobile emergency power generation systems.

Because of aircraft fleet upgrades, Wombats were introduced to new fields of study such as systems operation. This included electrical sequencing control of hydraulically actuated undercarriage retraction and extension systems, paralleling and load sharing controls of multiple-bus aircraft electrical systems, jet engine starting sequences, armament and missile firing systems coupled to engine fuel control and other systems.

The 'Queer Trades' at Wagga

The electrical systems overall integration into the operation of all aircraft systems necessitated that electricians had a good understanding of the working and operating principles of reciprocating engines, jet engines and aircraft hydraulics. An essential ability to read, understand and diagnose faults by conventional system circuitry, as well as aircraft electrical schematic diagrams, was required.

The Electrical Trades Flight at RSTT was responsible for the trade training of electrical apprentices. The initial officer-in-charge of the Wombat electricians was, Flight Lieutenant Athol Walker. His main claim to fame was the passionate lovemaking by his French bulldog, to Sergeant Mick Kemp's leg. This was to the great delight of the assembled masses of electrical trainees and apprentices. The succeeding officer-in-charge, Flying Officer (later Flight Lieutenant) Wal Howie, and the Warrant Officer Electrician, Warrant Officer 'Lofty' Bovard, were the ever-present 'dark force' of the Electrical Trades Flight. Neither had any direct instructional or training input to the Wombat electricians but their presence was ever felt.

Corporal Rex Petersen ('Sexy Rexy'), a graduate of the third RAAF apprentice intake, was responsible for the trade training of the Wombats, as course 'Mother'. He was supported by a team of instructors, with Sergeants Mick Kemp and Charlie Tillman being two. This was a perfect complementary pair: Mick, the hard-living individual who invariably ran short of cash before payday and regularly 'botted' roll-your-own cigarettes from Wombats on the promise of 'tailor-mades' as pay backs; Charlie, was the helpful, quietly-spoken good guy. Corporal David Cyril George Cooper, the tool store 'tsar', instructed on aircraft batteries and marine craft electrical systems. He also had the unfortunate habit of repeatedly losing his personal, Service-issue yellow bicycle to others of more pressing needs, namely Wombats.

Another instructor, Corporal Stan Kanowski, was a North Queensland canecutter. He became renowned for cutting more cane in the classroom than he ever cut in the cane fields of North Queensland. An ex-RAF electrician, Corporal 'Jeff' Jefferson, sported the huge, bushy handlebar moustache, who's only claim to recall was his often repeated reference to the Wombats as Corporal Petersen's 'trained apes'. Others included Corporal 'Speed' Carr, known as 'Speed' for obvious reasons but sadly failing in the visual 'Speed' stakes with his little rotund figure, and Corporal John 'Antarctic' Arthur, known for his tour of the Antarctic looking after diesel generators and the one single-engined aircraft at the research base.

The instructor of renown was Flying Officer Bill 'Lofty' Burgess (4th intake) whose most notable effort in training Wombat electricians was transformer theory. The basic two-dimensional theories of transformer ratios were fine, but the nefarious three-dimensional aspects of inductive reactance, hystereses losses, current lags and other performance nullifying effects were, in essence, stupefying to Wombats. However, the general transformer concepts must have been sheeted home as, in later years, many Wombat electricians came to understand the workings of magnetic amplifiers (transformers in actuality) used to control the variable speed driven alternator of Mirage aircraft at a constant frequency output.

There were initially 20 Wombat electrical apprentices. The resultant attrition of the course strength through the inevitable troika of 'Three Strikes and You're Out',

‘Remustering’ or ‘Injury and/or Illness’ saw the group reduced to only 14. This was probably in excess of what the authorities planned as an acceptable attrition rate. At various stages through 1959 the talents, skills and personalities of Geoff Andrews, Neville Church, Dick Lee, Charlie Marshall, Brian Woodrow and Gerry Zucker were lost to the RAAF.

The course flew under the banner of the hobnail-booted, cigarette-smoking, Ettamogah Pub white cockatoo, with a lightning bolt clasped under its wing. This would probably have been more appropriate to have been seen striking its tender nether region, as a means of providing the impetus to diligence and achievement. However, it remains a fitting representation of a disparate band of individuals who generally had nothing in common and all of whom tended to fly in their own directions, or more fittingly, in their own individual and ever-decreasing circles of endeavour (with the odd exception of course).

The banding together of this group must have implanted some serious seeds of doubt in the minds of the RSTT Trade Course Selection Panel, and ‘the powers that be’. Let’s face it, the Wombat electricians all came in different shapes and sizes and probably had a couple of representatives of the tallest and the shortest of the Wombat intake, with all sizes in between—and all this in a group of only 14 graduating apprentices. Their intellectual capability must have been there—after all they were the select few to become electricians—but just think about this as a visual picture; there were: Malcolm Barrett, Michael Brooker, Roger Donkin, Graeme Eames, Wayne Hall, Ralph Herron, Graeme Hodgson, Frank Jacques, Des March, Colin Mercer, Lyle Sydes, Barry Watson, Bob Watts and Eric White.

Not a group to visually inspire anyone to thoughts of great achievements, or to instil in anyone the impression of military daring-do. As for military bearing, in this lot there was none. However, the group had its intellectuals, its thinkers, its pranksters and, ergo, its persecuted, its swats and its battlers, and also those of the cloth, and then there were those who cruised. They responded to nicknames like ‘Admiral’, ‘Brutus’ and ‘Desert Head’.

There were those who pursued the Diploma course on top of their trade training, and others who refused to accept the higher education option when offered. If the importance of the process had been better stressed to those selected or, more relevantly, if those selected had been of a more mature age, then the outcomes may have been different.

Leadership, or the appropriate kind of leadership, was obviously a problem with this group. Throughout the three years of apprenticeship the system provided for regular promotion of apprentices to provide a structured ranking system within the Wombat Squadron in order to develop internal management and leadership qualities.

The Wombat electricians succeeded in achieving the distinction of completing the three years apprentice training without a single apprentice NCO within its ranks. There was the selection aberration of two members being promoted to the exalted rank of corporal apprentice but the error of the selection panel became apparent and those two members were eventually demoted. The flight actually graduated with 12 leading apprentices and two airman apprentices, who were previously corporal apprentices.

The 'Queer Trades' at Wagga

Leadership of the inappropriate kind within the Wombat electrical group usually came to the fore. The overnight appearance of the giant ogre's footprint and peg-legged imprint that travelled out of the Apprentice and Airmen's Mess grease trap, past the parade ground, the cinema, the Sergeants Mess, the Guard Room and onwards to the Base Headquarters building was, to 'the powers that be', an unsolved mystery. However, it is with some certainty that the onus for this prank lay with the Wombat electricians. An opportunity was missed here in that the paint mixture specification concocted for the prank was not given to the NSW Department of Main Roads, as its wearing attributes would have held that Department in good stead for many years. The prints were still visible 15 years later!

The injudicious use of CO₂ fire extinguishers for other than their intended purpose was also widespread and surely not restricted to the electricians. However, their use for summer cooling of lecture rooms, cooling of drinks and creating frozen, aerodynamic frisbees out of adult trainees' berets were some of the more regular uses of the fire extinguishers.

Not until later years when the responsibility of section, unit or base Fire and Safety Officer appointments were handed out, did the chagrined responses of those appointed with the health and safety responsibility of our being, become understood and apparent.

A corollary to the misuse of the CO₂ fire extinguishers was the dangerously inappropriate use of fan heaters in the winter months. Although heavily rugged up in allowable jumpers and greatcoats, but also with the disallowed use of pyjamas (or other non-uniform clothing) under the dress of the day overalls, the use of electric fan heaters secretly positioned under the classroom metal mesh chairs and hidden from view by the draping greatcoat skirts was a common practice to achieve some degree of body warmth in the freezing classrooms.

Another method of ensuring our members winter warmth as budding electricians was the unauthorised and totally illegal use of fencing wire or coathanger wire as the electrical mains line fuse into the living quarters hut. As each hut slept 16 apprentices, and each apprentice had a single bar 1000 watt electric radiator to warm his immediate personal space, the makeshift line fuse was essential to ensure continuance of power. In essence, the hut had 17 electrical radiators (16 bar radiators and the one glowing mains line fuse in the hut fuse box) and probably, as well, a heat generating Faraday cage of electrical distribution wires within the hut structure.

After the two years formal trade training, and prior to graduation, the Wombat electricians, like all other apprentices were required to undergo the RAAF trade test relevant to their mustering. At this important juncture of their careers the Wombat electricians once again, as a group, managed to excel, albeit ignominiously, by failing their trade test almost en masse.

The joint impact of the standard comprehensive aircraft engineering trade training for the apprentices, the introduction of the new transistor theory field of training and newly introduced systems necessitated a rewrite of the electrical trade test papers. The aforementioned Sergeant Charlie Tillman applied himself diligently to this task but, unfortunately, the new paper caused most to fail.

Wombats – 50 Years On

It was rumoured at the time that all instructional staff were required to sit the new 'Tillman' trade test with the only pass being achieved by the renowned Flying Officer Bill Burgess.

Memory is a funny thing and it cannot be specifically stated at this time that all 14 Wombat electricians, or only those who failed, were required to undergo intensive tutoring and resit the trade test several days later. Fortunately, or some may say unfortunately, all 14 eventually achieved the required pass level to allow graduation and entry into the mainstream of RAAF electrical fitters.

The group saw its members serving throughout Australia as well as Malaysia, Singapore, Vietnam, Cyprus and Israel. One member chose to be a RAAF professional, career engineer officer until his retirement. Another, during his Service career became a Member of the Order of Australia (AM). In post-RAAF service careers, the group spread its expertise into the fields of civilian electrician, manufacturing and maintenance supervisor, TAFE college lecturer, university engineering lecturer, Navy weapons systems analyst, senior Defence administrator, aviation industry manager, and engineering consultant.

In all, a successful outcome for a disparate group of 15 and 16-year-olds who came together on 20 January 1958 at RAAF Base Wagga, NSW, and thereafter qualified as electrical fitters.



No 12 Electrical Apprentices – 1959

Front (L – R): G.J. Hodgson, R.E. Watts, M.E.M. Brooker, R H. Donkin
Centre (L – R): C.E. Mercer, R. Herron, F.E. Jacques, G.B. Eames, E.J. White
Back (L – R): W.N. Hall, L.F. Sydes, M.G. Barrett, E.B. Watson, D.J. March

**WOMBAT TRADE GROUP
NO 12 INSTRUMENT APPRENTICES – 'CLOCK WINDERS'**

For some obscure reason, instrument fitters were in Pay Group 7 and, additionally, somehow their forebears had convinced the facilities people of the absolute necessity for aircraft instruments to be tested at 20°C. So, not only were they overpaid but they always enjoyed the luxury of air-conditioned workshops.

It was against an exciting history of engine and aviation pioneering, development and advancement that Wombat apprentices entered their trade callings in January 1959. After the first year of training in basic fitting and ancillary trades, mentioned in Chapter 1, it was time for each member to continue on to the second year of training and to be placed in a trade group to learn the specifics of that particular trade. If successful, the apprentice trainee would graduate as a 'fitter' in that trade and would serve for the next 12 years as a tradesman. This would complete a 15-year term of apprenticeship.

There were six specific trades: Airframes, Armament, Electrical, Engines, Instruments and Motor Transport. This chapter covers the instrument fitter trade and the members who undertook two years of training to finally graduate as instrument fitters.

Kev Griffin relates his thoughts concerning being chosen to become an apprentice instrument fitter:

I had no intentions of being an instrument fitter or a commissioned officer. My dad had been an engine fitter (IIE) during World War II and had served in England for three years before discharge in 1946. We talked about what career I might pursue in the RAAF and, from day one; I was committed to becoming a non-commissioned officer in the engine fitter mustering.

After I had finished first year, we were asked to nominate which trade we preferred. I duly asked for engine fitting. A few days later, Squadron Leader Arnell, one of the senior education officers, called me to his office and told me that my choice as an engine fitter was refused and I was to undergo instrument fitter training.

I wasn't too pleased with the decision to start with, but later appreciated the challenge of the extra academic work. What is more, in those days, instrument fitters were one of the highest paid technical musterings. My dad didn't say much, but referred to me as a 'watch winder'.

During our introduction to the course, we were reminded that our parents would continue to receive half-yearly reports on our progress throughout the course. We were also told that the course was complex, required hard work involving much study, and also included 'electronics', the way of the future. The following is an interesting paragraph in a training handout for 'Basic Electronics':

But now a new age is dawning: the age of electronics. A dazzling panorama of undreamed possibilities stretches across the horizon. Electronics is ready

to deliver its power to the active part of industry. Electronics is eager to apply its skill to the field of intelligence, and, with the exception of initiative and creative power, which will always be man's prerogative, electronics is already successfully operating in the field of intelligence. No living man knows where its power will end. Artificial sense organs have been created, which are better, more rapid in action and far more sensitive than human senses. With these senses, the third factor – 'Observation' – can be put into the service of the other two factors – 'Power' and 'Intelligence'.

These predictive words are remarkable, considering they were written almost 50 years ago by an unknown author.

Indeed, the syllabus of training for the instrument apprentice was complex and comprehensive, and covered a wide range of subjects involving the various characteristics of electronics, electricity and magnetism, fine mechanical movements, and the effects of air pressure that eventually lead to a reading on a gauge that provided the pilot with the means to fly the aircraft within the correct operating limits.

The main subjects of the course covered electrical technology, basic electronic theory, instrument principles, flight instruments, engine and ancillary instruments, gunsights and bombsights, navigation equipment, optical instruments (aerial cameras), compass systems, oxygen and pressurisation systems, and the automatic pilot. Training in these fields involved both theory and practical work, particularly learning the art of fault-finding, which required the application of logic, subsequent analysis and the practical use of various test equipment to aid this process. Part of the training also included a phase on airmanship and further training in advanced fitting, machine shop practice, heat treatment and engineering drawing.

Instrument principles involved the application of pressure via a medium, such as air or oil, in all types of pressure gauges as generally seen by the pilot. Most gauges employed the Bourdon tube principle that operated a quadrant driving a pinion, with a pointer that moved over a graduated scale to provide a reading. A hairspring provided the means of dampening the movement. This principle applied to many of the pressure-indicating instruments. During this phase, transmitting pressure gauges (capillary type), the mercury manometer and cabin air pressure indicators were also covered.

The need to be totally familiar with the operation and use of various types of test equipment was a necessary step, as once the principles of operation were learnt, the practical phase required the student to dismantle, clean, inspect, replace defective parts, reassemble, and test and calibrate the instrument to meet required tolerances.

Knowing the principle of operation of different test equipment, such as the dead weight tester, the mercury manometer, the micro-manometer and the use of barometers, was necessary in order to test/calibrate these pressure-type instruments.

Most of the instruments to be repaired/tested employed the dreaded hairspring, which was an all-important feature of the correct operation of an instrument. This coiled item was to be the bane of a trainee instrument fitter's life, causing much anguish and undoubtedly had the potential to ruin a trainee's career. The practical phase on hairsprings, a strip of beryllium copper metal, required fitters to be able to rewind a

The 'Queer Trades' at Wagga

hairspring after the instructor had deformed it to an almost thin strip of metal with many tight kinks and bends along its five to six-inch length (12.7–15.2 cm). The only tools used to shape and re-form this strip of distorted metal into a perfectly serviceable hairspring, with concentric, flat coils, was a pair of instrument tweezers. This was a tedious venture as the operation required hand-finger-eye coordination, absolute concentration and the application of the mind. This particular phase taught us the need for finesse in instrument fitting. If you were not able to cope with this type of work, you were unlikely to qualify as a fitter. All but one of the Wombats finally passed this phase, and the following excerpt highlights the difficulties of this practical phase:

Our first practical phase included winding a hairspring out of an aircraft instrument. This task seemed to be a trivial exercise and not representative of the real world. After instruction, each of us was given a twisted spring, which had to be rewound, in a flat plane, within a few days. After we started, we began to appreciate that this was more than an exercise in futility but actually a test of fine hand skills that we would need to have. It would be true to say that more than one of us had trouble with the practical test, but by the end of the week most of us had completed the task to the satisfaction of the instructor.

Two, who had not finished, were given the weekend to complete the task. One individual had managed to wind the spring but could not work it into a flat plane. Late on Sunday night, in desperation, he placed the non-conforming spring on a flat plate of glass and piled all his matriculation books on top. When he removed the books in the morning, to his dismay, the spring leapt back into its ugly twisted position. The individual was deemed not to have the skills to continue training and was off-coursed.

Along with learning about the barometer, there was a need to comprehend the characteristics of the earth's atmosphere; that is, what happens when you ascend? The second phase of instrument principles involved learning about the application of pitot-static pressure (measuring moving and still air) to various instruments to provide indications of airspeed, rate of climb and altitude. Measurement pressures were achieved through knowing the purpose, operation and correct positioning of pitot heads and static vents. The application and practical use of the appropriate test and calibration equipment was also part of the instruction. The effect of *g*-forces on aircraft was covered by learning the purpose and principles of operation of the accelerometer, and how this type of instrument assisted the pilot in controlling the aircraft within operational limits.

One of the more interesting subjects was gyroscopic theory. The principles of what happens to a rotating mass in relation to the rotation of the earth, and how the application of this fundamental occurrence can provide an indication of aircraft attitude, was most intriguing. Terms such as 'rigidity' and 'precession', a mystery at first, soon became clearer as the phase progressed. However, terms such as 'rate of precession', 'free gyro', 'space gyro' and 'earth gyro', and the 'effects of the earth's rotation', along with 'change of precession rate with change of latitude' tended to complicate the issue.

The rotating gyro was used in many instruments, such as the artificial horizon, directional gyro and the turn and slip indicator. Again, these instruments provided the pilot with basic aircraft attitude information. The spinning of the rotor was achieved by a vacuum system generally supplied via the aircraft engine or a venturi tube mounted externally on the fuselage. (By this time aircraft had generally adopted electrical gyros but the principles remained the same.) Practical aspects involved the disassembly and viewing the internal workings of the different gyroscopic methods used in each instrument, along with the air system, erection system, caging devices and methods of testing. The instruments were mounted on a test table to perform various serviceability tests. One of our members, Tom Stott, was fascinated by rotating gyros and became extremely 'red-faced' while attempting to blow the heavy brass wheels up to their rotating speed. Of course, he was given every bit of encouragement to achieve this feat by class members. Electrical gyros were covered later in autopilot training.

A number of instruments used electrical energy to provide indication and this was covered in the electrical measuring instruments phase, and involved electrical theory and practical operation. These involved voltage and current measurement, as well as thermocouple and resistive element temperature measurement, and resistive and capacitive fuel contents. Because of the harsh environment in which some of these instruments operate (eg. the tail pipe area of a jet aircraft), we also had to clearly understand the errors that were introduced by that environment and the compensating techniques.

Another interesting phase concerned cameras and optical instruments. Theory involving the passage of light through a glass lens, demonstrating the intricate way a ray of light is refracted and dispersed within a glass medium, was complex. Terms such as bi-convex, plano-convex, convexo-concave, bi-concave, plano-concave and concavo-convex, had to be understood. The intricacies of spherical aberration, coma, aberration and astigmatism, curvature of field, distortion, chromatic aberration, achromatic aberrations, and depth of focus and depth of field in photography were taught to the uninitiated.

As part of this phase, the operation of the F24 vertical camera and its electrical circuitry, along with the operation of the camera mechanism, had to be known. The last two pieces of equipment taught during this phase concerned the theory and operation of the sextant and prismatic binoculars. The use of reflecting mirrors, precision-made lenses and prisms demonstrated that light can be made to be a useful tool to assist in navigating and sighting objects at a distance.

A short phase on advanced flight instruments involved various standard serviceability tests applicable to the more complicated instruments, such as the Mk 3 Artificial Horizon. Tests on a rotating testing table checked starting, run-up, gyro wander, settling and erection times.

After learning about basic instrument principles involving mainly mechanical-type movements, it was time to become absorbed in electrical technology and basic electronics, and their application in the field of instrumentation.

Four phases of electrical technology covered such areas as construction of the atom, movement of free electrons, conductors (electrolytic, gaseous and thermionic), current

The 'Queer Trades' at Wagga

flow and electromotive force. Remember Ohm's Law ($I=E/R$), resistors in series and in parallel, work, power and energy, along with hysteresis and Fleming's right hand rule. All types of resistors, (including their colour coding and rating) and capacitors/condensers (fixed, variable and paper dielectric) were studied to see what made them work, and their application in an electrical circuit.

An introduction to electrical direct current (DC) motor operation involving the armature, eddy currents and the commutator, and the need for a brush assembly for current flow was part of this phase. An understanding of a shunt series and compound generator was also gained. Fleming's left hand rule came to the fore when learning about the principle of the electric motor, as well as shunt and series motor operation. Of course, one had to understand the function and operation of the carbon pile regulator.

Electrical Technology 3, centred on alternating current (AC) principles and an introduction to the dreaded 'sine wave' with current either leading or lagging the voltage. Simple and complex waves leading to the formation of the 'square wave' had to be understood. Terms such as resonance, Q factor and acceptor and rejector circuits were all part of the theory of AC current flow.

Electrical Technology 4 introduced the operation of the alternator, based on the application of AC principles learnt in Phase 3. The principle of the induction motor and synchronous speed, the operation of the single-phase induction motor and characteristics relating to split phase repulsion, universal and synchronous motors and their application provided interesting and thought-provoking moments.

Basic Electronics was divided into two phases. The first phase covered the elementary electrical circuit and the characteristics of the vacuum valve, and terms such as anode, cathode, diode, half and full-wave rectification were introduced. The triode valve introduced another level of complexity with the demand of understanding calculating cathode resistor and the two-stage cascade amplifier circuit operation. The tetrode valve, pentode valve and beam power tube, along with their operation, characteristics and use for circuit applications, added another degree of difficulty to this phase. The operation of the cathode-ray tube and its importance in the field of measuring current and voltage whilst providing a visual display (that is oscilloscope and radar screens) introduced the phenomenon of the electron beam being able to be deflected by electrostatic means.

The second phase mainly dealt with the application of different types of valves in circuits combined with resistors, capacitors and transformers. Comparisons between thyratrons and triodes had to be learnt, as well as photometry and the different types of photoelectric effects and the complexity of phase shifting in thyration and neon sawtooth generators. The advantages and disadvantages of the then newly introduced 'transistor' had to be understood. Amplifier circuits and determining direction of current flow within such circuits, as well as knowing the circuits numerous advantages and disadvantages, proved to be complex and difficult to understand.

Learning about the theory and application of electrical circuits provided an introduction to the Mk 9 automatic pilot system with, to us, its extremely complicated amplifier unit circuit. The effects of aircraft roll, pitch and yaw on the operation of this particular circuit caused a headache for most members. The theory of operation was

followed by a practical phase on this system, using a working training aid, and is best described by the following contribution:

Flight Sergeant Jack Kelly was one of the senior instrument instructors and was tasked with the important job of instructing on the automatic pilot. Despite the fact this type of automatic pilot had been around for some time, the working training aid was installed in a locked room under the guardianship of Jack. Nobody was allowed in, as if the room held secrets trainees could learn only as a privilege.

Once we made it to the hallowed area and were allowed to operate the training aid, Jack was in his element, particularly during the troubleshooting phase. He would introduce an error to the aid and then, with some glee and a twinkle in his eye, he would stand back and let us ponder the complications before us. His expressive features were such that if we got too far off the track he would give us his 'cold' glare, and of course, there was a slight smile when we were getting 'warm.'

Jack was commissioned later, and is believed to have been the life of the party at many Officers Mess functions, where he could easily be persuaded to crank out drinking songs on the piano.

The function, care and maintenance of low and high-pressure oxygen systems and equipment was another interesting phase. The combination of oxygen mask, economiser and cabin altitude, together with the oxygen storage bottle, plumbing and various pressure relief valves, had to be understood as this properly functioning system provided the means by which the pilot was able to breath safely at high altitude. Unfortunately, this phase occurred during the hot summer season. So with the combination of a hot classroom and an instructor whose voice seemed to drone on and on, many became drowsy very quickly and it was difficult to concentrate on the subject at hand.

The instructor who taught the oxygen phase was very, very relaxed. Consequently, some apprentices had difficulty becoming enthused with this subject and found it hard to comprehend. After lunch on many days, while he relaxed at the front bench, we were told to read our training notes and ask, if necessary, any questions. This did not seem a valid method of instruction and lead to another course member almost failing the course.

The basic knowledge gained in instrument principles, gyroscopic theory, electrical measuring equipment, electrical technology and basic electronics proved to be fundamental and essential in being able to cope with learning about complex operational systems. Equipment involving gunsights and bombsights, navigation equipment and electrical gyroscopic flight instruments and air mileage units, with their involved and complex electrical circuitry, required this basic knowledge to be understood. Gunsights and bombsights started with an understanding of bombing theory and learning the effects of air, wind and ground speed, drift and drag on the fall of a bomb. The T4 bombsight system was where the term 'computer' was first learned, and what a 'magic box of tricks' it was. Learning how this unit provided information in the form

The 'Queer Trades' at Wagga

of various settings to a sight head was complex. Gears, wheels, long pinions, servo motors, amplifiers, flexible drives, corrector cams, height drum and lead screws were just some of the myriad of small items that went to make up the various components of this complex system. Kev Griffin provides his thoughts on this particular phase:

After doing well in most phases of the course, I did not study as hard as I could towards the end. By then I had a car and discovered courting my wife-to-be was much more fun than study. The bombsight phase gave me considerable problems.

This antiquated heap of wheels, levers, springs and calibrated dials was almost beyond my powers of reasoning. The gaggle of mechanical parts made me think of a parlour machine, where the introduction of a penny at the top, lead to some reward for the player at the bottom. Subconsciously, I believe, I rebelled at being compelled to learn about an instrument system that was out of date. With the help of others, I finally passed the theory test on the bombsight and still shudder to this day at the thought of running across one again.

Gunsight theory introduced deflection angle, the motion of a bullet through the air, harmonisation, allowing for target speed and crossing speed, along with learning about prediction sights. The principles of rocket projectile theory had to be understood with the associated allowances for attitude, gravity drop, target speed and time lag.

A study of the Mk 4B and 4E gyro gunsight system provided knowledge of the moving graticule in the form of six diamonds describing a circle with a central bead. From a rotating gyro through a range and span graticule, with angled mirrors and reflector, the pilot was able to sight his guns at a moving target.

With knowledge of these basic principles, the Mk A-4 gunsight which was fitted to the Sabre, an operational aircraft at that time, was introduced. The mechanical operation, along with the complicated electrical circuitry, proved to be very complex and difficult to comprehend.

An understanding of the various methods of navigation involved a thorough understanding of compass theory. A north-seeking pole (coloured red) and south-seeking pole (coloured blue), coupled with magnetic variation, isogonals, isoclinals, true heading, magnetic dip, turn and acceleration errors, deviation coefficients and their associated application were all part of this complex theory in understanding the compass.

The G4F gyromagnetic compass system, with its detector unit, gyro unit, amplifier and corrector control box, showed us that a good grounding in the basic principles gained previously was essential to understand why and how such systems functioned in an aircraft. As well, the Mk 4B gyromagnetic compass system proved to be extremely complex and, after learning about its operation, one had to learn how to 'fault-find' from detecting a 'symptom', determining a 'possible cause' and taking the appropriate action to remedy the fault. Again, one did not appreciate that with such complicated electromechanical systems, so many varied problems and faults could arise that required resolution. This then was the job of the fitter.

Further instruction involved being taught the operation of the J2 compass as installed in the Sabre, the GM2B compass for bomber (or heavy lift) aircraft and the GM2F compass for fighter (or light) aircraft. Each system consisted of detectors, gyros, amplifiers, master indicators and control panels, and it was necessary to gain a thorough understanding of the function, relationship and operation of each unit in the system. The statement, 'the strength of the signal is proportional to the cosine of the angle between the element and the earth's magnetic field', is just one of many complicated statements in the precis on compass systems that required comprehension.

Instruments based on the system of 'automatic dead reckoning' that provided accurate measurement of course and true airspeed introduced us to the air mileage unit and air position indicator. The use of pitot pressure, electric motors and electronic circuits, as well as such items as 'infinite variable gear-disc ball and roller' and 'secant mechanism', showed that through complicated resolving gears, pinions, rollers, cranks and drive carriages, accurate information can be presented to aircrew to assist their navigation. Again, these instruments were more 'magic boxes of tricks'.

An understanding of gyroscopic theory was absolutely essential to study on electrical gyroscopic flight instruments. These new types of instruments resulted from the increase in speed and altitude at which modern aircraft operate and the necessary requirements for improved accuracy, performance and efficiency. Thus, it was essential to gain a working knowledge and understanding of the operation instruments such as the Mk 2A turn and slip indicator, with its electrically driven gyroscope and associated electrical operating circuit. Another electronic instrument was the Mk 3 artificial horizon, which employed an electrically operated gyroscope that indicated roll and pitch relative to the natural horizon. The complicated electronic circuits for these types of instruments were at times baffling and mind-boggling. Again, some thoughts on this particular phase:

The practical phase on the electrical instruments was exciting. It introduced us to instruments that were more technologically advanced to the 'suck and blow' flight instruments with which we started training. These electrical instruments were delicate in construction, and much of the repair work was done with the aid of a magnifying glass. One of my mates on the bench alongside became extremely frustrated because he could not solder one of the fine ligament wires onto one of the very small armature brushes. The solder just would not stick. After we had pondered over the problem and looked more closely at the 'ligament wire', we realised that what he was trying to solder was in fact a hair from his own eyebrow!

Although learning the basic trade of instrument fitting was fundamental to graduating as an instrument fitter, part of the learning process was to become familiar with other aspects of aircraft operations. These aspects were covered under the phase titled 'Airmanship'. Such topics included aircraft handling, manhandling of aircraft, towing, handling of crashed aircraft, taxiing and marshalling, and aerodrome and light signals.

The 'Queer Trades' at Wagga

Other topics included starting, stopping and ground running of aircraft engines, and the important issue of always making sure ignition switches are 'Off' before approaching airscrews, and required thorough familiarisation. Aircraft loading, including weight and balance, and various definitions such as all up weight, datum, arm and moment, was also covered. The principles of loading aircraft and aircraft weight and balance, dispersal and picketing of aircraft, procedures for night flying, and ropes and cordage were also addressed. A most important topic was ejection seat familiarisation and the various safety aspects associated with their operation.

Care and maintenance of parachutes, procedures and instructions for use of explosives stores and the dangers involved had to be known and understood. The servicing system used for aircraft, including the aspects of routine servicing, repair, reconditioning, modification, salvage, servicing schedules and planned servicing—terms that we would become familiar with during our post-Wagga life—let alone the numerous aircraft documents that had to be compiled as part of the history of an aircraft were all covered.

Fuels, oils and greases and the terms AVGAS (aviation gasoline) and AVTUR (aviation turbine fuel) became familiar, as well as important points such as 'the tanks of jet aircraft are to be filled as soon as possible after landing to offset the condensation set up by the varying temperatures'. The appropriate entry in the EE77 (aircraft maintenance log) then had to be made, including being familiar with the system of reporting and recording defects. The last phase of airmanship dealt with the knowledge and familiarisation of equipment administration, stores groups, technical publications, equipment identification, various symbols and consumable stores. The trade training detailed above was completed in two years in conjunction with further general education, general trades training and Service training.

The task of running the Instrument Training Section and teaching the instrument apprentices was bestowed on a small group of NCOs, who were generally skilled, friendly and enthusiastic. Training aids were limited and a lot of work had been done by staff to provide the best possible assistance from limited resources. This resourcefulness was typical of RAAF tradesmen in those days, when test equipment, special tools and maintenance techniques often had to be developed within maintenance and operational sections. The Instrument Training Section consisted of an officer-in-charge, nine instructors of various NCO rank and a storeman.

The OIC Instrument Section was Don Mazlin who had the following recollections of his time in that role:

I was posted to Instructional Squadron RSTT in June 1956 to be OIC Instrument Section. This post had not been filled for some years and the section was being run by Warrant Officer Ray Wall who was in charge of both the Electrical and Instrument Sections. Hence it may be assumed that training had not been a high priority for 'the powers that be' when allocating management resources prior to my arrival.

There were three streams of trainees coming through the section: Apprentices, Adult Trainees and National Service Trainees. The constant difficulty was in

meeting the training commitment with the few instructors available. Also bear in mind that this was a time of dramatic change in technology for the RAAF in that jet aircraft had not been around for very long and instrumentation using electronics was making great inroads into areas that had previously been the province of mechanical devices. (When I think of the Mk 4 bombsight, the air-driven autopilot, or the navigation instruments (API, GPI, etc.), I marvel at the ingenuity of the designers of the late wartime or postwar period.)

These technology changes and the fact that trade training had been somewhat neglected meant that much of what needed to be done had to originate from RSTT. Our higher authority was Training Command which was more concerned with administrative matters than the nuts and bolts of a syllabus. Command was happy for us to propose changes to all the syllabi but the process of having these approved was a rather longwinded business. We would often start teaching to an amended syllabus before the formal approval was received but the larger difficulty was that the courses just got longer and longer as new instrumentation came into service because we still had to cover many of the old techniques. This meant extending the length of course for adults and 'Nashos' and cramming more into a fixed period for apprentices.

We were always trying to scrounge instruments for training. Modern electronic equipment, such as gyromagnetic compasses or Mk 9 autopilot, was sometimes issued to the school but we could never get enough items to allow the students to gain practical bench experience in dismantling and reassembling instruments. I made a visit to 1AD [No 1 Aircraft Depot] with Jack Kelly in 1958 and to 2AD and 3AD with Jack Bennett in 1959 to make them aware of our need for training items and subsequently some equipment arrived at Wagga. Of course, the strict accounting procedures of the day didn't help until a special category of 'Training Aids' was created.

We had practically no contact with civilian firms, such as Smiths or Sperry or National Instrument Co. We had informal feedback from RAAF units about the quality of the tradesmen we were turning out but it was usually to whinge about the fellows not being trained sufficiently. Ex-apprentices were far better served than other trainees in that they were regarded as still under training during their first twelve months after graduation from Wagga, which gave them a great advantage over adult trainees.

Following RSTT, Don had various squadron postings and a range of staff positions, retiring as a group captain in the Instrument category.

Warrant Officer Max Salter arrived only months before we completed our course and he, therefore, had little to do with us.

Flight Sergeant Jack Kelly was responsible for autopilots and compass equipment. To this end, he had built a number of mock-ups to display this equipment in action. Jack was very enthusiastic about his section and teaching responsibilities, which at that time included some equipment or similar variants of those we would soon work on in the field. Jack went on to become a warrant officer and then was commissioned, retiring as a squadron leader in the Instrument category. He now lives in Melbourne.

The 'Queer Trades' at Wagga

Flight Sergeant Reg Yardley, like Jack Kelly, showed great enthusiasm for his task of teaching basic instruments, flight instruments, and the associated practical exercises. We all remember the hairspring exercise and hours polishing gear sectors to calibrate pressure gauges under his exacting eye. Reg (nicknamed 'Lavender' after the hair oil of that name) is remembered for his exacting dress and grooming, never a hair out of place. He became a stalwart of the Mirage introduction, becoming an expert on the flight control system, which was a source of many headaches in the early years. He was then commissioned, also retiring as a wing commander in the Instrument category. On retirement, Reg became Secretary and then President of the RAAF Association, Victoria and was responsible for a vast amount of work gaining recognition at government levels of the needs of serving and retired Air Force members and their families. Through a lot of very hard work, Reg also conceived and was instrumental in the recognition of VP Day (Victory in the Pacific, 15 August 1945) in Victoria, with large celebrations for the 60th anniversary in 2005. Reg always retained his youthful and immaculate appearance until his passing when taken by recent ill health.

Sergeant Joe Coffey had responsibility for oxygen and pressurisation training and was noted for his very relaxed style. This engendered an even more relaxed style in many of his students, particularly after lunch. In some respects, oxygen equipment seemed a bit mundane compared with gyros and bombsights. It was not until we reached the field that many of us fully appreciated the importance of these life support systems, particularly when oxygen system problems caused a number of aircraft explosions and fires threatened lives. Joe retired as a warrant officer at Support Command after many years of service and still keeps in contact with many instrument friends.

Sergeant Alan Pedler (nicknamed 'Gyro-gear-loose') was a very enthusiastic instructor who provided us with some excellent training in gyro theory and associated gyro instruments. The concept of gyros was difficult to grasp initially but his persistence left us all with a good understanding.

Corporal Col Jones had the responsibility for trade testing and associated records management.

Corporal Jack Bennett was a little more intense in his manner, teaching us the difficult subject of navigation principles and instruments. Some of this equipment used quite complex analogue mechanisms and he did very well in achieving our understanding of them.

Corporal 'Blue' Crisp (presumably being named 'Blue' because of his freckles and red hair) was well liked because of his very friendly and relaxed style. He was also an ex-apprentice, an 'Anzac', off the first apprentice intake. 'Blue' taught us our initial electrical technology and electronics subjects. He is remembered for his excellent instructional technique. Not long after we completed our course, 'Blue' and Jack Bennett left the Air Force and started an instrument business in Canberra. Subsequently, 'Blue' took this on himself (Premier Instruments, Dickson, ACT) and is still involved but his son is running the business now.

Corporal Ray Crute arrived in our last few months and was mainly involved in preparing instructional equipment and training aids at that stage. He subsequently

earned a commission and spent many years at Support Command as an instruments project officer.

Corporal Darrel Wishart, an ex-apprentice, was the section storeman. This duty would also involve acquiring and developing training aids, equipment and stockkeeping. Darrel was assisted by Aircraftman John Burton behind the store counter. He was the man we saw plenty of as we tried to replace tools we had broken, or to whom we made excuses when we needed additional materials.

The staff at Instrument Section RSTT are thanked and remembered for their enthusiasm in providing an enjoyable and thorough grounding in a wide range of aircraft systems that gave us the skills to adopt the training required for the new generations of equipment and aircraft faced after Wagga.

At the start of instrument training in January 1959, No 3 Flight consisted of 19 members who entered Instrument Section to undergo a comprehensive course.

With copious precis to study, the writing of many notes, making colourful diagrams and listening to instructors teaching the various aspects of their specialties, there was a tremendous amount of complex technical information for 16 to 17-year-olds to comprehend. As well as learning a trade, some members were trying to cope with additional studies to gain the NSW Leaving Certificate, or to pass Diploma subjects.

In relation to coloured diagrams, Col Bradford relates:

In my apprentice days, I was not the greatest Wombat in Basic at the old filing caper. Having said that, you may recall that because I wasn't the greatest hairspring 'winderer' at the instrument trade, Cec Thompson and I quickly realised that a beautifully presented workbook, with lots of colours and pictures soon made up for lack of skills!! End result, Bradford, the prize for the 'Most Improved Instrument Apprentice.'

The instrument training block was lacking in cooling and heating facilities. So classrooms were extremely hot in summer and dreadfully cold in winter. The saving grace in winter was that cup of hot cocoa or soup, provided at morning 'smoko' break, which was something that we really looked forward to.

Other distractions were the Friday 'panic', a dab of floor polish, a wad of steel wool and lots of elbow grease. We also appreciated the special reward, occasionally, of a *War in the Air* movie, with the odd *Mickey Duck* thrown in.

One of the highlights for the instrument course was that in 1959, the first year of the trade course, we were the only Wombat flight (No 3 Flight) to be selected to join the third-year apprentices (Tadpoles) to form a guard of honour for the visit of Her Royal Highness, Princess Alexandra of Kent. The guard paraded on the tarmac at RAAF Base Fairbairn upon her arrival in Australia. Although basically making up the numbers required for the guard, it was quite a privilege for all concerned to be involved in performing in a guard of honour for a member of the Royal Family.

The trip involved travelling by bus to Canberra (slow in those days as there were no freeways) and a three-day stay at Fairbairn, being accommodated in the airmen's quarters. After two practice days, we were ready with .303 rifles, white webbing and

The 'Queer Trades' at Wagga

highly polished brass to perform. All went well on the Friday afternoon parade. In fact, after the event, Warrant Officer George Stirzaker said, 'We were all proud of ourselves, but shouldn't admit it'. One night, we visited Canberra city only to find that all you could look at was the so-called Civic Centre. This area had most of Canberra's shops at that time, which were all closed anyway. After this brief interlude, the return trip to Wagga for the reality of continued training.

In terms of performance of the Wombat instrument group, this is best summarised as follows:

Wombat instrument fitters were a closely-knit group who depended on each other for help in passing the regular theory and practical tests. Many formed strong friendships that still exist to this day. We were all proud of our status of being the top trade.

Many of our flight were promoted to sergeant apprentice and to flight sergeant apprentice. We also had, arguably, the best athletes of any flight, with many excelling in rugby league, tennis, Australian Rules and cricket.

Five went from apprentice training to become engineering cadets. One more followed a few years later—while three others obtained commissions from the field. In total, out of the 16 who graduated, nine were commissioned as aeronautical or instrument engineers. The number commissioned, from one trade in one intake, surely must be a record.



No 12 Instrument Apprentices – 1959

Front (L – R): R.O. Hartley, R.A. Garraway, C.J. Thompson,
G.J. Bushell, R.W. Cant, A.B. Horsburgh
Centre (L – R): G.R. Schmidt, C.E. Bradford

Back (L – R): B. Valom, R.E. Dodd, P.B. Locke, J.C. MacIntyre, K.G. Franks,
R.W. Massicks, D.G. Keast, R.I. Gretton, P.G. Stott, K.V. Griffin

Those others, who stayed for any length of time, had very successful careers, mostly in the instrument field while the remainder pursued successful civilian occupations. Unfortunately, Cec Thompson died early in his career after a brief illness and Nick Viereckel was killed in an accident in 1998. Nick was the apprentice who failed the hairspring test but, after remustering to education assistant, he was subsequently commissioned in the RAAF as an accounting officer, reaching the rank of wing commander.

Ray Hartley remustered to radio technician during the first year of instrument training and subsequently served many years in that field.

CHAPTER 6

THOSE A BIT DIFFERENT

‘GUNNIES’ AND ‘TRUCKIES’

In their training regimes at Wagga, these two trades were a bit different from the ‘blackhanders’ and the ‘queer trades’ in the sense that both developed skills for application outside the aircraft maintenance regime.

A central area of employment for the armourers (‘gunnies’) did involve aircraft maintenance but they also became skilled in the handling and management of high explosives and also the maintenance of small arms.

The ‘truckies’ had little relationship with aircraft maintenance at Wagga although many subsequently became involved through the maintenance of ground support equipment.

WOMBAT TRADE GROUP NO 11 ARMAMENT APPRENTICES – ‘GUNNIES’ ~ ‘GUN PLUMBERS’

Of all the apprentice trade groups being trained at RSTT as part of the Wombat intake, only one—the armament trade—was bestowed with a patron saint. Clearly, the group was blessed and the origins of the trade preceded, by far, all of the other trades being taught at RAAF Base Forest Hill. This was the one trade whose origins stretched back far beyond contemporary technologies, rooted in the most ancient times of the early Christian era. These would become not mere tradesmen or technicians but, as their predecessors long before them, true artisans of this ancient and revered craft. And so it was that Saint Barbara watched over and protected this special cohort that would be revered by all as Wombat ‘gunnies’.

From the day that the group was created, it appeared somewhat of a mismatch of individuals. While the ‘sumpies’ and ‘clock winders’ may well have mused over how they were selected by the RAAF’s administrative machine, and may have considered it was for their intellect, dexterity, physical attributes, sporting prowess or basic engineering skills (or the lack thereof), the ‘gunnies’ knew they were there by divine providence.



Wombat 'Gunnies' – The 11th 'Gunnie' Intake

Centre Front: Whately

Front (L – R): Hurford, Hahn, Lenox, Weller, Hobby, Crawley

Centre (L – R): Bryksy, Reeks, Crust, Stone, Crow

Back (L – R): Locke, Whitchurch, Cupitt, Riches, Tasker, Eller, Stuart-Sutherland

With the exception of Tasmania, they represented each State of the Commonwealth; Territories aside. There was Bryksy as the lone representative of South Australian 'crow eaters'. The 'sandgroppers' of Western Australia were represented by Hahn, Reeks and Whately. On top of this was a whole bunch of 'Mexicans' (Victorians): Señors Crow, Eller, Hobby, Hurford, Locke (although he was borderline, coming from Koondrook, on the banks of the Murray) and Whitchurch, who may well have had Mexican connections based in Tequila, as he was nicknamed 'Grub'. There were also the 'banana benders' (Queenslanders), with Crust and Stuart-Sutherland picked from the bunch. Then of course there was the select few from the 'Premier State' of New South Wales, comprising Cupitt, Lenox, Riches, Stone, Tasker and Weller.

From day one, they melded together as a small but cohesive group and, apart from one or two minor differences over the course of the next two years of artisanship training, all got along pretty well together. And so it was that they embarked into the ancient realm of armament technology.

The first tour of the Armament Section was one to impress. Not only was there an independent building, conveniently placed close to the 'Basic Club', but also a hangar and an adjacent set of lecture rooms. Further facilities included a whole Lincoln bomber and aircraft gun stop-butts. That was only the half of it; there was the 25-yard (23-metre) range and incredible training aids, like the front half of a Sabre aircraft—only a recent

addition to the RAAF fleet. There were impressive things like Hispano cannons, Aden guns, 4000 lb (1800 kg) bombs on loading hoists, Martin Baker ejection seats and other paraphernalia to boggle the young mind.

There were complicated degreasing tanks, with dire warnings about trichlorethylene. We saw racks of small arms, overhead gantries bearing endless chains and even small brick storages plastered with radioactive signage. From the perspective of day one, this sure looked like a steep learning curve on a journey that seemed, to the uninitiated, to be fraught with danger—and so it was when we were assembled to meet the staff!

The OIC was Squadron Leader Sandy Sparkes, who looked very much like someone's grandfather, but was probably much younger than his appearance represented to young eyes. His second in command was Warrant Officer Bill Lugg, who sported an immense lantern jaw and what appeared to be a very small crown to his head that was adorned with a patch of closely cropped, tight curly hair. He was to become the butt of many Wombat doodlings and whether you opened an access panel on the nose of the Sabre or the firebox of a pot-bellied stove, there would be a caricature of 'Luggy'.

He was backed up by the inimitable Sergeants 'Smokey' Dawson and Peter Brown, together with electrical guru Bootes Green, who was seldom seen. At corporal level there was Pete Bennett and the amazing 'Doc' Livingstone, who languished in the tool store with a half-smoked 'durry' hanging out of his face, originally lit by the 'Livingstone method', with a piece of red-hot steel that had been jabbed into his electric grinder until glowing hot, then to be thrust onto the end of his racehorse-thin 'roll-your-own'.

The main building was normally entered from the side door by ascending a set of wide wooden steps, and as you entered and turned right, you passed the staff offices immediately before a partition that lead to one of two lecture rooms. There was an awesome display of banners hung within this vestibule, celebrating every course that had graduated in recent memory from the hallowed halls. Wombat forerunners, including Sunbeams, Donuts, Mangoes and Rosebuds, were celebrated there together with heaps of those lesser mortals, the adult trainees, who had passed through mechanic and fitter training.

About that time, a summary of our training was presented and it seemed to many to be an endless list of complicated topics. Armament Organisation and Administration was at the forefront, learning the ins and outs of the technical manuals and records management. The complications of APs (Air Publications) and AAPs (Australian Air Publications) were a challenge to understand, but no more so than having piles of amendments thrown at novice apprentices with stern instructions on their installation and the required certification in the Amendment Record, clear proof of those miscreants that had stuffed up the contents and discarded the wrong sheets.

The course topics were many and varied and really underscored the diversity of skills required by the modern armourer. The various phases of training were always structured with an overview and then theory instruction followed, or were integrated with practical training. Subjects included small arms, such as the .303 Lee Enfield rifles, .38 calibre Smith and Wesson pistols, Thompson submachine guns and the Bren machine gun. Ammunition, explosives and range practice were important elements and forerunners to servicing and then range-testing of the arms.

Similar training strategies were employed with aircraft guns and, after hours of stripping and cleaning of these awesome machines, with fingers in ears, live firing was carried out at the stop-butts with the guns mounted in special firing cradles. The noise was unbelievable and the rapidity of firing similarly impressive. Even the pneumatic cocking tool used to load the Adens by compressing their return springs was scary and gave rise to loud explosions of expelled air. Saint Barbara was less than diligent and years later, noise-induced deafness and chronic tinnitus were the lot of most of her chosen sons.

Many a pleasant moment was spent by the Wombats on and around the entry steps to the section, honing and burnishing the blades of handmade knives, or consuming hot soup that was delivered midmorning in the cold winter months and deposited in huge pots on a shelf attached to the end of a nearby training hut.

Outside of the strictly armament training came further allied trades training, including blacksmithing and heat treatment, machine shop and sheet metal work at the 'copper knockers' where matters such as bend allowance calculations and similar challenges were instilled. Reciprocating and jet engine theory was included and the intricacies of the Otto cycle and mind-boggling concepts such as top dead centre and dwell angle were passed on before the challenge of practical engine dismantling and reconstruction, culminating in a trial run of the engine. Thank God that Saint Barbara had saved us from the dreaded 'blackhand' stuff of the 'sumpies' and 'truckies'!

Underscoring the versatility of the armourer was the necessity for electrical and electronics training. Topics such as hydraulics, pneumatics and mechanical systems were similarly elemental to the service and maintenance of armament support equipment for lifting, lowering, loading and arming aircraft stores and weapons.

Chemical processes included decarbonising, de-leading and similar processes involving weird breathtaking concoctions such as ammonia. The introduction of 'barrel blueing' conjured thoughts of fisticuffs but transpired as a range of metal treatments.

Much time was devoted to bombs, explosives, rockets, guided weapon systems and pyrotechnics. Part of the practical training included manufacturing training aids for the then upcoming Sidewinder air-to-air missile. This involved fashioning lengths of drainpipe and fabricating wooden nose-cones and gas grain generators and sheet metal fins, which once assembled and covered with coats of shiny white paint deceived the most practised eye—even MI5 would have been impressed.

At a lull in training, a 60 lb (27 kg) rocket head was also fashioned by the Wombats into a fountainhead as part of a water feature of the fish pond at the Apprentice Club. Many a Wagga Wagga girl was to marvel at this after having been secreted from the 'appies' dance at night, ostensibly to see the neon tetras swimming in the pond.

Bomb carriers and rocket launchers were complicated ancillary equipment with all manner of electromechanical components installed to achieve desired outcomes. There were exacting adjustments of the mounted stores to ensure that hang-ups on the aircraft did not occur. Hours were spent not only loading and unloading these stores onto their carriers but also onto the various types of aircraft.

These exercises were not without incident and there was more than one wry Wombat smile when Sergeant Peter Brown was standing over the back wheel of a three-

wheeled bomb trolley, within the bomb bay of the trusted Lincoln. Unfortunately for him, a carrier of bombs crashed onto the front of the trolley and catapulted him into the top of the bomb bay. Above was an 'appie' who somehow had disengaged the ratchet on the bomb winch sending its load unrelentingly onto the trolley below. Words were undoubtedly exchanged and demerits posted on his practical score sheet.

Probably the most memorable of misadventures occurred during demolition practice. 'Smokey' Dawson was our instructor for this phase and after hours in the classroom absorbing every safety precaution imaginable and being regaled with matters such as 'sympathetic detonation,' the time came for practical demonstrations.

'Smokey,' was a veteran of Korea and Japan and other distant places, and he included in his Service record, Snake Creek, where he mastered explosives and demolition. To demonstrate his expertise he ushered the Wombats to a safety area behind the aircraft stop-butts and, after duly raising red flags, demonstrated his artistry. With nothing more than windings of Cordtex detonating cord he severed fence posts clean in half, and demonstrated instantaneous detonation and other wondrous things. He then demonstrated the power of a single detonator and with a single downstroke on the exploder he consigned a rocket's mild steel spigot cover into the air and out of sight. If this was amazing enough, so was the fact that the thin aluminium sheathing of the detonator had perforated the steel cover in the manner of a shotgun discharged through the wall of a tin shed. This impressed all, but not half as much as the next encounter that very afternoon with another rocket head spigot.

The exercise was to carry out a live demolition at the back of the airfield of a 60 lb (27 kg) high explosive, 3-inch (7.62-cm) rocket head. This was planned and demonstrated by 'Smokey' and 'Brownie' in absolute detail on the blackboard so every Wombat would be fully aware of the sequence of events and carry these out explicitly and safely. Safety distances and procedures were painstakingly detailed and reinforced diagrammatically on the board until, to a man, everyone had it down pat. Key personnel were selected with Corporal Apprentice Les Bryksy appointed to position the rocket head and lay the charge. There was a 1000-yard (914-metre) safety distance to be observed and an apprentice had been appointed to pace this back to where the course stood to observe the demolition.

Brown and Dawson failed though to factor in two important matters. First was the 'Les factor,' and second was that the pace-maker managed to convince 'Doc' Livingstone to measure the distance on the truck's odometer and bludge a ride, rather than stepping out the safety distance. Needless to say, the rough ground of the airfield forced the truck on to a meandering course until 'Doc' had covered the requisite distance, according to the odometer—but the '1000 yards' transpired into about two thirds that distance! Then the 'Les factor' came into being and, in positioning the rocket head, he aligned it with the pointy end facing away from his colleagues in the truck—perhaps envisioning the thing racing off to the horizon.

With all in place and with warnings to hold your ears and take cover, the plunger descended. There was an unbelievable explosion as about 25 kilograms of high explosives detonated within the confines of the steel rocket head. Then, all that was heard above the tremendous report was the banshee noise of the rocket's spigot, aligned perfectly with

the truck, as it rotated end over end on a perfect trajectory to eliminate 19 'appies' and three terrified instructors. To a man, everyone dived beneath the truck's tray without a further prompt. Simultaneously, as they reached refuge beneath the truck the dreaded spigot buried itself out of sight just metres away in a cloud of dust! There were many other memorable moments but none more so than our first taste of high explosive (HE) demolition training.

Our big on-the-job training (OJT) adventure was a trip to Williamtown to the fighter squadrons that operated Vampire and Sabre aircraft at the time. There were some memorable incidents also during the course of the trip. For the first time we came face to face with real operational armament programs with gunnery and rocketry sorties carried out. We met our first 'real' pilots and at that time airmen aircrew abounded—many were to become legends within our lifetimes as senior Air Force officers. Each apprentice got to take a flight in a twin-seat Vampire on an armament program and to experience firsthand the firing of live rockets and guns from within the cockpit, and to sit in an armed Martin Baker ejection seat, a technology that we all respected from our training in the maintenance, installation and loading of these escape devices essential to jet aircraft.

Working on the flight lines was quite an experience in itself. Aircraft were coming and going at regular intervals with live arms and stores loaded. The occasional gun blockage or hang-up added to the excitement of the activities.

Off the flight line some 'appies' worked in J Group and the ammunition room preparing stores and ammunition for deployment to the flight lines. This is where we encountered a certain corporal and, much to our alarm, were to discover he was an alcoholic with a bad case of the DTs (delirium tremens). At this time it was customary for the Airmen's Mess to supply morning and afternoon teas to the work areas. We were more than a little concerned that the corporal was so badly affected by his condition that he got more jam on his arm than his scone! To make matters worse, here we were as Wombats with him, surrounded by live ammunition and truckloads of explosives!

High on the list of memories though, and on a sad note, was an event that followed our field visit to Williamtown. While there, Flight Sergeant Frank Schripp took us 'appies' under his wing and ensured we benefited from the on-the-job experience the visit afforded. We worked on Vampire and Sabre aircraft under the supervision of the experienced armourers working in the squadrons where safety was the key message, with real aircraft, real missions and live weapons. Ironically, shortly after our visit the Flight Sergeant was fatally injured as a result of an ejection seat mishap that catapulted him from an aircraft's cockpit high into the air before descending onto the aircraft's mainplane. This was a telling event on all those on the Williamtown visit, both apprentices and instructors.

Around that time the infamous North American ejection seat also became notorious, through a number of Sabre ejections, where pilots lost their lives because their canopies struck them while they were ejecting. The Aircraft Research and Development Unit proposed a modification that would permit pilots to eject through the aircraft's canopy, rather than ejecting the canopy before firing their seat. This was a simple concept which involved firing a spring-loaded bolt attached to the seat through the canopy. The spring

used was fashioned from a section of an Hispano 20 mm aircraft cannon return spring. The Wombats were able to witness these trials, which were conducted at Wagga using the RSTT training aircraft and an anthropomorphic dummy.

One of our other trade trips involved travelling by bus to the ammunition depot at Ettamogah, close to Albury, not long before the name was to become synonymous with Maynard's outback cartoons featuring the Ettamogah Pub. Apart from being impressed with the J Group storage facilities that were soon to be closed down and enjoying lunch at the small mess, travel home was to become a memorable event. Just outside of The Rock, a small Riverina township, the RAAF bus broke down. At that point the Wombat 'gunnies' abandoned ship and hiked it into the town. The local pub had not enjoyed such patronage for a long, long, time.

Ultimately, all of No 11 Armament Apprentices of No 12 Wombat Apprentice Intake successfully completed their formal trade training to be released to their units for further training in 1961. For many 'appies' departing Wagga, this meant two years of on-the-job training, initially at aircraft depots before deployment to operational squadrons.

For the graduates of the 'Boffins' course they were transferred for further graduate training as engineers at the Royal Melbourne Institute of Technology (RMIT). Sam Eller, who was always very different to everybody else, was directly appointed to the University of New South Wales, after being interviewed towards the end of the trade course, as a special case by the Air Officer Commanding, who agreed to his request to undertake a graduate course at that institution. Sam had easily coped with the trade course, studied as a 'Boffin', and also matriculated for university as a part-time student at Wagga Wagga High School—simultaneously. He seemed to spend most times in the armament classrooms, apparently dozing off, but still excelled academically.

Other members of the course were no slouches either and had a wide range of abilities. Wal Crust was an excellent rugby league player and was grabbed up by the newly formed Penrith Panthers to play professionally for them while continuing his RAAF service. Eight of the 19 graduates were commissioned: Peter Cupitt, Alan Hobby, Sam Eller, Dave Lenox, Mac Weller and Dave Whately as engineer officers; Brian Hurford became an air traffic controller; and Ken Stone an environmental health officer.

Les Bryksy was given an early release from the RAAF following the premature death of his father, and went back to the family vineyard. There, he took back the innovation and inventiveness passed to him through his Air Force experience and become a leading force amongst the local growers in the development of new methods and vine technology.

Tragically, Warwick Locke passed away from illness shortly after graduating from Wagga, while serving at No 3 Aircraft Depot.

Norm Tasker left the mustering to become a technical draftsman within the RAAF before resigning to further his career in draftsmanship and project management for the NSW Department of Education. Bert Hahn applied unsuccessfully for an early discharge from the RAAF and was eventually released after running for Parliament. He moved to Queensland and pursued a career in civil construction, graduating as a quantity surveyor and later being involved in large civil construction projects around Australia. He also served that industry in the role of an 'expert witness'.

After a serious motorcycle accident at Williamtown, Al Stuart-Sutherland was medically discharged from the RAAF and pursued a variety of commercial undertakings in Queensland. He became an avid caravaner and travelled extensively throughout Australia into the most remote locations.

The last to leave the RAAF was Mac Weller who scaled the ranks retiring as an Air Vice-Marshal—the only Wombat to reach this level and one of just two achieving air rank.

After the RAAF, the ‘gunnies’ pursued all manner of enterprise and it will be evident in their personal stories the diversity of their achievements and extent of their interests.

No doubt Saint Barbara was well pleased!

WOMBAT TRADE GROUP NO 10 MOTOR TRANSPORT APPRENTICES – ‘TRUCKIES’

The ‘truckies’ were a close-knit crew and got along together well throughout their trade training and into the future. Of all the engineering apprentices they had the least to do with aircraft maintenance and operations, other than in a support role through the maintenance of essential ground support equipment. Despite this, they integrated fully within the Wombat ranks. Like their ‘sumpie’ cousins they could be readily identified by the grease and carbon staining up to their elbows and, in fact, they probably equally qualify as true ‘blackhanders’.

We had all arrived at RSTT, Wagga, NSW, by 20 January 1958. A small percentage of our intake would have not long turned 16, and this day was to be the start of our five-year apprenticeship in the Royal Australian Air Force, progressing to serve 10 years in the field; we were committed to a total of 15 years. Indeed for many, 20 January 1958 was the commencement of a long Service career.

Our first year was devoted to basic training where we were taught the following: basic carpentry (woodwork), blacksmithing (metalwork, welding and brazing), machine shop practice (metal machining), and basic fitting which included, drilling, filing and chiselling. Our first year was also programmed to include General Service Training (ceremonial drill, map-reading, field training, firefighting and physical and recreational training). Then, just when we thought we had finished with real school work, up popped subjects like mathematics, English, technical drawing, science and physics.

On the completion of our basic training, we were allocated our trade mustering, which for those 17 happy faces in the course photograph, it was Motor Transport (MT); John Burr was the only one not to graduate. Looking back it seemed odd for MT fitters to be called ‘truckies’, you would not be blamed for thinking this title would be reserved for the drivers; nevertheless, we soon learnt that in the ‘Transport’ world, it was most essential to share a close relationship with the drivers.

From here on there were many theory tests, as well as practical examinations to pass, and as a group of teenagers we did well to achieve what we did in the way of education (First Class Certificate of Education – Technical) and trade training (Motor Transport Fitter).

Stage 2, or the second year of our apprenticeship, involved the commencement of our trade training, the MT fitter syllabus, as well as continuing with more education and General Service Training. At the time, we thought, 'Why should it take two years to learn the workings of a car and how to drive?' How wrong this was to be, with much more than the basic mechanic responsibility put upon us. Little did we know that during life after Wagga we would also have the opportunity to complete courses like Refrigeration and Air Conditioning, Fuel Quality Control, Aircraft Arresting Systems, Ground Support Equipment, Ground Radar (Mechanical Aspects), and Supervision and Management.

The continuance of engineering drawing from first year was more interesting, there was a sense of purpose in what we were learning; now it became 'trade-related'. During the driving phase of the course we soon realised that 'driving' is an art. Vehicles of various makes and models, of all shapes and sizes were put before us; it was a challenge we all enjoyed, probably because these lessons had us out of the lecture room and cruising around the country side. Driving up the 'Main Street' of Wagga Wagga would have to have been a highlight!

Convoy driving was carried out mainly with daytrips around the Riverina; and the trade visit to Sydney was the longest and most interesting drive. The use of 'angel gear' was a definite 'no-no'; many an instructor, particularly Sergeant Arthur Watson (Driver), popped a few panic pills if anyone dared to select 'neutral' whilst negotiating any steep descent—especially the one on the Hume Highway, entering Gundagai from the north.

Engines and transmissions were tabled into Engines I and II, and Transmissions I, II and III. All aspects of how an engine functioned were covered and parts identification was taught during disassembly and reassembly of engines (petrol and diesel) designed with single, six and eight cylinders. The transmissions phase covered both manual and automatic, differentials and transfer boxes.

The automotive electrical system was combined with the basics of the petrol engine and Electrical Technology I and II.

Specialist vehicles included semitrailers, forklifts, cranes, aircraft towing tractors, runway sweepers, ambulances and fire trucks. All of these vehicle types were classified as 'specialist vehicles' and provided a great deal of interest through their mechanical and functional diversity. Once we graduated and arrived at our respective units much more specialist equipment was discovered, such as ground support equipment, generating sets, starter carts, etc.

Study of engines and transmissions along with clutches and differentials were combined to form a subject called the 'Drive Train'. The overhaul of these items was carried out as a specialised field.

We had the facilities to completely dismantle and inspect parts, then rebuild a six-cylinder engine and then carry out tuning on the engine test bed, the dynamometer.

During our trade training, two members of our course were promoted: Sergeant Apprentice Denis Hersey and Corporal Apprentice Ron Benton.

Wombats – 50 Years On

The following staff at Motor Transport Training Section trained us during the period of our trade course:

- The OIC was Flying Officer George Hall and he was supported by Warrant Officer Stan Peters; Sergeant Jim Skelton, who specialised in engines; Sergeant Mick Potter; Corporal 'Rusty' Twigg; and LAC (later Corporal) John Seymour, who covered vehicle electrics.
- Our driving training was undertaken by Flight Sergeant Tom Hogan and Sergeant Arthur Watson, who were both motor transport drivers.



Wombat 'Truckies' – On the Job

Front (L – R): Lenghaus, Smith, Benton, Coad
2nd Row (L – R): Ryan, Hunter, Caldwell, Cupit, Schirmmeyer, Firms
3rd Row (L – R): Widgery, Wren, Hersey, McLoughlin, Burr
Back (L – R): Affleck, and Wood

Hopefully, we have not omitted any instructors from this list.

A small number of incidents have been highlighted during the course of our trade training, and we recall some of them here:

- Tab Hunter's '35 Dodge was a real oil burner and on one occasion while heading to Wagga Wagga, the manager of the service station, near 'Jock's Corner', came running out with a fire extinguisher believing the car was on fire; you were just too hot, Tab!

Those a Bit Different

- 'Blue' Firms was servicing the Officer Commanding's car, a Ford Customline. While it was on the hoist with its wheels six inches (15.2 cm) off the ground and facing towards the Airframes Hangar, he had it in gear and throttle to the floor, 'Blue' was sprung by Sergeant Mick Potter. When asked, 'What are you doing?', the innocent reply was, 'About 110 [mph], I don't think it will go any faster!'
- 'Blue' did not stop there. A few days later he roared through the hangar on one of the go-karts, out one end and back in the other, straight into the arms of, you guessed it, Sergeant Mick Potter—bad luck 'Blue'!
- Karl Schirmeyer could stop a V8 engine by laying an arm along each bank of spark plugs. This was a bit of a shocker, even just to watch!
- Who would be so cruel as to want to give a mate an electric shock? 'Blue'! Who else would take hold of the end of a plug lead whilst his mates were looking under the bonnet, and then touch one on the arm only to give everyone in the line a shock with the last one getting the best kick. Thanks 'Blue'.

These were just some of the antics that 'keen to learn young fellows' got up to, and thankfully no-one was injured!

During our third year at Wagga we had a trade visit organised for us. It was to be a great adventure for us all. On the morning of our departure we loaded our bags into a truck, collected ration packs for everyone from the mess and set out on our journey. Our convoy consisted of two Dodge panel vans, a Holden and the truck. We all took turns at driving, travelling from Wagga Wagga to Sydney via Cowra and Bathurst. Our first stop for the lunchbreak was by the side of the highway and we took a keen interest in the trucks coming up the hill. Most of the drivers were very good with their gear changes or very poor.

We travelled through the Blue Mountains to Govett's Leap, a scenic lookout in the mountains near Blackheath, quite spectacular for those of us who came from areas where the country was flat and arid. After negotiating our way over the mountains we set out for RAAF Bankstown, the domestic unit for Regents Park and Mascot, and a suburb of Sydney, our new home for the duration of our visit.

One of our first visits was to 'Vacu-Lug', a tyre company that repaired and retreaded large earthmoving tyres. It was interesting to see how the tyres were first ground smooth and any puncture holes repaired. The new tread patterns were cut from strips of moulded rubber, glued into position on the tyre which was then placed into a large steam chamber to be cured. On the completion of the 'Vacu-Lug' tour we had lunch, then it was on to the Motor Transport Repair Squadron (MTRS) at Mascot. In less than six months, for some of our group, this establishment was to be the first taste of life out of Wagga. This visit saw out the day and subsequently we returned to our quarters at Bankstown.

Our next visit took us to the Ford Company's Homebush plant. It was something to see, a massive factory with so many people working along a production line, which started with the first body panel part. As the production line moved slowly along, the next person added their part onto the vehicle. Finally, the finished car was then driven

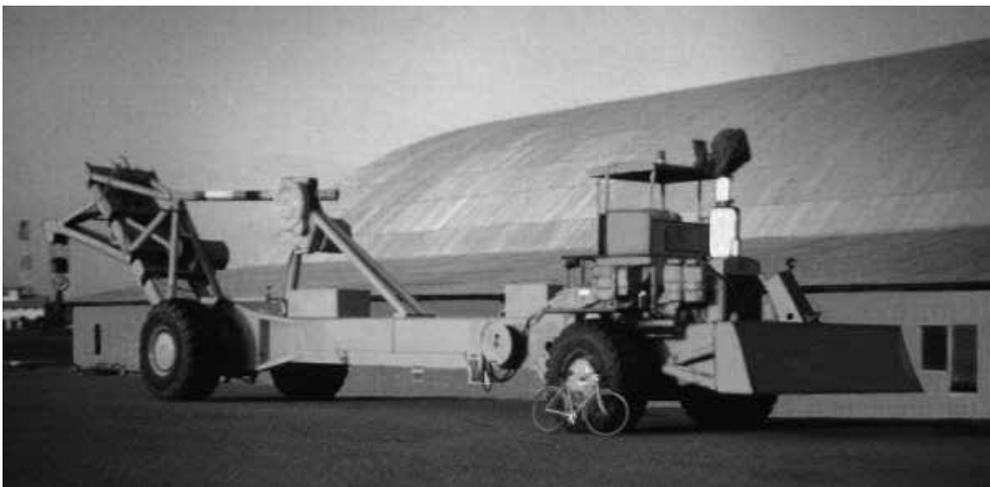
out the door. Once outside, each new vehicle was taken down a rigorous test track to check the suspension and brakes, then through a high-pressure water spray booth to check for water leaks, and from there to a final inspection ready for delivery.

We then visited an International truck dealership located in Parramatta Road, where we saw new trucks being fitted with the standard tray bodies, and others being made for special purposes. Many of these became Defence Force vehicles.

One morning we drove to Neutral Bay to the RAAF Crash Boat Base. We were given a tour through the different sections and saw some of the boats in different stages of repair. We boarded one of the crash boats and motored across Sydney Harbour. It was quite smooth until we reached the Harbour entrance and made our way out through the Heads. There was a swell running and the boat rolled quite a bit as we made our way up the coast before returning to Neutral Bay. It was an excellent trip; most of us had a good time, although there were a few who would have preferred to have stayed behind when they saw what the sea was like once we moved out through the Heads.

This part of the trip was great for some; however, the morning before we left Bankstown for Neutral Bay, a member of our group (who shall remain nameless) suggested that, because we were going to be walking on the deck of a crash boat, we had better wear our 'sandshoes'. A couple of us agreed, so off we went. On arrival at the depot there was the usual parade and, guess what, all those members wearing sandshoes were sent straight back to Bankstown to put on black Service shoes, only to arrive back in time to see the rest of the flight disembark from the crash boat!

Our last visit was to RAAF Base Richmond. We were taken to one of the Ground Support Sections and through the Transport Section. The highlight of our Richmond visit was seeing a demonstration of a new piece of machinery, a 50 Ton Le Tourneau Aircraft Crash Recovery crane. The crane hook was attached to a lifting sling fitted to a Lincoln aircraft, and it then lifted the aircraft off the ground and carried it a short distance down the tarmac—very impressive.



50-ton Le Tourneau Aircraft Crash Recovery Crane

It was not all work though, and we did manage to have some relaxation and to go into Bankstown to see the sights. One of the main attractions was the Oasis Hotel at Yagoona on the Hume Highway.

As with everything else, all good things had to come to an end, and all too soon we loaded our vehicles and headed back to RAAF Base Wagga, via the Hume Highway.

Sport was one topic at Wagga for which we all found time. The main sports of greatest participation were soccer, basketball, Australian Rules, rugby league and rugby union. Ron Benton and Tony Coad played soccer during second and third year with the base adult team, playing in the Riverina competition, as well as going away with the apprentice team to play Army and Navy at Balcombe and Nowra; they also played basketball in the local unit competition, and Ron was selected to play with the RAAF Inter-Service Apprentices team.

Gordon McLoughlin played rugby union in the Wagga Wagga Competition, whilst Eric Firms, John Hunter and Denis Hersey played Australian Rules for the RSTT team in the Central Riverina League. Denis then went on to play rugby union in third year. Tennis was played at night, if you could not study.

The end of 1960 was a nervous time, each week we completed a number of tests and examinations aimed at achieving our final result. Would we pass, would we be 'IN' or 'OUT'? Fortunately, we were all 'IN'.

We had now completed three years of lectures and practical training and passed our exams. Now it was time to relax and think of not only the hard work completed to get to this stage, but how we had managed away from the lecture rooms and our instructors; that is, socially.

Being 'truckies', we bought cars while at Wagga and those that did not kept their hands in by helping owners with maintenance and, of course, participating in test drives. Our vehicle inventory was quite impressive, albeit that most of the cars were far older than their owners, but still no real challenge for a bunch of apprentice 'truckies'. 'Blue' Firms was the proud owner of a Morris 8 convertible, with Brian Widgery owning a 1939 Ford convertible replete with 'dicky-seat'. 'Tab' Hunter had a 1935 Dodge sedan and Ron Benton a 750 Renault. Later, with Chris Wren, 'Charlie' bought a 1934 Ford with a 'dicky-seat', and then a Ford Pilot. Tony Coad got into the modern stakes with a 1952 Series Holden ute (Townsville to Wagga, in second year, taking a bit over two days). Karl Schirmmeyer started off with a 1946 Ford sedan and later a Ford Mercury. Eric Smith was in the same vintage as Tony, owning a 1952 Morris Minor, while Denis Hersey was the owner of a Vauxhall Velox.

Socially, the Wombat 'truckies' formed close friendships as a group and also in town. The hospitality of country people was nowhere more generous than that shown by the people of Wagga Wagga, and a number of 'truckies' during the second year of the course found a 'home away from home'. The warmth extended by the families of Margaret Nash, Julie George, and Gillian Reinhardt, found us spending time together over a Sunday. Meanwhile, Eric Smith had developed a friendship closer to the base with LACW Anne Mansford. Each of these friendships developed into long-term partnerships through marriage.

Wombats – 50 Years On

There were many outings and an occasional Sunday afternoon picnic at Brick Hill on the banks of the Murrumbidgee River saw many a fish caught by the not so professional. These friendships with local girls also placed additional demands and responsibilities on the apprentices. These included Wombats doing their duty to assist with activities in the local community, such as partnering Margaret and Julie when they made their debut in 1960, just a few years before becoming Mrs Coad and Mrs Benton, respectively.

There is no doubt that not only our Wagga training but continued Service training made available to us throughout our individual Service careers, and the advice passed on by senior members, provided the discipline, self-belief and the confidence to be active and worthy members of the community in post-Service life.

How does one put into words all of those wonderful experiences that we all shared during those 'getting to know you' days? All members of 10 Motor Transport Flight created and shared a sense of mateship, team spirit, and a feeling of achievement in graduating together as a team. We sincerely hope that, with the writing of the *Wombats* book, not only **old** but many **new** experiences and memories may be shared by each of us; and remember, 'it does not stop here'.

From all Wombat 'truckies', health and happiness to all our fellow Wombats and their families.

CHAPTER 7

TECHNICAL WOMBATS

TRADESMEN, GRADUATES AND BEYOND

After Wagga, the apprentice Wombats were released into the RAAF's technical workforce. For most, it was a posting to an aircraft depot to complete the two years of training required to formally complete their apprenticeship. For a small group of Wombats, it was a matter of moving from one form of intensive technical training to another in what was known as the RAAF Diploma Scheme, where cadets underwent a three-year Diploma of Engineering course at the Royal Melbourne Institute of Technology (RMIT).

After graduating as tradesmen in December 1960 the Wombats were posted to either No 1 Aircraft Depot (1AD) Laverton, Victoria; No 2 Aircraft Depot (2AD) Richmond, New South Wales; or, No 3 Aircraft Depot (3AD) Amberley, Queensland; or in the case of some 'truckies' to the Motor Transport Repair Section (MTRS) at Villawood NSW. These initial postings from Wagga's full-time training were for twelve months, to gain on-the-job experience as qualified tradesmen under experienced supervision, following the three year formal apprenticeship training at Wagga. These qualified Wombat tradesmen had already completed and passed their respective trade tests and had been classified as fitters with the rank of aircraftmen (AC).

Under the apprentice training syllabus, qualified Wombats undertook supervised on-the-job training in their fourth year. This consisted of depot level maintenance and assessment that generally involved repair and overhaul for the preventative maintenance of RAAF aircraft and their components at aircraft depots, and of motor transport assets at a repair shop.

Each of the depots had specific aircraft types to support⁴¹ and some Wombats believed that they were possibly being channelled into a preselected career path onto particular aircraft types.

In the case of the 'truckies', their postings were to a Motor Transport Repair Section (the 'truckie' equivalent of the Aircraft Depots) located at 1AD and 3AD, and also at Mascot, (later moved to Villawood). Like their aircraft trades counterparts, they too were involved in depot level maintenance as applicable to motor transport assets.

⁴¹ The primary aircraft supported by the individual depots in 1961 were: 1AD – F-86 Sabre and its associated component parts; 2AD – C-130A Hercules and P2V-5 Neptune and their associated component parts; 3AD – GAF Canberra, Long Nose Lincoln and, later, F-86 Sabre and their associated component parts.

For many, the Wombat postings to 1AD were short-lived, as the RAAF underwent restructuring of its aircraft depot functions with 1AD aircraft operations being transferred to 3AD. Thus, in April/May, Wombats in most aircraft trades at 1AD were posted to either 2AD or 3AD for the completion of their fourth year of apprenticeship training. The exceptions were 'sumpies' and the 'truckies', who continued to work on the overhaul of Avon jet engines and motor transport respectively at 1AD. However regardless of where they were posted in that year though, their work experience and training were essentially the same.

The 'truckies' undertook the major servicing and repair of the RAAF's commercial fleet of staff cars, vans, trucks and buses and other transport vehicles. Their experience also extended to the maintenance of specialist aircraft ground support equipment (GSE), such as aircraft tugs and road-transportable ground power trailers, as well as the various fire and early rescue trucks and cranes, including the giant 50-ton Le Tourneau aircraft salvage crane.

Motor Transport Repair Sections were divided into vehicle maintenance subsections of chassis, engines, electrical, machine shop and diesel injection servicing areas, and tool stores including spare parts and consumables. Wombat 'truckies' were rotated through each of the subsections for a minimum period of one month. The servicing of RAAF motor transport was akin to aircraft servicing levels and schedules. The vehicles undergoing major servicing were stripped to the bare chassis with the subassemblies (engines, electrical, fuel, etc.) being forwarded to their respective subsections for repair, re-manufacture and performance testing. The reassembled vehicle was then also performance and roadworthiness tested, before passing through the panel and paint shop and then being returned to RAAF service.

Those Wombats in aircraft musterings underwent similar work experience at their depot level maintenance workplaces.

Airframe fitters were involved in depot level maintenance as associated with all aircraft type life cycle maintenance. This depot level maintenance for aircraft was usually for 'D' or 'E' servicings which reduced the aircraft to its basic airframe structure from where it was cleaned, inspected and reconditioned for a further five to ten years of service.⁴²

This process provided experience on the mechanisms, linkages and workings of the aircraft flight control surfaces (ailerons and elevators), flaps, ramps, access and weapons bay doors and undercarriage systems. Depot level maintenance also introduced the 'framies' to airframe structures and monocoque design. As apprentices, these airframe fitters were fortunate to gain actual aircraft maintenance experience in fourth year. Wombats of other trades (electrical, engines, and instruments) were only involved in bench level maintenance within workshops. As well as their actual aircraft maintenance

⁴² Aircraft servicing was classified in order of magnitude from a B/F servicing (before-flight), A/F servicing (after-flight), 'A' servicing (weekly), 'C' servicing (monthly), 'D' servicing (200/250 aircraft flight hours) to an 'E' servicing (800/1000 aircraft flight hours).

Technical Wombats

experience, airframe fitters were also rotated through ancillary hydraulics and wheel bay workshops.

The electrical fitters undertook the bench level repair and overhaul work on a wide range of aircraft components. The Wombats at 2AD were generally responsible for electrical components from the C-130 Hercules and the Dakota transport aircraft and the maritime P2V-5 Neptune. Those at 3AD covered Canberra and Lincoln bombers and Sabre fighter aircraft. At these depots they gained experience on alternators, generators, electromechanical actuators, pumps, magneto and high energy ignition components, anti-skid devices, etc., as well as base battery room operation. As testing of all electrical components was independent of repair/overhaul operations, there were some Wombat electricians who were fortunate enough to be rotated through the test station facility. The scourge of the electrical fitter was the supervising corporal or sergeant, who sentenced incorrectly lock-wired components to be redone.

Wombat instrument fitters at 2AD and 3AD undertook the repair and overhaul of aircraft flight instruments and components from the same range of aircraft as their electrical counterparts. Their workload included the full range of aircraft flight instruments (pitch, yaw, turn and slip, rate of climb, bezu ball, etc.), gunsights, bombsights, navigation equipment (including gyro units, master indicators and control panels, and air mileage units), oxygen equipment, and pitot-static and general system condition monitoring instrumentation (RPM, pressure and temperature, etc.). They also maintained test equipment and ensured that equipment like the Bryant's oxygen station water manometers were filled and serviceable.



Wombat Instrument Fitters at Work at the Aircraft Depot

AC Bart Valom (Front Centre) and AC Russ Garraway (Back)

The engine fitters generally had an extremely structured introduction to their trade. Even though most of the depot level maintenance of engines was the domain of the civilian contractor, the engine fitter nevertheless could gain full overhaul experience on the Avon Mk 1 and Mk 101 jet engines at 1AD, and at 2AD on reciprocating Pratt

& Whitney radial engines, such as the Twin Row Wasp (Dakota) and Wasp Junior (Winjeel), and the Wright Turbo Compound Radial Engine (Neptune). These tradesmen were also rotated through ancillary sections, such as propeller bay, cylinder bay, fuel components workshops and engine test bay operations.

The Wombat armourers, depending whether they were at 2AD or 3AD, undertook the repair and overhaul of 30 mm Aden guns, Martin Baker and North American ejection seats, various bomb carriers, Sidewinder and pyrotechnic launchers, and conducted test and ferry operations. Those at 3AD gained experience in the major servicing ('E' servicing) of Canberra and Lincoln aircraft, and those at 2AD, on P2V-5 Neptune aircraft.



No 11 Squadron P2V-5 Neptune – c. 1960

All Wombat tradesmen became very familiar with the RAAF technical publications system of Australian Air Publications (AAPs). Regardless of whether it was the aircraft, its propulsion engines or any of the aircraft ancillary trade systems or their component parts, the equipment was maintained and tested in accordance with its respective AAP. The motor transport trade category also adhered to the AAP system of technical publications for all levels of vehicle maintenance.

Throughout the duration of the fourth year of apprenticeship training at the Aircraft Depot/Motor Transport Repair Section, weekly time sheets had to be diligently maintained by Wombats. These time sheets recorded each individual's daily activities and the time spent working on all aircraft or MT vehicles and the repair/overhaul of their component parts. The time sheets provided not only a means of repair costing and a basis for manning levels, but also a means of gauging the experience and progress of an individual apprentice.

Apart from the obvious time recording of the maintenance tasks at hand, the time sheet also accounted for all sundry trade duties (component log entries and worksheet

entries), base duties (guard, fire crew), sport, parades and musters (including sick parades), morning and afternoon tea breaks ('smokos'), and personal administrative and personal hygiene times.

At the end of each week a reconciliation of man-hours was conducted by comparing time sheets and maintenance worksheets. The use of time sheets for tradesman proficiency assessment was always vigorously denied, but if hours accumulated on a specific maintenance task were compared with a standard repair time for that maintenance, it was not difficult to make an assessment of individual performance and progress.

Probably at the same time, all of the fourth-year Wombat apprentices were preparing themselves to pass their respective trade tests to allow their reclassification to Leading Aircraftman (LAC). This was their last action as fourth-year apprentices before being posted to their new destinations to commence the fifth year of their apprenticeship.

Overall, the experience of the fourth-year apprentice at the Aircraft Depots and Motor Transport Repair Sections was one of freedom, enlightenment, learning and satisfaction.

January 1962 saw Wombats dispersed as LACs even further afield to advance their trade training as fifth-year apprentices. For the aircraft fitters, 'blackhanders' (airframe and engine trades), 'queer trades' (electrical and instrument trades) and 'gun plumbers' (armourers), their expertise in their trades was to be further developed by operating and maintaining aircraft at operational bases or maintenance squadrons. The interdependence of one trade on the others also became apparent in meeting the common goal of aircraft serviceability and operation.

Whereas some Wombats had had the benefit of gaining actual aircraft maintenance experience whilst undergoing fourth year, the experience of others was generally limited to component, bench level maintenance activities. The next step into true Air Force operations and maintenance was keenly anticipated by all Wombats on posting to their new units.

Some of the Wombat personnel at 2AD and 3AD actually remained at the Richmond and Amberley bases and were posted to the operational and maintenance squadrons there. Those remaining at RAAF Richmond became members of No 36 Squadron (Hercules), No 11 Squadron (Neptune), and Nos 37 or 38 Squadrons (Dakota). The Amberley contingent remaining on base was posted to Nos 1 or 6 Squadrons, No 1 Operational Conversion Unit (1OCU) or No 482 Maintenance Squadron, as operators or maintainers of the GAF Canberra bomber.

Those Wombats who had not been retained at Richmond and Amberley and deployed to the operational and maintenance squadrons of those bases, proceeded on their fifth-year postings further afield geographically and operationally. Postings to RAAF Base Williamtown, north of Newcastle, deployed Wombats to Nos 75 and 76 Squadrons and No 2 Operational Conversion Unit (2OCU), operating the Australian-modified North American F-86 Sabre fighter aircraft—the Commonwealth Aircraft Corporation CA-27 Sabre. Others were posted to No 481 Maintenance Squadron, the Sabre maintenance support squadron. Both 2OCU and 481 Squadron, respectively, also operated and maintained the twin-seat de Havilland Vampire jet trainer aircraft. At

RAAF Williamtown, No 30 Squadron operated the Bristol Bloodhound surface-to-air long-range high-altitude air defence missile until November 1968.

The numerous posting options for fifth-year Wombats included:

- RAAF Base East Sale, in the East Gippsland region of Victoria, where Central Flying School flew the dual-seat Vampire jet trainer, which was serviced and maintained by Maintenance Squadron East Sale (MNTSQN ESL) personnel;
- RAAF Base Edinburgh, north of Adelaide in South Australia, where Maintenance Squadron Edinburgh (MNTSQN EDN) supported the operations of the Weapons Research Establishment (WRE) and the RAAF Air Trials Units (Edinburgh and Woomera). The MNTSQN EDN posting gave the Wombats posted there a broad experience in a range of RAAF and RAF aircraft (Meteor, 'long nose' Meteor, Dakota, Bristol Freighter, Canberra, Jindivik and a sole Otter).
- RAAF Base Point Cook, 25 kilometres south-west of Melbourne on the shores of Port Phillip Bay, which was the home of No 1 Basic Flying Training School (1BFTS), operating the CAC Winjeel aircraft;
- RAAF Base Laverton, 6.5 kilometres directly north of Point Cook, which was then the home of the RAAF Aircraft Research and Development Unit (ARDU) with responsibilities for flight trials and development sorties of every aircraft in the Australian Defence Force of that time. An ARDU aircraft in operation at the time, and of special interest, was the Avro 707A which was the British V-bomber flight trials testbed.
- RAAF Base Pearce, north of Perth, Western Australia, where No 2 Flying Training School (2FTS) operated the dual-seat Vampire jet trainer.
- RAAF Base Townsville on the Far North Queensland coast where No 10 Squadron were in the process of re-equipping from the Long Nose Lincoln to the new Lockheed P2V-7 (SP-2H) Neptune maritime reconnaissance aircraft.
- RAAF Base Fairbairn, in the national capital, where a select few Wombats were posted to No 34 (Special Transport) Squadron that operated a VIP fleet of two Metropolitans and a number of VIP Dakotas, and four dual-seat Vampires, two Winjeels, a Dakota freighter and, on a visiting basis at the disposal of the Chief of the Air Staff, a Canberra bomber.

On the other hand, at the completion of the MT fitters' fourth year of apprenticeship, their postings to their fifth-year positions were somewhat different to the aircraft fitters' posting. The 'truckies' postings included base squadrons, stores depots and aircraft squadrons. Their previous work of major vehicle overhauls reverted to day-to-day servicing and vehicle breakdown repairs.



Lockheed Convair Metropolitan of No 34 Squadron

Most base squadron postings for MT fitters involved regular vehicle maintenance support operations associated with the daily workings of a composite, multifunction RAAF base. RAAF Base Darwin was probably an exception in that its Motor Transport Section provided maintenance support for aircraft tractor tugs and rescue/salvage cranes.

'Truckies' posted to the stores depots had mixed responsibilities. They were responsible for the day-to-day operation of the depot's fleet of forklifts (No 1 Stores Depot alone had a fleet of 30 plus) and other vehicles, and yet on the other hand they had a responsibility to accompany interstate road transport freight deliveries as the vehicle breakdown maintenance fitter, and were generally 'on call' at all hours for emergency roadside repairs.

The 'truckies' posted to the aircraft squadrons, such as 36 Squadron, 481 Squadron and MNTSQN ESL, maintained the unit's ground support equipment (GSE). All road vehicles remained the responsibility of the residing base squadron.

By mid-January 1962, the Wombats were settled into their new operational or maintenance environments. The quantum leap from aircraft component servicing to actually being involved in the daily flying activities and squadron operations, or the strict time schedules of aircraft major servicing turnaround times, was exciting and engrossing for each individual.

Everyone on operational posts was involved in the daily routines of aircraft before-flight (B/F), after-flight (A/F), weekly (A) and monthly (C) servicings. This of course, was strictly supervised, and with servicing manuals or check cards to hand. Those Wombats posted into maintenance operations underwent a similar process but possibly in reverse. The maintenance tradesman performed in-depth maintenance activities on the aircraft strictly to the letter of the maintenance manual, signing off and certifying each step of the process as conforming to specification. Introduction to B/F and A/F servicing came at the completion of each aircraft's major servicing when it performed test flights. There

came a day, at some stage through this year, that Wombat tradesman were authorised to perform the respective aircraft servicing in their own right, without supervision, and actually sign off the aircraft as airworthy in the aircraft servicing log, the EE77.

At last Wombats were working on aircraft flight lines and hangar hardstandings around Australia. They participated in aircraft handling, marshalling, sortie turnaround, refuelling and flight system fault rectification, and were involved in the necessary flight line teamwork required each day. The more in-depth servicing activities of engine changes, engine ground runs (engine performance and electrical power set-up and performance checks), compass swings, ejection seat removals/installations and flight control adjustments were all eventually mastered during the year. The armourers installed live ordnance (bombs, rockets and 20 mm and 30 mm cannon ammunition) for their respective aircraft, live weapons range sorties.

The inter-trade rivalries, although present and frequently voiced in friendly terms, were seen to be an integral part of the overall teamwork necessary to achieve the daily flying programs or meet aircraft major servicing schedules. This was particularly so when the work environment varied from summer heat extremes (35°C to 40°C plus, with the added radiant heat and glare from the white concrete hardstandings) to the cold winters of 0°C or less with the accompanying prevailing wind chill factor of rain, sleet and frost.

The 1979 film *Apocalypse Now* introduced to the world the quote of Lieutenant Colonel Bill Kilgore, 'I love the smell of napalm in the morning'. This was probably a direct steal from the aviation environment of jet engine operations with their distinctive aroma of burnt kerosene permeating body and clothing. Wombats applied themselves within this environment and readily accepted the conditions and became adjusted to the discomforts. From a health and safety perspective, the availability and distribution of safety clothing, such as earmuffs (for protection from jet engine noise), anti-skid safety shoes (against kerosene and oils), wet weather and adverse weather gear and, later, kidney belts (for the prevention of body organ vibration from low frequency noise generated during engine ground runs) was slow to materialise. Unfortunately, solar glare and reflection from the concrete tarmacs and hardstandings and extended periods of skin exposure to the sun's harmful rays were never seriously addressed in the Wombat's term of service.

Rounding off the fifth year of the aircraft engineering apprenticeship, the Wombats participated in night flying activities, early starts and late finishes. All of these activities were new experiences but covered the same daily routine of activities, only performing them in the dawn hours or at night. As 'overtime' was not wage-recompensed, these 'out of hours' activities introduced a new concept called the 'leave in lieu book', but more on that later.

The other thing that Wombat tradesmen had to do at some stage within the fifth year was to prepare for, and pass, the corporal's trade test and promotion examination. With this milestone out of the way, the Wombat tradesman was now positioned to follow his trade career path or look for alternative options.

Wombats were soon to recognise that many options for advancement existed in the RAAF outside of their own musterings. In order to pursue these opportunities though,

Technical Wombats

Wombats would generally need to pursue higher education qualifications. Consequently, a large portion of the Wombats enrolled in evening colleges, primarily to study for the NSW Leaving Certificate, or equivalent qualifications in other States. Although difficult, many Wombats persisted in managing evening studies, together with irregular working hours, and achieved their goals.

The culmination of the fifth year of the aircraft engineering apprenticeship was the official awarding of the RAAF Apprentice Proficiency Certificate to formally recognise the completion of each apprentice's five-year course of training. For some, this was recognised by presentation of their Proficiency Certificate at full formation parades and, for others, at individual presentations.

January 1963 and the following years opened yet more doors to the now fully certified Wombat tradesmen. At their extant fifth-year apprenticeship posting they were now viewed as proficient tradesmen with the ability to carry out most of their duties autonomously, and the nous to ask for guidance when a situation was beyond their current capabilities or knowledge.



The CAC Sabre Aircraft

Wombats became proficient members of their squadron's aircraft servicing and maintenance teams. Operational deployments of the Sabre fighter squadrons from RAAF Williamtown and the Canberra bomber squadrons from RAAF Amberley to RAAF Darwin became regular mobility exercises. The deployments were usually of two to three week duration and occurred at least three to four times a year for each squadron.

One further opportunity open to Wombats in 1963 was an overseas posting to RAAF Base Butterworth in Malaysia, with Canberra and Sabre aircraft operating from the same South-East Asian base.

A contingent of 3 Squadron and 77 Squadron Sabres from Butterworth also formed the newly established 79 Squadron in Ubon, Thailand, from 1962 through to 1968 to

satisfy Australia's SEATO commitments. The ground crew personnel for 79 Squadron were drawn from Butterworth and rotated to Ubon.

This was also at the time of the Indonesian Confrontation, announced shortly after Malaysia gained independence. Wombats were regularly on attachment to Singapore during this period for 'air power' demonstrations for the benefit of Indonesia. This was not only as ground crews, but with Wombat Terry Wilson, recently qualified as a pilot, flying Sabres in these activities. In September 1964, the Sabres were deployed for a short period to Labuan, off the north-west coast of Borneo. This was to cover the operations of an RAF Hunter squadron that was temporarily unavailable while modifications were undertaken to its aircraft. Shortly thereafter, an attempted coup in Indonesia saw a moderation of Indonesia's Confrontation policy and it formally ended in 1966.⁴³

The Neptune maritime reconnaissance aircraft of 11 Squadron operated Australian coastal patrols out of RAAF Richmond. The patrols leapfrogged the Australian coastline via overnight stops at RAAF Darwin and RAAF Pearce and often returned to their home base via a flyover of Flinders Island in Bass Strait. These patrols were always accompanied by a maintenance crew of engine, airframe and electrical fitters, who also operated as observers on an 'as-required' basis. Other deployments of the maritime squadrons (10 Squadron was re-equipping with the P2V-7 Neptune in 1963) were to Butterworth (Malaysia), Sangley Point (Philippines) and Barbers Point (Hawaii).

In support of operational deployments were the C-130A Hercules of 36 Squadron, RAAF Richmond. The Hercules provided the heavy lift capability required to support a full squadron deployment of Sabre or Canberra aircraft with the uplift of the essential squadron fly-away kits and all ground crew personnel. The overseas deployments of the Neptune maritime aircraft were also supported by the operations of 36 Squadron Hercules to cater for the fly-away kits and those ground crew personnel who did not secure themselves transit rides in the deploying Neptunes.

The Hercules also provided regular logistic support within Australia to all Air Force bases and the Canberra and Sabre operational squadrons (2, 3 and 77 Squadrons) stationed at Butterworth in Malaysia and the Sabre operations at 79 Squadron in Thailand.

The operation of the C-130A Hercules aircraft, with their flight engineer crew member, generally precluded the deployment of 36 Squadron ground crew personnel during normal deployment exercises. If, however, a deployed Hercules succumbed to unserviceability, such as an engine failure or an airframe or electrical malfunction that the flight engineer could not rectify, then the services of 'Rescue 8' were called for. 'Rescue 8' was the stand-by Hercules, complete with a full complement of ground crew personnel and aircraft spare parts necessary to salvage the stranded unserviceable aircraft. The 'Rescue 8' team members could find themselves, on short notice, anywhere within Australia or the immediate South-East Asian vicinity.

⁴³ George Odgers, *The Royal Australian Air Force: An Illustrated History*, Child & Henry, Brookvale, 1984, p. 163.

Technical Wombats



No 11 Squadron P2V-5 Neptune on Deployment



Hercules C-130A Aircraft

With all of these deployment activities taking place concomitant with the regular home base activities of each of the operational squadrons, there was ample opportunity for the Wombat tradesmen involved to subsequently undertake servicing and repair of in-flight component or system failures or operational unserviceability.

The contingencies arising in fighter and bomber squadrons were more common because of the larger number of aircraft within their operations. Sabre aircraft performing

emergency aerodynamic braking landings with the nose wheel ‘hung-up’ were seemingly regular for the 481 Squadron maintenance fitters on whom the repair responsibility fell. A more spectacular Sabre emergency landing was the occasion of an aerodynamic braking landing with the starboard main undercarriage wheel ‘hung-up’. As the landing speed ‘washed off’, the aerodynamic braking effect reduced and the starboard wing lost its lift and impacted the ground still at some considerable speed. The resultant pirouetting Sabre and accompanying dust storm circling the RAAF Williamtown TACAN beacon was quite a sight.

There were other flight and flight recovery incidents which served to expand the servicing and maintenance experiences of Wombat tradesmen. Aircraft landings with blown tyres or undercarriage or brake failures were other prime causes. Examples included a Vampire wheels-up landing on a fire retardant foam-covered landing strip, hastily laid by RAAF firemen. Other incidents involved Sabres and other aircraft with blown tyres leaving the runway and embedding themselves in sand or soft turf, and Mirage fighters being caught by the end-of-runway arrester net. These types of incidents presented unique circumstances of aircraft salvage and recovery for the ‘crash crew’ recovery teams and one-off repair problems for the respective trades.

From a maintenance error perspective, the more spectacular incidents in which some Wombat tradesmen may have been involved related to the ejection and jettisoning systems of the Canberra and Neptune aircraft, respectively. For the Canberra, it was the inadvertent activation of the explosive bolts securing the cockpit canopy and escape hatches—‘Could you please show me how you did that?’ ‘Well, Sir! It was like this ...’ Bang! And another canopy hit the tarmac. Similar, was the jettisoning of Neptune wingtip fuel tank and search light pods, which resulted in them receiving ‘blunt trauma’ impact damage on striking the tarmac.

From an occupational health and safety (OH&S) aspect, something that was not of a high priority in the early 1960s, the two instances of most danger and threat to life of those involved were weapons-related. A flight of four 76 Squadron Sabres was preparing for an air-to-ground rocketry exercise using inert rockets, when the usual pre-flight flap check of one aircraft by the pilot resulted in the launch of a rocket whilst the aircraft was still on the tarmac flight line. The rocket narrowly missed the aircraft ground crew and an aircraft tug tractor, before ricocheting off the tarmac with its trajectory taking it across two taxiways and off into the surrounding bushland. A lot of white (red) faces but, luckily, there were no injuries or equipment damage.

A similar weapons malfunction on a Mirage fighter saw the ground firing of the aircraft’s 30 mm DEFA cannon; however, once again, no injury or damage resulted.

The interactions between the aircrews and the ground crews throughout the Air Force can be demonstrated in many ways. Some prime examples include the squadron Christmas parties held at RAAF Williamtown. The annual parties of the early 1960s were always all-day events for each squadron and held at the same isolated ocean beach known as Box Beach, just south of the Port Stephens south head. The day was always one of food, refreshments (alcoholic and non-alcoholic of course), sports, surfing, sunbaking and sunburn, and always accompanied throughout the day with Sabre aircraft low-level (100 feet) bombardments with flour and toilet paper from the aircraft speed brake

Technical Wombats

wells—a source of enjoyment for all those on the beach, but also a chance for derision from some (the pilots of the partying squadron were also on the beach) as the pilots tried to hit their targets. Another fighter interaction, overseas, was the supersonic experience for ground crew wishing to take a ride in the Mirage dual-seater of 75 Squadron over northern Malaysia.

Neptune sorties also provided a few unusual experiences for the ground crew that were on board at times. It has been rumoured that whilst on Australian coastal patrols the odd lonely car on the Nullarbor in the middle of the night was ‘spotlighted’ at high speed / low altitude. It could account for a few ‘bright light’, mid-Nullarbor UFO reports in the mid-1960s. A more official sortie that the ground crew of the Neptune maritime reconnaissance aircraft recall was ‘escorting’ a Russian submarine in the seas off Gabo Island, out of Australian waters in the early 1960s.

At times the Canberra bomber provided a high-priced taxi ride for individuals, as circumstances warranted, to ferry someone from A to B whilst sitting in the ‘dicky-seat’.

Throughout the early to mid-1960s the Wombats became more and more proficient, wider travelled, confident and trusted in their role as aircraft ‘technicians’. Regardless of the circumstances, whether the result of systems failures, aircraft accidents, maintenance errors or just from the hard slog of being an aircraft fitter supporting the Air Force flying program, Wombats became respected members of the RAAF’s maintenance team.

Early starts and late finishes were the norm and the accumulation of overtime in the form of ‘leave in lieu’ credits became the standard practice. As will be evident later, honouring these ‘leave in lieu’ credits became impossible and at various stages throughout their careers most Wombats had their ‘leave in lieu’ credits written off. These write-offs were not piddling affairs but often represented credits up to the value of 150 hours over a six-month period. To put it another way, Wombats and all other technicians of the Air Force during this period, were accruing anything up to 18 days ‘leave in lieu’ over a six-month period which was written off without recompense, be it time off or pay in lieu.

By the mid-sixties, Wombats were core members of the maintenance team. They were competent, experienced, qualified for promotion and ready for leadership roles.

At the time the Wombat tradesmen had completed their apprenticeship in December 1962, they had finished five years of comprehensive training, had five years of Air Force experience behind them and had reached the ripe old age of 20 or 21 years.

At this time the Air Force was at a hiatus of development. Its fleet of aircraft at the time (less attrition losses) consisted of the following:⁴⁴

- 111 x CAC Sabre fighters, the first delivered in August 1954 and the last delivered in December 1961. The Sabre aircraft was officially retired from the RAAF on 31 July 1971.

⁴⁴ All aircraft numbers and dates are taken from the RAAF Museum website, <http://www.airforce.gov.au/RAAFmuseum/research/aircraft.htm>, accessed 1 May 2011.

- 110 x Vampire jet trainer aircraft for advanced pilot training that were flown by the RAAF from 1952 until 1970.
- 48 x GAF Canberra bombers, plus two British-built Canberra T4 trainers, which were all in service by September of 1958. The last official Canberra flight was on the 30 June 1982.
- 62 x Winjeel trainer aircraft for initial pilot training, all of which were in RAAF service by early 1958. The majority of the Winjeel aircraft were phased out of service in 1975 but a few remained until 1994 as forward air control trainer aircraft.
- 12 x Lockheed P2V-5 Neptune maritime reconnaissance aircraft that were operational until 1969.
- 12 x Lockheed C-130A Hercules transport aircraft, which had come into service in 1958. The C-130As were replaced by C-130H models in 1978.
- An unknown number of Douglas Dakota C-47 transport aircraft operating with Nos 37 and 38 Squadrons, ARDU, and Test and Ferry Flights around the Australian RAAF bases and also with the various Flying Training Schools.
- A sprinkling of other aircraft, including a small number of Meteor jet fighters, one Sikorsky S-51 helicopter, two Bristol 171 Sycamore helicopters, two DHC-3 Otters, two Convair CV-440 Metropolitans of the VIP Flight, and a squadron of Cessna 180s prior to Army Aviation autonomy.

All up, the RAAF's aircraft strength at the end of 1962 was in the vicinity of 400 aircraft and throughout the 1960s a large percentage of these aircraft were kept in operational service.

After the RAAF hiatus in force development, following the successful introductions of the P2V-5 Neptune, Sabre, Canberra and C-130A Hercules aircraft, came a renewed expansion of the Air Force. Beginning with deliveries commencing in mid-1962 and progressing through to the last major procurement in 1969 and final aircraft delivery of the expansion era in late 1973, the Air Force initiated the procurement of a total of 249 new front-line fighters, maritime reconnaissance, logistic transport, VIP transport, helicopters and trainer aircraft. This era covered the full period of the Wombat tradesman's initial term of engagement with the RAAF.

The procurements were staggered and generally done in batch lots with deliveries, depending on aircraft type, being over a couple of months or several years and out to a long-term procurement of 10 years.⁴⁵

The expansion started with the delivery of 12 P2V-7 (SP-2H) Neptune maritime reconnaissance aircraft in mid-1962 to replace the ageing Long Nose Lincoln maritime aircraft of 10 Squadron. In late 1962, the Bell UH-1 Iroquois multi-role and transport helicopter procurement was begun. Initially in October 1962 for a batch of eight aircraft

⁴⁵ *ibid.*

Technical Wombats

and subsequently followed with additional batches of eight in December 1963, eight plus six in late 1964, 16 plus two in February 1968, and a final seven in 1970, for a total of 55.

The Mirage was the next aircraft procurement with orders for 100 fighters and 10 two-seat training aircraft (the procurement of a further six dual trainers was approved in December 1970). Deliveries commenced in mid-1964 and continued on till the last dual training aircraft delivery in January 1974. The first 50 fighter aircraft were built as interceptors, with the second 50 being produced as ground attack variants. The procurement batches were made in lots of 30 + 30 + 40 for the fighters, and 10 + 6 for the duals.



Wombat 'Framie' Ken Moore attends the 'French Lady'

The next aircraft procured was the de Havilland Canada DHC-4 Caribou light tactical transport aircraft—with an impressive short take-off and landing (STOL) capability. The first of the initial procurement of 18 aircraft was delivered to the RAAF in February of 1964 in Canada. Subsequent orders for an additional seven and a final four aircraft were made, with the last aircraft being delivered in 1971, for a total of 29 aircraft. Further enhancement of the RAAF transport capability was made from August 1966 to January 1967 when 12 Lockheed C-130E Hercules medium transport aircraft were procured and delivered to 37 Squadron.

The politicians were the next beneficiaries of the Air Force expansion, with the 1967/68 procurements of seven aircraft for VIP operations. These purchases were for

two Hawker Siddeley HS748 light transport aircraft, three Dassault Mystere 20 short-range, eight-seat passenger transport aircraft, and two British Aircraft Corporation BAC-111 passenger transport (28 seat) aircraft, all converted to VIP configurations. In addition, there were a further eight HS748 aircraft procured for School of Air Navigation operations.

A further major procurement was the Aeromacchi MB-326H basic and advanced trainer aircraft to replace the Winjeel and Vampire training aircraft. The 87 Macchi aircraft were introduced over a four-year period from October 1968. Another 10 aircraft were procured for the Royal Australian Navy.

The last significant aircraft procurement that had an influence on the shaping of Wombat tradesmen was ten Lockheed P-3 Orion maritime reconnaissance aircraft to replace the ageing P2V-5 Neptune aircraft of 11 Squadron in January of 1969.

Another aircraft procurement program which heavily impacted on RAAF manning levels across the whole spectrum of aircraft procurement, introduction and operation was the purchase of 24 General Dynamics F-111 strike/reconnaissance aircraft. Ordered in 1963, the first aircraft was delivered in September 1968 but the fleet was consigned to permanent storage by General Dynamics pending resolution of design faults and finally delivered en masse (24 aircraft) to RAAF Amberley in the June–December period of 1973. The delayed F-111 program saw, under a special lease arrangement between the RAAF and the American Government, the operation of 24 F-4E Phantom ground attack, air superiority fighter aircraft as a stopgap measure from September 1970 until 1973, at which time these aircraft were returned to the United States Air Force (USAF).

The phased melding of the new with the old over virtually the entire 1960s era and onwards was a direct reflection of Wombat tradesmen assimilation into the RAAF. The new aircraft resulted in the establishment of ‘field training flight’ schools at operational bases to teach the intricacies of new systems and technologies. New aircraft maintenance philosophies of independent squadrons with higher levels of maintenance responsibility and subsequent higher manning levels were introduced. The new technologies expanded the trade knowledge of tradesmen and further developed their competency and confidence as technicians.

Further to the operation of its core of pre-1962 fighter, bomber, maritime reconnaissance and logistical transport aircraft, and the RAAF’s post-1962 ongoing expansion, the burden of Vietnam was superimposed on Air Force commitments.⁴⁶

- In July 1964, three DHC-4 Caribou aircraft on ferry from Canada to Australia, via Butterworth, were diverted to become the RAAF Transport Flight Vietnam (RTFV) operating out of Vung Tau. The initial three aircraft were joined by another four in August 1964 and in June 1966 the RTFV became No 35 Squadron. The Caribous remained in Vietnam operating ‘Wallaby Airlines’ until February 1972.

⁴⁶ Vietnam aircraft deployments, numbers and dates courtesy RAAF Museum website.

Technical Wombats

- In May 1966, the first batch of No 9 Squadron Iroquois helicopters was deployed to Vietnam for operations out of Vung Tau, until their withdrawal in December 1971.
- In April 1967, the 2 Squadron GAF Canberra bombers began operations in Vietnam, from Phan Rang, with the USAF's 35th Tactical Fighter Wing. The squadron remained operational until June 1971 when it returned to Amberley to be the last Canberra operating squadron in the RAAF.
- During the Vietnam conflict, No 10 Squadron Neptune maritime reconnaissance aircraft operated out of U-Tapao in Thailand providing air radar support to the USAF B-52 bombers, and also from the Philippines in support of HMAS *Sydney* during her deployments to and from Vietnam in 1969.

At this stage of their careers many Wombats were looking for promotion and advancement in their chosen careers. However, in view of the changing face of the Air Force their promotion prospects were being influenced by many factors. In summary, these included:

- The core Air Force pre-1962.
- The expanding Air Force post-1962.
- New aircraft systems and technologies.
- Vietnam War involvement.
- SEATO operations in Ubon.
- Five Power Defence Arrangement (FPDA) operations in Malaysia.
- Rotational needs of overseas postings.
- Post–World War II career airmen retentions.

By the end of 1964/65 the Wombats were in a position whereby all of the influences possible on promotion were coming into effect. The least apparent being that of World War II career airmen, who by now had completed their 20 years of service required for pensionable retirement and were starting to exit the Air Force.

The promotion assessment process looked at performance, knowledge and effectiveness of the individual, as well as his time in rank and vacancies in the next rank. Most Wombats were well positioned at that time, with advanced apprenticeship training, expertise in new systems and technologies, operational experience, broad knowledge of the RAAF and impressive airman-like qualities.

Differences in promotion prospects of Wombats were generally based on differences between trades mainly due to the vagaries of the trade structures. Airframe and engine fitters had parallel alternative paths directly linked to their basic trade qualification that could be pursued in the SNCO aircrew category of flight engineer. These positions were created with the introduction of the C-130A and C-130E Hercules, and the P-3 Orion

aircraft that led to promotional opportunities from vacancies in feeder musterings, especially airframes.

By and large, the major impact on the promotion prospects of Wombat tradesmen was the increasing number of aircraft. Increased manning levels resulted from the introduction of these new aircraft throughout the 1960s. The subsequent establishment of field training flights, self-contained fighter squadrons capable of performing major servicing on their own aircraft and, similarly, structured maintenance squadrons supporting the operations of Hercules transport squadrons, Orion maritime squadrons and Canberra squadrons, created new and increased promotion prospects.

Promotion prospects were also tied to the increasing needs for tradesmen by various musterings. This was generally through the ratio of aircraft sizes to manpower demands of these larger aircraft. Therefore, the bigger the aircraft, or the more complex the technology, the greater the number of tradesmen that were required. For example, as airframes got bigger and the number of engines increased, more airframe fitters and engine fitters were required to maintain the aircraft than, say, electrical or instrument fitters. Similarly, as the Air Force grew in terms of aircraft types and numbers, the opportunities for promotion also increased more for some trades in comparison to others, although technology changes and increased systems complexities also had an influence.

Another factor was related to retention rates within the Service. In the case of armourers and motor transport fitters particularly, there was a high retention rate in these musterings. This was probably because there were not the same opportunities or remuneration prospects outside the RAAF as in the Service for these trade groups as opposed to others.

The order of promotion of the Wombats generally followed the sequence of airframe, instruments and electrical at about 12-monthly intervals. The engine, armament and motor transport tradesmen brought up the rear, generally long after their counterparts. However, promotion of the Wombat tradesmen, in general, was rapid with minimal time in rank between promotions within their appointed musterings. Because of the promotion influences operating at the time there was a definite window of promotion opportunity for Wombat tradesmen. This window provided a short (1964–1972) two-rank promotion opportunity, but in some cases a three-rank step was achieved, before the influences of the 1973 Whitlam Government intervened.

By the end of the Wombat's formal apprenticeship in December 1962, most of the Wombat tradesmen had made personal development decisions which determined their future RAAF careers. Maintaining the status quo of being a highly trained specialist aircraft technician or motor transport fitter in the modern Air Force of the time was a rewarding and satisfying goal and lifestyle for many. However, some saw career advancement opportunities in remustering to alternative specialist career streams while others strove for opportunities as commissioned officers.

It was becoming apparent to individual Wombats at this early stage of their Air Force experience that they needed to meet required education standards or pursue alternative means to advancement. Most Wombats sought career change by achieving

Technical Wombats

the minimum time-in-rank qualification for advancement to commissioned rank or applied for remuster to an alternative trade or into airman aircrew.

Due to unforeseen circumstances, some Wombats cut short their Air Force careers on compassionate grounds after graduating from Wagga, for personal reasons and because of health conditions that rendered them unfit for Permanent Air Force (PAF) service.

One Wombat member was discharged on compassionate grounds to run the family business and became a very successful wine grape grower in the South Australian Clare Valley. Another Wombat tradesman who was discharged on medical grounds became a long-serving member of the Department of Navy as a senior weapons systems analyst. Those Wombats who left the RAAF upheld the ideals of the Wombat fraternity over the years and successfully pursued an incredible variety of careers and enterprises. Sadly, a number of Wombats died in RAAF service; in some cases, as a result of that service.

The opportunities for airmen to change streams from one mustering to another, especially in circumstances where the Air Force had already outlaid considerable funds in the five-year training program of the Wombat's aircraft engineering apprenticeships, were really only available in exceptional circumstances. During this period of the mid-1960s, the circumstances were fleet expansion and the need for additional airman aircrew personnel and also the establishment of new, or expansion of existing, specialist mustering such as photographic interpreters and hygiene inspectors.

In June of 1966, the first successful application by a Wombat to remuster to a C-130 Hercules flight engineer was granted. One of the qualifying criteria for this remuster was to be a sergeant or senior corporal of the airframe or engine fitting trades. Flight engineer half wings were awarded after lengthy classroom, simulator and flying training at RAAF Richmond. In the following years, a further five Wombats became aircrew flight engineers.⁴⁷

September 1966 saw Denis Hersey remuster from motor transport fitter into the ranks of the Air Force photographers. A shortfall in photographers occurred on the introduction of the new mustering of photographic interpreter, with a growing need for photographic interpretation expertise in the Vietnam conflict and elsewhere in the Air Force. The six-month photographic course was conducted at the RAAF School of Photographic in Laverton, Victoria, to replenish the feeder mustering.

Another airman remustered to hygiene inspector. Wombat armament fitter Ken Stone took this step in July of 1967 after having completed a lengthy composite qualifying course through the Institute of Aviation Medicine, Sydney University, National Acoustics Laboratories, the Australian Customs and Quarantine Services, and at 3 Aircraft Depot, Amberley.

The nature of the Air Force altered in the 1960s, with its aircraft fleet expansion and operational and maintenance philosophy changes, the expansion of the RAAF School of Technical Training at Wagga and the establishment of numerous field training flights.

⁴⁷ Ron Brown, Kevin Featherston, John Gracey, Tony Harding, Bob Haywood, Peter Kropman and Robin Weir.

Wombats – 50 Years On

This introduced airmen to the rigours of being an instructor and mastering ‘instructional techniques’. Although this was not a remuster of the airmen as such, it certainly directed many airmen (including Wombats) into different Service options and, for some, a post-Service career of TAFE teaching. Other Wombats moved into mustering, such as draftsman, simply on the basis of the improved career benefits after RAAF service.



Wombat Officers and SNCOs of the 1970s

L-R: Col Bradford, Mac Weller, Peter Cupitt, Terry Wilson, Peter Tickner, Ken Moore

The avenues of entry to commissioned service open to the Wombat tradesmen, other than those covered in the Diploma of Engineering course conducted at RMIT, were threefold. Generally, there was a requirement for a minimum standard of education—the NSW Leaving Certificate or other State equivalents—to qualify for commissioned rank. This standard was set for applicants for aircrew training (pilots and navigators) and other specialist categories (air traffic control, accounting, administration, etc.).

The Leaving Certificate was also a qualifying requirement for any airman wishing to apply for civil schooling advancement. Two Wombats, Russell Garraway at RMIT and Eric White at Queensland University of Technology (QUT), pursued this avenue to gain their degrees in engineering.

The second option for commissioning of airmen was the time-in-rank avenue. This qualification requirement varied, but the highest restriction for qualification was set at 10 years time in rank as a SNCO for commissioning into the aircraft engineering categories, or to have the minimum rank of sergeant and 10 years RAAF service for entry to other categories.

The third avenue for commissioning from the ranks were special ‘call-ups’ of warrant officer tradesmen to the commissioned ranks, which favoured some Wombats in the 1980s.

From these three avenues, fifteen Wombat tradesmen successfully gained their commissions in a wide range of categories covering pilot (2), air traffic control (1), administration (1), accounting (1), hygiene/environmental health (1), and engineering (9) in the categories of aircraft, electrical, armament and instrument engineering.⁴⁸

Most Wombats re-enlisted beyond their initial 15-year engagement period to complete at least 20 years service. The impact of the Wombats on the operation of the RAAF throughout their service period was quite significant. From the graduating group of 104 apprentices, 29 were commissioned (including the 14 Diploma Cadet engineers), five became warrant officer engineers (WOEs), five became warrant officers in their specific trades, and two became warrant officer flight engineers. In all, a total of 41 commissions or warrants were achieved.

The Wombat JEATs who joined and served with the Wombat apprentices have a similar story as detailed in Chapter 3.

Generally, two main avenues existed by which Wombats could become RAAF engineer officers. They could gain a tertiary engineering qualification or they could be commissioned from the ranks. Either case involved a long hard slog. The tertiary qualification involved extra study to qualify for attendance at a tertiary institution, followed by the rigours of engineering studies, whilst commissioning from the ranks was a bit of a gamble that one's qualities were recognised by his superiors and he could pass the required officer selection board.

THE DIPLOMA SCHEME

As Chris Coulthard-Clark outlines in his book *From the Ground Up*, the so-called Diploma Scheme was proposed by the then Air Member for Personnel, Air Vice-Marshal F.R.W. Scherger, in 1955 and was introduced the following year to correct a serious position regarding the decline of RAAF engineer officer numbers.⁴⁹

The Diploma Cadet Wombats' preparation for entry into the Diploma Cadet Scheme actually commenced at Wagga. They comprised two groups; the 'Boffins' who joined the scheme at the beginning of third year (after their Leaving Certificate studies) and, secondly, a further class who were assembled at the beginning of second year to commence extracurricular training, predominantly in mathematics and physics. This study was required to bring the education of these apprentices to a standard appropriate to commence the engineering courses at RMIT.

So, for the final two years at Wagga, the Diploma apprentices worked hard after hours, with great support from education officers, to complete the additional studies. Towards the end of 1960, the Diploma and 'Boffin' apprentices underwent an officer selection process to qualify them for the cadetships.

⁴⁸ Ian Clayton, Russell Garraway, Mick Haxell, Ralph Herron, Brian Hurford, David Keast, Phil Locke, Des March, Ron Massicks, Roger Sanderson, Ken Stone, Kevin Stow, Nik Viereckel, Eric White and Terry Wilson.

⁴⁹ Coulthard-Clark, *From the Ground Up*, pp. 105–106.

The Diploma Scheme was administrated initially by the School of Radio Detachment A, but early in 1961, Diploma Cadet Squadron (DCS) was formed within the school for command and control of Diploma Cadets. Both units were housed at RAAF Base Frognall (Melbourne Telecommunication Unit), which was located in a lovely old mansion in Melbourne's eastern suburb of Canterbury. However, the domestic quarters allocated for the cadets were World War II style huts of much the same nature as those at Wagga.

The Wombat Diploma Cadets were Col Bradford, Roy Cant, Peter Cupitt, Sam Eller, Ron Gretton, Kev Griffin, Wayne Hall, Alan Hobby, Graham Hodgson, Dave Lenox, Col Macdonald, Geoff Schmidt, Barry Watson, Mac Weller, Dave Whately and Terry Wilson. After a few days at DCS, Sam Eller was released to undertake engineering at the University of New South Wales and Terry Wilson was to eventually make his way in RAAF life as a pilot.

Indeed, in many ways, the Diploma Wombats faced a frustratingly similar level of discipline as they had endured at Wagga. But the essential difference at Frognall was that the Wombats had risen slightly in status to officer cadets and had swapped their berets and blue triangle epaulets, for an officer's white-banded cap and white epaulets.

With the raising of DCS, all RAAF RMIT trainees were included in the unit with the result that the Wombats, together with some new recruits directly off the street, formed the first year, whilst second and third-year courses comprised ex-apprentices from the preceding Tadpole and Rosebud courses at Wagga. So immediately after their release from the strictures of Wagga life, the Wombats were straight back into the ignominy and fundamental nature of an officer cadetship recruit course at Frognall. More drill, more living spaces to be cleaned, more parades, and more mess duties and, for a further three years, the custodial responsibility of a rifle!

In some ways, the discipline was even more galling, annoying and exasperating than at Wagga. For example and being 'first-years' again, Wombat Diploma Cadets had to do mess duty, which entailed acting as stewards for serving meals to the second and third-year cadets. Frustrating as it was, there was not much the Diploma Cadets could do about things other than to accept it as their lot in life and make the best of a badly orchestrated arrangement. Being upgraded to airmen's pay scales tended to ease the pain a bit.

It was a measure of the fortitude and camaraderie of the Wombats that this group knuckled down and got on with participating in life at Frognall as it was intended. The additional stress simply served further to enhance the kinship, spirit and esprit de corps between the Wombats Diploma Cadets. Personal relationships forged at Wagga were further cemented into lifelong friendships at DCS. Indeed, the Wombat Diploma Cadets made a very significant contribution to DCS and life at Frognall. For example, they comprised a fair proportion of most squadron sporting teams and, in many cases, captained the sides. Col Bradford became the Squadron Cadet Under Officer.

Of course, the fundamental objective of DCS was for cadets to complete their engineering studies at RMIT, graduate with a Diploma of Engineering and gain a commission as an engineering officer in the RAAF. Cadets were arbitrarily assigned to a particular engineering stream which was not necessarily aligned to their apprentice

trades. For example, some instrument and armament fitters went into mechanical engineering, whilst others were streamed into electrical engineering. In fact, all but four were allocated mechanical engineering.

This arbitrary allocation of engineering specialisation occurred early in the first year at RMIT (1961) and was one of the seminal factors in the careers of Wombat engineers. Some instrument fitters, who were allocated mechanical engineering, in fact complained about the allotment but to no avail; at that stage, the RAAF simply wanted more aeronautical engineers (ENGAEROs). As it turned out, the allocation of mechanical engineering was probably one of the best things that happened to those Wombats because the engineer aeronautical stream enjoyed the best prospects for advancement and employment. As an indicator, the two Wombats who eventually made air rank, together with three of the four Wombat engineers to make group captain, were fitters from the instrument, electrical or armament trades.

Study was intense and of an order considerably more extensive than what had been encountered at Wagga. Acknowledged as the most difficult of the RMIT Diploma courses, engineering comprised a large range of subjects; it included the basic theory of mathematics, physics and chemistry and, for a mechanical course, specialist engineering subjects in thermodynamics, metallurgy and structures. However, there were also lighter moments and Col Bradford recalls one particular electrical engineering instructor at RMIT, who only had four students in his class: Hall, Hodgson, Schmidt and Whately. Two classes a week were held, and at the commencement of each class for the whole year, the instructor would pull out the roll book and say with the utmost seriousness, 'Hall, Hodgson, Schmidt, Whately. Anyone's name not called?'

Examinations became the arch nemesis for many Wombat Diploma Cadets. Of course, a pass or failure carried critical significance; a failure could mean the end of one's quest for commissioning as a RAAF engineer officer. Their examinations were daunting enough by being conducted in the cavernous halls of the Melbourne Exhibition Centre; the student was allocated a desk amongst a veritable swathe of perhaps a 1000 desks. This tiny area, where the student worked feverishly away with slide rule for up to four hours, was a place in which careers could be shattered. Little wonder that for years after the experience many Wombat ex-Diploma Cadets literally relived the stress of exams in the form of nightmares!

Notwithstanding the study that was required and undertaken at Froggnall at all hours of night or early morning, there was still an amount of good fortune in an examination result. Even the process of finding out one's result was stressful enough; a student had to present personally to the RMIT administrative building where the results would be displayed on a board. Many a Wombat has searched those boards with a frantic eye as the prospect of a ruined career loomed. Mac Weller had difficulty with second-year maths and he had to sit a supplementary; he still vividly recalls searching the RMIT boards for his supplementary exam result. He received a mark of 52 which was a pass and sufficient to allow him to continue the course. How one's path in life and career can be determined by such a minute margin! Through dint of good fortune and passes at the end of third year, Mac Weller became the first Wombat commissioned on 1 January 1964. He was also the last Wombat decommissioned, with retirement in February 1998.

Some Wombats encountered the misfortune of examination failure with some back-coursed to pick up failed subjects. But in the true Wombat spirit and apart from Terry Wilson whose career took a turn to aircrew, every person who commenced study at Frognall eventually passed and gained their Diploma of Engineering.

Sport was an important component of DCS life and, as outlined earlier, the Wombats were heavily involved. Most sporting teams played in local Melbourne competitions and generally did quite well.

Despite being in the home State of the game, Aussie Rules was not a recognised DCS sport, principally because there were insufficient numbers to form a team. So a number of Wombats who were skilled players in that game had to convert and play rugby. Ron Gretton, Kev Griffin, 'Huck' Hall, and Geoff Schmidt became quite competent rugby players. With Col Bradford as captain and coach, the DCS rugby union team played in the 1961 grand final but unfortunately lost by a small margin. The following year, with Kev Griffin as coach and captain, the team suffered the same fate. Together with Col Bradford, as cadets Ron, Kev and 'Huck' gained selection and played in the Victorian inter-Service team. Other sports played were tennis, hockey and cricket. In fact, the cricket team won a grand final in the Eastern Suburbs competition. During his stay at Frognall, Geoff Schmidt also snuck away and gained a trial with the Hawthorn Football Club whose home ground was only a mile or so from the base.

Beyond the organised sport at Frognall and since they were now paid at aircraftman fitter rates, the Wombat Diploma Cadets were able to enjoy a range of other recreational activities. Most now could afford cars so organised convoys to Melbourne beaches were common trips away. Car trials were a favoured form of relaxation, as were nightly 'speed trials' around the Studley Park Boulevard. For those who had established firm relationships with Wagga Wagga girls, a weekend often involved a frantic 600-mile return trip to that town.

After three years at DCS and RMIT, the Wombat Diploma Cadets finally were released into the RAAF to commence real work. It had been six long years of training, firstly at Wagga and then Frognall, and many were simply frustrated and keen to get involved in the 'real' RAAF. However, they first had to contend with Officers' Training School (OTS) and then undertake an Engineer Basic Course.

Located at RAAF Base Point Cook, OTS was intended to turn airmen and direct entry civilians into officer material, and the three-month course basically comprised Air Force Law, administration procedures, how to write the Queen's English in RAAF style and, to the frustration of the Wombats, more parade ground duty together with more drill! Whilst the emphasis on this occasion was to instruct officers in how to handle their parade ground duties, the Wombats were simply bored stiff because they had been watching these processes for six years and over the last three years at Frognall had actually practised them daily. But at least at OTS, the Wombats now held commissioned rank and were thus freed of the detested mess duties.

For budding Wombat engineers, Engineer Basic was quite an important course. Its syllabus did include some general fitting and turning which, because of his apprentice training, the Wombat found irksome. On Engineer Basic, Wombat engineers became acquainted with aircraft maintenance philosophies and planning. Some fundamental

tenets and doctrines of aircraft maintenance were instilled so indelibly that they would be held by Wombats as inviolate dogma for their whole Service life. Aspects such as the need for an aircraft maintenance stager, tool control, independent inspections, supervision, and ongoing continuation training became second nature for Wombat engineers.

Finally, and after six long years of training, the Diploma Wombats were posted to RAAF units to begin their productive life. This was quite a momentous event because these Wombats were finally to be separated; in fact, it is doubtful that any other RAAF members spent such a length of time together under training. The result was that these Wombats knew each other very familiarly; they were aware of foibles and strengths in each other, they were well aware of the characters of their colleagues, and they had formed friendships which were to last for life. But despite the six long years of training, the preparation of some of the Wombat Diploma aeronautical engineers was less than ideal. For those electrical, instrument and armament fitters who had gained mechanical engineering qualifications, their aeronautical engineering expertise was somewhat limited. Further long hours of study were needed to address this shortcoming, particularly in preparation for the officer promotion examinations.

Nonetheless, the Diploma Wombats joined the RAAF Technical Branch and had to make their way without fear or favour in competition with their branch colleagues and they quickly discovered that they had a lot to learn.

Col Bradford recalls that shortly after his arrival at Williamstown after being commissioned, the first visitor to his office was the Warrant Officer Engineer (WOE); probably the most important visitor Col ever received in his whole Service career. For some strange reason, the WOE took a shine to Col, tucked him under his wing, and protected him from 'anyone and everyone', even when Col stuffed up—one of those lucky happenings in life.

At that time, the RAAF Technical Branch was fairly parochial and consisted of the 'old and bold' engineers with World War II experience, ex-RAAF Academy graduates, a number with university degrees and pilot qualifications, other RMIT graduates and many who had been commissioned from the ranks. Despite a pecking order which favoured the university or academy graduate with pilot qualifications, the Wombats settled into this very competitive and intensely professional environment and, in broad terms, performed well.

The Wombats discovered that many of the 'old and bold' had much to offer and, moreover, were very willing to help assimilate the newcomers. With six years of training and coming from the stock of the airmen, Wombats were quick to realise the benefit of listening and watching and then learning the craft of RAAF engineering.

Mac Weller was posted to 1AD Engine Repair Squadron on graduation from Froggnall and was immediately directed by an old and gruff but extremely wise World War II and Korean veteran, Squadron Leader 'Pappy' Gorman, to get into his overalls and spend three months on the shop floor learning the detailed business of overhauling Avon and Westinghouse aircraft engines. He never forgot either the practices involved in engine overhaul or the skills and professionalism of the troops who got the job done.

In junior officer postings, Wombat engineers served generally either at unit level in aircraft depots and maintenance and flying squadrons or as a staff officer within the ubiquitous Headquarters Support Command (HQSC), or 'SUPCOM' as it was known. Postings to a unit were the exception rather than the norm, so most engineer officers probably spent one in three postings at units; the ratio was even more marked for a flying squadron posting where it was approximately one in six or seven. In Mac Weller's case he waited 12 years to get to a flying squadron from the time of his enlistment in 1958, but then within 12 months he was in Vietnam as Senior Engineering Officer (SENGO) of 9 Squadron.

Within units, Wombat engineers effectively served as maintenance officers responsible for the management and control of the maintenance of squadron technical equipment. In depots and maintenance squadrons, the junior engineer officer could expect to manage a workshop, whilst in a flying squadron he might control a section or hangar.

On his first posting to No 1 Basic Flying Training School, Point Cook, Kev Griffin immediately had 152 airmen under his direct control, seven months before he did Officers' Training School and without the benefits of the Engineer Basic Course (which he never did get around to!).

But the common and absolutely essential skill that had to be learned in these maintenance positions was the personnel management of the technical workforce. For Wombats having come from airmen stock, this skill was fairly easily absorbed, although always a fiendishly difficult and challenging task. Whether it helped that some of their workforce consisted of Wombat colleagues is a matter of conjecture.

After initial posting to a unit, Wombat engineers could expect a posting to the dreaded HQSC where the support of the RAAF's force-in-being was managed and directed. Here, amongst the bluestone buildings of Victoria Barracks along St Kilda Road, Melbourne, a virtual army of RAAF engineers and suppliers toiled away controlling the technical standards of aircraft and equipment, managing the deeper maintenance and overhaul of aircraft at aircraft depots and civilian contractors, establishing the quantity of spares needed to support operations and procuring those spares.

For the engineer in Aircraft Engineering and Aircraft Equipment Divisions, it was a matter of monitoring equipment reliability and reacting to defect reports from the field and preparing Special Technical Instructions or modifications to make adjustments to the design configuration or servicing plans. Known as 'project officers', these engineers were employed in narrow fields of specialisation which largely approximated to the six aircraft trades of airframes, engines, electrical, instruments, radio and armament. They were in fact, setting standards and controlling the airworthiness of aircraft and systems, albeit that the term was not widely used or indeed understood at the time. Not until some 25 years later, did the concept of airworthiness come to fruition in the RAAF.

There was a very strict hierarchy where the junior engineer was under the close supervision of an experienced squadron leader who also reported through a wing commander to a group captain in charge of a division who, in turn, was responsible to a one-star officer running an aircraft engineering branch. Similar hierarchies existed

Technical Wombats

in Repair and Overhaul Division, where a one-star engineer controlled maintenance branch. Staff engineer officers in this division planned and allocated the overhaul and repair of aircraft and equipment to depot level maintenance facilities.

Other Wombats became immersed in the dreaded, spares assessing function where teams of engineer officers and NCOs were engaged in the tiresome task of assessing what spares were required for the maintenance of aircraft and equipment. This involved, firstly, the identification of the spare largely by means of the manufacturer's part number and then estimating how many items would be required by the RAAF. This estimation could be based on some statistical basis, where the use of planned maintenance and rudimentary reliability data could lead to dependable usage rates, but invariably it also involved 'guesstimates' in the case of unscheduled arisings.

It was accepted that the best way of making such estimates was to call on the expertise of NCOs, who could be entrusted to use their unit maintenance experience to make the necessary calculations. The trouble was that the RAAF, in its wisdom, arbitrarily posted SNCOs outside their aircraft experience onto assessment tasks for aircraft on which they had no expertise. The spares assessments were then passed to the equipment staffs for procurement action. This single functional step, whereby engineers passed a defined spares requirement in terms of a manufacturer's part number to a supplier who, for inventory management purposes, worked in stock numbers, created one of the great unfathomable and unsolvable schisms in RAAF logistics management.

The equipment officer turned the requirement from part number to a stock number and when the tradesmen received the spare from the store to fit to an aircraft, he turned it back into a part number!

HQSC was a large pyramidal organisation with enormous synergy. But, and as would be recognised within a decade or two, its major failing was that it could not manage on an aircraft system basis the answer to simple questions such as 'what was the overall reliability or airworthiness of, say, the Mirage aircraft?' or 'what were the operational support implications of, say, a 15 per cent reduction in support funding?'

Over the years, the command's operational focus also came into question. This was partly due to its geographic isolation from the field units and also because of its *modus operandi*. HQSC operated largely on an 'eight to five' office regime where servicemen came to work in civilian clothes, and at times its function seemed to conflict with operations. For example, in order to maintain input to a depot level maintenance program, repair and overhaul staffs occasionally directed units to remove serviceable engines. Sometimes, an urgent STI (Special Technical Instruction) would arrive unannounced at a flying unit late on a Friday, requiring the squadron to work weekends to get aircraft compliant with standards for the following week's flying program. For Wombat engineers, who had deeply engrained technical ethics concerning the need to maximise aircraft availability but yet maintain strict observance of standards, these quirks of Support Command could become very frustrating.

Despite the variety of skills and education levels amongst the RAAF engineers, Wombats were generally treated with reasonable respect by their compatriots. Although they were regarded as youngsters and 'wet behind the ears', there was grudging respect

that they had professional engineering qualifications and had come by way of the Apprenticeship Scheme.

As a junior engineer officer, a Wombat spent a year as a pilot officer and three years as a flying officer before promotion to flight lieutenant. Promotion was not competitive up to flight lieutenant, provided that one's annual assessment report (PP29) carried a recommendation for promotion and the officer had also passed the Officers Promotion Examination 'B'.

For engineers, the 'B' exam covered five subjects of administration, Air Force Law, English, technical administration and a specialist engineering subject. The reference for the specialist subject was RAF Air Publication 129. These exams were not all that difficult for Wombats and generally only required a few weeks of determined study. However, they could be quite a challenge for officers commissioned directly from the ranks and for those Wombat ENGAEROs from the armament, instrument and electrical trades, required significant effort in the aeronautical engineering specialist subject. But it was also another area where the Wombats gained some respect from their colleagues.

In fact, the engineer officer corps was quite egalitarian in nature and Wombat engineers progressed steadily and made squadron leader and wing commander ranks generally in accordance with, and sometimes slightly in advance, of the norm.

By the early seventies, a number had been promoted to squadron leader, and a few were selected for postgraduate studies. Barry Watson gained an Master of Science with distinction from the USAF Institute of Technology and topped the course of that year. Others filled important senior engineering officer posts in flying squadrons. Many were fortunate also in receiving overseas postings to embassies and high commissions. As Wombats advanced in rank, they could also expect employment in technical policy fields.

Advancement to squadron leader was the first competitive promotion for Wombat engineers and required completion of the Officer Promotion Examination 'C' that was structured in much the same way as the 'B' exam, although it had one less subject.

To prepare for the broader responsibilities expected of senior RAAF ranks, squadron leaders were required to gain a so-called Officer Extension Tutorial Course (OETC) qualification. Although not a prerequisite for promotion to wing commander, it certainly was essential to undertake RAAF Staff College which most Wombat engineer officers completed in the mid to late-seventies. The OETC involved study of Service writing and of strategic issues in a series of tutorials by correspondence from RAAF Staff College. Most Wombat officers affected by the requirement were successful in gaining the OETC qualification. However again, it was an arch nemesis for many RAAF engineers commissioned from the ranks. Effectively, it curtailed the careers of numerous engineer officers and was one of the discriminators by which Wombat engineers were able to advance competitively in the RAAF.

Technical policy was established by the Department of Air in Canberra and promulgated in Air Board Orders – Technical (ABO-Ts). As wing commanders, a number of Wombat engineers were employed in the functions of setting policy for engineering, maintenance and facilities. The Department of Air (DEPAIR)—later to become DEFAIR (Department of Defence (Air Force Office))—was a pyramidal

organisation with large technical staffs headed by a two-star Air Member for Technical Services (AMTS). Throughout the sixties, it was also responsible for the management of the technical aspects of the acquisition and introduction into service of new aircraft and equipment.

As outlined earlier, the sixties and seventies were halcyon days for the RAAF in terms of aircraft re-equipment with the Sabre, Vampire, Dakota and Neptune retired from service and replaced with the Mirage, Macchi, C-130 and P-3 respectively. By the end of the sixties, planning for the introduction of the sophisticated F-111 was well advanced even if the introduction of the aircraft was somewhat uncertain. In the eighties and nineties, the F/A-18 and Hawk aircraft were introduced. Wombat engineers played significant roles in these projects and the introduction of these aircraft into the RAAF (Barry Watson – P-3B and Kiowa; Col Bradford – CT4; Kev Griffin – HS748 and CT4; ‘Huck’ Hall – P-3C; and Mac Weller – P-3C and F/A-18).

By the nineties, RAAF officer career management policies had been liberalised significantly by thoughtful and strategic thinking personnel managers such that engineer opportunities for employment had been considerably widened. Consequently, as they progressed in rank, Wombat engineers had increased opportunity for selection to one and two-star ranks. The result was that two Wombats advanced to RAAF air rank. Coincidentally, one of the clear thinking personnel managers responsible for this liberalisation of officer career management was a Wombat, Col Bradford, who spent a number of years in charge of officer postings and as Director General Personnel.

Across the four decades in which Wombat engineers served the RAAF, change can be seen as a constant theme. Some of the changes have been previously addressed in Chapter 1. In the sixties, Wombat engineers were affected by changes in RAAF technical management introduced to respond to the challenges of new technology. The aircraft of the fifties consisted largely of an airframe, engine, basic instruments and weapons. Throughout the sixties, they were replaced by aircraft with extensive avionics, weapon and navigation systems.

In the case of Diploma engineers, several significant changes occurred in the space of the three years from the end of their apprenticeship at Wagga (1960) to their commissioning as engineer officers in 1964. The antiquated EE77 aircraft maintenance documentation system had been replaced by the EE500 system and the 7000 series technical publications system had been introduced, primarily to accept the large amount of foreign source data delivered with these new complex aircraft. Around the same time, Technical Maintenance Plans (TMPs) were introduced to provide guidance on the ‘what and when’ of maintenance; that is, the identification of what had to be maintained and when it should be serviced.

But even in those early days and largely in response to the challenges of technology, Wombat engineers themselves also had to introduce changes as junior officers. To respond to the inspection requirements of modern aircraft, non-destructive inspection (NDI) had to be developed from the magnetic particle inspection and dye penetrant techniques of the fifties to encompass advanced ultrasonic, eddy current and radiographic techniques.

With the introduction of the C-130A and its integral wing fuel tanks, the detection and treatment of corrosion of advanced aluminium alloys became a serious problem. In collaboration with Aeronautical Research Laboratories (ARL), the RAAF led the world in discovering that the fuel tank corrosion was in fact caused by a microbe known as *Cladosporium resinae* which existed in water contaminated fuels. This discovery led to widespread changes in the management of aircraft fuels and the introduction of very specific fuel quality control procedures. It also led to fuel tank entry suddenly becoming a requirement for which procedures had to be developed.

Technology continued to be a driver of change through the seventies. Computers had brought opportunities to automate the management of maintenance which had become a serious challenge. With analogue avionic systems, the Mirage and C-130 aircraft presented enormous challenges in controlling and managing the large numbers of components requiring maintenance. Involving the application of distributed minicomputers at bases, the Computer Aided Maintenance Management (CAMM) system was introduced to provide management with the ability to control maintenance at unit level. Wombat engineers involved in this project were Kev Griffin and Ron Gretton, in the policy development of CAMM, whilst Mac Weller worked on the initial system design of CAMM in the RAAF Electronic Data Processing (EDP) Centre.

Aircraft technologies also started to place the RAAF's fundamental philosophies of maintenance into question. Up to that point, maintenance doctrine decreed a very conservative approach which required that aircraft, engines and components should be regularly and totally disassembled just to make sure nothing was wrong. Some enlightened engineers, including Wombat Barry Watson, questioned this approach and using principles developed by both the USAF and the civil aviation community (MSG-2 and MSG-3), proposed that maintenance should only be conducted on the basis of analytically based reliability analysis.

This thinking resulted in the introduction of the RAAF Analytical Maintenance Program (RAMP); at the time, this was one of the most radical changes undertaken by the RAAF and one that was certainly opposed by many of the 'old and bold' engineers. This program had a profound effect on the RAAF because it reduced maintenance effort and resources, and thus increased aircraft availability. Barry Watson ran the RAMP program and thus had an enormous influence on the RAAF's maintenance management and aircraft availability. He was appointed as a Member of the Order of Australia (AM) for his involvement in RAAF maintenance policy development.

Without these radical and innovative technical management changes, it is very doubtful that the RAAF could have successfully applied the marked increases in operational capability offered by the new aircraft of the sixties and seventies. Wombat engineers were at the forefront of the introduction of new policies and procedures.

In the seventies and into the eighties, structural changes to the higher levels of the Defence and RAAF organisations had started to emerge also, which affected the Technical Branch and Wombat engineers. In the mid-seventies, the 'Tange Review' led to dramatic and far-reaching changes with the demise of the Department of Air, its Minister and the Air Board. The Technical Branch lost the influential two-star position

of Air Member for Technical Services (AMTS) who, up to that point, had statutory authority under Commonwealth legislation for RAAF technical matters.

Although a new two-star position of Chief of Air Force Technical Services (CAFTS) was created, it was advisory in nature and reported to Chief of Air Force (CAF) who had become a 'commander' rather than a 'chief of staff' as under the old arrangement. Whilst this change probably had little direct impact on Wombat engineers, it certainly provided a very different organisational environment for technical staffs. From this point, the term 'jointery' and the amalgamation and integration of certain functions across the three Services also came into being.

Throughout the eighties and nineties, a whole range of changes was proposed for the high-level structure of Defence and the Services. After the Tange Review, there was the Fink Review (1980), the Rees Review (1980), the Utz Review (1982), the Dibb Review (1986), the Sanderson Review (1989) and the Wrigley Review (1990). To the Wombat engineer, who by now was at wing commander rank or perhaps group captain, the only thing that seemed constant was change itself. Throughout these reviews and reports, it was clear that there were painful and acerbic conflicts between Service personnel and their civilian counterparts in Canberra. Although the reviews all seemed to have the soundest valid justification relating to improvements in efficiency and decision-making, many middle-level officers, including Wombat engineers, felt that there was more than a bit of 'change for the sake of change' and a severe risk of the 'baby being thrown out with the bathwater'.

But it was the last report by Wrigley that contained the seeds for enormous change to the technical environment in which the Wombat had lived for 30 years and which indeed did result in a few technical babies going out with the bathwater. Wrigley advocated commercialisation and outsourcing of many RAAF technical functions, including aircraft depots.

The RAAF embraced the Commercial Support Program (CSP) wholeheartedly as a way of improving the 'teeth to tail' ratio and really led the way amongst the Services in its implementation. See Chapter 8 re the effect on Wombats through CSP. Market testing was carried out with the utmost discrimination, intensity and unrelenting ardour. Stringent rules were set up to determine 'manpower required in uniform' (MRU) and really to establish what positions could claim to be in an Air Force—in a sense, it pitted the 'blunty' against the 'warrior'.

At the same time, and adding to the stress associated with the changes, a commensurate reduction in skill levels occurred due the Commonwealth Government's commitment to economic rationalism which was leading to widespread reductions in training across the nation as a whole. Two decades later, this was to lead to quite serious shortages of skilled people.

From an Air Force engineer's perspective, the effect was at least fourfold. Firstly, there was a drawdown on available skilled technical tradesmen. Secondly, experience levels in technical tradesman were decreasing as they were denied the opportunity to become involved in deeper level maintenance. Thirdly, the large drawdown in technical strengths meant that the RAAF had lost a significant reserve capacity for contingency purposes. Finally, loyalty downwards to the troops had been adversely affected.

At lower levels within the RAAF and its technical organisations, change was also occurring. The Apprentice Scheme was wound up in 1993 and the aircraft technical trade structure was altered very significantly around the same time. In Support Command, successive studies by Air Commodore Ron Hargreaves and Air Vice-Marshal Roy Frost recommended changes to improve the operational focus of the organisation and introduce a 'weapons system' approach. In essence, the proposed changes involved the demolition of the monolithic Support Command to be replaced with smaller logistics units strategically located on main operating bases and dedicated exclusively to the support of certain specified aircraft types. As a result of these changes, which saw the introduction of the Weapon System Logistic Management (WSLM) units and the creation of Chief Engineers, the training, standards and management regimes of engineer officers had to be reviewed. This was required because the demolition of the HQSC pyramid meant that the responsibility for the standards and technical airworthiness was now being passed down to relative junior ranks without the benefit of oversight from the many senior officers as in the old HQSC model. A review called 'Blueprint 2020' was conducted and some senior Wombat engineers participated and contribute to the review.

The consequences were profound for Wombat engineers of this era. The management of change was difficult and challenge enough but there were serious underlying problems in that, somehow, the technical functions of the RAAF still had to be undertaken. That is, amongst all the change going on, aircraft still had to be supported and standards still had to be maintained. Maintenance and engineering contracts had to be administered and monitored by a decreasing pool of specialist engineers.

It is interesting to note that airworthiness standards seemed to suffer during this period. Two fatal accidents were caused by serious technical shortcomings in structural integrity management; a Macchi sustained a wing failure off Williamtown and an ARDU Nomad crashed near Edinburgh through a tail section failure. Whilst these accidents were not directly caused by organisational restructuring, it is undeniable that they occurred during the implementation of massive changes in the RAAF and the technical environment in particular.

Largely as a result of these accidents, together with the crash of a B-707 in Bass Strait, the RAAF introduced formalised airworthiness management policies in the early nineties. Senior Wombat engineers of the time were employed in Air Force Office directorates and became heavily involved in the development of these policies.

Additionally, the maintenance of technical standards was made more difficult by the ageing of the RAAF aircraft fleet. Aircraft, such as the Macchi, Iroquois, C-130 and Caribou, had now been in service for 30 years. The F-111, which had some very sophisticated technology that was always a challenge technically, was also getting old and its support was made doubly difficult because the USAF was withdrawing the aircraft from its inventory.

The Macchi posed particular challenges for its technical support also because its role had been changed from a training aircraft to that of a lead-in fighter, such that as it aged the spectrum of its operations actually became more severe. All of these aspects

Technical Wombats

made life difficult for the engineer officer through the nineties as he tried to balance the competing demands of maintaining standards and organisational restructuring.

By the end of the millennium, all of the Wombat engineers had left the RAAF although a few soldiered on as Reservists. By any measure, Wombat engineers had made significant contributions to the RAAF over a period of 40 years and their legacy will endure in the form of revised technical policies and the way that the Air Force does business.

CHAPTER 8

THE WOMBATS' RAAF

THE WAY IT WAS – WAY BACK THEN

After Wagga, the Wombats were released into the RAAF where they made their way in a diverse range of employment. For most, it was as technical tradesmen, for a smaller group as engineer officers whilst the JEATs worked as clerks in administration and stores. Other Wombats became flyers as pilots, crewmen and loadmasters. Still others embraced air traffic control, hygiene and administrative category functions. Whatever his specialisation, the Wombat and his experiences were very much determined by the nature of the RAAF of that time.

That era spanned four decades of RAAF history from 1958 to 1998, when the last Wombat left active service. However, their influence extended a further 10 years as Wombats served as RAAF Reservists and, indeed, with Wombats still employed in the Defence industry, such influence has extended for over half a century of the RAAF and, ironically, the other two Services.

Forty per cent of Wombat graduates served into the seventies, whilst a further 24 per cent were discharged during the eighties. The influence on the RAAF by Wombats predominated in the 30-year period 1960 to 1990. A smaller number (11 per cent) served on into the nineties where, because of their seniority, they had quite a profound impact on the RAAF.

This chapter thus paints a picture of the RAAF from the perspective of the Wombats. Several personal observations are included to give some understanding of individual impressions of the RAAF during that time.

The RAAF of the sixties was an Air Force of some 25 000 members, with a substantial operational element of flying wings, schools and squadrons, and a large sustaining technical organisation consisting of aircraft depots, maintenance squadrons, technical schools and engineering and maintenance support organisations in Headquarters Support Command (HQSC) and at Department of Air (DEPAIR), both of which gobbled up technical people at an alarming rate.

A tradesman could normally expect to spend the first year or so of his career in an aircraft depot involved in depot level maintenance of aircraft and equipment (the benefits of this experience are noted in Chapter 1). He would then be posted to a flying wing or squadron for employment on operational aircraft. Having gained aircraft type experience, the tradesman (who by this stage, had probably advanced to NCO rank) would be prime material for employment in a training school or at HQSC.

An engineer officer would follow much the same course of employment but with a greater prospect of being posted into DEPAIR to work in aircraft projects or technical policy areas.

HQSC and DEPAIR were large, pyramidal, organisational structures with ascending, laterally-arranged levels of rank and vertical ‘pipes’ of specialisation. HQSC dealt with day-to-day support of the force-in-being, whilst DEPAIR was responsible for policy and the introduction of new equipment.

The patriarch of engineers, the Air Member for Technical Services (AMTS), was a member of the Air Board and controlled the Technical Branch and directed technical policy. Air Vice-Marshal Ernie Hey strode the corridors of Russell with consummate authority.⁵⁰ Col Bradford recalls the amount of minute detail in which the AMTS of the day involved himself. Mirage aircraft were having difficulties with cooling turbine failures. Each time a defect arrived on Col’s desk, there would be a red handwritten note on it from AMTS, requesting the pleasure of Col’s company in the dreaded ‘front office’ to explain! His Technical Branch was divided into the functions of engineering and technical policy development, both of which were promulgated through Air Board Orders ‘T’ series. Technical policy included technical personnel career training and development, including unit establishment levels.

Much of the policy development was occasioned through the introduction of new equipment or the need to replace old outdated management systems. HQSC had the broad functions of supply and technical, with the latter divided into engineering, repair and overhaul, and quality assurance. Resting uneasily between the supply and technical functions was the business of spares assessment.

Many Wombat engineers and NCOs found themselves in HQSC within the repair and overhaul, spares assessing or engineering functions where they dealt respectively with the allocation of aircraft, engines and equipment for repair and overhaul, deciding the specification and quantity of spares to be purchased and managing the continuing standards of aircraft and equipment through defect analysis and modification.

But it was also an extremely active, industrious and energetic RAAF, with 40 per cent of its operational force deployed to South-East Asia and a large re-equipment program involving the introduction of aircraft with advanced technologies.

During the sixties, South-East Asia deployments involved RAAF elements in Malaysia and Vietnam. Fighter and bomber squadrons were deployed to Butterworth, Malaysia; firstly, in the sixties as part of the Commonwealth Strategic Reserve (CSR) and, secondly, in the seventies under the Five Power Defence Arrangement (Australia, Malaysia, New Zealand, Singapore and the United Kingdom). The former included the period of Confrontation with Indonesia, whilst the latter provided an integrated air defence system to protect Malaysia and Singapore. A fighter squadron was also deployed to Ubon in Thailand in 1962 for three years under the CSR.⁵¹

⁵⁰ One of Ernie’s favourite sayings was, ‘Airworthiness is what I say it is.’

⁵¹ Alan Stephens, *The Australian Centenary History of Defence – Volume II – The Royal Australian Air Force*, Oxford University Press, South Melbourne, 2001, pp. 254–255.



Welcome to No 79 Squadron, RAAF Ubon

A further three squadrons were deployed to Vietnam; No 2 Squadron's Canberras provided a strike capability from Phan Rang, No 9 Squadron supported the Australian Army Task Force with Iroquois helicopters out of Vung Tau, whilst No 35 Squadron's Caribous also operated out of Vung Tau as an element of the USAF Seventh Air Force.



Wombat 'Stretch' Clayton – A 'Driving Force' in Ubon

With the exception of Ubon, these were all long-term deployments with personnel tours ranging from two years in Butterworth to 12 months in Vietnam. Thus personnel management required a significant force in reserve of the deployed forces to provide for a rotation of personnel. That reserve was to be found in the aircraft depots and maintenance squadrons of the RAAF of the sixties. But the South-East Asia commitments also put a lot of stress on the supporting elements of the RAAF. Aircrew training rates increased dramatically to meet the force requirements such that the flying schools' rates

of effort were amplified accordingly. Similar stresses were to be found in the ground training schools.

Yet it was also a RAAF saddled and restricted by the technologies and methodologies of the mid-20th century, which saw people involved in laborious manual processes such as pay, kit inspections, inventory management and technical recording. Pay parades were held fortnightly where a 'pay officer' and 'pay NCO' were detailed to pay troops in 'cold hard cash' based on an amount calculated by Pay Section and authorised in a member's pay book (an amount was arbitrarily withheld and allotted directly to the member's wife—this might have been supplemented also at the member's discretion). Many Wombat officers and NCOs conducted these tiresome pay parades and underwent the stress of ensuring that the amount paid out reconciled with what was authorised. Col Bradford recalls the horror of being down A£5 (\$10) on his first pay parade. Luckily, Col was spoilt by the troops as they all took up a collection to pay the compulsory A£5 back to Pay Section.

Similarly, kit inspections were farcical arrangements where a section turned out to display that each person on strength, indeed, had possession of the required personal clothing kit (including ridiculously-styled underwear). Inspecting officers turned a blind eye to the shenanigans going on in the background with people running around swapping and exchanging items of clothing.

Technology is a major determinant of any air force's capability and it played an important part in the employment of the Wombats, particularly as the new aircraft were introduced during the sixties. In contrast to the RAAF's aircraft fleet of the fifties, such as the Vampire, Sabre, Neptune and Dakota which largely had no integrated avionic systems, these new aircraft brought many challenges.

Within a year or so of graduation from RSTT, Wombats were confronted by the high-performance, supersonic Mirage and the large C-130 Hercules and, towards the end of the decade, by the P-3 Orion. Still later, and after a delayed project introduction, the F-111, with its unique propulsion, aerodynamic and avionic systems, arrived in the eighties. 'framies' and 'sumpies' had to deal with hydraulic boosted flight controls and variable geometry engine inlets, whilst the electricians and instrument fitters faced integrated avionic systems involving inertial navigation systems, radar and target acquisition and fire control systems.

These were early days in integrated analogue avionic systems and their inherent unreliability, together with that of the afterburning bypass jet engine, led to high unserviceability rates of repairable items arising, which soon choked existing manual maintenance management practices. In short, the maintenance management processes of the fifties were found to be ineffective in managing these modern aircraft.

Within a year or so and sometimes within just months of graduation, Wombats were introduced to the EE500 aircraft maintenance system that had replaced the British EE77 system. The 7000 series of technical publications had been brought into service to accommodate the foreign sourced aircraft technical data. General instructions such as the RAAF Maintenance General Instructions and Aircraft Engineering Instructions General, which had served the RAAF since World War II, suddenly became obsolete.

Embryonic computer systems were being introduced which, in the case of JEATs, were about to render many procedures obsolete, particularly in pay sections for the clerk accounts mustering. Computing was in its infancy in the sixties and early RAAF computer applications involved supply and failure reporting systems, and were based on laborious, centralised systems where data was processed on a batch basis. So-called minicomputer systems, which offered decentralised capabilities for applications at base and unit level, were introduced in the eighties; the Supply System Redevelopment Project (SSRP) and Computer Aided Maintenance Management (CAMM) systems provided base store stock control and aircraft maintenance management. Many Wombats were involved in the development of these systems. Mac Weller recalls that, in the early design of the CAMM system, a big breakthrough was realised when a computer supplier was able to offer a disk drive for unit level which had a previously unheard of capacity of 32K! It was about the size of an office desk.

So that maintenance could be carried out to meet the extremely close tolerances required by gyros in inertial navigation systems, the RAAF established laminar flow clean rooms in aircraft depots, where the quality and cleanliness of air was strictly controlled. However, they were soulless places without windows where technicians worked in antiseptic-like conditions in slippers, hoods and cloaks.

Occupational health and safety (OH&S) had not been instituted very rigorously by the RAAF and practices were quite rudimentary with the consequence that the workshops and flight lines were detrimental to both the safety and health of technical personnel—as described in some detail later in this chapter.

Although the safety training at RSTT for Wombats was reasonable in contemporary terms, the RAAF was introducing and pioneering materials and processes at the forefront of technology that were not supported by adequate safety. For the technician, it appeared that each substitute cleaner had less established operational data as the RAAF cycled through the carbon tetrachlorides, trichlorethylene and freon TF (trichlorotrifluoroethane). The deleterious effects of these hazardous substances did not seem to be known—let alone how to manage them.

Notwithstanding, it is interesting to note that the RAAF undertook the first major audiometric survey within Australia in 1958 (ironically, on Wombat apprentices) and implemented a Hearing Conservation Program.

Many Wombats spent hours working over or around trichlorethylene degreasing baths and engine decarbonising and cleaning tanks filled with methylene chloride, or employed carbon tetrachloride for cleaning components. The Sabre engine starter fluid, isopropyl nitrate, was also a particularly dangerous compound.

In the avionics area it was common practice in the sixties to use freon, white spirits, kerosene and methyl ethyl ketone (MEK) as cleaning agents. It was not uncommon for fitters to be immersing their hands and arms into the kerosene and MEK solutions up to the elbow or higher without the use of protective gloves. These solvents were also applied using pressure sprayers without the use of respirators. The use of kerosene under pressure as a cleaning agent on aircraft servicing was a common practice. Unfortunately, the combination of atomised kerosene and an electrical powered aircraft sometimes

resulted in contained miniature fireballs—singled eyebrows etc. but nothing more serious. These general cleaning practices were still in common use into the mid-1970s.

Tarmacs were dangerous places. Despite the noisy and high-pitched whine of early centrifugal compressor jet engines, hearing protection was often not regulated. The starting of the Canberra's cartridge engine starter or the Sabre's IPN (isopropyl nitrate) starter were extremely noisy operations. The Sabre aircraft could, and did, suck unsuspecting technicians into its cavernous engine air intake, whilst inadvertent operation of ejection seats also caused fatalities.

By the sixties, some aircraft, such as the Lockheed C-130, had integral wing fuel tanks where fuel was stored inside the box sections of the wing structure. No fuel bladders were used in such designs and fuel security and leakage were dependent on the integrity of the sealant between faying surfaces and also the aluminium alloy planks of the wing structure. Sealant breakdown, together with corrosion of the wing structure, required the RAAF to embark on a large-scale C-130 wing refurbishment program through the sixties. Consequently, several Wombat 'framies' spent hours inside the cramped confines of A-model Hercules wings laboriously grinding corrosion out and applying foul-smelling, exotic sealing compounds, such as PR1422. Fuel tank purging was often ineffectual and maintenance personnel were exposed to AVTUR fuel; often, their overalls were quite literally soaked with fuel for the entirety of the working day.

Personnel were also exposed to asbestos, either in their living quarters and hangars or in the systems of aircraft and motor transport vehicles through the repair of items such as brakes and firewalls.

Conversely, the RAAF of the sixties had some quaint, charming and time-honoured customs, traditions and practices, which had largely endured from the Australian Flying Corps of World War I and the RAAF of World War II. Messes were regarded as the 'homes' of officers and NCOs. Dress standards were strictly enforced, with coat and tie mandatory for dinner. Consumption of alcohol was encouraged and daily attendance at the mess bar was almost a ritual. Light strength beer had not been introduced and so, after a boozy couple of hours in the mess, officers often wandered off with an unsteady gait to their vehicles for a hair-raising 'return to home base' but free of course from the yet-to-be-invented breath test.

In reality, much business was conducted in the messes and, to be frank, much business was also conducted in HQSC at lunchtime amongst the pubs in the vicinity of Coventry Street and St Kilda Road!

Everyone knew that, on posting into a new staff job, the most important person to 'make the acquaintance of' was the typing pool supervisor—no box of 'chokies', no typing priority! Smoking was a widespread and accepted habit, and the morning and afternoon 'smoko' was an institution. The tea lady and her trolley of course set the working routine for all floors of both HQSC, and DEPAIR.



A 'Pukka' Wombat, Des March (centre), at a Dining-In Night

During a dining-in night, a thick haze of smoke produced from dozens of cigars, drifted over the tables after dinner. Officers had calling cards—on first arriving at a new unit, they were carefully deposited on a table in the foyer of the mess for the PMC (President of the Mess Committee). On Christmas Day, the officer corps traditionally served dinner to the airmen.

Sport was strongly encouraged and most bases and units had teams which participated in Wednesday afternoon competitions. Inter-Service sport was particularly encouraged.

Another sad thing that changed was that during the mid-1960s aircraft were 'freely' available to some officers to take you wherever at the weekends. Col Bradford recalls that, while at Williamstown, 'you just put your name on a board during the week and indicated where you wanted to go at the weekend'. On Friday, the Vampire pilot would ring you and arrange flight details. Very civilised!

However change was in the air and indeed by the nineties, large-scale alterations involving the technical organisation of the RAAF were progressively introduced. By and large, these changes did not directly affect Wombats because most had separated from the RAAF by that time. However, they did have a very profound impact on a small number of Wombats, mostly senior officers and NCOs, who still remained in the Service at that time.

The first major change relating to the Wombats was the cessation of the Apprentice Scheme itself in 1993. Chris Coulthard-Clark records that, 'Put bluntly, the apprenticeship scheme had plainly outlived its usefulness.'⁵² The simple fact was that non-radio apprentices going out into the Service did not have the essential core competency skills

⁵² Coulthard-Clark, *From the Ground Up*, p. 145.

required to support the new and emerging technologies being acquired by the RAAF. Training seemed not to concentrate effectively on current or future needs. In 2003 and as the Technical Member of the ADF Airworthiness Board, Mac Weller advised the Chief of Air Force of a risk that declining technical skills might affect airworthiness standards.

With the benefit of hindsight, it is at least questionable whether the views on the RAAF Apprentice Scheme were valid. After all, and within 15 years of the scheme's cessation, the Commonwealth Government had reintroduced policies encouraging apprenticeships across the nation, and a number of companies had actually reintroduced apprentice schemes. Moreover, it is not certain that the skills of technical personnel had improved over that time, although there were other factors involved in this reduction of skill and experience. Indeed, the nation at large had sustained a serious lack of skilled personnel across most professions and trades in the first decade of the 21st century.

The Defence Review Program and the Commercial Support Programs had also made very significant changes to the technical organisation of the RAAF, with the outsourcing of depot and intermediate level maintenance. This resulted in the closure of aircraft depots and maintenance squadrons, and decimated the technical 'nurseries' of the RAAF where young tradesmen could develop skills and fault diagnosis capabilities. Many tradesmen were forced to take redundancies and the traditional balanced state of loyalty of airmen to the RAAF and the RAAF to airmen was suddenly thrown into disarray.

This was a very difficult time for senior managers, particularly senior Wombats, who had come through the traditional system, firstly to overturn established technical organisations and, secondly, to actively enforce reductions in personnel strengths.

As Air Officer Commanding Logistics Command, Mac Weller recalls meeting with a sullen and bitter group of surface finishers at Amberley to listen to their grievances concerning the outsourcing of the 3 Aircraft Depot paint shop. These people were not to be fooled; they knew that their jobs were going and they were not to be assuaged by humbug. It is not very comforting to have to explain to tradesmen, whose loyalty had been tried, tested and proven by working hard to meet RAAF aircraft serviceability and operational needs, that these changes were mandated government policies. They were the same men who had worked in atrocious workshops and conditions for years.

For many in the ranks, it seemed as though the very essence of the unique sense of military loyalty, that loyalty is a two-way street (ie. both upwards and downwards), had simply disappeared. After years of requiring their heart and soul, the RAAF was now requiring its tradesmen to accept reductions in the workforce and, indeed, accept redundancies in many cases. Perhaps the final irony for the troops was that, as they faced redundancies, they were often required to prepare job specifications for the outsourcing contract tender requests of their own jobs!⁵³

⁵³ See the biographies of Graeme Hodgson and Wes Lenghaus re the challenges faced by Wombats in this period.



Air Vice-Marshal Mac Weller, AM

Effectively then, the systems that, firstly, had produced the Wombats (that is, the Apprentice Scheme) and, secondly, the aircraft depots and maintenance squadrons that had nurtured them, simply disappeared. Moreover, the RAAF had reduced in size by roughly one half and the reductions included a very large number of technical personnel so that the reserve capacity provided by the depots in the Vietnam era simply evaporated. Quite ironically, the very trade structure of the RAAF had changed totally to the extent that by the mid-nineties, not one trade of the Wombat's apprentice system remained in existence. The Technical Trade Restructure (TTR) had amalgamated many trades with the 'sumpies' and 'framies' being joined together as aircraft technicians, whilst the 'queer trades' had amalgamated with radio technicians to become avionics technicians. Some trades, notably the 'gunnies' and 'truckies', had disappeared altogether!

INTO THE REAL WORLD

After five years of training, the formal stuff at Wagga followed by a year on an aircraft depot and another on an operational squadron, the Wombats were presented with their indenture as qualified RAAF fitters—the Certificate of Competency. It was an impressive little blue book with a fancy embossed cover, stamped with gold lettering and the RAAF badge.

The qualification that detailed five years of work and training probably looked more impressive than it actually was. It was only recognised within the RAAF and, maybe, the other Services. But, in point of fact, it was not worth one iota for employment within the aviation industry in Australia, other than perhaps for some training exemptions. The Certificate of Competency was a bit like the RAAF First Class Certificate of Education, recognised by no-one for any purpose other than proof of having endured the course.

So, with that milestone covered, most of us chucked it in the drawer of our bedside locker, and waited to see what happened next.

Most 'appies' had spent 15 years trying to get away from home, but inexplicably most were now trying for a posting back to their home State. As one sage from DPA (Directorate of Personnel (Airman)) remarked at one of the infrequently run, mass briefings to the troops to introduce Conditions of Service policy changes, 'Every bloody Queenslander wants a posting to Amberley because they are firmly convinced that Queensland is "God's Country". It's a pity though, as they have also convinced everybody else in the RAAF that their claim is true!'

For many though, Butterworth in Malaysia, was the real plum. This was overseas, this was exotic Asia, this was good allowances and tax concessions in the duty-free port of Penang. This was 'no-wait' married quarters and servants to boot. This was 'OS! As a consequence, Butterworth, rated highly as number one on many a Wombat's Posting Preference Form.

By this stage in the early 1960s, many Wombats were dating seriously and attending weddings was a common weekend preoccupation. For some, the posting to Butterworth brought forward these plans of married bliss. No doubt, many a bride-to-be announced to her parents, 'I have to get married!' Only to relieve them with the news that husband-to-be was posted to Butterworth, and 'No, I'm not pregnant [yet] at all'.

This was high adventure, and for many, just days after being married they were boarding a brand new Qantas Boeing 707, and being whisked away to 'exotic climes'. The Butterworth changeovers, as they were known, were highly organised military operations. From overnighting in Sydney, to an early trip to Mascot, boarding Qantas and being delivered onto the base in Malaysia, it ran like clockwork. There were welcoming committees replete with endless sheets of detail, and the inevitable cup of tea and a cake. Then with an exotic address stamped in their minds, a balmy evening before them, and swaying palm trees overhead, many a young couple must have thought they had arrived in paradise.

For many this was a short-term misconception and, as they trundled through Bagan Ajam,⁵⁴ here, the exotic East first assaulted the olfactory senses, and it may have seemed to them then that Malaysia was really on the nose! Here, co-located with the local cemetery, was the 'blanchen' factory where masses of prawns were fermented and dried to a local version of a high energy supplement akin to Vegemite. This was abutted by onion storage where more than an occasional one or two rotted in the tropical humidity adding to the malodorous homogeny. Many a newcomer laboured under the misapprehension that these odours actually emanated from the cemetery because, visually, this was the most apparent source of the smell.

As the bus loads of young adventurers weaved through narrow streets, bounded on each side by 'monnie drains', designed to deal with monsoon downpours, their eyes brought them to the realisation that this truly was the exotic East, as every manner of local activity was played out before them. In the dusk of an early nightfall, brightly

⁵⁴ A small town adjacent to the Butterworth Air Base.

lit open-fronted shops undertook all manner of trade with passers-by dressed in every conceivable type of garb. Sikhs with resplendent turbans, women in highly decorated sarongs, dirty looking labourers wearing just a blue lap-lap or pyjama-type shorts, were everywhere.

The locals had taken on alfresco dining centuries before and 'makan' carts with fiery woks turning out every imaginable delicacy catered to the multicultural masses. The food was served in bowls, plastic bags, sections of banana leaves or wrapped in roti⁵⁵ straight from the hotplate. School-aged kids straddled the 'monnie' drains, washing china in buckets of cold water before rushing trays of 'clean' dishes back to open-fronted restaurants for the next round of customers.



Penang Ferry Operations

Eventually, the buses arrived at the very modern ferry terminal and the new arrivals boarded impressive vessels for the short voyage across to Penang Island. The Malaysians had a fleet of these ferries with names such as Palau Pinang, Palau Pankor and Palau Lankawi—dubbed with the titles of local islands and resorts. They were efficient, well run and an artery for people and freight from the peninsula and the island. Too bad if you got stuck next to a truckload of durians with their putrid smell that led the average Aussies to wonder how anyone could eat one of these, even if they were attributed by the locals to be a very powerful aphrodisiac!

About an hour after leaving the Butterworth base, the buses had meandered through Georgetown from the ferry terminal through frangipani-lined streets past impressive buildings, such as the Post Office (*Pejabat Pos*) and the Court House after passing historic Fort Cornwallis and the Eastern & Oriental Hotel, then on to the island's married quarter patch of Hillside and the surrounding areas.

⁵⁵ Traditional flat bread originating from the Indian subcontinent.

The RAAF Hostel facilities and the officers' Runnymede Club, which would become a focal point of life for many troops and officers in the next 2½ years, were passed by as the buses trundled through Tanjong Tokong. Then they lumbered up Jalan Gajah (Elephant Road) and passed the NAAFI,⁵⁶ the source of 'Pommy' groceries and, more importantly, discount duty-free Tiger and Anchor beer.

Soon the new arrivals were discharged at their new homes. These were mainly two-storey duplex houses with three bedrooms, kitchen, lounge-dining room and amahs (servants) quarters and laundry. Small, well-kept, grassy yards surrounded the dwellings, with carports and paths bounded by open spoon drains to clear away the monsoon rains that would cascade from the roofs of the houses that were not fitted with gutters. All the windows were set with ornate steel grills to keep the burglars out and with louvres to let the cooling breezes in.

In most cases, there was a welcoming committee of neighbours; the previous amah—pleading for her job—and representatives, on scooters and pushbikes, of every local grocer and business imaginable, all talking loudly in unintelligible English. As escapes were made to the inside of new dwellings, and with the hordes held at bay by grilles across the entrances, new neighbours were met under the cooling breezes of overhead fans. Generally, the neighbours had made up the beds with their own sheets, stored an emergency grocery order, and made the new arrivals welcome with a cup of tea and a local version of cream biscuits; that were decidedly different to Arnott's back home. Some two hours later the bags were delivered and a long, long day was finally over. In a new house, a strange bed and a new land, they contemplated the future. Tomorrow would be a new day!

They would live an artificial lifestyle; one of relative wealth and unreality, with servants and gardeners caring for houses, gardens and kids. For wives, there was a life of boredom, pregnancy, socialising at the medical centre or playing endless sports and other competitions such a tombola or Beetles.⁵⁷ There was plenty of money, cheap booze, lots of shopping, good restaurants with cheap food, and the latest in cameras, tape decks, watches and other luxury goods. There were old cars and new motorcycles, and with fuel costing M\$2.40 (ringgit) a gallon—about 8 shillings, and around 2½ times dearer than Australia at the time—the latter were very popular.

There was also isolation from families for 2½ years, with no telephone, no email, no R&R (Rest and Recuperation) back home and no possibility of jumping a Hercules for a free trip home—it just did not happen in those days! Urgent communication was from the RAAF Post Office in phrase codes—for example, 'Dear Mum and Dad' = 97—a bit like writing a letter in Chinese menu style.

⁵⁶ The Navy, Army and Air Force Institutes (NAAFI) is an organisation created by the British Government in 1921 to provide retail and leisure services to British servicemen and their families at home or overseas.

⁵⁷ 'Tombola' is a type of lottery/raffle popular in Britain, and 'Beetles' is a party game in which one draws a beetle in parts.

The Wombats' RAAF

There were no family support services, no counsellors or the like, just the padre and the doctor. It is a wonder that so many families survived with husbands attached away for months at a time (generally to Ubon) and families left to their own resources in a strange land, totally dependent on friends and acquaintances.

Unlike the wives of those who went to Vietnam, particularly Navy and Army (as the RAAF was never good at anything other than its core business), there were no regular visits and support arrangements for the Butterworth wives. They were on their own, together with a few friends as their support mechanisms. Not only that, while waiting dutifully in Penang and waiting for letters from Thailand, some wives were not even advised that their husbands had been hospitalised in Ubon; they waited incommunicado, wondering why 'hubby' had not been in touch.

Everyone knew the Vietnam veterans were the forgotten force with no welcome home. Butterworth and Ubon did not even rate a mention, although medals were finally presented some 40-odd years after their service there, with War Service benefits bestowed decades later.



Home Away From Home – Ubon Quarters

Quite a number of Wombats served in Butterworth. Those who were posted early in their careers through the sixties found themselves in units such as 2 Squadron, 5 Squadron and 78 Wing as part of the Commonwealth Strategic Reserve.

Amongst the Wombats at Butterworth in the sixties were Cec Thompson, Dave Keast, Wal Crust, Norm Tasker, Ken Stone, Bernie Crawley, Pete Tickner, Gordon McLoughlin, Ron Benton, Andy Lapins, Ron Brown, Barry Humphries, Mick Haxell, Stretch Clayton, Ray Dodd, Frank Jacques, Eddie Edwards and Al Stuart-Sutherland.

Dave Keast recalls his personal experiences below:

Malaya was the first preference of the majority of airmen I knew, followed by a home posting. After hearing of so many stories about the lifestyle in Malaya, tax relief, duty-free shopping, importing a car, living on Penang Island—'The Pearl of the Orient'—why would you not put Butterworth as your first preference?

The joy of a posting to Butterworth came early for a few Wombats, some as early as January 1963. Many were told of the posting when they were single and quickly bought forward their wedding plans and departed on posting as a 'brown-bagger'.⁵⁸ Although the method of transportation to Malaya changed from boat to charter aircraft, to Service aircraft in the mid to late sixties, many had the pleasure of an ocean cruise. In my case, I was booked on the MV *Roma* as a single ticket but because I got married I was transferred to the Lloyd Triestino's *Galileo Galilei* on its second voyage.

The MV *Roma*, a converted World War II aircraft carrier, was frequently used to transport RAAF families on posting to Malaya. The journey took around two weeks, from Sydney, after a stop in Singapore. From memory, there were approximately 15 Wombats and families in Malaya in the sixties, plus people on exercise with the Neptunes and Iroquois helicopters.

To be truthful, expectations of Georgetown on Penang Island were not very high, as some of us called into Jakarta and others into Singapore on the way to Malaya. Here we saw and smelt the stench of another world. Penang was reasonably clean but the stench was there, especially when a fruit called a 'durian' was in season. We saw the variation between the upper class living in big houses, to the traditional villages called 'kampongs'. There was a mixture of various ethnic groups—mainly Malays, Chinese and Indians.

The first trip into town was very eye-opening with a confusion of trishaws, buses, lorries and scooters, all honking horns or ringing bells to get right of way. In the shopping centre, Malays, Chinese and Indians peddled their foods in a chorus of different languages. There were ducks hanging on hooks and live chickens, all for sale, fruits of all descriptions including rambutans, bananas, lychees, pineapples and mangosteens, to mention a few of the consumable ones. These were incredibly cheap with pineapples costing around 20 cents Australian.

Penang had much to offer for temporary residents and tourists alike. The many temples, including the Temple of the Reclining Buddha which featured one of the world's largest reclining Buddhas; the Snake Temple with vipers coiled around objects in the temple (all believed to be rendered harmless by the smoke of burning incense) and Ayer Itam Pagoda, the scenic Penang Hill with its funicular railway system, plus the Botanic Gardens (or 'monkey park' as the locals called it) were all great tourist attractions. There were many cultural and religious festivals of which the Indian Thaipusam festival was one.

Thaipusam is a colourful celebration of the birthday of a Hindu Lord. It is held in January or February each year and celebrated by Hindu Indians of all classes.

⁵⁸ A person who brings his own lunch to work in a brown paper bag.

A feature of the festival is the carrying of a kavadi.⁵⁹ Some kavadi carriers enter a trance-like state and pierce their cheeks, tongues or foreheads. Others have sharp hooks and spears through parts of their bodies as a form of penance.

In Penang we saw real poverty for the first time, images that would stay with us for life. The poor made their abode out of cardboard boxes; old men with ribs poking through shrivelled skin begging and women with babies at breast in a similar position trying to survive. Realistically though, the general population in Ubon Thailand were far poorer than their Malaysian counterparts. At the time, in Malaysia, most locals wore thongs as standard footwear, which at the time had only been in vogue in Australia for a few years, being worn in the shower or at the beach. These were originally called 'getters' for no apparent reason. However, those that learned a little Malay later found out this was the Bahasa Malay word for 'rubber'—most appropriate. The Malaysians wore these shoes because they were very cheap in their markets, around A\$1.00. However, in Ubon, even this amount was expensive for the locals, and there one could buy replacement single 'uppers' to repair a broken thong. At the time the exchange rate was about 25 baht (Thai) and 3½ ringgit (Malay) to the Australian dollar (introduced on 14 February 1966). These were good measures of comparative affluence between the three countries at the time.



The Penance of the Kavadi Carrier at the Thaipusam Festival

⁵⁹ The 'kavadi' is a physical burden through which the devotees implore for help from the God Murugan. The simplest kavadi is a semicircular decorated canopy supported by a wooden rod that is carried on the shoulders. Other types of kavadi involve hooks stuck into the back and either pulled by another walking behind or being hung from a decorated bullock cart.

Wombats – 50 Years On

Most Service people opted for second-hand cars as their means of transport or motorbikes/scooters. A few bought the then popular Volvo P1800 (Simon Templar's car in the series, *The Saint*) to take home. Ken Stone had the only Holden registered in Malaysia, an ex-RAAF staff car. Those who had motorbikes soon copied the locals by wearing their raincoats in reverse, to keep dry in the monsoonal rains. Helmets were compulsory but no other safety equipment was worn. Thongs were the norm.

Those residing on the island travelled to Butterworth either by bus or truck to the ferry, disembarked and sat on the top deck, or if in a RAAF bus travelled all the way to the base on the bottom deck. Travel time from married quarters to the base was well over an hour from memory. Pick-up for the 'brown-baggers' was between 6.30 am and 7.00 am and after work they arrived home at around 5.00–5.30 pm. Quite a long day.

During the period of Confrontation by Indonesia between 1963 and 1966, over the creation of an independent Malaysia, the strategic importance of Butterworth emerged. The possibility of attack by Indonesia against Malaysia required two armed aircraft on full-time Operational Readiness Platform (ORP) alert. This was supplied by the RAAF Sabres from 78 Wing, and 2 Squadron flying Canberra's during daylight hours, and the RAF Javelin aircraft at night.



RAF Javelins on ORP Stand-by

During Confrontation (the Malaysian emergency) in September 1964, No 78 Wing Sabre aircraft and personnel were deployed to RAF Base Changi to conduct impressive joint Air Power Demonstrations with the RAF over the Straights of Johore. This was undoubtedly to impress the Indonesians. At that time, an Indonesian Hercules reported to be carrying paratroopers also mysteriously crashed. Coincidentally at that time, the RAF ORP scrambled and seemingly lost their missiles whilst airborne, as they were void of stores before returning to ORP stand-by.

The Wombats' RAAF

No 78 Wing consisted of 478 Maintenance Squadron, as well as three operational squadrons: 3 Squadron, 77 Squadron and 79 Squadron that operated from Butterworth and Ubon. All aircraft were Sabres except for two dual-seat Vampires which were used for pilot 'instrument ratings'. Most maintenance personnel were posted from Williamtown, the home of the fighters in Australia, but as the aircraft had been in operation for several years at Butterworth most people had already done two tours, so maintenance personnel were then posted in from other bases. At this time in RAAF history there was no such thing as a field training section and the only way of learning aircraft maintenance and operation was by on-the-job training (OJT).

Most auxiliary sections ran OJT of a one-hourly class at the end of the week. All airmen were given a topic on the aircraft to study and present to their peers. In my case we had a WOFF Instruments who knew the aircraft and lessons were of a high technical standard, but when senior NCOs were posted in from other bases the knowledge at the top end diminished. In fact, prior to leaving Butterworth on my last two attachments with me being a corporal I had a senior NCO who was working as a tradesman under me to gain knowledge on the aircraft.

There was a rotation between sections, 478 Maintenance Squadron, 3 Squadron and 77 Squadron for maintenance personnel to gain experience on all aspects of their particular trades.



Canberra Bomber

In January 1963, No 2 Squadron, consisting of eight Canberra bombers and one DC-3 Dakota, was well and truly operational at RAAF Base Butterworth, Malaya. The squadron was essentially divided into two sections: line operations where the day-to-day flying activities took place, and the maintenance operation where all maintenance outside line operations was completed.

Line operations revolved around preparing the aircraft for flight. Pre-flight and after-flight inspections, minor component changes and what was then known

as 'A' servicing, which was a weekly inspection a little more detailed than the daily pre-flight, were undertaken.

Maintenance was conducted in the hangar and involved more of the heavy maintenance tasks, which included 'C' servicing, 'D' servicing, modifications and major repairs such as damage caused during line operations (eg. canopy, nose-cone replacements and major airframe repairs due to bird strikes). The damage a kite hawk can do to an aircraft flying at 500 feet AGL, at some 400 knots airspeed, was unbelievable.

With that squadron structure in mind, personnel posted to the squadron were initially put to work in the maintenance hangar. There was no training given for those who had never worked on Canberra or Dakota aircraft previously. You simply were assigned a task, given the task cards, modification instructions and a maintenance manual, and left to work the details out for yourself.

It should be noted that there were local Malays, Chinese and Indians who were employed on the base and fulfilled many tasks. Those employed in the technical trades were extremely competent at their duties and I would suggest many RAAF personnel, not familiar with Canberras, learnt quite a lot from working with them.

As experience was gained, personnel were rotated, roughly on six-month intervals, between maintenance and line operations, thereby giving all personnel exposure to entire squadron operations. Effectively, knowledge and experience were gained by exposure on the job.

Annually, a detachment of Canberras would visit US Air Force Bases Kadena, (Okinawa), Clark Field (Philippines) and conduct live bombing operations. Again experience was gained by exposure to US Air Force operations (good and bad).

Ubon (Thailand) was set up as a RAAF detachment (then a base) operating Sabres from Butterworth. This detachment was supplied initially by the Dakotas from 2 Squadron, which now numbered three, and RAF Hastings aircraft that were also based at Butterworth. Up until at least mid-1965, the Dakotas were still doing regular flights between Butterworth and Ubon supplying the base and rotating personnel between the bases. Canberras were also detached to Ubon for operations.

Ubon was a front-line facility of the USAF during the Vietnam War from 1965. Australia supplied (No 79 Squadron) Sabre aircraft to fly escort missions for the USAF aircraft. Part of the support was an Operational Readiness Platform (ORP) during daylight hours. In some emergencies, pilots would sit in the aircraft ready to launch but in most cases aircraft were readied for immediate take-off.

Base Squadron support personnel were attached from mainland Australia for six months, in comparison to maintenance personnel from RAAF Base Butterworth who were deployed for two months on a rotational basis from Butterworth.

The Wombats' RAAF



‘Gunnies’ at Work – No 79 Flight Line, Ubon

Vietnam was Australia’s longest war and RAAF squadron deployments were long term; 35 Squadron’s period of involvement was from 1964 to 1972, 9 Squadron from mid-1966 to the end of 1971, and 2 Squadron from 1967 to mid-1971.

Conditions were quite primitive in the early part of the 35 Squadron and 9 Squadron deployments, with personnel living in tentage on the airfield at Vung Tau and maintaining aircraft either in tents or out in the open.⁶⁰ However, a substantial hangar was eventually built by No 1 Airfield Construction at Vung Tau (shared by 9 Squadron and 35 Squadron) together with a domestic cantonment area.



RAAF Hangar at Vung Tau

Vietnam was not a popular war and was opposed bitterly by many sections of the community, including trade unions, churches, academia and the Labor Party. A major reason for its unpopularity was the use of a ballot, based on a person’s birthday, to

⁶⁰ See Tony Harding’s and Peter Tickner’s biographical profiles for some interesting reflections on early Iroquois operations in Vietnam.

conscript National Service people for the Army. Being volunteers, RAAF personnel probably were not as scarred mentally as the National Serviceman from the Vietnam experience although they still suffered a degree of trauma.

About 16 per cent of Wombats saw service in Vietnam, principally as fitters associated with the three aircraft types in service. Several engineers had tours of service in Vietnam, including Kev Griffin (Senior Engineering Officer No 35 Squadron), Mac Weller (Senior Engineering Officer No 9 Squadron) and Dave Whately (Armament Officer No 2 Squadron). Mick Haxell flew as a squadron pilot with No 9 Squadron⁶¹ and Andy Lapins, Hugh Worner, Phil Larter, Jim Rowe and Felix Parker flew as crewmen.

In some ways, the Vietnam experience was just another squadron posting for technical personnel, in the sense that the hangar routine and conduct of aircraft rectification and routine servicing was much the same as in Australia. Moreover, most saw the posting as one of the foibles of the RAAF posting process, part of the job of being a PAF serviceman. The reality was that the squadrons were on active service and it was a very different environment for a number of reasons.

Personnel were unaccompanied and so the stresses associated with an absence from family for 12 months were substantial. But, in general, personnel were stoic in their acceptance of their fate. With little else to do, people generally chose to work and supplemented their normal standard 8-hour, 6-day week with much after-hours effort.

Towards the end of the RAAF's commitment in Vietnam, domestic living facilities were quite reasonable with messes, clubs and swimming pools. However, in the early sixties, living conditions were fairly basic. Jan Paulga's recollections of that time appear later in this chapter. However, in general, and as a result of improved living conditions and the clear and intense operational commitment of squadrons, morale was generally very good.



Local Vietnamese Shops and Bars

⁶¹ Mick Haxell's story of the events which resulted in the award of his DFC appears in Chapter 9.

Mac Weller recalls a time in the small hours of a morning when, after all aircraft had finally been repaired and made serviceable for the following day, he and a number of NCOs (including Wombat Phil Larter) retired to the Sergeants Mess. After many beers, the party then retired to the swimming pool and conducted a very enjoyable, but thoroughly unprofessional game of water polo. It reflected the spirit of the maintenance crews and the mateship between Wombats.

Because of the operational commitment, there was an intense and unrelenting pressure on the generation of serviceable aircraft and the achievement of high rates of effort. For example, 9 Squadron had an aircraft unit strength of 16 Iroquois helicopters from which a minimum of nine 'slicks' and three gunships had to be available daily, although all 16 aircraft were occasionally flown. The squadron flew a very challenging 14 000 hours per year on difficult and demanding tasks. Aircraft serviceability was affected adversely by a tropical environment, which ranged from a dusty and hot 'dry' season to a monsoonal 'wet'.

Under these arduous conditions, aircraft sustained considerable wear and tear; such that they were subject to much more maintenance effort than in Australia. Iroquois routine servicings were conducted at half the intervals of Australian-based aircraft and as a rule of thumb, aircraft required about twice as much maintenance effort.⁶²

However, the most exacting pressure came from the active service role of the RAAF's operational commitments. Despite the normal routine of many activities in Vietnam, the active service nature could be brought sharply into focus very quickly. This might be, for an aircraft tradesman, that whilst doing early morning pre-flight servicings, Vietnamese airfield perimeter guards took pot shots at him or because the Senior Engineering Officer (SENGO) hurriedly gathered an aircraft recovery team together. Or, a supplier might run the gauntlet of Viet Cong sympathisers in villages as he passed through on his weekly supply run from Vung Tau to Bien Hoa and return.

Each of the three squadrons had their own unique challenges associated with the recovery and repair of battle-damaged aircraft. Iroquois helicopters operated in support of the Australian Army in Phuoc Tuy province providing utility helicopter capability for the mobility and support of troops. The squadron also had a light fire capability in the form of four gunships which were fitted with two 7.62 mm miniguns, two rocket pods with seven 2.75 cm rockets per pod, and two machine guns mounted each side of the helicopter in the cargo door space.

Whilst maintenance was conducted at Vung Tau, 9 Squadron operations were normally made from Nui Dat (about 10 minutes flying time from 'Vungers'), where a forward servicing and rearmament party provided direct support of aircraft operations.

Some 9 Squadron operations were dangerous, often with sorties being flown in very close vicinity to the Viet Cong and North Vietnamese enemy forces, in appalling weather and into small landing zones. Although the Iroquois was fairly tolerant to ground fire, it was nonetheless quite vulnerable (particularly during medevac 'dustoff' and gunship

⁶² Affirmation by Mac Weller, SENGO 9 Squadron 1971.

operations) so that battle damage from ground fire and mines occurred frequently and the recovery of damaged aircraft was a constant undertaking.

In the space of five minutes of one day, all four gunships returned to Nui Dat during an intense period of contact with the Viet Cong, and all aircraft carried various degrees of battle damage. In that time, the condition of each aircraft was assessed: one aircraft was cleared to continue operations with a bullet hole in the main rotor, another had a tail boom longeron almost severed (this aircraft was uplifted by Chinook back to Vung Tau), another was too badly damaged to continue as a gunship and had to be demodified/converted to a 'slick' on the spot, and the fourth was returned to service after about 40 minutes.

In 1971 alone, four aircrew members were killed on operations, two aircraft destroyed and the squadron recovered many aircraft from the field.



Chopper Flight Line

The war certainly had its moments as Kev Griffin recalls in the following account of an attempted aircraft recovery:

While in Vietnam I was the Senior Engineering Officer with No 35 Squadron. The squadron flew Caribou aircraft used for tactical transport and were capable of carrying 32 troops or equivalent cargo. The Caribou featured a rear-loading door, an impressive short take-off and landing performance and the

The Wombats' RAAF

ability to operate from primitive airstrips. The aircraft was powered by two Pratt & Whitney Twin Wasp, two row, 14 cylinder radial engines.

On the 29 March 1970 Caribou A4-193 was tasked to deliver aviation fuel in 44-gallon [200-litre] drums to the South Vietnamese training base at That Son, 15 kilometres from the Cambodian border. The crew of the aircraft were Flying Officer Bert Milne, Pilot Officer Mick Calvert, Corporal Nev Church and Leading Aircraftman Bob Laing. The rough airstrip at That Son was like many others in Vietnam in that there was no air control and airfield defence.

When these conditions prevailed, the captain of the aircraft assessed the intelligence available and, after visual inspection of the airstrip and surrounding areas from the air, made a decision whether to attempt a landing or not.



Wombat 'Shorty' Bushell Doing the Rounds

On this occasion, the Caribou landed and taxied to the unloading ramp. Immediately it came under an intense and accurate mortar attack from the Viet Cong, who had taken up concealed positions around the airfield. The Caribou was hit in one of the wing fuel tanks and a fire began which quickly spread to the fuselage. The captain, who had lost his helmet due to the force of the explosion, quickly engaged the brakes, shut the engines down and told the crew to evacuate. They scampered over the drums of fuel and out through the ramp door. With mortar fire still falling, they headed for the nearest ditch. By this time the Viet Cong had spotted them and started to bomb the ditch, in addition to keeping up the attack on the aircraft. The crew noticed a bunker a short distance away and raced through the mortar fire to its protection.

Bert Milne told me later that for one frightening moment he thought they had jumped into the hands of the enemy, but to their relief they found that the bunker was occupied by South Vietnamese troops who were preoccupied saving their own lives. When the attack had been repelled, a jeep arrived and

drove them to a nearby command post. Three hours later the crew, unharmed but shaken, were evacuated by a US Army Iroquois helicopter.

The next day, the Commanding Officer of No 35 Squadron tasked me with the job of inspecting the wreckage for recoverable parts. A No 35 Squadron Caribou flew me from our base in Vung Tau to a US Army stronghold in Can Tho. From there I flew by US Army Iroquois helicopter to That Son, 80 kilometres north along the Mekong River. From the helicopter, which flew at treetop level, I could see ground forces with artillery and tanks moving towards That Son. My helicopter landed about midway and, with rotors still turning, took on fuel hand-pumped from fuel drums.

When we arrived at the site of the wrecked Caribou, the captain made a quick security assessment of the situation and prepared to land next to the wreckage. Unexpectedly, he hovered a few feet from the ground and told me to jump out, adding that he would come back in 30 minutes to pick me up. As the helicopter quickly gained height and disappeared I soon realised why the captain had decided not to stick around.

No more than a couple of kilometres away, USAF ground attack Cobra helicopters were diving down onto enemy positions and firing their rockets and guns. At this stage, I felt particularly vulnerable standing there by myself clutching a light machine gun for protection. The fact that the helicopter captain had acted for the greater good provided me with little consolation.

To my surprise, within minutes a RAAF photographer showed up from the nearby command post. The photographer was a Reserve flying officer attached to the RAAF contingent at Vung Tau. The RAAF PR [Public Relations] often took considerable risks in the chance of obtaining a scoop and, on this occasion, the photographer was in the area when the Caribou was hit. He was able to take a series of on-the-spot photographs, showing the extent of the damage to the aircraft, as we moved warily around the wreckage.

Apparently, after the crew had been evacuated, fire from further attacks had ignited the Caribou's brake lines releasing the brakes. The aircraft then rolled backwards into pre-positioned fuel drums. The aviation drums in the aircraft and on the ground had then exploded and fire had enveloped the entire aircraft. I found the fuselage and wings of the aircraft a mass of molten and fused metal carpeting the ground. Although the engines and propellers were recognisable, they were badly damaged. I quickly decided that there was nothing worth recovering. The photographer and I were both relieved when the helicopter returned and flew us back to That Son.

One of our Caribous flew over the area a few days later and the damaged engines and propellers could no longer be identified. It is not known whether this was because of further enemy fire or whether the local South Vietnamese had salvaged the parts for scrap. In a short period of time Caribou A4-193 had become a memory.

Later, the RAAF learned that That Son had been under ground attack since 0100 hours on 29 March. The enemy had penetrated the perimeter, losing

The Wombats' RAAF

35 killed in the action. Half an hour before the RAAF Caribou landed, an American transport aircraft on final approach had come under heavy ground fire and was forced to abort its landing. Unfortunately, this information had not been passed on to the RAAF.

So proficient had No 35 Squadron become in Caribou operations that on at least one occasion American efficiency experts arrived at the unit to observe its maintenance and aircraft operating procedures. These visits were no doubt prompted by some startling statistics, which showed that while flying only 1.4 per cent of transport missions in Vietnam, No 35 Squadron was delivering seven per cent of the total airfreight lifted.

This remarkable state of affairs was brought about by a number of factors, not least of which was ground staff willingness to see that the maximum number of Caribou were serviceable at all times. This was achieved by working effectively for long hours.



'Sumpies' at Work on Caribou A4-173

The pilots were well trained to captain level, including tours in No 38 Squadron Detachment A in New Guinea. They could operate the aircraft right throughout its roles, fly it in every configuration and handle any sort of emergency. In Vietnam, the pilots courageously took on tasks that the USAF often refused. The loss of the Caribou at That Son, and nearly its crew, was indicative of the risks they were prepared to take. Sometimes we overlook the fact that most of the RAAF pilots who served in Vietnam were very young; both Bert Milne and Mick Calvert were barely 22 years of age at the time.

It was not only Wombat 'techos' that participated in Vietnam. The following account is included from Jan Paulga, a CLKEA:

The RAAF Transport Flight Vietnam (RTFV) arrived in Vung Tau on 8 August 1964 after the three aircraft were diverted from their ferry flight from Canada to Australia—they got as far as Butterworth where the ferry crews were replaced by personnel posted to Vung Tau.⁶³ There was a formal welcoming ceremony held in Saigon on 10 August 1964 and the first RTFV mission was flown on 14 August 1964. A second batch of three aircraft arrived shortly afterwards and the flight was finally increased to seven aircraft in June 1966.⁶⁴

Vung Tau was a US Army base, chosen because the US Army also operated Caribous and there was an Aviation Support Battalion (61st Aviation Battalion) based there for spares and maintenance support. At the time, the runway was pierced steel planking (PSP) and was later supplemented with a concrete airstrip.

I was the second Clerk Equipment Accounts (CLKEA) posted to the RTFV. Three of us were on posting at the same time and we travelled by British Airways and Pan Am [Pan American World Airways] from Sydney to Saigon (overnight Singapore). The new chums were Flight Lieutenant Jim Dunne, Corporal Les Auger (EQASST) and me. We arrived in Vietnam on 15 March 1966—three days after a mortar round had gone through the hangar roof and damaged two aircraft.

On arrival at Tan Son Nhut we met some of the Australian Defence staff before flying to Vung Tau by Caribou that evening. We were briefed on the use of Military Payment Certificates (MPC), which was a sort of in-country US currency—US dollars were changed into MPC on arrival as dollars were not to be used in country as there was a lively black market in US green. For local currency, MPC was changed at an on-base facility at an exchange rate of 114 piaster for one US dollar.

The next day at Vung Tau we were issued with an M14 automatic rifle plus a couple of magazines full of rounds and told that we had to carry it to and from work every day. Our daily routine was six days a week from 0730 hours to 1730 hours—as a ‘non-techo’, I did not have the early starts for duty crew or the late nights repairing the aircraft which were pretty much an everyday occurrence.

The maintenance personnel worked in a quarter of a hangar which contained the equipment store, technical offices and workshops—there was also a mobile workshop adjacent to the hangar. RTFV Headquarters was a wood and wire hutlet, which housed the CO (Squadron Leader Vic Guthrie), the ADMINO cum EQUIPO cum ACCTO (Jim Dunne), a sergeant Pay Clerk (Alec Whyte), a sergeant Medical Orderly cum Hygiene Inspector (‘Doc’ Smith), a sergeant Linguist, a sergeant Airfield Defence Instructor (Tim Holt), a sergeant Clerk

⁶³ Chris Coulthard-Clark, *The RAAF in Vietnam: Australian Air Involvement in the Vietnam War 1962–1975*, Allen & Unwin, St Leonards, 1995, p. 39.

⁶⁴ *ibid.*, pp. 42–43.

The Wombats' RAAF

Administrative (Bill Cooper), a corporal Clerk Equipment (Jerry Cleary) and myself. We had basic furniture and office equipment. The equipment store was manned by a sergeant (Barry Owen/Eric Allen) and a corporal EQASST (Les Auger).

Vehicles were provided by the US Army. Transport to and from our accommodation was either by a five-ton Studebaker US Army truck, a three-ton Ford truck or a light truck. There were also several jeeps used by the officers. The CO's jeep had been painted a metallic sky blue, given a RAAF badge over the spare wheel and a kangaroo decal on the bonnet.

The uniform was drab shorts and shirts, long socks, army GP boots and black baseball caps embroidered with RTFV, our rank and name. These were supplied by a local tailor and were ready before we arrived.

The airmen were accommodated three kilometres from the base at the Villa Ngoc Huong and the officers at Villa Anna. These were located on the seafront of what was known as the front beach. These villas were obtained after the CO of the first contingent decided that the SNCO and airmen accommodation on the base was unsatisfactory—they were housed in open-sided, wood and wire huts located next to an open sewer with a pump which ran 24 hours a day. Initially, the airmen rented the villa privately and paid for it out of their own pockets.⁶⁵ The rent was later taken over by the Americans as part of the Cooperation Agreement.

The Villa Ngoc Huong was crowded as it was originally designed to house 46 and the unit strength was over 70 personnel. The SNCOs lived on the first floor of the two-storey block and airmen were accommodated on the ground floor, in a separate single-level wing or in a large central building ('the blockhouse') which had a couple of toilets and two showers for the occupants. The other wings had their own shower in each room. There was also a small house in the compound which housed the family of a locally employed civilian (LEC), who was a cleaner and did the laundry for the airmen. Both villa compounds were guarded by a detachment of air field defence guards (ADGs) from July 1965 onwards.

Electricity at the villa was provided by two large generating sets. The plumbing water was non-potable. Drinking water was obtained from the US Army in plastic jerry cans, as were two types of ice for the bar—a clear ice (for drinks) and a brown ice used to chill the beer (not to be drunk).

The airmen were given a fortnightly allowance of US\$55.00 which had to be drawn each fortnight. Due to the lack of banking facilities for Australians, the fortnightly wages were permitted to remain in our pay books until required. The allowance was drawn as we were expected to feed ourselves from this allowance. This gave you several choices: you could eat at one of the two restaurants which were deemed to have appropriate levels of cleanliness/

⁶⁵ *ibid.*, p. 58.

hygiene; you could eat at the US Army mess (lunch was 40 cents and dinner 50 cents) or American R&R Centre in Vung Tau; or you could shop for food at the Base PX [Post Exchange] or the Vung Tau markets and cook your own meals. There was a two-burner LPG gas stove in the blockhouse and a collection of kitchen utensils. The local food purchased was usually limited to tomatoes and bananas, which would supplement whatever canned meat was available from the PX at the time—not a constant source of supply however.

On many occasions, loadmasters managed to obtain cases of eggs, chicken or other meat and most shared in the spoils. In my case, for two of us I usually purchased 14 cans of tomato juice from the PX and these provided a half a can for breakfast for the fortnight. Eating at the US Army mess was usually limited to lunches due to the distance to the villa at night. The US R&R centre, located a block from the villa, occasionally let us in for meals. At around nine each night there was a whip-around in the bar and a vehicle was sent to the local bakery to purchase hot bread rolls which were then filled with whatever we had on hand (usually bananas or canned meat from the PX). The bread was delicious at night and almost inedible the next day.

A monthly dining highlight was the return of a Caribou from Butterworth (they flew one to Butterworth for a ‘compass swing’ most months), which was laden with iceboxes of fresh milk, vegetables and steak. An all ranks barbecue followed on the Sunday when the aircraft returned to Vung Tau. The fresh food was assembled by Butterworth catering personnel and exchanged for bottles of spirits, or other items from the PX system. This was a good arrangement, as a gallon of gin cost eighty cents, a half-gallon of white rum around a dollar and whisky, dark rum, brandy or bourbon around a dollar a quart.

The airmen’s bar (known as the ‘Wallaby Club’) was a carport-type arrangement at the end of the single-storey wing. The early RTFV members had arranged for their own Post Exchange (PX) account with the US authorities in order to set it up using their own money. It was staffed by hiring a locally employed civilian barman and managed by a volunteer committee. A large stainless steel coolroom had been appropriated from the US by one of the loadmasters to provide secure storage. The bar was run on a system of five-dollar bar books, which contained ten and five cent tickets. These were purchased from the committee so that no money was handled over the bar. A beer or shot of spirits was ten cents and soft drinks five cents. The money was accounted for under Non-Public Moneys accounting procedures. As the CLKEA, I inherited the position of Treasurer.

RAAF Welfare had supplied a few items—a reel-to-reel tape recorder/player, a 16 mm projector and an outboard motor (sourced from Butterworth) for our entertainment. The earlier members had obtained two speedboats and another outboard motor—probably from bar profits and probably from Butterworth also. Waterskiing was a Sunday activity on the Vung Tau front beach for those interested.

All Australian personnel had the opportunity to partake in the US R&R program. In 1966 this involved a week in Hong Kong, Pnom Penh, Taipei or

The Wombats' RAAF

Bangkok—Sydney was not then on the R&R circuit for Australians. The RTFV personnel also had an opportunity for an unofficial five days of R&R in Penang in conjunction with the Caribou visit. To participate in these trips you put your name on a list and went as and when space was available.

Another diversion was available by acting as an assistant loadmaster on one of the Caribous, which were detached for a week at a time to Nha Trang and Da Nang. Every so often, a groundie was selected to replace one of the ADG assistant loadmasters. Similarly, one-day opportunities occurred on the daily Caribou missions from time to time.

From 1964, personnel were posted to RTFV on an eight-month tour of duty. I ended up completing a nine-month tour as my replacement obtained a month's deferment for the birth of a child before coming to Vietnam on posting. Around May 1966 this was extended to 12 months for personnel who arrived after April 1966. This caused some consternation amongst those affected and moves were initiated to have their tours remain at eight months. In 1966, there were some personnel who were on their second tour of RTFV as the flight celebrated two years in Vietnam in August 1966.

In conjunction with a build-up of the Australian presence in Vietnam, a team from Butterworth erected two Kingstrand huts in the Villa Ngoc Huong compound to provide messes for all personnel. An LPG-fired mobile kitchen was installed next to the Wallaby Club and manned by four cooks.

In addition, a detachment from 5 Airfield Construction Squadron, Butterworth, arrived to erect a Bellman hangar (sourced from Parkes, NSW) and a tarmac and landing pad for 9 Squadron. Four additional huts were erected to provide headquarters for each squadron and for Base Support Flight (BSF) to house a medical section, operations building and a larger equipment store.

In June 1966, the RAAF contingent at Vung Tau was expanded from around 74 to 280 with the arrival of 9 Squadron (with eight Iroquois helicopters) and the establishment of BSF, which became responsible for barracks, catering, messing, personnel movements, pay and allowances, and services not directly involved with flying operations. This also resulted in our allowance being dropped to around 25 dollars per fortnight.

RTFV was then renamed No 35 Squadron and most non-technical personnel were posted to BSF. I was able to remain living at Villa Ngoc Huong but the 9 Squadron and BSF personnel were accommodated in wood and wire huts on the base. This meant that they had to commute to and from the hut lines and the villa for meals. A bar and recreational hut was established within the hut lines also. In some ways, this separation in the airman community resulted in a fragmentation of camaraderie.

During April 1966, the Australian Army battalion located at Bien Hoa was withdrawn and replaced with a two-battalion group at the back beach at Vung Tau. The RAAF members of 161 Reconnaissance Flight were also transferred from Bien Hoa to Vung Tau and became a detachment of 9 Squadron.

Wombats – 50 Years On

During this time, we were visited by the Prime Minister, Harold Holt, and I met the Army Minister, Malcolm Fraser, whilst I was in the US 36th Evacuation Hospital for 21 days after slicing off the top of my thumb with a machete whilst chopping up a block of brown ice to chill that night's beer in the villa. We also began to receive teams of entertainers from Australia who provided concert tours for Australian personnel.

With the increased Australian Army presence at Vung Tau and Nui Dat came the Australian Services Canteens Organisation (ASCO). The immediate effect of this was that the previous arrangements with the US PX system were superseded with ASCO becoming the source of canteen supplies for the RAAF contingent. Unfortunately, prices also tended to increase.

Additionally, the RAAF arrangements resulted in a decision that the profits made by the Wallaby Club were earmarked for RAAF Welfare. The two speedboats and motors were then transferred to the newly formed RAAF Vung Tau Boat Club. These decisions caused much angst amongst the RTFV members. Rather than passing over the funds, considerable amounts of money were spent on happy hours and, finally, it was decided by the airmen that the balance of the funds were to be donated to the Tasmanian Bushfire Appeal Fund rather than given to RAAF Welfare.

Life had certainly changed at Vung Tau.

Elsewhere in Vietnam, other Wombats were also doing their bit and gaining new experiences, as recalled by Jim Riches who was posted to No 2 Squadron at Phan Rang:

I arrived at Tan Son Nhut Airport around lunchtime, and was given a day-old in-flight ration pack. I took just one bite and threw it into a large garbage bin ... a 'local' dives into the bin and finishes my lunch. Welcome to the war!!!

Early in the tour the base was under mortar and rocket attack; I grabbed my tin hat, flak jacket and empty rifle and headed for the nearest bunker where I sat wide-eyed waiting for it to end.

I visited Yank friends at the 315 Airlift Squadron when a good old Southern boy runs into the barracks saying, 'Try this'—it's white lightning and tastes good—'Yeah, and it's only four hours old'.

The bomb dump at Phan Rang consisted of many acres of high explosive bombs, napalm and small arms ammunition [SAA]. No 2 Squadron had a small area that consisted of a small hut, a dirt revetment about 20 metres long and 3 metres high. On one side of the revetment there was a rack where we put the 60 x 750 lb HE [high explosive] bombs to be prepared; once ready the bombs were moved to the bomb trolleys ready to transport to the flight line. One day a truck with lights flashing and sirens blaring pulled up beside us while we were busily fuzing the bombs, 'Take cover we are under attack!' Four of us look at each other thinking where are we to go—beside us was five acres [2 hectares] of napalm and SAA, and behind us just as many acres of HE bombs. We keep on fuzing bombs with a shrug of the shoulders. 'Crazy Aussies', said the Yank.

The Wombats' RAAF

The padre organised the troops to sing Christmas carols in all the messes and clubs on Christmas Eve. We busily converted all the 'F' type bomb trolleys to people transporters by nailing planks across the rails of the trolleys. With me as designated driver (no drinking!) we travelled around the various messes and were well received. After the Bamboo Vipers Club (USAF SNCOs) we travel back down the hill to the '21' Club, finish our singing and move off. Yanks were coming out of their barracks and jumping onto the trolleys. Then lights and sirens, the USAF Air Police roar up demanding we stop. 'You know you ran over a man's leg back there and broke it.' My copilot at this stage was 'Blue', who replied, 'S'orrigh he was only a septic tank'. Our carol singing finished there and then. An inquiry next day determined the Yank had miscalculated his jump onto the fourth and last trolley and fell between the wheels. Being a designated driver worked in those days ... and the Yank probably got a 'Purple Heart'.

On Christmas Day there was a 24-hour truce—therefore, we get in and drop our bombs early—Boxing Day, we drop them later without losing our 60-bomb-a-day regimen.

One day when visiting my friends, Ronald E. McGrath and Gomer Pyle (yes it was his real name), I met a new loadmaster, a gigantic negro, who had arrived 'in country' the day before. I suggested we go over to our airmen's club for some real beer. The new man asked if it was OK to come too. The question was asked, 'What do you mean?' His reply, 'Well, they will be all white won't they?' and our reply, 'That means nothing to us'—'Black Power' was big at this time. The next day his aircraft and 120 people flew into a mountain killing all on board.

The ASGRO Games were on, a competition between all musterings and aircrew, based on Australian, Scottish and Greco-Roman sports. It included chariot racing using whatever came to hand, caber tossing, tug o' war, etc. The chariots varied from modified bomb trolleys complete with roll cages to a baby's pram piloted by a navigator (yes—where in the hell did he find a pram in a war zone?). One general hand had drained a napalm canister to use, I suggested he pull out that funny looking thing in the nose, being the igniter, before he races it down the hill. The armourers won the tug o' war.

One night about midway through my tour we are again under attack, the ADGs [airfield defence guards] are trying to get people into the bunkers, I stroll into the bunker in 'jocks' only, scoff at the new boys in their tin hats and flak jackets.

R&R time—I arrived at Camp Alpha and attended the briefing for Australia regarding Customs etc. After dinner, headed to the shower block; it was like an armoury, all the pistols, revolvers, flick-knives and various other devices were left on a bench—the Customs brief must have worked! (On return from R&R, you went to the shower block and picked up whatever weapon you felt you needed). On the flight home, I teach the Pan Am hostess that a cup of tea means one tea bag per cup, not one tea bag to a litre teapot. When met by wife and daughter at the airport, we are driven to our Kings Cross hotel in a

Commonwealth car, but picked up five days later by a bus. Oh, how the mighty have fallen.

The pullout decision is made, so I quickly make arrangements for R&C in Malaysia. Enjoy a great night at Ken and Jan's place eating real food and talking about old times and the advent of colour TV in Aussie as seen on R&R earlier.

One night late in my tour the siren sounds, we are under attack again, don't hat and flak jacket—hey, I'm 'short', nobody is going to get me now!

It is time to go home, it is over; arrive at Phan Rang Airport at 0800 hours, sit and wait and wait for a flight to Tan Son Nhut, the aircrew keep running out of flying hours. We finally arrive in Saigon about 1930 hours. 'Sorry boys, we will have to put you up in a local hotel—be ready to be picked up at 0700 hours tomorrow.' 'Hold on mate, we haven't eaten since breakfast and haven't got any money for meals or anything.' The reply was 'Sinn Loy'.⁶⁶ Fortunately, I, forever the pessimist, had illegally secreted 10 bucks green, which I traded for *dông* with a room boy, this allowed me and the two others to go to the bar for a few bar-me-bars ('33' the local beer).

As the night went on, a waitress told us to be careful. Some Vietnamese men wanted to kill us, so we lined up the empty beer bottles saying 'bring it on', full of intrepidity, but within minutes the roof fell in on us; a bomb or rats overpowering the cats in the ceiling, I'll never know, but we ran for our lives.

After fighting a losing battle with the cockroaches I surrendered my pillow to them and slept in a chair.

Thirty-four years later I received my farewell pewter mug from 2 Squadron—'Sinn Loy'.

Welcome back to the World.

Meanwhile, back in Australia other Wombats were also off to sunny climes as Phil Locke relates, recalling his time at Woomera.

It was the end of 1962 and I was just finishing my five years apprenticeship, having served one year at 3AD and one year at 82 Wing when the WOFF said I had been posted to No 1 Air Trials Unit. 'Where about is that then?' 'At Woomera!' 'And where's that?' 'Out in the desert, 300 miles north of Adelaide!'

Well, I'd heard of Adelaide so off I went in my trusty Hillman—no air conditioning—across the Hay Plains in the heat, flies and on dirt roads. I had to go via Adelaide to pick up a pass to get into the gate. They didn't want to make it easy. Then there was 100 miles of bulldust, corrugations, grids and numerous railway crossings to travel north of Port Augusta.

⁶⁶ Xinh loi (sinn loy) is a polite Vietnamese phrase literally meaning 'excuse me' or 'pardon me', but used sardonically to mean 'sorry about that', 'too damn bad', or 'that's life'.

The Wombats' RAAF

I eventually turned up at the Orderly Room a few miles inside the township near the airport. Where have you been? Where's your uniform? They were lucky I'd made it at all! I eventually got sorted and they gave me room in a Nissen hut overlooking the desert with half of the desert inside. Wow! I wasn't impressed. It was almost as bad as my first year at Wagga. The next day we caught a converted semitrailer (bus) for the 40-minute trip to the work area. We soon learnt to play cards twice a day. Telephone calls and trips back to Ipswich weren't satisfactory, so I married Diane in July 1964. She couldn't leave me, for Woomera has always been a great location for a detention centre—too much desert to cross. At least we had nice accommodation in a brick two-storey block. Woomera had a pool and a nice air-conditioned theatre was built while we were there. Col Joye and Little Pattie performed for us prior to travelling to Vietnam.

The work we performed made up for any lack of comfort. Our job was to maintain Meteor fighters, Canberra bombers and Jindiviks that were flown down range without pilots, so they could be shot at by ground-based missiles. Warheads weren't always used and the aircraft carried onboard cameras that often showed how close the missiles came to the aircraft. We even flew two aircraft in formation to determine if a missile could distinguish between the two. The kangaroos became so familiar with missiles taking off that they only got up to move if a missile blew up on the pad. We also saw the first ELDO rocket launch.⁶⁷ Later, Diane and I, with a new baby, had a great three months living in a fisherman's hut at Jervis Bay while I was setting up the Jindivik for the Navy.

It was a make or break posting. On one occasion, one of our corporals made a mistake that damaged equipment on the target aircraft. The boffins from Weapons Research Establishment (WRE) had to get back on their aircraft and return to Adelaide after a 4 am start. The corporal was posted out very quickly.

In lots of ways Woomera was a great posting for a young Wombat and I learnt many things. I left there in June 1967 as a sergeant having been accepted for 10 months training in the USA on the F-111 program.

The recollections of individuals above give a good insight into life after Wagga in different theatres of RAAF operations and conflicts. There is a sense of danger, excitement and risk in the situations faced by these Wombats in their postings, so soon after completing their apprenticeships. However, during the course of their service from first-year apprentices until they eventually threw in the towel and resigned, the changing times and technologies of general RAAF life also affected RAAF personnel and their wellbeing.

⁶⁷ The European Launcher Development Organisation (ELDO) was a multinational consortium formed in the 1960s to build an indigenous European space launch vehicle. Woomera was chosen as the launch site for the test vehicles.

Between the time when the Wombats joined the Air Force until some 30 years later, when most had retired to other things, a quantum technology leap had taken place. In terms of aircraft maintenance, the RAAF had introduced new aircraft, new systems, new materials and new practices. In many cases, it pioneered these technologies within the context of an operational air force, as opposed to the aircraft-factory environment.

Over the period, the RAAF changed from an organisation in which safety was a simple, well-considered element of everything that was done in the technical environment, to one that struggled to come to grips with the introduction of leading-edge systems, materials and processes that imposed health risks on its workforce—occupational health emerged as a complicated management issue for the RAAF with its managers ill equipped and not trained nor experienced in how to deal with it.

Arguably, the RAAF provided safety training of its ground force second to none. All of the safety matters essential to fitters were taught in basic training. This ranged from the safe use and maintenance of tools, installing and dressing abrasive wheels, safe removal of lathe chucks, welding gas safety, fire and first aid response, eye protection, range safety, and from foreign object damage (FOD) to loose clothing hazards.

The AAP 818 detailed safety information on any number of subjects, such as the safe use of compressed air, wearing of rings and jewellery, eye safety when welding, oxygen hazards, using the correct tools for the job etc.

At the trade level, safety training was instilled at a practical level and reinforced with hazard and safety references throughout servicing manuals, highlighting hazards associated with particular tasks and detailing procedures to be employed. Continuation training was delivered within operational workplaces emphasising safety issues within particular working environments.

Similarly, the RAAF was well ahead of the game with ‘system safety’ compared with many workplaces. Safety administration and reporting mechanisms were in place, with incident, accident and hazard reporting policies and procedures established. In particular, accident investigation, reporting and statistical analysis were well defined, with well-documented procedural requirements. Safety awareness and poster displays, workplace hygiene and first aid stations, safe work clothing and footwear were provided.

However, the focus of this was firmly biased to workplace safety and the prevention of acute traumatic injury. In any real sense, occupation health, or the potential of the RAAF workplace to cause chronic long-onset, long-term illness, was not on the agenda—with a couple of exceptions.

The Wombats were, in fact, the unwitting pioneers of hearing conservation programs within Australia. By the mid-fifties, noise-induced deafness from exposure to aircraft noise (and other sources) was becoming well recognised. In 1958, the RAAF medical services, working in collaboration with the newly created National Acoustics Laboratories, conducted audiometric screening and baseline measurement and recording on every Wombat’s hearing performance. The audiometric acuity on entry to the RAAF of 100 healthy young Australians between the ages of 15 and 17 years was established. Unfortunately, within 15 years these records seemed to have vanished from RAAF access. The cotton wool we were given to plug our ears each time we went to the

rifle range probably did little to prevent the noise-induced deafness and tinnitus so many Wombats experienced in later life.

The other occupational health issue recognised at the time was the apparent effects of paints and thinners on their users. To circumvent the toxic effects of these and similar products, for what it was worth, a milk ration was made available to all surface finishers and other trades personnel utilising such materials on a regular basis.

The hazards of ionising radiation and non-ionising radiation exposure were well recognised with personal dosimetry practised for trades such as the 'gunnies', who managed radioactive sources and measuring instrumentation. Most Wombats working on flight lines will recall the 150-foot (46-metre) protection zones applying to aircraft with operating radar. (As part of the OH&S initiatives of the 1980s, a full microwave survey was undertaken on all operational bases). Similarly, the Wombat instrument fitters would have been warned about licking their paintbrushes while 'luminising' instrument dials.

Among the factors that influenced the divide between occupational safety and occupational health were that responsibility for ground safety was vested in the Directorate of Flying Safety (DAFS) – Ground Safety Cell, while the Directorate of Air Force Medicine (DAFMED) was responsible for occupational medicine, and its Environmental Health Cell (AFMED2B), for occupational health.

On a more obvious note, acute traumatic injury was an 'in-your-face' reality of a safety failure, whereas people presenting with occupational health symptoms might never have the causal reason for their condition recognised.

In parallel was the other shortfall—that the professional training of engineers and of medical practitioners of that era did not include occupational health or medicine. Consequently, those charged with managing occupational health—the engineers—had little or no expertise in occupational health management, and those charged with diagnosing occupational illness and providing specialist advice to engineering management—Base Medical Officers—were similarly ill-equipped professionally to deal with their responsibilities.

By the mid-sixties DAFMED recognised a need for trained practitioners in occupational health to provide practical support for Base Medical Officers. In 1967 the RAAF conducted its first Hygiene Inspectors training course (previously the mustering was trained by Army with a focus on public health and field hygiene). One of the seven students on that course was a Wombat 'gunnie'.

This course was a RAAF-developed training program and, apart from covering public health and hygiene topics, also had an intensive occupational hygiene element. This included phases of training at Sydney University's occupational medicine department, the National Acoustics Laboratories, the Institute of Aviation Medicine, and 3AD's NBC (nuclear, biological and chemical) training facility etc. Previously trained hygiene inspectors also undertook the occupational hygiene phases. Environmental topics, such as lighting and illumination, ventilation and noise measurement and control, supplemented the toxicology, process management and personal protective equipment subjects covered at these external institutions.

The OH&S policy divide, between DAFS and DAFMED, became recognised in the late 1960s. Warrant Officer George Endacott, who many a Wombat would recall as one of our basic fitting instructors from Wagga days, and AFMED2B staff started collaborating to bridge the gap between safety and occupational health, with the object of introducing a single, shared, discipline of OH&S.

Meanwhile, the graduate hygiene inspectors ('Rat Catchers') were released to bases and commenced addressing significant occupational health problems of the day. Lighting surveys were conducted and new lighting systems installed to improve the illumination of workshops. Many industrial processes were investigated and fume, mist and vapour control by local exhaust ventilation and extractor fans introduced. Flammable materials storage cupboards were supplied and fitted to workplaces across the RAAF.

Prime among these new initiatives was controlling noise-induced hearing loss. A program of screening audiometry was undertaken by the hygiene inspectors of all personnel exposed to noise capable of causing sensorineural hearing loss. Shortly after, audiometric testing booths were installed on all major Air Force bases to permit accurate, ongoing monitoring and management of the RAAF Hearing Conservation Program. Instruction on the selection and effective use of hearing protection devices was also provided one on one during these testing sessions, together with unit-wide training programs on hazardous noise and hearing loss.

The original hearing protectors ('Pommy' ear defenders) were issued within the RAAF at about the same time as protective footwear, the steel toecap 'T' boots, around 1962. Unfortunately, unlike the footwear, getting an effective fit from earmuffs or wax impregnated cotton wool balls was slightly more difficult than slipping on a pair of boots. Hearing protectors were just handed out, without training into their correct use. Similar practices were common for other personal protective equipment (PPE), and respirators were a prime example; it was not uncommon to find incorrect filters being used, or a dust canister fitted on one side of a respirator and an organic vapour filter fitted to the other.

Hazardous materials were becoming of concern. Following a casualty, as a result of the discharge of a carbon tetrachloride fire extinguisher in a staff car, the use of these extinguishers was withdrawn, together with the carbon tetrachloride-based solvents from RAAF workshops. The yellow 'BCF' (Halon-1211) replacement extinguishers were later themselves withdrawn from use, being determined as an environmental contaminant with ozone-depleting capability.

The advent of new aircraft, such as the Mirage, F-111 and Macchi as well as various models of the Hercules, raised occupational health concerns from the materials introduced for their maintenance. Meanwhile, across the RAAF all types of materials were also being introduced without any real understanding of their toxic potential. Local purchase procedures within the RAAF permitted direct sourcing of virtually any material, apart from pesticides, direct from local suppliers.

About this time DAFMED introduced a toxicology service within the office of the Command Hygiene Officer (CHYGO), HQSC, with two RAAF Specialist Reserve occupational physicians, being employed to develop, introduce and create an Air Force Materials Safety Data Sheet and reference services. Undoubtedly, the RAAF was one of

the first organisations in Australia with such a capability. Later, a full-blown toxicology cell and laboratory (c. 1976) was established in Canberra as AFMED2C.

In the early to mid-1970s, concerns were beginning to be raised within Air Force personnel and medical hierarchies because of the loss from RAAF service of surface finishers by medical discharge. At that time an epidemiological study of some 128 painters was undertaken by DAFMED with no conclusive outcome of causality.

Around this time early concerns were being raised with the Support Command Hygiene Officer regarding what was known as the 3AD reseal/deseal (which always seemed a back-to-front term). Some initial investigation was undertaken by the RAAF's then full-time toxicologist. However, this was to become an issue for generations of servicemen to come.

At the same time, ongoing concerns were held for the health of surface finishers and, in particular, the lack of a purpose-designed painting facility at Richmond for large aircraft. Wombats at HQSC, Mac Weller (AIRENG1E) and Ken Stone (CHYGO), then collaborated on a submission to construct a large, environmentally controlled paint facility at 2AD.⁶⁸

Staff visits to bases by the CHYGO highlighted significant occupational health issues, even at the RAAF's main technical training facility at RSTT. In one instance, airframe apprentices were experiencing major respiratory exposure to vapours in laying up fibreglass canoes. This activity concentrated vapours in their breathing zones far beyond that which smaller projects would have delivered and was not consistent with legislation covering immature workers.

In 1980, in another move by DAFS and DAFMED, the consolidation of health and safety came a step closer with the posting of the HQSC Command Hygiene Officer to the Ground Safety Cell of DAFS as GS2 and, shortly after, he filled the recently vacated squadron leader engineer post of GS1.

Prior to this though, DAFS, through its publication, *Ground Safety Spotlight*, and more formal instructions, had been highlighting issues with the use of chemicals with articles such as that on cyanoacrylates ('Super Glue'). Their *Spotlight* publication was a direct link on ground safety to the men in the field. It featured real Air Force incidents and feedback through its ever-popular 'Hap Hazard' section.

Following a near disaster at Point Cook, an article on the explosive nature of methyl ethyl ketone peroxide (MEKP), a catalyst commonly used in fibreglass systems was published. Outdated stocks of this product had been found in a number of storage areas on bases throughout the RAAF. At Point Cook, a large cache was discovered with a substantial crystalline formation on and in the containers. In this state, the material can detonate and explode for very little reason—being impact, heat and vibration sensitive. The manufacturers were called for assistance but they were adamant they wanted no

⁶⁸ Verbatim extracts of that submission are contained in the Board of Inquiry Report – RAAF Board of Inquiry, *Chemical Exposure of Air Force Maintenance Workers: Report of the Board of Inquiry into F-111 (Fuel Tank) Deseal/Reseal and Spray Seal Programs*, Air Force Headquarters, Canberra, 29 June 2001.

involvement in it because of the dangers it presented. Ultimately, Dr Brian Warren safely supervised its disposal by burning under controlled conditions on the base.

There was also an incident in 1980 in the carriage of pesticides by road from Canberra to Darwin that went close to having a fatal outcome. This incident certainly highlighted the ignorance of chemicals and their management within the RAAF's stores system. A large number of 44-gallon (200-litre) containers of 118 per cent malathion pesticide had been stored in the open at RAAF Base Fairbairn for a number of years. Water that had collected on the tops of the drums had caused extensive corrosion and damage to the drums. When the call came for this chemical to be transferred to Base Squadron Darwin, the contents of the drums were decanted into new containers for the trip north. Somewhere, close to Mount Isa, the driver of the truck became aware of a bad smell emanating from the load on the truck. He climbed under the tarpaulin covering the load to investigate and was soon overcome by the pesticide's vapours, following a large spill of the substance within the mixed load he was carrying. A major rescue and evacuation was undertaken by civil authorities. The investigation that followed determined that the pesticide had been decanted into unlined drums. The concentrated malathion had then reacted with the unlined steel container forming an acid that corroded the containers en route, causing the spill and triggering a near fatal outcome.

At Richmond, used 25-litre containers were being passed to locals under an informal arrangement to get them off the base. These drums were not cleaned beforehand and contained residues of phenolic paint stripper, which on skin contact was capable of causing tissue necrosis. Anecdotally, these containers were said to be used as water containers, off the base.

In other instances on that base, reports of nosebleeds among staff at the 2AD Electroplating Shop, and a near fatal incident involving cyanide contamination, resulted in the electroplating facility being inspected. Investigations revealed high levels of acid vapour within the air of the facility. This could be readily evidenced from outside the facility, where vapours extracted from the building condensed and concentrated in the building's gutters. These were completely corroded away. Other practices, such as food consumption within chemical storerooms and the storage of acids in close proximity to cyanide stocks, were also of great concern.

Early in 1980, the Chief of Air Force Personnel announced that a Working Party was to be formed to investigate surface finishing in the RAAF. An engineer, Wing Commander Peter Newton, RAAF toxicologist, Dr Brian Warren (AFMED2C), and (Wombat) Flying Officer Ken Stone (GS-1 – Hygiene Officer) were appointed and tasked to undertake the investigation and to report their findings under very open terms of reference. These included, inter alia, training; management and supervision; materials, their approval, supply, storage and disposal; workplace practices; medical surveillance; workshops, facilities and systems; and personal protective equipment.

Early in the piece GS1 and AFMED2C visited the dedicated paint shop at RAAF Fairbairn, for painting helicopters. This was a great eye-opener of things to come in the working party's investigations. Immediately apparent was that the Surface Finishing Section was left to its own devices under the supervision of an NCO. Little to no engineering oversight of the section was apparent. Housekeeping was deplorable. The

main plenum of the ventilation system for the facility was being used as a storage compartment. The plenum was filled with an assortment of disused equipment, furniture and a bicycle! The door to the plenum was held open and completely obviated the function of the system. In the section, personal protective equipment was in atrocious condition and one innovative painter had a hole in the facepiece of his respirator so he could smoke while spray-painting!

Similar situations were found at all RAAF painting facilities. At Darwin in the Motor Transport Section, the spray-painting booth had a replacement fan motor wired backwards, resulting in the booth pumping air rather than entraining paint vapours and extracting them.

Paint stripping operations at Williamtown were a disaster, with the phenolic paint stripper applied by sprayer, onto aircraft, under high pressure. Huge amounts of the product were used, much of it bouncing off the treated surface and becoming airborne. This mist caused what were known as 'bee-sting' effects on exposed skin of those persons traversing the hangar to access offices and other sections. The run-off was hosed down drains, eventually to enter stormwater channels making its way into the Newcastle aquifer.

Similar practices were in place at Richmond, just that the quantum of materials was grossly in excess of those in use at Williamtown and these made their way, via Rickaby's Creek, into the Hawkesbury River.

One of the ironies of Williamtown was the practice of receiving stripper in 25-litre containers, which were then emptied by the workers into a 205-litre drum. This necessitated excessive manual handling, as well as causing spillages. When the toxicology of this stripper was assessed, it was determined that it contained a small percentage of a carcinogenic material. When the manufacturers were questioned about this, they informed that this material was only used in the formulation prepared for RAAF use. When questioned further, they advised this was so that the 25-litre containers would not corrode before the shelf life of the material expired—all other clients were supplied with the product in 205-litre drums!

At Williamtown, in the middle of summer, the Officer-in-Charge of K Group advised visiting AFMED2B that he was concerned about strange noises in the storage compound. On approaching the storage, an audible rumbling noise was apparent. Investigation found that it was coming from dozens of 25-litre containers of freon that were in open storage within the facility. The freon was boiling within the containers. The drums were distorting from the pressure and hundreds of litres of this valuable material were being lost to atmosphere.

Painting booths on all bases and in most sections were found to be loaded with overspray and their filters all but blocked with paint residues. Extractor fans were scraping duct linings covered in paint residues and could well have resulted in serious fire situations.

Amberley was another eye-opener, but the practices outside of the Surface Finishing Section were more concerning than even aircraft painting activities. The first face-to-face with the reseal/deseal process was alarming. The work was being conducted in what was known as the 'Rag Hangar', which was something like a large tent and in a state of

disrepair. The malodour of SR-31 solvent hung in the air. It was sweltering hot. Airmen were removing sealant from an aircraft's fuel tank with high-pressure water picks while dressed, just in a pair of 'jocks'!

Conditions were deplorable and the Base Medical Officer was concerned, not only for the health of the workers but the social issues with families, as the sulphurous residues of the solvent were permeating workers' skin and leaving them with a personal stench. Earlier, a major emergency response took place within the City of Ipswich when a major gas leak was thought to have been detected. Investigation found that a wind change had carried vapours from the deseal process into the city.

Aside from that, at the main 3AD Hangar, the crack detection process was so badly managed and controlled that the dust used in the process was extracted from the workshop through a makeshift extractor. This discharged into the air intake of the facility's air-conditioning system, to be distributed into offices and conference rooms. Most staff appeared to have a bad case of dandruff!

Milling processes of the toxic, beryllium copper alloy bearings of the F-111 mainplane pivot bearings were being conducted in an open hangar, without even local exhaust ventilation of the process being employed.

At No 7 Stores Depot and Amberley, huge stocks of SR-31 solvent (around 200 x 205-litre drums) were being stored as a stockpile. Deterioration of the containers and leakage of the solvent was an ongoing problem. Disposal of this material was all but impossible because of environmental laws in Queensland. Against the advice of DAFMED, a makeshift incinerator ultimately disposed of the stock, which was virtually evaporated to atmosphere, rather than disassociated to simple elements by thorough incineration. The effects on personnel involved in the incineration are documented in the F-111 Deseal/Reseal Board of Inquiry Report.⁶⁹

In Pearce, other issues discovered in the course of the working party inspection were the burial of electrical and electronic components within the confines of No 3 Telecommunication Unit. Consistent with RAAF disposal policy, the equipment had been smashed with sledgehammers before burial. These disposals had taken place over a number of years. At that time, Pearce relied on water supplies from bores located close to 3 Telecommunication Unit. Concern was held that the polychlorinated biphenyl (PCB) content of this equipment may have entered surface and subterranean water sources. A major PCB survey was commissioned by AFMED2B and AFMED2C that revealed PCB residues in water sources kilometres from the site were at levels close to the United Nations proscribed limits. A major recovery at the site and disposal were initiated. PCB waste from other bases was also collected and disposed of under contract by the floating incinerator vessel, the *Volcanus*.

Following the publishing of the report of the Working Party into Surface Finishing, major changes took place in terms of occupational health within the RAAF. This had

⁶⁹ RAAF Board of Inquiry, *Chemical Exposure of Air Force Maintenance Workers: Report of the Board of Inquiry into F-111 (Fuel Tank) Deseal/Reseal and Spray Seal Programs*, Air Force Headquarters, Canberra, 29 June 2001.

ramifications within the aircraft production companies and airlines, both in Australia and New Zealand, and on their practices also. This involvement spawned the Australasian Aerospace Occupational Safety and Health Association (AEROSHA), of which the RAAF was a charter member, involving all manufacturers and major airline operators within Australasia. The organisation is understood to still be operating.

Within the RAAF, a new \$18m Surface Finishing Facility was commissioned at Richmond, which, despite the compromises in its design and delivery, was pretty much state-of-the-art for the time. Facilities throughout the RAAF were upgraded and maintained and new working protocols established.

Possibly one of the most significant outcomes of the recommendations by the working party was the introduction of 14 hours of occupational health and safety training for all engineers undergoing Basic Engineer training. There was also a 28-hour extension to the surface finisher course, covering occupational health and the safe use and management of chemicals, after the syllabus was rewritten by AFMED2B and AFMED2C. Environmental health personnel also underwent upgraded OH&S training at the University of Ballarat on a RAAF-specific training course of four weeks duration.

DAFMED specialist staff were tasked with reviewing the use of chemicals on all RAAF bases, including delivering a briefing on the management and safe use and storage of chemicals to all officers and SNCOs with responsibilities for these materials.

Major changes were made to the procurement policy for chemicals for RAAF use, with strict approval processes introduced and local purchase restrictions applied. Material Safety Data Sheets on microfiche were distributed to all major RAAF facilities and covered thousands of approved items within the RAAF inventory.

A RAAF-wide survey for replacement of asbestos-containing items with asbestos-free alternatives was also conducted at the time. Toxic waste disposal was formally addressed and contracts put in place for contaminated materials and containers to be properly disposed of within approved facilities.

The structure of Ground Safety Committees was reviewed and refined. The HQSC Command Maintenance Officer (CMAINTO) engineering inspection team and its Headquarters Operational Command (HQOC) counterpart were accompanied by Command Environmental Health staff. Cooperation between directorates and Command appointees saw unprecedented collaboration on the planning, delivery and commissioning of facilities RAAF-wide.

Clearly though, the fact that a board of inquiry was needed to be commissioned into the F-111 Deseal/Reseal Programs is evidence enough that, like other large organisations, the RAAF suffers long-term corporate memory loss. When Reseal/Deseal #1 was put to bed, there were strategies put in place to ensure that the problem did not arise again; the aircraft were to be returned to the manufacturers for refurbishment. However, clearly, this went by the board, with Reseal/Deseal #2 and #3 eventuating with the same occupational health results as initially experienced in the 1980s.

With Wombats passing to greener pastures, let us hope that none carry the ravages of occupational exposure to all manner of materials and energy sources of the RAAF environment. Few will have escaped some level of hearing loss, though, from their service within the Air Force operational environment.

Wombats – 50 Years On

Under the restructure of the Defence Force, there are known to have been many changes to OH&S and the responsibilities for its delivery. Undoubtedly, much of this will be positive and, no doubt, consistent with the prevailing legislation, which did not even exist in Wombat times.

Some of the good changes of the past will, no doubt, have been lost, such as the OH&S training of engineers under the Basic Engineering Course. It also seems that, although environment health personnel were well trained in OH&S, over time, Service priorities have changed and they were at best under-utilised in the role that they were tailored for in the 1980s.

CHAPTER 9

AIRBORNE WOMBATS

‘PIGS MIGHT BLOODY FLY!’

Subsequent to their Wagga apprentice and JEAT training and their initial service, a number of Wombats became professional aviators. Just two, Mick Haxell and Terry Wilson, became RAAF pilots whilst Warren Bridge and Adrian Edwards flew as pilots in civil aviation.

Others found flying privately under civil licences to be part of their vocational life. George Dean became a flying pastor in western Queensland whilst, for Al Hahn, flying was an important means to an end in his job doing quantity surveying at remote construction sites. Quite a number of Wombats also flew as professional aviators in crews of RAAF aircraft, principally as flight engineers on C-130 and P-3 aircraft, and as Iroquois crewmen.

Beyond these full and part-time aviators, many Wombats flew extensively as flight crews in civil aviation, while still others found a place as supplementary crew to provide maintenance for deployed aircraft or to assist aircrew in test and ferry functions. Still others simply badgered aircrew and won exhilarating rides in the back seats of fast jets.

As a RAAF photographer and later as a Public Relations photographer, Wombat Denis Hersey took many marvellous shots from the back seats of an amazing range of aircraft. These are superbly chronicled in Denis’s book *Images from the Back Seat*.⁷⁰ Denis was exceptionally skilled, not only in photography but also in the art of cadging rides in aircraft.

WOMBAT AIRCREW

Group Captain Terry Wilson, AM, AFC – Pilot

No doubt ‘Teece’ had many cast their eyes aloft to watch his antics as a ‘Jet Jock’. But who can forget his stunt as a young Wombat broadcasting at 120 dB the sound of a screaming jet aircraft and ‘buzzing’ the Officer Commanding’s Parade that quiet Tuesday morning at RAAF Base Forest Hill, from an adjacent hut.

In January 1964 I joined No 53 Pilots Course at No 1 Basic Flying Training School (1BFTS) at Point Cook. The course was a mixture of about 20 RAAF hopefuls (six of whom were ex-apprentices), who were all ‘Cadets Aircrew’. There were also about five

⁷⁰ Denis Hersey, *Images from the Back Seat*, Department of Defence, Canberra, 1999.

Army officers and a few Navy people, of which one was an officer and the remainder were cadets aircrew.

For those of us who were cadets aircrew, our training comprised not only the theory and practice of flying but also the training needed to graduate as General Duties officers. The overriding memory I have of those days is the constant high pressure and the ever-present fear of being 'scrubbed'. This was not without justification, as in those days only about half of those who started pilots course would still be there to receive their wings on graduation day.

There were plenty of opportunities to fall by the wayside. These included all the exams and tests as part of the ground school, with subjects covered varying from Air Force Law, administration, maths and physics to aerodynamics, navigation, aircraft systems and Morse code. On top of that were the regular flying tests as you progressed through some 125 hours of training on the Winjeel. First there was the 25-Hour Test. Some did not make it past that. Then there was the instrument rating test (more failures). Next came the 70-Hour Test, followed by the Final Handling Test and a final navigation assessment flight. At the end of our course at 1BFTS there were only 11 RAAF cadets aircrew, plus a Navy lieutenant and one Navy cadet aircrew, remaining to progress to the next phase of the course. (The Army pilots left to continue their training with the Army at Oakey.)

The Winjeel, with its tail-wheel undercarriage and (Pratt & Whitney Wasp Junior) radial engine was a fairly challenging aircraft to fly well. Having started off with the problem of getting airsick when doing aerobatics and especially when doing spins (not a particularly auspicious start for someone who later became a fighter pilot), I managed to recover enough to end up somewhere in the middle of the pack, in terms of performance, as we finished at Point Cook. One of the more memorable moments during our Winjeel training was the day, early in our flying, when two of our course members had a midair collision just over the threshold of one of the runways. I was flying solo, turning from base leg on to final approach and saw the whole thing unfold in front of me. In effect, one aircraft was landing on top of the other (having not seen it under his nose) when they collided. I saw a shower of sparks as the prop of one hit the runway and then the other Winjeel pitched up, rolled and struck the ground inverted.

There was almost pandemonium, as at that time 12 of our course members were airborne. We were all instructed to divert and land at Laverton, which some achieved with considerable difficulty. I found the best thing for me was to orbit in the vicinity of Laverton, allowing space for persons having difficulty on their first solo and permitting them a few attempts to land successfully.

The pilot of the Winjeel that crashed inverted was seriously injured and very lucky to survive. Fortunately, a quick-thinking RAAF doctor was leaving the base on his way home and saw the accident. He hared across the airfield and performed lifesaving first aid. The cadet subsequently recovered from severe facial and other injuries and, after a stint as an air traffic controller, went on to complete another pilots course and have a very successful career.

In early November 1964 the remaining 13 of us (11 RAAF and two Navy) started our advanced training at No 1 Applied Flying Training School (1AFTS) at Pearce, Western

Airborne Wombats

Australia. This involved about 115 hours of flying on the Vampire Mk 35, which I loved. I had worked on the type as an engine fitter at Fairbairn and had always wanted to fly it. Consequently, I remember my first solo flight as if it was yesterday. The sheer elation of being in control of my own jet for the first time was a moment that has stuck with me.



Pilot Terry Wilson (L) and Fellow Wombat,
'Sumpie' Al Bower, getting airborne

The routine at Pearce was much the same as at Point Cook, but things were seemingly much more oriented towards the pilot training side of things. However, the intense pressure and constant fear of failure of exams/tests continued, both in the air and on the ground. Two more of our course members left our ranks, one after the dreaded Final Instrument Handling Test. This may have seemed like a major setback to him then, but to his great credit he went on to become the Chief Pilot of Ansett during the 1990s.

Two things stick in my mind from our Vampire flying training days. The first is flying some of our high-level (around 30 000 feet) navigation exercises with the pressurisation turned off due to concerns about some cracking found in the Vampire's plywood and balsa wood fuselage. We got to experience how the World War II fighter pilots must have felt when operating at those altitudes. Breathing was a constant effort and speaking was very difficult, resulting in considerable tiredness at the end of a long navex.

The second is being encouraged by my instructor to develop a lower altitude aerobatic routine for my final handling test. It was great fun, mainly due to the much better handling and performance that you experienced at the lower altitudes compared to the normal aerobatic routines that we conducted above 10 000 feet.

I was very happy to be among the 10 remaining RAAF cadets and one Navy officer who were awarded our coveted pilot wings at a graduation parade early in May 1965. At the same time we were appointed to short service commissions as pilot officers.

So then it was off to our first flying postings as brand new RAAF pilots. I found myself, along with three of my course mates, at No 2 Operational Conversion Unit at Williamstown, about to be trained as fighter pilots flying Sabres.

My initial reaction was that I did not want to be there, as my strong preference was to fly the Hercules transport aircraft. In our initial meet and greet with the Officer Commanding No 81 Wing at Williamstown, Group Captain Mick Mather (who at that time never missed the opportunity to fit another expletive into a sentence if it was at all humanly possible) gave me a fleeting opportunity to get out of flying Sabres. He said something along the lines of: 'Right you bastards, if any of you don't want to be a f—ing fighter pilot, bloody well tell me right now or forever hold your f—ing peace!' He was more than a little intimidating, so I decided to hold my tongue and give it a go. Afterwards, I was very glad that I did.

Before we began to train on the Sabre we learned on the Vampire to fire guns, drop bombs, fire rockets and do all the sorts of formation and air combat manoeuvres and navigation required of fighter pilots. We were then introduced to the Sabre simulator, which was nothing like modern-day sophisticated simulators. It was, in essence, a fixed, base procedures trainer. But to us, it was the height of modern technology after the World War II Link Trainers we had struggled with at Pearce.

After a few hours in the simulator we progressed to the aircraft and sat in it running through our checks under the supervision of an instructor—to the stage where we started and ran the engine. Once this was completed, it was time for practice taxiing of the aircraft, partly to introduce us to the concept of nosewheel steering—one of the features of the Sabre that was new to us. This was where the poor instructors really earned their money by performing something that would never be allowed under today's OH&S regimes. Because there were no dual control Sabres, the instructor stood on the wing hanging on to the cockpit sill while the student taxied the aircraft. This was not without considerable risk, as getting the hang of the nosewheel steering was not easy. Sometimes, in a lapse of concentration, the student would let go of the steering button and the aircraft would tend to spear off the taxiway. This would inevitably be followed by a bout of severe braking from the student and an instructor hanging on for grim death to try to avoid sliding off the front of the wing and under the wheels!

The next big event was the first flight—which of course was solo, because there were no two-seat Sabres. This is another event that left an indelible impression on my memory. But before I relate a few memories of that, some words on the Sabre. It was the top US fighter of the Korean War and one of the first production aircraft capable of going supersonic in a dive. It fitted the maxim that 'if it looks good, it will be great to fly.' Our RAAF version was an improvement on the earlier US models. It was built in Australia by the Commonwealth Aircraft Corporation (CAC) and one of its distinguishing features was a deeper fuselage that was needed to house the Rolls-Royce Avon engine unique to our variant. The Avon gave it improved performance, especially at higher altitudes. We regularly flew it in all types of manoeuvres at up to 45 000 feet, something an American Marine who had flown an earlier US version found almost impossible to believe. Another distinguishing feature was the two 30 mm Aden guns that replaced the six 0.5 in calibre

machine guns ('peashooters') of the US versions. Our Sabres were also fitted with two Sidewinder passive homing infra-red air-to-air missiles.

The Sabre had what some called the 'T-Model Ford version' of a powered flight control system. The primary flight control surfaces were operated by hydraulic actuators, the valves of which were linked mechanically to the control column. Artificial 'feel' was provided by a system of bungees assisted by a bob weight that increased the resistance to aft stick force in proportion to the *g*-force on the aircraft at the time. There was no system to change the control 'feel' in proportion to the indicated airspeed of the aircraft. Consequently, at slow speeds the controls felt very heavy and required large movements, whereas at high indicated speeds the 'feel' was likened to 'sitting on a billiard ball'—it took only a minor twitch to cause a rapid divergence of flight path. This meant that one had to be very careful in the latter situation as it was very easy to overdo pitch changes and overstress the aircraft or even, as happened on at least one occasion, rip the wings off the aircraft.

The other concern with the Sabre was that, unlike the Vampire, it did not have anti-skid brakes, so landing on a wet runway with the small, high-pressure tyres sometimes became an interesting experience. Over-exuberant braking could lead to aquaplaning and then possible loss of directional control. I remember on one occasion during Sabre training, rolling out as number two at the end of the landing run in rain and looking back and seeing number three's Sabre coming towards me sideways down the runway!

Apart from this, it was a delightful aircraft to fly, especially in mock aerial combat, as the big bubble canopy allowed you great all round vision, particularly in that all-important area of your 'six o'clock'. The cockpit was relatively big and roomy, and thus comfortable, although the cockpit air conditioning was a bugger at low level in the tropics. It could not separate the moisture from the air and often it would turn out a cold mist that rapidly fogged up the cockpit canopy—which was the last thing you needed when close to the ground at high speed. The remedy was to turn it off and swelter in the heat.

But, back to that first flight. You were accompanied by an instructor in another Sabre, who flew in formation as a chase pilot. This is my recollection of the flight:

We are lined- up at the very beginning of the runway ready for take-off, with my instructor's Sabre tucked alongside. Close that big bubble canopy. Cleared for take-off. Hard on the brakes and push the throttle smoothly forward up to max RPM. It's now straining to be unleashed. Thumbs up from the instructor and release the brakes. Wow! We have only just left the concrete 500 feet down the runway and the airspeed indicator is already showing 50 knots. This is nothing like a Vampire. In no time at all we are at the airspeed to crack the nose wheel and then the lift-off speed has come and gone. Gently move the stick back to ease it off the ground and in no time at all we are airborne. Get the gear and flaps up.

Now concentrate like mad to get the right pitch attitude and try to keep the wings level. Gee, it is really sensitive in roll. Don't clutch the stick so tightly and try to relax. Ah! That has stopped some of the frantic wing-wagging. Suddenly we are passing through 1000 feet, still on the runway heading. A voice comes

through my helmet headphones. It is my chase instructor: 'Come on, be a devil. Try a turn!'

We then fly out to the training area and practise the manoeuvres needed to be able to fly a circuit and landing. We practise using the speed brakes, lowering the landing gear and flaps, and doing a simulated approach and go-around. Then it is back to the circuit to do the real thing. We do several circuits and approaches, followed by go-arounds and then it is time for the real landing. By this time I am starting to get a little used to the feel of this wonderful aeroplane and I manage to make a reasonable approach and touch down with only a minor bounce. I feel instant relief and elation at the same time. I am going to love flying this aeroplane that I originally didn't want to fly—and I did!

All of my operational Sabre flying was done from Butterworth in Malaysia from December 1965 until March 1968. At the beginning, it was in the era of Confrontation between Indonesia and Malaysia. Initially, I flew with No 3 Squadron then, following its return to Australia in 1967 to re-equip with Mirages, I was transferred to No 77 Squadron.

It was an interesting time to fly Sabres as they were nearing the end of their time as a front-line fighter aircraft, with the then new Mirages just entering service. When I arrived at Butterworth, I was the newest and least experienced squadron 'bog rat' (junior officer); by the time I left with nearly 700 hours Sabre time, I was one of the most experienced pilots in 77 Squadron, apart from the executive pilots and the squadron Fighter Combat Instructor (FCI). Almost all of the very experienced pilots had been moved on to begin Mirage training. It was a happy unit with there being no shortage of youth and exuberance.

We flew all of the classic fighter roles: air defence intercepts (within the limits of the Sabre's day-fighter only capability); air-to-ground weapons delivery (bombs, rockets and guns); live air-to-air gunnery on towed aerial targets; simulated air-to-ground strikes, including attacks on simulated 'terrorist headquarters' in the jungle; and lots of mock aerial combat (known as 'air combat tactics') missions.

Our bombing, rocketry and gunnery missions were conducted mostly at the range on Song Song Island, which was a few minutes flying time north of Butterworth, off the coast. This led to the need, from time to time, to 'volunteer' for the duties of Range Safety Officer at Song Song. This was an arduous task, going there and back by RAF crash rescue boat and staying overnight for a few days on an adjacent island. You then travelled the short distance to and from the range each day by the crash boat—the closest most would ever get to McHale's Navy!

Part of the posting at Butterworth in those days was the reality of several deployments to No 79 Squadron at Ubon in Thailand, where eight Sabres had a role in the 'air defence of Thailand'. I had two tours of two months and four tours of one month each during my Sabre flying days. The flying mainly involved practice air defence intercepts and air combat tactics with some limited simulated strike and armed reconnaissance tasks. We generally flew under the control of the local 'Lion' air defence radar station with whose people we enjoyed a very good rapport. One of the benefits of flying from Ubon was that

we got to fly mock aerial combat missions against some of the USAF and US Marines aircraft that were operating in the Vietnam War, including in North Vietnam. They seemed to welcome the opportunity, as the Sabre had a performance similar to the MiG-17 aircraft that they sometimes encountered over North Vietnam. We also very much enjoyed the chance to enhance our air-fighting skills against A-4s, F-4s, F-102s, F-105s and F-106s to name a few. We particularly enjoyed stoushes with F-4s of the USAF 8th Tactical Fighter Wing, led by the legendary Colonel Robin Olds, with whom we shared the base at Ubon. There was sometimes a good opportunity for a spirited debrief in their bar or ours afterwards, to try to resolve 'who waxed who'!

The following are brief recollections of some incidents in my Sabre flying career:

In February 1967 I was one of two pilot officers in 3 Squadron who were chosen to fly Sabres back to Australia. We flew as part of a formation of eight Sabres, operating in two 'fours' 20 minutes apart. The route was: Butterworth – Changi, Singapore – Den Pasar, and then Bali – Darwin – Townsville – Williamtown. It was not long after the end of Confrontation and the events in Indonesia when Soeharto deposed former President Soekarno. The airport at Den Pasar, Bali, was only 5000 feet long (we normally used 8000 feet, so it was short for a Sabre) and was in the process of being extended, with a 20-foot drop-off one end. So, before departure we spent some time practising short landings while carrying external fuel tanks.

All went well with the flight initially, apart from our formation flying through an enormous thunderstorm on the way into Changi. But it was on the leg from Changi to Den Pasar that things got interesting for me. It was a very long leg and we would arrive at Den Pasar with the bare minimum of fuel remaining. We were carrying the large external (drop) tanks. These were pressurised by bleed air from the engine and fed fuel into the main tanks of the Sabre. There was no gauge to show the fuel remaining in the external tanks, so the only indication they were empty was a caution light coming on, followed by the reading on the main fuel gauge starting to drop.

On the Changi to Den Pasar leg in my Sabre (A94-367) this happened very much earlier than planned. Somehow I did not seem to have gotten all of the fuel that I should have from the external tanks and now the main fuel gauge reading was dropping. After a few radio calls, I ascertained that I had about the same fuel left as those in the formation that was 20 minutes ahead of ours. That meant that I would get to Den Pasar with the tanks almost dry. After much discussion with my leader on options, including jettisoning the external tanks, we decided to keep the tanks on and stay at altitude (45 000 feet) until we were almost overhead Den Pasar.

Thereafter followed a harrowing time as I watched the fuel gauge reading dropping ever lower with Den Pasar getting closer at what seemed to be an agonisingly slow pace. At last Den Pasar appeared over the horizon. My leader stayed with me and the other two members of our formation split off for a normal approach. With the airfield in sight, and within gliding distance, and with my fuel reading by now very low, we started our descent on idle

power to conserve what little fuel I had left. By now I was getting pretty tense, because I was facing one shot at a landing on a very short runway with almost no fuel left. And then, during the descent something strange (and wonderful) happened. The 'external tank empty' caution light went out and the main fuel gauge reading started to rise. Within a few minutes, I had the same fuel reading as my leader. A feeling of immense relief swept over me and I then happily diverted my whole attention to successfully landing on the short runway.

What happened? The experts' best guess was that there must have been some water in the system that eventually froze at high altitude, restricting and then stopping the flow from the external tank. This ice then melted in the descent and allowed the remaining fuel to flow from the external tank into the mains. I was happy to believe their theory, as it certainly fitted the symptoms and the problem did not re-occur on later legs.

The next recollection concerns one of the fun aspects of flying the Sabre. You could open the canopy while airborne, provided your airspeed was below 215 knots. Not only was this a bit of fun—sitting like 'Joe Cool' with the canopy back and your elbows resting on the sill (but don't stick them too far out into the slipstream, or it'll rip your bloody arms off!)—it could also be useful. At the later stages of my Sabre flying at 77 Squadron, I was sometimes tasked to carry out maintenance test flying of Sabres out of an 'E' servicing at 478 Maintenance Squadron. One of the tricks taught to me by an old hand, who was our squadron FCI, concerned cleaning out the cockpit while airborne. The procedure went something like this. Slow down and open the canopy. Roll the aircraft inverted and push on the stick to create negative 'g'. This caused all of the accumulated rubbish, dust, etc. to rise up from the cockpit floor into the canopy area. You then gently applied a bit of rudder to cause the aircraft to skid and direct a very strong breeze into the inside of the canopy area, which very effectively removed any of the detritus lingering there. Voila! ... a clean Sabre cockpit.

My final recollection is appropriate because it concerns my last flight in a Sabre. For this flight, I was the leader of a formation of four Sabres that would do 15-degree rocketry on Song Song Range. We were fully laden with 36 (six tiers of three under each wing) of the World War II style, British 3-inch rockets with dummy concrete heads. We were having fun firing them all off, as they had reached their 'use-by date' in storage. The procedure was that we took off in two pairs in echelon right formation and then joined up as a formation of four to fly to the range. All went well until not long after I was airborne when my number four called that he had had a compressor stall just after take-off. I immediately turned rapidly and caught sight of him just as he had completed a short zoom and was starting to descend again. I called, as did number three, for him to eject. But he replied, much to our dismay, that he was going to land straight ahead.

We watched the Sabre, now with its wheels down, touch down in a dry paddy field off the end of the runway, whereupon the landing gear broke off, the rockets dug in and broke off, and the aircraft skidded along, coming to rest sideways but upright in a drain at the edge of the paddy. The left wing had

almost separated and a fire had broken out at the wing root. There was still no sign of the pilot and we feared the worst. Then, all of a sudden, a figure appeared through the partly open canopy and sprinted towards the end of the right wing. At this point we saw him jerk to a sudden stop because he was still attached to the seat by his dinghy lanyard. He quickly undid it and moved to a safe distance from the aircraft. He was OK, but no-one could ever figure out how he got out through such a small gap in the canopy.

I then called the control tower and asked them if they had copied that an aircraft had just crashed off the end of the runway. The reply was 'Say again' in a tone that indicated that they had no idea, despite it happening just after the departure end of the runway—and all of the radio chatter about crashing aircraft, including calls to eject, that occurred on their tower radio frequency. At the subsequent investigation, I was asked why I had not declared a Mayday? Well, yes ... but, blind Freddy ... Oh well, that's life.

So that flight, in A94-956 on 19 March 1968, was my last one in a Sabre. They were immediately grounded, pending an investigation by then Group Captain (later Air Marshal, Chief of the Air Staff) James Rowland. It found that CAC, when overhauling the Avon engines, had been putting in increasing numbers of 'blended' compressor blades (ie. blades that had had minor damage to their aerodynamic surfaces that was removed by, in effect, 'sanding' them). The increased use of blended blades had moved the engines closer to their surge lines so that there was a greater likelihood of compressor surges/stalls in relatively benign flight environments. This is what happened to my number four's Sabre.

So then it was back to Williamstown to learn to fly the Mirage, starting in May 1968. Perhaps I should set the scene with a few words about what was then the brand new front-line fighter for the RAAF, with aircraft still being delivered off the production line at the Government Aircraft Factories at Avalon in Victoria.

The Mirage was an aircraft designed in the 1950s and, despite it appearing to be a state-of-the-art Mach 2 fighter, it incorporated technology that belonged to the 1950s, rather than the vastly improved technology that came out of the US space program that was well into its stride in the 1960s (remember this was 1968 and the first Apollo landing on the moon did not take place until mid-1969). One of the examples of the dated technology was that, while the Mirage was equipped with a radar and associated weapons system including a semi-active radar-homing air-to-air missile (the Matra R530), that radar actually incorporated valve technology. That will give an idea of the rest of the technology in the aircraft.

The Mirage began being delivered to front-line squadrons in late 1964, with No 75 Squadron being the first to receive the aircraft. By May 1968, both 75 Squadron (then in Butterworth) and No 76 Squadron at Williamstown were fully equipped with the Mirage III-O-F, which was the air defence version of the fighter—fitted with the Cyrano IIA radar. At that time, 2 Operational Conversion Unit (2OCU) and 3 Squadron were receiving new Mirage III-O-A aircraft, which was the multi-role version of the aircraft fitted with the Cyrano IIB radar and a Doppler navigation system. The IIB radar

incorporated a ground mapping function with terrain avoidance features that allowed radar navigation close to the ground, day and night, in all weather, for the ground attack role. It also retained the air defence radar capabilities of the IIA. Later on, all Mirage IIIO-Fs were upgraded to IIIO-A standard.

One of the advantages the Mirage had over the Sabre was that there was a two-seat version for training (the Mirage IIID). However, there was one significant shortcoming with the two-seater. It did not have radar. So it was virtually useless for training in most of the main operational roles where radar was integral to the outcome.

The Mirage operational conversion course that I was on was the first to undergo the complete multi-role training on the Mirage IIIO-A. It lasted about four months and in that time we flew about 86 hours. Looking back through my logbook, I was amazed to see that I was sent solo after only 2.75 hours in the two-seater.

What was it like to fly? Again, it fitted the rule: 'if it looks good, it will fly well'. And that was the way it was, once you got used to the characteristics of its delta wing. It did not like to be slow, but once you got it going, it had delightful handling with very few vices. The cockpit was much more snug than the Sabre, but comfortable enough for normal sortie lengths. These were generally a bit over an hour with the 110-gallon (500-litre) supersonic tanks fitted, or 40 to 50 minutes without. With the larger external tanks fitted—a choice of 286 or 374 gallons (1300 or 1700 litres)—it would go further, with the larger tanks allowing you to go from Townsville to Darwin at high level for a sortie length of just over two hours.

Of course, we fitted the larger external tanks for some ground attack missions, such as carrying two 1000 lb bombs on strike missions to the Dutson Weapons Range near East Sale. In that configuration the aircraft was at its maximum take-off weight of 30 000 pounds—pretty damn heavy for that small delta wing. The take-off speed at that weight was very close to 200 knots and, in later years, the maximum weight was further limited because it was found that on hot days the take-off true ground speed was exceeding the speed rating of the tyres. You did not have to tell us pilots that. In that configuration it took every last usable foot of runway to get off the ground on a 30°C plus day, just sneaking over the barrier at the end of the runway, after a very gentle lift-off.

The difference in speeds on take-off and landing was one of the things that struck you most when you moved from the Sabre to the Mirage. A typical take-off in the Mirage with the 110-gallon supersonic external tanks saw you raise the nose wheel at 120 knots and rotate to get airborne at about 175 knots. Speeds in the landing circuit were much higher, with you carrying at least 200 knots until straight on final approach, reducing to 175 knots as you crossed the runway threshold to touch down at about 165 knots and deploy the brake parachute.

There was no doubt that the Mirage was a fast, high-performance aircraft for its day. It was a genuine Mach 2 aircraft, which was something we all saw during our conversion course. One of the exercises was to take a clean aircraft up to about 40 000 feet, select full afterburner, and then gently descend while accelerating to see how fast it would go. It was a case of going for as long as you could, before desisting because either the fuel was running out or the Mach Warning light (which measured engine inlet temperature) came on. I managed to see Mach 2.1.

Speaking of fuel running out, there was an interesting feature of the Mirage fuel system that occasionally caused some alarm. The main fuel gauge only showed what was left in the main fuselage tank. There were other tanks distributed all around the aircraft and these fed into the fuselage tank. A system of amber lights showed when these other tanks were empty, but you only knew how much fuel you really had when the main fuel gauge reading started to drop. The cause of the occasional alarm was that if you operated for any length of time in full afterburner at low altitude, the engine depleted the main fuselage tank quicker than the other tanks could refill it. As a consequence, the main fuel gauge reading would drop at an alarming rate with you sometimes only becoming aware of it when the red '130 gallons of fuel remaining' warning light came on. At low altitude that was about enough fuel to get you precisely nowhere! Maybe, just enough fuel to complete a circuit and landing, if you were alongside the airfield. Of course, you would immediately cancel the afterburner and wait anxiously while fuel from other tanks hopefully fed into the main and the gauge reading began to rise.

So what did we do with the Mirage? First there was the air defence role. This mainly involved practising intercepting target aircraft with the aim of using a missile to achieve a 'kill'. It was in this role that you first became aware of the 'one-armed paperhanger' nature of trying to fly the aircraft as well as successfully operate its fairly primitive radar and weapons systems. One of the limitations was the short detection range of the Mirage's radar, particularly from head-on aspects and especially against a relatively small target like another Mirage (which were often used as targets, although there was increasing use of Canberra aircraft later).

One example of an extremely difficult exercise was the 150-degree frontal (i.e. 30 degrees off head-on) 'snap-up' supersonic intercept. This involved flying at Mach 1.2, 10 000 feet below a target travelling at about Mach 0.8. The closing speed would therefore be something like 20 nautical miles per minute. With the Mirage's radar, it would be a good day if you saw the target at 20 miles and achieved a lock-on at about 15 miles. Just getting to this stage meant extreme concentration on manipulating the radar while still trying to fly the aircraft and keep it in some semblance of stable flight. On a good day with lock-on of the radar at 15 miles, it was then a case of following the head-up display 'sight orders', which would command a very rapid pitch up and possibly a turn. You would manoeuvre rapidly to try to zero the sight orders so that you could achieve the Matra lock-on tone and 'fire' the missile. All of this at a closing rate of a mile every three seconds. Then it was a case of rolling inverted and pulling down as part of the escape manoeuvre. It was all very good for the adrenalin on a dark and stormy night!

Of course, all intercepts were not this difficult, but in general the workload of flying a high-performance single-seat aircraft, while at the same time operating its manually intensive radar and weapons systems, was always a difficult and, at times, almost overwhelming task, with the attendant dangers of task overload.

The other difficult task that came with the Mirage III-O-A was that of radar navigation. This was often part of ground attack/strike training missions. The difficulty again revolved around the manually intensive nature of having to fly the aircraft safely while at the same time operating the radar to confirm where you were (of course night and bad weather were again the worst case) and, when operating at low level, that you

had safe terrain clearance. On at least one occasion this proved too much for a pilot and sadly he ran into a hill.

Another task was air combat tactics practice. Here again there was quite some difference from the Sabre. Although you would operate the Sabre to some extent in the vertical, most air fighting involved a lot of manoeuvres more in the horizontal plane using tight high 'g' turns while trying to achieve a guns 'kill'. With the Mirage, this was sometimes the case, but more often you would want to use the aircraft's superior performance to open the fight out by making much more extensive use of its vertical manoeuvring capabilities. That meant that in an air combat 'hassle' (as we called them) you could cover a remarkable area of sky and traverse almost the whole range of the performance envelope. I recall that at one time in Butterworth we were flying air combat tactics missions in clean aircraft and it was not unusual to see manoeuvres covering speeds that ranged from zero to Mach 1.6 and traversing over 10 000–15 000 feet, or more, of altitude within a minute or so. With lots of use of afterburner, these missions only lasted about 30 to 40 minutes. They were extremely demanding (and tiring) but, boy, were they fun!

The final main task for which we regularly practised was air-to-air and air-to-ground weapons delivery. The air-to-air gunnery involved using the Mirage's two 30 mm DEFA guns to shoot at airborne towed banner targets. Air-to-ground weapons delivery was similar to the Sabre, with the Mirage having no automated air-to-ground sighting system. Effectively it involved an 'iron sight' and results relied entirely on the skill (and luck) of the pilot handling the aircraft. We practised bombing (level skip and 15, 30 and 45 degree dive angles) and gunnery (15 and 30 degrees). Our Mirages were not equipped to fire rockets. My Mirage flying comprised about 12 months at 76 Squadron at Williamstown, 12 months at 75 Squadron in Butterworth, a Fighter Combat Instructor course and then three years at 2OCU at Williamstown. At 2OCU, as well as being an instructor, I was a flight commander responsible for ground attack training and later moved to being the flight commander responsible for air combat tactics training. When my Mirage flying finished in December 1973, I was lucky enough to have flown about 1400 hours with this beautiful 'French Lady'.

To finish, here are one or two recollections from my Mirage flying. The first involves being a 2OCU instructor and trying to teach radar navigation while flying in formation. As previously mentioned, the two-seater Mirage had no radar. So for the students to learn radar navigation, they were firstly given extensive briefings followed by practice in the Mirage simulator—which replicated all of the radar's functions and performance. After that it got interesting.

Picture two single-seat Mirages flying in close formation with the instructor as the wingman. Radars are going and as we fly along the instructor, in addition to maintaining his formation station, now has to look at his navigation system. He gets a rough idea of where he is and then scrolls the manual moving map display, hanging from the gunsight in front of him, to place the origin at the approximate current position on the map. All this, while continually glancing back to make sure that he maintains formation and doesn't run into his student. He then glances back at the map and picks a key feature. He diverts attention to the radar, adjusts the antenna angle and gain, and tries to pick out the

feature. All the while he is sneaking quick looks to stay in formation. Then he says to the student something like: 'Antenna down 15 degrees, back off the gain a bit and you will see a return at about 15 degrees left at 25 miles. What do you think that is?'

And so it went on. Makes a 'one-armed paperhanger's' job sound like a breeze! And that was on a good day when there was no cloud. One of the tricks you got to learn was that the student often would focus on the radar to the total exclusion of flying the aircraft. Often the first clue that this was happening was that the auxiliary air doors on the engine intakes would start to move inwards, which indicated that the airspeed was getting back to around 250 knots (from recollection). This was a sure sign of inattention when we were supposed to be doing around 400 knots. 'Airspeed' was the call to wake the student.

A particular experience I had with this little exercise is indelibly imprinted on my mind. We were carrying out a medium/low-altitude radar navigation instruction flight, with me instructing an experienced ex-Sabre pilot converting to the Mirage. If the training was difficult on a clear day, it was miracle-worker stuff on a day with total cloud cover. You now had the added complication of flying in formation in cloud. This meant that you also could not drift too far away or you would lose sight of the student. In addition, you had to try to split your attention even further and monitor your flight instruments to check that the student was paying due attention to keeping the aircraft under control in cloud. This turned an almost impossible task into something even worse.

On this day, we had flown the whole medium-level part of the exercise in cloud and things had not gone too badly apart from the need for one or two 'airspeed' calls. Then came the time to descend to the lower altitude, for the low-level part of the exercise and the student called that he was descending, and I acknowledged. Some time later we emerged from the base of the cloud, with me smoothly maintaining close formation alongside my trusted student. The 'trusted' bit suddenly went out the window as I sensed that something seemed terribly wrong. I soon realised what it was. We had emerged from the clouds but with the ground above our heads and the clouds underneath our feet. We were almost inverted—but still flying in very smooth close formation! Fortunately, we still had quite a bit of altitude beneath us to allow the embarrassed pair of us to get things upright and under control again.

My final fighter flying anecdote concerns an amusing incident over the Woomera Weapons Range during my time at 76 Squadron. Three of us had taken three Mirages to Woomera to support development trials of the Rapier ground-to-air missile system. Our task was to fly defined mission profiles towards, or past, Rapier missile batteries to allow the boffins to assess the effectiveness of its detection and tracking capabilities.

The mission where the incident occurred was one where I was required to fly a clean Mirage over a defined route on the Woomera range. My other instructions were to fly as low and as fast as possible. This meant an altitude of 250 feet above the ground at a speed of 750 knots. They did not have to ask twice!

On the day, I duly covered the route at those speeds and altitudes. The sortie time was about 30 minutes because of the very high fuel usage. Flying the Mirage at 250 feet at 750 knots was an unbelievable experience. The sense of speed, coupled with the noise of the airflow on the aircraft (it sounded something like a very loud and eerie 'oil-

canning' type of noise) was absolutely mind-boggling. Of course, the sense of speed was hardly surprising given that the Mirage was covering about twelve and a half miles a minute (or a mile in less than five seconds). Added to this for people on the ground was the magnificent sonic boom that accompanied the aircraft, as we were well supersonic.

Now enter this poor British weapons defuzing person. At the same time that we were at Woomera, a detachment of RAF Canberras was on an exercise carrying out live firings of their Nord AS-30 air-to-ground missiles. One of these had failed to explode on impact and the weapons defuzing person was out in the desert, with his hands in the missile, defuzing it. Murphy was alive and well that day and my route took me directly over the top of him. Of course, he had no chance of hearing me coming and the first he knew of my presence was when a very noisy Mirage in full afterburner flew very low over him followed by the most enormous sonic boom. He obviously thought that he was done for.

The first I knew of this was later that evening in the mess when a slightly sozzled, very angry, and still shaking, weapons defuzing man found me and left me in no doubt about what he thought about me and low-flying supersonic Mirages.

My Mirage flying days sadly ended in December 1973, when the RAAF in its wisdom decided that I should leave fighters and fly Iroquois helicopters. To say I was initially disappointed would be a gross understatement; even angry perhaps? I was told that the reason that I and some others were moved from the fighter and maritime worlds to helicopters was related to the fact that there had been a rash of helicopter accidents and incidents, especially in Papua New Guinea, after No 9 Squadron had returned from the Vietnam War. The thinking of 'the powers that be' apparently was to move some people, who were assessed as being candidates for imminent promotion to squadron leader rank, from other roles into Iroquois squadrons to provide a stabilising influence, or some such. So the reward for trying to be a good fighter pilot was to get to fly helicopters!

So began a helicopter flying career that lasted about seven years. From initially not wanting to be flying helicopters, I eventually came to believe that it was one of the best things that could have happened.

One of the early pleasant surprises was to have as my helicopter instructor, another Wombat, Mick Haxell. I think I managed to get by without scaring him too much. But if I did not, I will use this opportunity to say: 'Thanks Mick, I enjoyed it'. One of the most important things to say in respect of my helicopter flying experience is that it was the teamwork within the crew, and the teamwork between crews, especially on detachment to remote areas, that made it such an enjoyable and rewarding part of my RAAF flying career.

I have dwelled at length on trying to paint a picture of the times, based on my flying experiences as a fighter pilot, because I was the only Wombat who was lucky enough to have that opportunity. I will only briefly outline my helicopter flying as I hope that perhaps Mick Haxell may paint a picture in this book of the helicopter flying of the times. As the other Wombat who became a RAAF pilot, he has much more helicopter experience than I.

Most of my helicopter flying was at No 9 Squadron initially as an Iroquois copilot for six months, then over a period of four years, as a line captain, B Flight Commander, A Flight Commander and then Executive Officer.

I then went to AUSTAIR UNEF (United Nations Emergency Force) in the Sinai as Executive Officer and then to non-flying jobs for about four years. Then, I had two of the most rewarding jobs of my flying career. The first was as the head planner and then first commander of the Australian Contingent to the Multinational Force and Observers (MFO) in the Sinai.

The second and final flying job for this RAAF Wombat pilot was two wonderful years in 1983–84 as the Commanding Officer No 9 Squadron, at Amberley. I was very lucky to have a very talented and professional team working with me, including the best group of squadron executives that one could hope for. Together, we revolutionised the way helicopters operated in the field in support of the Army. But sadly, it was to no avail as the RAAF's helicopter capability was passed to the Army in the mid-1980s.

Thus were sowed the seeds for my leaving the RAAF in 1990 after 33 very enjoyable and rewarding years.

—*Teece Wilson*

Group Captain Mick Haxell, DFC – Pilot

Many a visitor to the Temora Air Show has probably wondered who the commentator out front in the bush hat really is. Few would realise he is a Wombat and even fewer that this knowledgeable aviation orator was the recipient of an award of gallantry in Vietnam being decorated with the Distinguished Flying Cross in that conflict.

After a couple of attempts, the RAAF accepted my application for pilot training with the interesting twist that I was attached from Butterworth, about 15 months into my posting, for yet another medical along with aptitude testing and an interview in Sydney in late 1964. I did well during the aptitude testing phase but was very apprehensive during the interview panel. Interestingly, years later I had the opportunity to read the panel report which concluded with the handwritten words, 'well worth a go'; so I must have made a suitable enough impression!

Soon thereafter, I commenced 57 Pilots Course at No 1 Basic Flying Training School (1BFTS), Point Cook, in January 1965 and met up with another Wombat (Warren Bridge) who was on a course ahead of mine. No 57 Course hopefuls were a disparate lot of 48 members, comprising five RAAF officers—both other aircrew 'retreads' and raw university graduates—four Army officers, four RAN midshipmen and the remainder RAAF aircrew cadets with four of those transferring from the RAAF Academy. Two RAAF officers, myself and one RAN midshipman were the only members with any reasonable level of Service experience. Despite the diversity, we all got on well together particularly as the course progressed. As is the way, only 19 (two RAN and 17 RAAF) graduated from the course at Pearce, aside from two Army graduates who departed for

Army Aviation after Point Cook. A course failure rate of 50 per cent or more was the norm and remains much the same today.

The ADF pilot training regime is very demanding, disciplined and rather unforgiving if a student does not attain the required standards of the various milestones during the course, with plenty of opportunities to be 'scrubbed', not just in the practical flying phases but also in ground school as well as for those rather nebulous 'personal qualities'. I recall that many fell by the wayside even before commencing the flying phases, but the rate during the early stages of flying was very high. The various flying tests of pre-solo, 25 and 70 hours along with the navigation and the Final Handling Test (FHT) at 1BFTS were periods of high anxiety and losses. This threat was always in the background and continued throughout the course, even in the latter stages.

The Winjeel was a challenging basic trainer to fly accurately, but very robust and with a reliable radial engine. However, being a 'tail-dragger', it was unforgiving on landing if mishandled, particularly in a crosswind. Many were caught out, ground looped and scraped wingtips, although I just managed to avoid doing so which I think in part was due to the tail-wheel experience I had gained during private flying on the Chipmunk at the Penang Aero Club while at Butterworth. While having had limited exposure to aerobatics previously, probably with Eddie Edwards and others at Penang, I came to like and appreciate aerobatic flying and still occasionally fly aerobatics for the sheer enjoyment.

Being an ex-apprentice, I was not too impressed with having to go through all of the 'rookie' drill and marching again. However, there were some humorous incidents and I recall during the pre-flying phase of yet another drill period on the parade ground sneaking a look at Winjeels going around the circuit pattern. The 1BFTS WOD (Warrant Officer Bob Ashton) managed to suddenly appear at my right ear and announce in a loud voice, 'Haxell it's no good looking at those aircraft, as you know the Air Force would be better off without WRAAFs and aircraft!' All of us thought this hilarious but later we concluded that Bob was wrong on both counts! Apart from staying up with the rather hectic pace of the course at Point Cook, I do not recall any startling incidents associated with the flying except that, as most of our flying was during a rather wet winter, we were often disrupted by adverse weather conditions and often returning from navigation exercises at low level in heavy rain showers. On the social side, the weekends tended to be a time to relax from the rigours of the course in the pubs of Melbourne, as well as at the parties in the Cadets Mess which were something to behold!

Overall, I managed to do reasonably well at 1BFTS before proceeding to No 1 Applied Flying Training School (1AFTS) at Pearce for the advanced phase of the course on the Vampire, which was a significant step up in performance from the Winjeel. Initially, I struggled with some early sequences, but after the 25-Hour Test a change of instructor to an RAF exchange officer, who was a fine fellow and an excellent instructor and to whom I remain forever grateful, managed to get me sorted out. From there I progressed reasonably well, although I certainly was no 'star'. Later instrument flying provided another more than usual challenge for most of us with some unfortunately not passing the Final Instrument Handling Test (FIHT), which today remains a major hurdle for many students. The Vampire was a delightful aircraft to fly despite its cramped

cockpit and 1940's instrument panel layout, with well-harmonised controls and overall good performance once airborne. Solo flights provided some opportunity to just enjoy the aircraft, particularly during aerobatics and low-level flying which I took a liking to. At the time, many of the 1AFTS Vampires were still fitted with gunsights and many a student formation pairs ended up trying to be fighter pilots and use the gunsights in a 'one v one'. I have since briefly flown in the Temora Aviation Museum Vampire with the display pilot—the very aircraft in which I did my wings test at 1AFTS—on a couple of occasions and still think it a wonderful aircraft, albeit that it seems to have shrunk over the years!

Three incidents which occurred at Pearce I recall very clearly. The first involved a fellow course member, who was also an ex-apprentice and signaller undergoing pilot training, who I saw eject from his aircraft, with his parachute only just fully deploying before he impacted the ground. Luckily, he suffered only some severe bruising but otherwise was in fine shape. He was extremely fortunate as the ejection was initiated below the minimum ejection airspeed parameters from a low-level circuit in a high-drag situation with the landing gear down, when the fire warning light illuminated. With very sound presence of mind, instead of closing the throttle as then indicated in the flight manual, he fully opened the throttle and gained as much thrust and height as possible before ejecting following complete engine failure.

The second incident involved our first solo night flying in the Vampire, which was being carried out following a very recent fatal accident involving a student from the course ahead who had misread his altimeter and flown into a hill in the Pearce circuit area at night. On walking out to get into our aircraft on a very dark night, I recall all of us being in a high state of trepidation. Suffice to say that the crosschecking of altitude against altimeters that night received a lot of attention.

The third involved my first experience with airframe icing and St Elmo's fire, during a solo night flying sortie involving a series of instrument approaches from high altitude where there was considerable cloud. Because of the number of aircraft involved, aircraft were stacked up in holding patterns for some time waiting their turn to commence the approach procedure. We had been briefed that in such cases to use a handheld torch to occasionally look at the wings to monitor any ice build-up. On checking the wings, I was surprised to see a considerable build-up of rime ice. However, what then really got my attention was the sparking of bright coloured light around the canopy and windscreen frames. While we had been briefed about such phenomena it was rather disconcerting for a student pilot on a solo flight as it remained for some time until well into the descent where the ice shed and the St Elmo's fire dissipated.

Following graduation in April 1966 about two-thirds down the pack, along with three other course members I was posted to helicopters. For all of us this came as a surprise as up until this time only experienced pilots, with at least one other operational tour, were flying helicopters. Further, like most I had fancied myself being a fighter pilot or as a second preference flying transport aircraft. The reason for the posting of 'boggies' directly from course was partly a trial in anticipation of the need for more pilots to sustain Australia's increasing involvement in Vietnam. Of course, within a couple

of years, the demographics of all of the helicopter squadrons, and particularly No 9 Squadron in Vietnam, changed very much to younger pilots and other aircrew generally.

I arrived at No 5 Squadron, Fairbairn, in June 1966, which began a long association with RAAF helicopters and RAAF Fairbairn. Initially, the vertical flight and autorotative regimes were challenging to say the least, and I thought that I would never master these strange modes of flight. Hovering was once described as trying to stand on one leg on a billiard ball while blindfolded. Indeed, at one stage I recall having a serious discussion with my instructor (Major Bill Emery, USAF) suggesting that I might be better off on Caribous. This certainly got Bill's attention—he was an extremely likable fellow but frankly not much of an instructor—out of his usual laid-back approach and he took a much more active interest in proceedings. Like most, eventually I got the feel and gradually came to master the machine and enjoy helicopter flying. Later, when I was instructing, I felt that my early experiences provided me with a sound basis for appreciating students who were having problems and to respond with a variety of instructional approaches.

Soon after graduating from conversion course I was posted at short notice to No 9 Squadron, Vietnam, in November 1966. The reason for the short notice was as an urgent replacement for one of two pilots who had been severely injured in a Huey crash in Vietnam. As a trailblazer, I was the first 'boggie' pilot to arrive in 9 Squadron, with my fellow course colleagues and others arriving in increasing numbers in rapid succession. No 9 Squadron had only been in Vietnam since the June and in many ways was still in the process of developing and finalising operational procedures. I was thrown into the deep end and flying the day after arrival as a copilot on a large operation which was certainly an eye-opener. At the time, the squadron operated eight UH-1B model Hueys and later started to obtain D models to replace aircraft combat losses and later again re-equipped with 16 H model aircraft. The main differences between the B and D models were an increased cabin area and larger main rotor diameter but with the same SHP output engine. However, in flying characteristics the D model was less manoeuvrable and had more inertia, being of a higher weight than the B model. Soon after introduction of the first D model and having flown it for a few days with only a very minimal checkout, I recall having to ask Tony Harding of the location of the hydraulic reservoir sight gauge, which I found to be in a different location to that of the B model. I think that cost me a few beers!

I found all of the pilots, with one exception, and the Commanding Officer (Ray Scott) to be very generous in passing on their experiences and mentoring me during the early stages. Further, the crewmen (many with a technical background) were similarly great to work with. While I learnt a lot about flying generally from these people, I also learnt about some things that I should avoid, both in flying and socially. One of the senior pilots, Bill Shepherd, who was a character and had been an instructor at Point Cook during my course time, was always trying to sell me off to the bar girls in downtown Vung Tau as a 'cherry boy' and, suffice to say, it was great fun but the success rate was at best low. Another incident occurred where my ex-apprentice background came to the fore. While in Vietnam we were entitled to two periods of leave (usually around five days each) termed 'Rest in Country' (R&C) which for the RAAF was taken in Butterworth, and 'Rest and Recuperation' (R&R) which was taken out of country through the US Forces system. After about four months in country, the flight commander, who must

have not kept good records, scheduled me for an R&R which I duly took and I was not expecting another break apart from the R&C. However, that particular flight commander was rotated home and replaced. The replacement flight commander mentioned to me one day (about seven months into my tour) that he had noticed from the records that I had not been on an R&R and it was way time that I did. I almost corrected him but managed to not say anything and in due course scored another R&R. Apart from the technical aspects, the apprentice training did well!

I progressed through the standardisation phases and became a full operational captain within about four months which gave me a licence to lead Special Air Service (SAS) insertions/extractions, combat assaults and dustoffs; not something to be taken lightly, with responsibility for leading and directing the particular missions as well as lots of aircraft, people and firepower. The operational tempo and flying rate for the squadron was very high and could not have been sustained without the excellent teamwork from all and particularly the maintenance personnel, some of who were Wombats. Often aircraft were serviced or repaired overnight and back on line the next morning. I am sure that Mac Weller could expand on this aspect in great detail.

Overall, I enjoyed the tour in Vietnam and found the demanding flying in a 'hot' tactical environment in support of Army operations to be extremely interesting and satisfying, including working with the South Vietnamese, US Army and other US forces, and particularly the highly professional USAF (including those from the RAAF) forward air controllers (FACs). This included briefly flying gunships with the US Army and gaining some time on the then recently introduced Huey Cobra.

No 9 Squadron operations were mainly in support of our Army, although we often were part of combined operations with the US Army, which was a great opportunity to compare the different mode of operations. Despite the different style of operations and varying standards ranging from mediocre to very high, I came to admire the US Army aviation units and particularly the professionalism of the gunship and dustoff crews, many who were on second tours. While many of our operations could be termed 'routine' in nature, those involving operations with the SAS, medevac (dustoffs) and emergency ammunition resupply of Army units which were in contact with the enemy tended to focus everyone's attention. Certainly the weather conditions during the monsoon season made operations very difficult, as well as the sheer number of aircraft operating in a relatively confined airspace which led to numerous near midair collisions.

I have been asked to relate some particular events from Vietnam and, indeed, there are numerous ones that could be included. However, I have chosen to include an edited version of the writings of a journalist, who was in the process of writing a book on Australian DFC holders, and which is the result of his interview with me some years ago regarding two events associated with the SAS. Remember, it was written by a 'journalist' for a wider audience and goes into some detail, but does provide an insight into some of the operations undertaken.

On 18 May 1967, a Long Range Reconnaissance Patrol (LRRP) consisting of five SAS troopers was to be inserted into an LZ located about 10 minutes flight time from Nui Dat where 1ATF (the main Australian base in Phuoc Tuy Province)

was located. The purpose of the LRRP was to carry out reconnaissance of enemy movements in the area. The 9 Squadron standard operational procedures (SOPs) at the time, for the insertion of LRRP SAS patrols was for a minimum of four and preferably five helicopters to be assigned to carry out the mission; two or three RAAF UH-1 Iroquois helicopters and a light fire team consisting of two US Army Iroquois gunships (later RAAF Iroquois Bushranger gunships were used).

The tactics employed were also very different to those used with other Army units and required the lead helicopter (Albatross lead) to remain at higher altitude (at least 1500 feet AGL) and behind the other helicopters, to visually navigate and direct those aircraft to the LZ remaining clear of open areas and known areas of enemy activity, air strikes and artillery strikes as well as other friendly forces. The number two helicopter (Albatross 02) carried the SAS patrol with the gunships flanking to the rear by about 500 to 800 metres. These three (or four) helicopters flew at extremely low altitude to minimise exposure to any enemy fire and also to hopefully confuse the enemy as to the route and intentions. This was a unique Australian-developed tactic that the Americans eventually adopted as it was so successful.

Following insertion of the patrol into the LZ in minimum time, Albatross 02 would continue along a planned departure route for some time at low level before climbing to height. All helicopters would then rendezvous at a pre-planned holding area where a holding pattern would be flown for a specific period of time, to allow time for the SAS patrol to ascertain that no enemy troops were in the immediate vicinity of the LZ and to exit the immediate area. This holding area was usually within about 5 to 10 minutes flight from the LZ; not too close to alert the enemy but far enough removed to be able to react quickly in the event that the SAS patrol came into contact with the enemy. Time spent at the holding area was pre-agreed between the SAS and Albatross leaders and depended mainly on fuel availability and the tactical situation.

Unless a 'hot' extraction was required, extractions of SAS patrols were usually pre-arranged and employed similar tactics to those involved with the insertion. Landing extractions from LZs (never the same one as that used for the insertion) were the preferred method to reduce exposure to any possible enemy action, but winching and suspended rope extractions were also used depending on the tactical situation and the availability of LZs in the area of operation.

The commander of Albatross 02 on 18 May 1967 was Pilot Officer Mick Haxell with Flight Lieutenant Bill Gill as copilot and LACs Garry McCarthy and Thomas Farr as crewman and gunner respectively. As briefed and in accordance with SOPs, the aircraft was flown to the LZ where the patrol rapidly disembarked and the helicopter exited the immediate area at low level en route to the planned rendezvous and holding area.

Before Albatross 02 arrived at the rendezvous and within a few minutes of insertion, the SAS patrol commander urgently radioed Albatross leader and informed him that the patrol was in contact with a North Vietnamese Army (NVA) unit estimated to be a least company size (about 100 men). The SAS

Airborne Wombats

patrol had only moved into the tree line at the edge of the LZ before coming into contact with the enemy who were aggressively attacking the patrol. The patrol leader advised that they were attempting to break contact and proceed to an extraction area for an immediate 'hot' extraction and asked the helicopters to stand by. In the background to the radio transmissions could be heard the sounds of an intense firefight.



No 9 Squadron Crew of A2-185

(L – R): LAC Thomas Farr, LAC Garry McCarthy, Pilot Officer Mick Haxell
and Flight Lieutenant Bill Gill

As security was no longer an issue, all of the helicopters headed towards the general area of the LZ. Albatross lead remained at altitude and attempted to grasp the rapidly changing tactical situation by radio with the SAS patrol, which was obviously in close contact from an aggressive NVA enemy and was having difficulty breaking contact. Albatross 02 and the gunships descended towards the LZ where the gunships set up suppressive firing passes, following the SAS patrol marking their position with coloured smoke and the direction of enemy forces with white smoke. Overhead, Albatross lead (Flight Lieutenant Bob Grandin) continued to assess the tactical situation, including requesting artillery support from Nui Dat to stand by for a firing mission and a forward air controller (FAC) to have tactical fighter ground attack (FGA) aircraft available. As it was the dry season, weather conditions were reasonable with just some general smoke haze with the LZ clearly visible. The patrol was pinned down on one side of the LZ with the NVA force rapidly outflanking them. It was obvious that the patrol needed to be extracted quickly before being overrun and before the gunships expended their ordnance. As the gunships continued their firing passes the SAS patrol leader was asked if an immediate extraction could be attempted. He replied that the enemy force was very aggressive and that the situation was too hot, so they would still try to break contact before a 'hot' extraction could be attempted.

Meanwhile Albatross 02 had also arrived in the vicinity of the LZ and set up a pattern close to the firing patterns of the gunships, assessing that an immediate

extraction was necessary and possible, albeit risky, if the patrol was to avoid being overrun. In the confusing tactical situation the exact position of the patrol was finally established to one side of the LZ. Haxell, following a brief discussion with his crew, advised Albatross lead, the gunship leader and the SAS patrol that he would attempt an immediate landing near the patrol position while the gunships maintained intensive suppressive covering fire. The patrol commander reiterated that the LZ was too 'hot' but, with lead's endorsement, Albatross 02 commenced an approach into the LZ using the covering fire of the gunships to maximise protection. A note of relief was detected in the SAS patrol commander's voice as he radioed his acknowledgment.

The LZ was large enough to accommodate two helicopters and was a natural clearing covered in grass and low bushes, surrounded by secondary growth jungle with trees reaching 80 to 100 feet [24 to 30 metres] in height. Haxell decided that the approach and take-off would have to be steep utilising the natural jungle cover as much as possible, and that the tricky part would be the take-off phase as density altitude was high and the aircraft would be heavily loaded. Keeping as close as possible to the side of the clearing and away from the main enemy force (about 40 metres), Albatross 02 came to a very low hover in the LZ, kept the power on and the skids just touching the grassed surface. The crew of Albatross 02 were then able to more clearly see the enemy force and redirected the gunships to targets closer to the patrol and their helicopter. The door gunners added to the suppressive fire onto the enemy with their door-mounted guns.

The relieved SAS patrol then broke cover from the tree line about 25 metres from the helicopter's 10 o'clock position and rapidly made its way to the waiting helicopter using fire and movement to cover each other. As the patrol approached Albatross 02 the door gunners fired over the heads of the patrol while the gunship firing passes were redirected to within 25 metres of the number two aircraft, the crew preferring to accept some possible shrapnel damage rather than the enemy bullets that could be heard cracking past. The copilot, Bill Gill, did a headcount of the patrol as they boarded and, as the helicopter lifted off, Gill threw a white smoke canister to further mark the enemy positions.

Albatross 02 remained low for the cover afforded by the jungle and headed for Nui Dat. As it left the area the crew could hear Albatross lead handing over tactical control to a FAC for follow-up artillery and air strikes, as the gunships had expended all of their ordnance and were also departing the area. Upon delivering the SAS patrol to the helipad at 'SAS Hill' at Nui Dat, the crew carefully checked their aircraft for combat damage and to their immense relief, apart from one patrol member receiving a slight wound, the helicopter, crew and patrol had not suffered any serious hits. The entire mission had lasted for about 40 minutes.⁷¹

⁷¹ Editors' note: For his actions in this and other operations, Mick Haxell was later (February 1968) awarded the Distinguished Flying Cross (DFC).



Gunship in Action

In a separate action on 13 August 1967—interestingly involving the same SAS patrol—Haxell, along with his crew of Flight Lieutenant Bob Dodds, Corporal Neatherway and AC Reinke, once again faced difficult odds. This situation took the patrol and helicopters to the extremity of Phuoc Tuy province with fuel being a more critical issue. Once again, Haxell was commander of Albatross 02, with Flight Lieutenant Les Morris flying as Albatross lead.

The LZ this time was larger but much rougher, being a series of craters and fallen dead trees left behind from a bombing mission of B-52s. Again, the insertion was carried out in accordance with SOPs and with the insertion complete, the helicopters and their accompanying gunships withdrew towards the pre-planned rendezvous and holding area. After about 10 minutes in the holding area, the SAS patrol leader radioed that the patrol was in contact with enemy forces.

Morris in the lead aircraft proceeded to the LZ ahead of the gunships, with Albatross 02 bringing up the rear as they listened to the patrol leader summarising the tactical situation on the radio. While in contact with the enemy, the situation did not appear to be as critical on this occasion, but the SAS patrol requested an immediate extraction. With the gunships laying down suppressive fire, Haxell assessed the tactical situation and the LZ layout, and quickly realised that this extraction was going to be difficult because of the relative positions of the enemy force, the SAS patrol, the prevailing wind and obstructions within the LZ. Albatross 02's approach and departure paths would have to be made downwind; less than optimum for a heavily loaded helicopter. An into-wind approach and departure would place the helicopter directly over the NVA forces, who were by now aggressively pressing their attack on the SAS patrol.

Approaching carefully under the prevailing wind conditions a successful entry into the LZ was made and the Huey established in a hover over a pile of fallen timber. While these fallen logs provided cover for the patrol at ground level it placed the helicopter in a higher profile position to the enemy and made it difficult for the patrol to clamber aboard the aircraft. With the exposed

position, Albatross 02 immediately came under fire from the enemy, who found an easy target, hovering on top the fallen timber. The SAS patrol made their way to the helicopter using the fallen timber as cover and moving as quickly as possible. Unfortunately, the enemy also was using the fallen timber as cover as they too advanced upon the waiting Huey. In the meantime, the gunships continued laying down suppressive fire but were unable to fire upon the NVA troops close to the hovering helicopter because of the risk of hitting the aircraft or the SAS patrol.

By the time the SAS troops reached the aircraft they were exhausted and the climb up the fallen timber to the helicopter was almost beyond their capability. The door gunners had to cease their covering machine-gun fire and literally haul the troops into the helicopter as the NVA soldiers rapidly approached the loaded Huey. The crew could feel bullets hitting their aircraft and knew that they were taking too much fire to attempt an into-wind take-off over the enemy positions. Also the pilots had doubts that the heavy helicopter would have the power to drag them out of the clearing.

Haxell briefly explained to the copilot that he would concentrate on flying the aircraft using a difficult 'bleed off' technique for the take-off, while Dodds monitored the engine instruments. The 'bleed off' or 'overpitching' technique involves a deliberate lowering of the rotor/N2 engine RPM below the normal operating range for a short-term gain in lift and climb capability. However, the danger was that, unless the rotor/N2 engine RPM could be restored quickly and translational lift provided from forward flight, there was a very real risk of flight not being sustained and crashing. Both pilots were worried with this as the aircraft's primary power indicator, the torque transmission gauge, was fluctuating wildly, as was the engine oil pressure gauge, indicating a major problem from combat damage. All of these thoughts and brief conversations occurred in a short space of time as the SAS patrol boarded and in keeping abreast of the ongoing tactical situation and redirecting the gunship suppressive fire as close as possible to their helicopter.

Applying power and coaxing the Huey into the air, the aircraft slowly transitioned to forward flight and climbing utilising the 'overpitching/bleed off' technique. Staggering to about 60 feet the aircraft was not performing sufficiently to clear the rapidly approaching tree line as the rotor RPM dropped well below the safe lower limit, and the crew and patrol were advised to prepare for a crash within 50 metres of the enemy. Haxell managed to keep the helicopter airborne but the skids and belly of the aircraft dragged through the tree canopy and sustained some damage. Fortunately, a slight right turn provided for more power availability to the main rotor, as well as being more into wind, and assisted and translational lift was gained and the aircraft performance improved sufficiently to accelerate and climb clear of the trees.

Meanwhile, Albatross lead had contacted a FAC who was in the area and FGA aircraft had arrived and were orbiting overhead to strike the enemy positions as soon as the gunships expended their ordnance and cleared the area.

Airborne Wombats

After clearing the area of the LZ and ascertaining that they were out of immediate danger, Albatross 02 crew were faced with the possibility of how long their damaged Huey could continue flying. Having the crewman and gunner visually check the outside condition of the aircraft the pilots were not surprised to hear that it was covered in oil, with the engine oil pressure gauge fluctuating near zero and the oil temperature gauge indicating in the overheat area. This information along with a request for a close escort was relayed to Albatross lead who was handing over local tactical control to the FAC who was having his FGA aircraft attack the NVA positions. The gunships had expended their ordnance, were low on fuel and departed for Nui Dat to rearm and refuel.

Nearby was an old trail that was still partially cleared that led to an Army of the Republic of [South] Vietnam (ARVN) fort located towards the coast but in the opposite direction to Nui Dat. Calling Albatross lead, 02 briefly explained the extent of their problems and that they would follow the trail in an attempt to reach the area of the ARVN fort or until the engine failed or they were otherwise required to carry out a forced landing on the trail. Another Huey was en route to assist but was still about 10 minutes flying time away.

During the transit to the ARVN fort, the crew of Albatross 02 continued to monitor the FAC radio frequency as initially the FGA aircraft and later artillery pounded the enemy in the vicinity of the LZ. While occupied with their own problems, the crew drew some comfort from the losses being inflicted on the NVA. The FAC and FGA aircraft reporting receiving fierce ground fire during their passes, but also that they were inflicting considerable damage on the NVA and that there were numerous bodies in the LZ.

Fortunately, Albatross 02 was nursed to a safe landing at the ARVN fort helipad. After landing, an inspection of the aircraft, gratefully assisted by cans of Budweiser beer provided by the resident US Army Advisor, revealed combat damage in the tail boom and tail rotor areas as well as some more worrying hits in the engine bay and main transmission areas. At least one bullet had partially severed an oil line, causing the loss of oil pressure. Shortly after, two more 9 Squadron helicopters arrived and, after thanking the US Army Advisor for his hospitality and beer, the Albatross 02 crew departed for Vung Tau while the SAS patrol departed for Nui Dat. The damaged helicopter was later externally airlifted by an American Chinook tandem rotor helicopter and delivered to the 9 Squadron flight line at Vung Tau, but unfortunately dropped from an altitude of about 30 feet and suffered considerable secondary damage.

On return to Australia I was again posted to 5 Squadron pending a posting to fighters in late 1968, which did not eventuate and is a story in itself. In late 1968 I then undertook a flying instructor's course and on completion remained at 5 Squadron instructing on helicopters until 1971, during an intense period of high pilot and crewman training associated with the demands of Vietnam. The squadron had a demanding commitment of providing all of the flying and engineering training for personnel en route to 9 Squadron, as well as a continuing large operational commitment with the Army in Australia and in the islands to our north. As well as instructing there were lots of deployments to Papua

New Guinea (PNG) and Indonesia. During much of this period there was in the order of 70 pilots of pilot officer or flying officer rank in the squadron, either waiting or just returned from Vietnam, which made life rather interesting for the CO and squadron executives at times.

Suffice to say that the flying in PNG in particular could be very demanding and I am sure that Warren Bridge will recount some interesting events. However, a particular series of flights in PNG are memorable to me from both the professional flying and human interest perspective. While involved with the SAS on an exercise in the highlands we were given an opportunity task to investigate and if possible retrieve any remains and equipment from a recently sighted crashed aircraft, thought to be from World War II, from the slopes of one of the highest mountains in PNG. As we were operating in the area and over a period of a few days as weather permitted we managed to locate the crash site which was around 12 500 feet in very tall jungle on steep terrain. The aircraft was identified as a World War II US Navy C-47 which was confirmed, along with a crew and passenger manifest, by the US Consul and ADF Headquarters in Port Moresby as having taken off from Moresby for Manus Island in 1942. It appeared to us that the crew had misidentified the valley over the mountain spine, taken the incorrect valley and, in attempting a turn back, crashed into the side of the mountain.

As many of you will be aware, the Huey does not perform well at such high altitudes, particularly when winching out of ground effect (OGE), which was required due to the lack of landing areas. After considerable juggling of fuel loads, taking off unnecessary equipment and consulting performance graphs we believed that we could carry just enough fuel for the round trip with 10 minutes on task and winch in one SAS member at a time. Further, to assist, the groundies 'twigged' the fuel control unit (FCU) for higher engine power and the tail rotor pitch control for a little more authority. One early morning the weather cleared sufficiently and we managed to winch in all five patrol members to the crash site. This was interesting hovering OGE at 12 500 feet on the limits of everything in a Huey!

After a few days the patrol asked for extraction but they had to wait, rather cold and wet, for a couple more days until the weather had cleared sufficiently for us to get into the site area. The patrol managed to retrieve all human remains but for two (who appeared to have been thrown from the aircraft on impact and buried under one of the engines) and other articles, including ID tags as well as numerous metal parts of weapons and personal items. The patrol had taken a considerable number of photographs and, in due course, a report was submitted to US authorities, along with the human remains and equipment. All of us found the experience to be moving, considering the young ages of the crew and many of the passengers in the early stages of the Pacific War. The SAS patrol presented me with a memento of a Pratt & Whitney engine data plate from one of the engines, which I still retain at home.

Overall, the strong sense of satisfaction was confirmed some months later at 5 Squadron with not just the usual letter of appreciation from the US Department of Defense, but those received from various family members of the C-47 crew and passengers, who finally had some closure.

Airborne Wombats

In 1971 I recall the then Flying Officer Angus Houston arriving at 5 Squadron for helicopter conversion. At the time, little did I realise that Angus would go on to a distinguished career attaining the rank of Air Chief Marshal and Chief of the Defence Force (CDF). I recall that during his conversion course, he along with his fellow course mates were most unhappy when they were informed that they would not be going to Vietnam as there were enough pilots in the system. Over the years I have had the pleasure of flying with Angus on a number of occasions on both Hueys and Macchis and both families have shared many a red wine.

After a break from flying in 1972–73 following the declining Vietnam commitment, I again returned to 5 Squadron in 1974–75 to the flying instructional and standardisation roles, with the squadron operating the B and H model Iroquois. This period was less intense and a number of other Wombats were in the squadron at that time, including Mac Weller as Senior Engineering Officer (SENGO), Dave Keast, Andy Lapins and Brian Broderick. I had the pleasure of being the flying instructor of another Wombat, Terry Wilson, during his helicopter conversion course and I recall that initially he was not impressed with being there and found that helicopter flight was very alien, particularly autorotations. However, after the usual learning curve he flew the aircraft well, came to appreciate the operations generally, even became a convert and went on to senior positions in the helicopter force. The squadron operations were not confined to Australia but included extensive operations in PNG, Indonesia and the South-West Pacific generally, along with New Zealand; all places I managed to see a lot of. Apart from operations supporting Army, others included civil tasks of search and rescue (SAR), flood, bushfire and post-cyclone relief, and sometimes supporting police forces; all tasks where helicopters excel and provided for some fascinating flying in diverse locations.

After various intervening postings on fixed-wing aircraft, I again returned to 5 Squadron in 1982 as the Executive Officer. I had been out of the helicopter world for some seven years and while the training regime had remained much the same, the operational emphasis had shifted more to closer integration with the Army for operations in the field in a more hostile air defence environment, as well as supporting Australia's United Nations commitment in the Middle East. This required some changes of operational tactics, with the Vietnam experience providing a sound basis for development. I feel that the RAAF helicopter force responded well to these changes although, in my opinion, it had not been well understood or appreciated at higher levels of Air Force, and so the move for the RAAF helicopter force transfer to Army gained momentum. Just as I was really settling in I was promoted and posted out after one year, but returned to 5 Squadron in 1985 for three years as CO. For most pilots being CO of a flying unit is considered the pinnacle of a flying career in the RAAF and I certainly support this opinion. By this stage, the squadron operated two types, the H model Iroquois for operations and conversion to type, with the recently introduced AS350B Squirrel for basic pilot and loadmaster training. The squadron had about 240 personnel and carried out all of its maintenance, both line and major servicings, and operated throughout Australia and extensively overseas, as well as contributing significantly to the Multinational Force and Observers (MFO) in the Middle East.

About midway through my tour, I remember being summoned to the office of the Chief of the Air Staff (CAS) with no explanation. Now this is not something that occurs often, but I knew all was fine when invited to sit down where CAS explained that the squadron was to be directed to develop the operational procedures and modify numerous aircraft to undertake night vision goggle (NVG) operations in support of the SAS for special operations. I had come full circle and was back operating very closely with the SAS. NVG operations at the time were very new in the ADF and this task demanded a lot from all involved, both aircrew and ground crew, and could not have been accomplished without the dedicated teamwork of many people. NVG flying greatly expands the operational environment, but is also very intensive and has some inherent risks. Outside of my Vietnam experience, flying with NVGs is one of the most demanding but satisfying flying roles that I have undertaken.

Overall I spent about two-thirds of my RAAF flying career on helicopters and flew all three RAAF models of the UH-1 Iroquois series (and some the US Army's) as well as the Squirrel extensively, managed to gather some Chinook hours and just before leaving the RAAF had a few hours gratis on the Black Hawk. I have a great admiration for the Iroquois series of helicopters, which I describe as the DC-3 of the helicopter world. Unfortunately, the UH-1 series are limited in instrument approach aids (ADF only), although later they were fitted with a Doppler navigation system for the Middle East. Also, with its inherent instability, it was difficult to hand fly on instruments thus being limited for anything but short IFR (instrument flight rules) operations. However, the Iroquois is a reliable aircraft and reasonably robust which got me through some rather difficult situations. I had only three significant mechanical emergencies: the first, probably an FCU malfunction while on short final in Vietnam resulting in a very hard landing; the second, a catastrophic engine failure when reasonably low with a successful forced landing; and thirdly, a cyclic servo failure with consequential cyclic hard over which we isolated and landed the aircraft safely. The Squirrel was a step up in technology, was faster and constructed using a considerable amount of composite material. It has a semi-rigid rotor system (the Iroquois utilised a teetering system) which could be flown in high turbulence conditions safely, was easier to fly on instruments, had two navigation systems (ADF and TACAN) and was a reasonably effective IFR aircraft in non-icing conditions.

Helicopters certainly provided me with the opportunity to carry out operations in many different, often remote parts of Australia and, indeed, parts of the world, operating environments and situations. One of my overriding memories of all the RAAF helicopter squadrons was the close comradeship and working relationships that formed irrespective of rank, especially in the field where everyone assisted each other. The decision to transfer the RAAF helicopter force to Army occurred when I was CO of 5 Squadron, which I still think was unwarranted and led to a loss of capability in the ADF for many years. Indeed, this was one of the factors which eventually led to my decision to leave the RAAF in 1990, but more on that later.

In regard to fixed-wing flying, in 1975 I had the opportunity to return to fixed-wing flying Macchis at No 2 Flying Training School at Pearce. At this stage, it was some seven years since I had seriously flown fixed-wing, so it was off to Central Flying School

(CFS) at East Sale for a Macchi conversion and some refresher flying on various fixed-wing instructional sequences before the fixed-wing instrument and instructor rating tests. I had not flown the Macchi, apart from a couple of opportunity rides, and initially found that the business of G-suits, being tightly strapped into an ejection seat, pulling 'g' and flying a reasonably high-performance jet again took some adjusting to. However, I had two very fine instructors at CFS and I found that in a short time I was readjusting and beginning to enjoy the experience. One of the instructors, who a few years later unfortunately was killed in a Mirage, took it upon himself to build my confidence by having me carry out low-level aerobatics, which I was rather reluctant to do initially. After about six weeks, I had my various ratings and was off to Pearce, initially as a deputy flight commander and then a flight commander position.

Flying the Macchi and the posting were both enjoyable, along with the advanced instructing and mixing with instructors from diverse backgrounds. Because of my position as a flight commander, I undertook numerous flight tests or retests on students with some resulting in the unpleasant experience of having to explain that they were not making the required standard and had to be suspended from course. This was something that I did not relish, but for those students considered to have potential, but struggling to keep up, I was able to use my discretion and usually provided an additional sortie or two of instruction using staff flying hours, which often was enough to get them up to a satisfactory standard. This usually applied only in the latter stages of the course and many of those students went on to successful flying careers. At the time the Chief Flying Instructor (CFI), myself and the other flight commanders thought this an effective approach considering the ADF time and taxpayers' money already invested.

I recall two memorable incidents during my time at Pearce. The first involved an under-confident student on a dual night high-level navigation exercise from Kalgoorlie to Pearce via a navigation aid on the coast north of Pearce. By this stage of the course, the students were expected to be able to fly and navigate the aircraft with essentially the instructor monitoring. The weather forecast included cloud at the cruising levels with possibly rain showers for arrival at Pearce. Part way along the route, I noticed that the student was becoming increasingly agitated and hyperventilating, and at about this time some moderate turbulence set in while in cloud. Soon thereafter, the student lost control of the aircraft and froze up on the controls making it difficult for me to take control and recover from the massive unusual attitude during which we lost about three or four thousand feet. After regaining control and regaining altitude, I settled the student down with me flying and with some coaxing he navigated. This took some time as he was completely unnerved by the experience. Once we cleared the cloud, this worked well until approaching the point where a decision had to be made to continue to the next turning point or divert direct to Pearce, which was part of the decision-making training. From the fuel flow 'how goes it' graph, it was obvious that a diversion was required which he initiated, albeit slowly. By this stage the weather at Pearce had rapidly deteriorated to low cloud with heavy rain requiring a ground-controlled approach (GCA). This got the attention of both of us as fuel was going to be an issue. On downwind in the approach, the CGA radar failed so we reverted to a TACAN approach, although the cloud base was reported to be below the minima. As this was beyond the student, I took over flying

and told him to look out for the runway lights. As many of you are aware, the forward vision from the rear seat of a Macchi is limited due to the front ejection seat, which was further compounded by the runway light reflections produced by the curved canopy. Just below minimas, the student sighted the runway lights and I managed to land on a very wet runway and after aquaplaning we managed to stop before the runway end. All in all, an exciting trip. Later I had a beer with the student and he was still trembling from the experience.

Another trip involved Wombat Dave Keast, who was my back-seater on this occasion where we had taken a Macchi to Edinburgh, to meet up with Tony Harding and Des March, before continuing on to Wagga in an ARDU Dakota for a Wombat reunion. On return to Edinburgh, the forecast high-level headwinds were unsuitable for us to depart for Pearce via Woomera, Forrest and Kalgoorlie. After a couple of days, however, the jet streams had abated somewhat allowing us to launch. The weather forecast for Forrest was for low cloud but clearing about an hour before our arrival. All went smoothly with a refuel at Woomera and en route for Forrest at altitude on a beautiful day but with lower level cloud persisting with some holes. I was not too concerned going by the weather forecast and my discussion with the meteorological section. The Macchi had limited navigation aids (ADF and TACAN) and therefore we had to rely mainly on visual checks once outside range of the navigation aids. The last ground speed check showed that the headwinds were a little stronger than forecast but well within the fuel available. We flew on for some time and, as we could not obtain another visual check because of the low-level cloud which had not dissipated as forecast, we became a little concerned; however, we were beyond the point of safe return and it was too late to turn back to Woomera. Along the way, Dave and I discussed the situation and the likely arrival at Forrest. Based on the last ground speed check we commenced an approach at Forrest about 15 minutes after the flight-planned ETA (estimated time of arrival) with fuel obviously going to be tight. We broke out of the cloud in very limited visibility in haze, sighted the railway line briefly but did not see the airfield. With just enough fuel for another quick instrument approach, I carried out a missed approach and briefed Dave on the ejection procedure in the event of not getting in off the next approach. At this stage I recall Dave going very quiet which was most unusual. From the second approach we broke out below minimas and soon thereafter sighted the airfield and landed straight in. On taxiing into the tarmac the fuel gauge/debit meter read 60 lb fuel remaining (minimum for the Macchi was 200 lb), and during refuel Dave remarked that he had never seen a Macchi take on so much fuel. Soon thereafter the cloud cleared and we continued to Pearce in a more relaxed mode.

I enjoyed flying the Macchi which was a reliable and robust advanced jet trainer fitted with a modern ejection seat. It had a well laid out instrument panel and cockpit, with modern instrumentation (for the era), and was a stable aerobatic, general and instrument flying platform. From a staff instructor viewpoint, we had plenty of flying hours available, of which I made good use and also became the number three in a four-aircraft aerobatic team (certainly nothing as complex as those of the Roulettes) which was great fun and we carried out some RAAF PR flying over regional Western Australian towns.

From Pearce I was posted to 34 Squadron at Fairbairn in 1978 as the Squadron Operations Officer, with responsibility for tasking of all VIP tasks along with flying the Mystere 20 and HS748. No 34 Squadron's role of providing air transport to the Governor-General, Prime Minister, senior Ministers and visiting dignitaries is very different to the normal RAAF flying squadron. The operation provided an opportunity to visit some different places, although crews spent a lot of time waiting on tarmacs and the hours were often long. However, there were some perks in the high standard of overnight hotel accommodation provided and great in-flight rations served by a flight steward or, preferably, a stewardess. Some of the political personalities of the period were interesting to say the least. I enjoyed both aircraft types, but certainly the Mystere was a delight to fly and remains one of my favourite aircraft.

In 1990 I decided to leave the RAAF after 32 years, partly because of the decision to transfer the RAAF helicopter force to Army but also because it was unlikely that I would have another flying posting, as well as for personal reasons. Further, I had received an offer from the then Civil Aviation Authority (CAA), later Civil Aviation Safety Authority (CASA), of a position in Canberra as a Flying Operations Inspector (FOI). This provided me with the opportunity to continue an active involvement with civil aviation. Initially, I was hired as a helicopter FOI, but soon became involved with fixed-wing as well, all mainly in general aviation operations. At that time, CAA had its own aircraft and I was soon flying the G1000 (a twin turboprop type), which had a full EFIS cockpit; my first exposure to this technology.⁷² We also used a single-engine piston Bonanza as a taxi as an effective means of travelling to regional areas.

I continued to fly a variety of helicopters, ranging from the smaller single-engine piston types to larger multi-engine turbine, and was fortunate to fly with Esso out of Longford in Victoria over a period of five years in their offshore operations. In the mid-1990s, I again had the pleasure of working closely with Terry Wilson during yet more interesting times, when he joined CASA as the general manager of the branch in which I was a section manager. As time progressed, I continued to remain closely involved with civil helicopter operations, but with fixed-wing became more involved with the 'heavy metal' types and particularly the Qantas B737-800 with the integration of HUD (Head-Up Display) into their operations. In the past few years, I was also fortunate to be a member of a number of International Civil Aviation Organization (ICAO) technical panels and study groups, along with other international specialists from a number of nations, which were tasked with reviewing or developing operational standards for use internationally. These panels and groups were very interesting and provided a close insight into the rapidly evolving international civil aviation industry and the different approaches taken by nations.

⁷² EFIS (Electronic Flight Instrument System)—also known as a 'glass cockpit'—is a flight deck instrument display system which features electronic (digital) instrument displays, typically large LCD screens, as opposed to the traditional style of analogue dials and gauges.

Despite the restructures of CASA every few years and the inherent frustrations, I enjoyed working with the dedicated and talented people both in CASA and the civil aviation industry. However, early in 2007, following yet another restructure, I left CASA but remain involved with aviation by carrying out casual helicopter and fixed-wing flying, as well as some auditing of aviation companies. I am also actively involved with the Temora Aviation Museum where I carry out some commentary and occasionally display the Cessna 0-2 FAC aircraft.

—Mick Haxell, October 2007

Adrian (Eddie) Edwards – Commercial Airline Pilot

From Soaring Club to Boeing 747's – Eddie has done the lot, after securing a Private Pilot Licence as a Wombat 'framie' in Butterworth. Trainee RAAF pilot, bush pilot, Royal Flying Doctor Service, Ansett domestic through to international with Singapore Airlines and, in between, the proverbial one burning and one turning.

My first logbook (I ended up with five) shows that I first began my flying in May 1963 with the Darling Downs Soaring Club in Queensland, near Toowoomba. A few of us airmen from RAAF Base Amberley used to drive up there on the odd Sunday (when we were not down at the Gold Coast!) and do some gliding in an old Kookaburra.

I had not gone solo when I was posted to RAAF Butterworth, where I recommenced my flying at the Penang Flying Club. On the base, I shared a room with another Wombat 'framie', Mick Haxell. 'Hax' and I became good mates and spent many happy hours out at the 'Club' and shared some fun moments in 'our' Chipmunk.

Mick had already obtained his Private Pilot Licence (PPL) in Australia before arriving at Butterworth and was my inspiration to get mine finished. Our instructor was an old RAAF Neptune pilot. Bill tried to instil a sort of 'Service-like' ethic into our flying and we did cross countries at night in black, no moon, conditions. I still remember the red glow of the instruments and the smell of the little cockpit with the 'fighter-like' canopy. He also made us do the basic aerobatics, like loops, rolls and stall turns with spinning, of course, being mandatory.

For what it is worth, the extract from my PPL Test Card form (DCA Form 56R) Examiners Comments reads:

... Pupil displayed sound flying ability and carried out all sequences confidently. Aerobatics and X/W landings included in test. Pupil has above average knowledge of the aircraft. Above average PASS of 91.6% with 27.35 hrs dual and 15.05 hrs solo. TOTAL 42.40 hrs.

I was off on my own!

In late 1965 I was posted back to RAAF Pearce, Western Australia. Mick Haxell had gone on from Butterworth to begin his flying training at Point Cook and I went back to servicing Vampires. Mick used to write me regular letters on his progress. I was very

envious. Later, in 1966, I was lucky enough to be selected to commence RAAF pilot training on No 61 Course. Sadly, and I will not bore you, but I was 'scrubbed' at Point Cook. I was the 'older airman' I think!

Posted back to RAAF Williamtown, I devoted all my efforts to salvage my disappointment and pride by obtaining my Commercial Pilot Licence and instructor rating at the Royal Newcastle Aero Club. I did very well at instructing and sent quite a few of my pupils solo and even taught my now wife to fly! She still maintains that, heavily pregnant, I managed to induce her during a session of aerobatics in a Tiger Moth!

We moved to the far north of Western Australia in 1969, soon after Neil Armstrong did his bit on the moon. I was made the Branch Manager of a new general aviation (GA) charter company called Trans West Air Charter based in Derby. Given a quick endorsement on Baron and Cessna 337 (push-pull) aircraft, I was tossed in at the deep end and sent out on a six-day charter into the Kimberley and the Northern Territory.

I did not have a clue where any of the places were, or of the conditions en route. However, somehow, I got the job done, did not miss a beat and the clients were very happy. This happened during the burning-off season in the Kimberley and many station airstrips were enveloped in heavy smoke and virtually IFR (instrument flight rules).

I remember vividly once flying to my ETA (estimated time of arrival), not seeing the homestead and feeling that gut-wrenching sense of having gotten lost! In heavy smoke, went back over my map, did my calculations (no GPS in 1970) and told myself to hold heading for another five minutes. Guess what? The smoke cleared, the sky got brighter and there below me was Doongan Station airstrip. George Dean must have been looking on!

I flew out of Derby for the next three or four years, mainly in the Cessna 337. By April 1972, I had logged over 1000 hours in the 'push-pull'. The 337 was a novel and fun aeroplane to fly. Because it had an engine at the front and one at the rear you did not get any asymmetric thrust or yaw if you lost a 'donk'; however, you *did* lose a lot of thrust! Your licence was only endorsed for centre-line thrust (CLT) and the authorities seemed to look on this as a 'lesser' skill! Let me tell you, as one who has several thousand hours on type, you still did not let your guard down or become complacent. It was dependent on *which* engine at *what stage* of the flight, did you do *what*! The 337 had huge gear doors that acted like big speed boards so under *no* circumstances did you retract the gear if you had an EFATO (engine failure after take-off). She just would not fly.

One day I had just reached top of climb out of Halls Creek heading for somewhere near the Northern Territory border when a strong smell of fuel (AVGAS) was overpowering me. The fuel flow gauge was going 'off the clock' so I shut the front engine down. Returning to Halls Creek, even on a shallow descent, required almost full power on the rear and I had to have the cooling cowls open all the way. The fun came on finals when I lowered the gear! The drag put me below the flight path with full power and I was undershooting to buggery. I had to retract the gear, stagger around on full power, set up a high approach and only lowered the gear once over the threshold. Thank goodness, the brakes were good. Once on terra firma, front cowls off and the culprit was a broken off fuel line from the injector distributor spraying raw fuel all over the engine and magneto! Great! And to think we flew these things at night!

A TRIBUTE TO MICK HAXELL

*We'd spent three full days of planning
and we'd gone through all the tricks,
we'd test-fired all our weapons,
now we waited for the 'Slicks.'
The 'Gun-ships' also waited,
with a cargo filled with lead,
they were really something
that 'Charlie'd' really dread.*

*The leader gave his briefing
for he'd 'recced' the LZ,
now we're set, the moment comes,
with lightness in the head.*

*The 'Albatross' is there
high up in the sky, and,
'Gun-ships' warm their engines
Like angry dragon-fly.*

*Away we went all present,
high at first for just awhile,
then down, and down, and down
we went, In terrifying style.
Low across the treetops,
with gunships just behind,
and moments that were soon to come,
were foremost in my mind.*

*I'd done this all before,
hope to do it all again,
so I sort of knew just when he'd turn
and so did all the men.
The 'Albatross' was guiding him
and turn he really did,
he brought her in so sharply
that I thought he'd flipped his lid.*

*Now is the trying moment,
knowing not, what lies ahead.
Will you steal through it in safety
or will you, too soon, be dead?
The chopper lands, and out you get
as fast as you can go,
and every single moment
seems agonising slow.*

*This time, though, we waited,
for first man on the side,
waiting for the helping hand
that ends the thrilling ride.
He had his weapon ready
and was almost out the door
When suddenly the ground came up,
much quicker than before.*



*I knew, right then, we'd crash
there was just no other way,
we'd lost our revolutions
and we thought we'd seen our day,
With a loud resounding thump
the big bird hit the ground,
upright, still, but damaged,
and my heart began to pound
The forward scout was flung back in,
he didn't know the score,
he didn't really understand
that he'd patrol no more.
But before we knew what happened,
the pilot got her off,
slow but sure he took her up,
though the engine seemed to cough.*

*Everyone was safe and sound
our injuries were light,
but the pilot hadn't much control
and we wondered at our plight.
Would we fly around and 'round
'till we ran out of fuel
then I looked and saw the pilot,*

*who seemed so very cool.
He told us all to hang on tight
We'd land at Luscombe Field.
But I had my doubts, all right,
as from left to right we reeled.
However, soon, the airstrip loomed
and slow, he took her down,
just like a little aeroplane,
we slid into the ground.*

*We all got out and helped,
the Medics take two away,
but little did I realise
I'd be there with them next day.
And now I lie with busted foot
bored, just bored to tears,
but strangely, so it seems,
of choppers I've no fears.*

*For pilots are the main thing
that makes an aircraft fly,
and as long as I've got one like 'Mick',
there's not much chance I'll die.
We salute you, Micky Haxell
and your mates who helped us out,
'9 Squadron' was a part of us,
respected right throughout.*

*You did what we requested
and you never blinked an eye
Your feats are simply legendary
By God, you blokes, could fly!*

Ric Gloede
(1 SQN S.A.S.R. Vietnam 1967)



Airborne Wombats

One funny incident I must relate happened early in my Kimberley flying days and involves the aviators' enemy, the weather.

The company I flew for had a contract with the then Department of Shipping and Transport to supply the mail and freight to remote lighthouses around the State. I did this with regular enjoyable flights out to the Cape Leveque lighthouse at the northern tip of Dampier Land to the north-west of Derby. Only a 35-minute jolly at 150 knots. I loved this trip as I used to fly very low (ssh! Don't tell DCA, CASA) and look at the beautiful beaches and sharks in the clear water. Mostly on my own, so I could fly as low as I liked ... and I liked to fly *low*! This, from my logbook:

On the 2 Dec 1970, I presented myself at the Derby FS [Flight Service] counter for a weather briefing and, as we knew, Cyclone EVA was approaching Derby. I had a mail run out that morning and after discussing the situation with the Met. Man I decided to go. After all, the 'mail must go thru ... mussenit!'

However, on this day I had a passenger, a VIP from the Dept of Shipping who JUST HAD TO GO!! I said that this trip might be a 'bit hairy' but he HAD TO GO!! So we went.

The flight out was uneventful, nice and legal at 1500 ft in a straight line to CLQ [Cape Leveque]. The passenger, as a pleasant public servant, his first trip north of Perth just wanted to see the lighthouse and then go back to Perth on the evening MMA from Derby. All very nice. The weather to the NW of CLQ looked dark but still that odd calm and lovely flying under overcast. Once on the ground my passenger disappears, having gone off for a walk and a 'look around'! I unload the mailbags and in accordance with my company's contract, I have to wait for an hour so the mail can be attended to and any replies put back in the bag for me to take back. This is the time when the pilot sits back, has tea and hot scones and chats to the lighthouse keeper's daughters.

Finally it's time to go and the weather is turning VERY nasty. Black as your hat about a mile off now, the wind is freshening and the sky turning a funny colour. LET'S GET GOING. WHERE is my passenger? Better wait for him, can't take off without him, I wish he would hurry up. I get to the aircraft (a C337) VH-DRI, and do all my pre-flight and cockpit checks and WAIT.

Soon it starts raining, the strip starts to get very wet (it's a pindan dirt strip which ends near the sea) and still no sign of the passenger. The rain gets heavier and the wind is now really blowing and as I am VFR [visual flight rules] I elect to abandon the departure until the rain eases off. We secure the aircraft and head back to the shelter of the lighthouse. More cups of tea. During this time our passenger strolls in and announces 'are we ready to go?' He has been for a stroll down to One Arm Point and got a lift back with one of the aboriginals. I tell him we will depart as soon as the weather eases off a bit. It just gets worse. The eye of EVA is now just approaching Leveque. We play cards, we eat, we talk and finally sleep at the lighthouse. The fury of the cyclone is awesome! I remember being very frightened and concerned about the aircraft. The lighthouse keeper and I went out in the storm and drove six big star pickets

fully into the ground and tied the wings and tail down with chains. I sealed up the doors and exits as best I could and advised Derby FSU to cancel my plan.

During the next two days the cyclone passed right over us and I awoke on the morning of the 6 Dec to a calm day with no rain.

We emerged to survey the damage and the old 337 appeared undamaged. I waited all day for the strip to drain of water and did a careful inspection of the airframe (remember, I was well trained as a 'framie').

However, one thing bothered me. There appeared to be water in the cabin floor! Closer inspection revealed that there was a large space below the hull skin and the cargo pack. I opened the cargo pack door and after borrowing a brace and bit (no cordless drill those days) I bored several holes up under the bottom skin. Well! The water flowed out for hours, I estimate many, many gallons, litres, pounds, kilos! You name it. I'm eternally glad I did not attempt a take-off with all that under me. The rotation probably would have been the last straw!

Finally, I got airborne and, with my now rather subdued passenger, headed off back to Derby. But it's not over yet!

Meanwhile the cyclone had set into a rain bearing depression over Derby, and, yes, you guessed it. Derby socked in! As I approached the coast I called Flight Service (they still talked to you in those days) and one of the blokes told me that I probably wouldn't get in as the MMA Twin Otter which had just taxied out was returning to the apron. Bugger! And not a lot of fuel either! This is where the 'bush pilot' bit took over and I let down over the sea to the north of the town and flew on the water until I saw the town jetty. From there I flew down the main street to our house and from there followed the road out to the airport and lifted up over the fence and landed. As I was taxiing in to my hangar I went past the Otter who was just shutting down and he came on and said, 'Where the f—— have you come from?'

'The mail must go thru.'

Flying out of Derby on my own as a 'one-man show' involved many things. I was the clerk, cleaner, driver of freight, sold aviation fuel at our airport bowser, ferried aircraft from Derby to Perth and back for maintenance, and did medevacs for the RFDS (Royal Flying Doctor Service) when their aircraft was not available or could not get into smaller strips. No job too big or small. You name it, we did some pretty interesting things. I could go on all day with the stories, some funny, some sad and others frightening.

From Derby, I was recalled back to Perth by my company in 1974. I was retrained in bigger and newer twins and did my class one instrument rating. For the next 11 years I was to fly Cessna 310s, C402, C421, PA31 (Navajo) Aero Commanders, Beech Barons, BN Islanders, C404, Beech Super King Airs, BAE Jetstream and Citation jets.

A large variety of flying was carried out by my company and involved mainly mining charter and VIP flights. I carried many high-ranking VIPs and famous personalities over

the years and can relate many interesting stories; however, good sense and manners will not allow me to put some things in print. Ask me after a few beers!

The good (or bad!) thing about flying VIPs in a small plane is that they usually sit next to you. Some politicians are generally very polite and well mannered ... some are just a pain in the a——!

I once flew a full C402 load of 'ladies of the night' up to Kalgoorlie. Apparently there was an influx of miners in town and the local girls were 'having a rest' so reinforcements had to be flown in to (un)cover for the next 'shift'. No, there were no freebies that flight!

Soon after Cyclone Tracy had levelled Darwin, I was selected to join the evacuation process and had to get a special permit to fly into the devastated area.

Another interesting job that came my way was in June 1979, when the Skylab space station came down to earth near Esperance along the south coast of Western Australia. Myself and another pilot friend of mine flew two Cessna 310s down to Esperance and, after a briefing by some NASA officials, we flew line searches out from the town along the plotted trajectory to try to find the wreckage. We found the scattered parts the very next day halfway to Kalgoorlie. This was a very satisfactory outcome. I still have a small piece to this day.

Trans West was the first general aviation company to commence Western Australia's coastal surveillance flights along our north-west coast. Initially, we used C310 aircraft with locally recruited observers. Operationally, this was very crude, but sometimes, surprisingly effective. Soon, the low wing of the Cessna proved to be limiting so we went to using high wing Aero Commanders with much more efficiency. Sometimes the pilots were the only real observers, as the recruited 'civvies' had no formal training and merely filled the seat. However, some were good and the most natural one I ever had was an old blackfellow we got off a mission near Derby. He had bloody good eyes and I remember he once spotted an Indonesian fishing boat hidden in the mangroves just to the north of Derby. We almost missed it but he spotted some washing on the mast and on the trees just as we were about to depart the area. The Navy from Broome got them later that day.

Of course, coast watch involved lots of low flying and we had a special DCA dispensation so it was *legal*—Loved it!

Now, as you know it is a specialised role using dedicated trained crews and night equipment. Flying is never without its 'moments' so they say, and the closest call I ever had was in a Cessna 421. I will try to be brief:

The C421 is a fairly advanced light twin with turbocharged engines and pressurisation, seating about seven to nine passengers, depending on configuration. I was doing a regular run from Perth to Kalgoorlie and then down to a dirt (claypan lake actually) strip at Norseman to pick up gold bullion for the Perth Mint. I had two armed guards on board, as per usual, and a fairly decent load of gold bars in ingots all strapped in boxes. I had just loaded the last gold on at Norseman and was on my way back to Perth. It was late in the day and I had planned to climb and cruise above FL 200 back to Perth.

The take-off was normal but as I rotated things started to go a bit haywire just as I retracted the gear. The guard sitting in the right-hand seat (as they do)

yelled out that there was smoke coming from the right-hand engine. Of course, I could not see this but the engine instruments got my attention and looking out now I could see thick black smoke. I 'slotted' (shut down) the right-hand engine and made a pretty fair fist of doing the 'much trained for' EFATO. In those days, we did not have fire bottles so there was no help there. I feathered the prop and carried out a low-level single engine circuit and landed back where I had started and ordered an immediate evacuation. Outside the aircraft, the fire had really started to take hold under the engine cowl so I told the guards to get well away from the aircraft (run like sh...t) while I (yes, foolishly) ducked back inside and retrieved the handheld fire extinguisher from under my seat and raced back outside and emptied it all up into the flames.

Surprisingly, the fire went out. After a long period of time, I re-entered the cabin and called up Kalgoorlie FSU [Flight Service Unit] to advise what happened, as I had not called departure since taxiing. Long story cut short—a replacement aircraft was sent out to bring me, the guards and gold back, while a LAME (licensed aircraft maintenance engineer) came out to stay with the aircraft overnight. Subsequent investigation found the aircraft main spar too badly burnt to fly out and the wings were removed and the whole aircraft road transported back to our maintenance base at Jandakot.

The slip ring at the base of the turbocharger waste gate had come off and the turbo exhaust has torched through an oil line, which in turn became like an oxy torch and burnt onto the rear spar. The wing section was examined by metallurgists at Jandakot and sections sent to Aeronautical Research Laboratories (ARL) for analysis. Their findings were that another three to five minutes flying, the wing may have failed—certainly within 10 minutes. I still shudder thinking about it. Imagine the headlines: 'Aircraft crashes, gold bullion missing in WA desert'.

In 1985 I was sent to Amsterdam to do Fokker F28 training. This six-week course was great and I loved every minute of it. We did all simulator work and the engineering ground school at the Fokker factory. Upon return to Australia, I went to Sydney and did my endorsement and base check with East-West Airlines. We used to fly up to Tamworth from Sydney in the morning and do circuits and local all day then fly back at night. After I checked out, we (six of us, three captains and three first officers) came back to Perth and flew the next four years on the line between Perth and Karratha, Port Hedland and over to Cairns via Alice and Yulara.

These were great times. Good crews, lovely hosties and great three-day stopovers in Cairns. We were a small group, only a dozen or so, and we had the cushiest roster system ever devised.

Sadly, it all had to end. Sir Peter Abeles had taken over Ansett and East-West and I went back to the bottom of the seniority list flying as a senior first officer on Ansett's F28. This only lasted another year, as the now infamous '1989 Pilots Dispute' erupted and stuffed everything. I will not even attempt to go there with this one!

After a year out of work (flying) I was lucky enough to be selected via interviews in Perth, to train as a B747 first officer with Singapore Airlines. There were about six of us

from Ansett here in Perth who went up and began our training in 1990. We did our ground school at Changi (Singapore Airlines) and I and five others did our simulator training at Garuda in Jakarta. At the time, Singapore Airlines simulator in Changi was going flat strap, 24/7 training and some of the guys went to Hong Kong and some to Qantas in Sydney. I drew the short straw and ended up in Jakarta for Christmas Day 1990.

My check to line flight (my sector) was Singapore to Hong Kong. No doubt the Cathay boys will laugh but I had to do the old 'checker board' approach in a wild wet crosswind. I passed! I still think the check captain's departure was more frightening than my landing! I flew the old 'classics' B747-200s, 300s and combos, and 200F (freighters)—we had the old clocks and three-man crew. Singapore Airlines operated to lots of interesting destinations and, as you do in international flying, you see a fair number of exotic (and not so exotic) places. They are a good, safe airline and have very strict and professional standards. Their aircraft fleet tends to be very young compared to many other airlines and their training very good. The crews are from many different ethnic backgrounds and nationalities. You could be flying with a British captain and an Indian flight engineer one trip, and a South African and an American the next. I believe that at one stage someone counted over 23 different nationalities.

I loved landing the 'Jumbo'. After a while, I found the heavy ones easier than the very light. Crosswinds were a real challenge as you had to be careful of a pod scrape, as was rotating too hard where you ran the risk of a tail strike. The nicest part was greasing a heavy on a wet runway after just becoming visual at minimas—professionally, very rewarding.

After a short stint with Singapore Airlines we returned to Western Australia to be close to family and friends, and pick up the life we had been missing while overseas. I did another four years back up north in Derby flying for the Flying Doctor Service in Super King Airs. These were lovely, new well-equipped aircraft and I have many, many stories from those days. I then returned back to Perth and took up a job flying as a Citation jet captain. This job involved medevacs to Cocos and Christmas Islands, as well as more mining charters and VIP trips across Australia.

I once had to do a dash over to Adelaide in the middle of the night in the Citation to pick up a donated heart and get it back to Perth by a certain time, as the transplant team were waiting. This was a real touch-and-go operation. We had weather all the way and the heart was late in from Sydney for us to pick up. All the way back to Perth we worked our butts off doing the fuel calculations and getting weather updates. Past our point for fuel reserves into Perth, they slapped another 30 minutes on us and by going into Kalgoorlie for fuel the heart time would have been up. The headwinds had us beaten and we were down to one go-around by the time we got to top of descent Perth. We landed at Perth with a sniff of fuel left and the ambulance raced the icebox away like there was no tomorrow. Perhaps for someone (a young girl I believe) there was a tomorrow! We will never know. I had one hell of a job explaining the fuel docket amount to the Chief Pilot.

I look back now through the old logbooks and collection of 'wings' and it all seems like a really nice dream—a long way since RSTT, in 1958.

—*Adrian (Eddie) Edwards*

Bob Haywood and Ron Brown et al – Flight Engineers

In February 1973, a British Airways B747 from Sydney touches down at Hong Kong's Kai Tak International Airport. Two Wombats, Bob Haywood and Ron Brown, have left the security blanket of the RAAF and are about to sample 'civvy street' by joining Cathay Pacific Airways.

At the time, Cathay Pacific Airways was a very small airline—four Boeing 707 second-hand aircraft purchased from Northwest Orient Airlines, in service, with plans to purchase up to 12 in the coming two years, and six Convair 880 aircraft that were to be retired concurrent with the introduction of the B-707.

Being on the bottom of the seniority list, Bob and I were assigned to the Convair 880. The conversion course and licensing-to-type took a few months and we were then productive and earning our keep.

The route structure at this time was mainly north to Taiwan, South Korea and Japan. Southern ports were Philippines, Thailand, Singapore, Malaysia, Borneo, Indonesia and the twice weekly trips to Perth.

Over the next couple of years the B-707 fleet grew to the planned 12 aircraft and the Convair fleet was eventually retired in September 1975, the last two aircraft flown by Cathay crews to Miami.

Passenger growth in the area continued and it was soon realised that additional capacity would be required. Three aircraft types were considered for purchase, Boeing 747-200, (considered at the time to be too big), McDonnell Douglas DC-10 and Lockheed L-1011 TriStar, both three-engined aircraft. The TriStar was selected, remembering the airline was British owned and the new triple-spool Rolls-Royce RB211-22B engine powered the TriStar. This engine was a first of its type on the civil registry and the more launch customers it could attract the better for the Rolls-Royce engine manufacturers and British industry.

The first of the L-1011s arrived in 1975, two new aircraft from the Lockheed plant at Palmdale, California. It was considered at the time that the two L-1011 aircraft would satisfy the commercial requirements and, for the mid-seventies with the world coming out of recession, that was the case. However, Cathay being in the right geographical location saw Asia emerge from the travel downturn much quicker than the rest of the world and it was not long before the airline was sourcing additional aircraft to enter service.

As it turned out, someone else's misfortune became Cathay's good fortune. Firstly, Court Line, a British charter operator, collapsed and Cathay purchased their two aircraft. Eastern Air Lines, a Miami-based operator, was also experiencing difficulty. Later, Pan American Airways declared 'Chapter 11 bankruptcy' and ceased operations, with many other USA carriers in a similar situation.

At the end of 1978 Cathay had seven TriStars and nine B-707s in service. Cathay had purchased three L-1011 aircraft from Eastern Air Lines and entered into a lease agreement with them for additional aircraft. Cathay crews were issued with Federal

Aviation Administration (FAA) Flight Crew Licenses and these aircraft were operated under FAA rules and regulations.

Passenger demand continued as did the misfortunes of Eastern Air Lines, and Cathay eventually bought the leased aircraft and registered them on the Hong Kong Civil Aircraft Register. This opened the door to the purchase of many more aircraft from Eastern over the coming years. The late seventies saw a massive expansion of passengers, largely due to the success of the TriStar wide-body services to Taiwan and Japan. Additionally, in Britain the debate on traffic rights to Hong Kong was turning into an ugly fight as to which airline could fly the route. Up to this stage only British Airways was approved. Cathay Pacific won the air service agreement rights to operate to Britain and now had to purchase aircraft to do the task. Discussions had been ongoing with the Boeing Company for some years and an order was placed for one aircraft for service introduction in mid-1979. This aircraft was the first B747 to be fitted with the Rolls-Royce RB211-524 engine. Other orders were soon placed.

Obviously, with the introduction of so many aircraft, new crew had to be recruited to operate the equipment. Up to this stage in Cathay's history, aircrew were promoted to aircraft type in order of seniority (date of joining company). There was a salary differential between fleets; the more passengers the aircraft could carry, the greater the crew remuneration on that fleet.

With the L-1011 fleet now numbering 14 aircraft and the B-707 still in service, the amount of double training that would have to take place to have crew members promoted to type in order of seniority and still meet the company's expansion plans, let alone provide the 'check and training' staff for the task, was not achievable. To achieve the expansion, the company introduced common jet salary scales. Simply put, every aircrew member would be on the highest salary scale regardless of the equipment operated. The company could now recruit direct to the positions on fleets that required crew.

Among the Wombat flight engineers recruited at this time were Rob Weir and 'Blue' Featherston, who joined Cathay in February 1979 and converted to the Boeing 707. Shortly thereafter, July 1979, John Gracey and Tony Harding arrived and converted onto the Lockheed L-1011. Over the next couple of years, the plans to introduce additional B747 aircraft came to fruition and the airline route network grew from the small regional carrier we had known to a worldwide carrier. Routes to the Indian subcontinent, Middle East and Europe as well as Australia and New Zealand were added.

Taking advantage of the political situation between mainland China and Taiwan, where the requirement for passengers wishing to travel to mainland China from Taiwan meant that they had to enter and exit via Hong Kong, the L-1011 fleet was increased to 19 aircraft to satisfy this demand. Flight engineer manpower at this stage was around two hundred.

In January 1982, Rob Weir resigned to return to Australia and take up a position with the Civil Aviation Department; however, in April 1986 Rob rejoined and converted to the B747 flying the line on a worldwide route structure, a position he most competently held until his retirement in July 1997.

In the early eighties, recession again hit the airline industry and Cathay had to dig deep into its war chest to remain in business. Survive it did and with the end of the recession came an unprecedented period of growth.

In mid-1976, one of the B-707 passenger aircraft was converted to a pure freighter aircraft as the model Cathay had was fitted with a forward freight door. This was extremely successful and gave the company a new perspective on freight operations. Previous views were 'there's no money in freight'.

With the purchase of the B747 passenger aircraft, the opportunity to consider B747 freighter aircraft was raised. Again another airline's misfortune became Cathay's good fortune. This time British Airways was not emerging from recession and placed their B747F on the market. Cathay purchased the aircraft, and the freighter fleet was formed. In later years, Cathay purchased a major shareholding in a Hong Kong freight airline, Air Hong Kong (AHK), and today they work as one, with some dozen or so dedicated B747 freighter aircraft.

In the early eighties long-haul flights to Europe were conducted with stops to the Middle East, principally because the power required to operate at maximum runway take-off weight out of Hong Kong year round could not be achieved with the model of Rolls-Royce engines fitted to Cathay B747s. In 1983 Rolls-Royce produced a new hot section (turbine) and the thrust rating was increased to 53 000 pounds of static thrust per engine. Nonstop flights from Hong Kong's Kai Tak Airport Runway 13 were now, theoretically possible. The rest is history and Cathay commenced, as the first airline in the world, ultra long-haul operations with B747-200 aircraft to Europe, Canada and the United States of America. Flight times in excess of 15 hours were now commonplace. It was interesting to note that the Boeing Aircraft Company, whilst agreeing to the operational procedures adopted, had reservations as to the operation.

Cathay, as the only operator, pioneered these routes for many years and captured a brand loyalty that still exists today. No other airline flew these routes nonstop, until engine manufactures introduced larger thrust engines.

The flight engineer's role on these ultra long-haul operations was vital to the success of the flight. Fuel loading prior to departure, whereby a procedure to utilise the fuel tanks three per cent air space was introduced allowing another five ton of fuel to be loaded, in-flight fuel management and speed control ensured the aircraft reached destination with the legal fuel reserves. (Well most of the time.)

The B747 classic fleet (three-crew cockpit) increased to 17 aircraft, including 200, 300 and 200F models.

Discussions had been underway with Boeing for some years on the two-man crew cockpit concept B747. There was never any doubt that the technology was available to have this aircraft in service and Cathay was invited to Seattle to comment and assist in the cockpit design. Many hours were spent in the cockpit mock-up and later in the full flight simulator, ensuring the operator's requirements were included in the new aircraft. The B747-400 commenced service with Cathay in April 1989. Engine thrust on these aircraft was 63 000 pounds per engine.

The growth of the airline over this 20-year period was not all smooth sailing. Indeed, the airline was almost 'deep-sixed' (sunk) on a number of occasions.

The L-1011 fleet whilst having the new Rolls-Royce engine, suffered many in-flight problems in its early years. It would be true to say the engine was developed on wing by the operators and a number of the design problems were only overcome by the introduction of operational procedures, Cathay being the leader.

Likewise the B747 was subject to far too many Airworthiness Directives that had serious operational and commercial penalties imposed to satisfy regulatory authorities. Unfortunately, one size does not always fit all and to overcome the bureaucratic mindset that some regulators adopt, operational procedures had to be implemented by the airlines. Cathay Pacific Airways was also a leader in this field, ensuring at Boeing and Rolls-Royce operators' conferences, maximum flight safety was retained with minimum operational and commercial penalty.

The success of any business is its best asset and with Cathay the best asset it had was its workforce. The implementation of the operational expansion the airline underwent in a 20-year period rested with the crew. Not always a leisurely operation, indeed Cathay on many occasions, due to crew shortages, demanded the proverbial 'gallon out of a pint pot'. There were many employees within the airline who, with their experience and expertise, made the expansion possible.

Type-endorsement for a new person, or someone converting from one type to another, takes around three months. Training staff are selected from the aircrew ranks by the company and in senior positions require approval by the Civil Aviation Authority. Among these staff was Bob Haywood, who served on the Convair 880, B-707, L-1011 and the B747 fleets. Bob was invited to the Check and Training Department on the L-1011 in November 1979 as a training flight engineer. He converted to the B747 fleet in August 1980. In March 1982, Bob returned to the B-707 as Chief Flight Engineer and managed the fleet as it was withdrawn from service.

Bob then returned to the L-1011 fleet as a check engineer and conducted conversion courses, simulator and line check duties on the L-1011 aircraft, in addition to his share of line flying. February 1985 saw Bob return to the B747 as Senior Check Engineer and the next year was appointed Deputy Chief Flight Engineer of that fleet, a position he most ably held until his resignation in June 1991 when he returned to his farm in Western Australia.

John Gracey, having flown the line for many years on the L-1011, was invited to check and train on the L-1011 in November 1983. He soon achieved Senior Check Flight Engineer rank and was appointed Deputy Chief Flight Engineer L-1011 in November 1989. He was appointed Chief Flight Engineer L-1011 in February 1991, a post he held until the L-1011 was being phased out of service; an indication of the professional competency and respect John had earned during his years in Fleet Management. John was the longest serving flight engineer on the L-1011 fleet, some 15 years. John converted to the B747 in August 1994 again taking up check and training duties on that fleet until his retirement from the airline in April 1995.

It should be noted here that many of the difficulties mentioned previously with reference to technical and operational problems were the responsibility of Fleet offices. Bob and John ensured operational procedures were implemented for crews' action, should the need arise. A dollar figure could not be placed on the elimination of the effect

a high-speed rejected take-off for power loss or in-flight shutdowns and subsequent diversions has on the Airline, let alone the effect on the travelling public.

In-flight main deck fire warnings on the B747 freighter (or any airplane) is a terrifying experience for the operating crew and certainly gets the undivided attention of the regulatory authorities around the world. Thankfully, they were false warnings due to the type of cargo being carried and Cathay Flight Engineering devised an operational procedure that totally eliminated the warnings. The Boeing Company was impressed, as was Rolls-Royce with the operational procedures the airline introduced that led to the elimination of the engine malfunction that they had been trying, unsuccessfully for years, to correct by modifications.

Tony Harding also played his part in the expansion by initially flying the line and later by joining the Check and Training Department. In November 1983, Tony was checking and training on the L-1011, a period where the L-1011 fleet in aircraft numbers increased to 19, a bigger fleet than the B747 classic at only 17 aircraft. Maintenance of aircrew operating standards was ensured by the very high standards set by the check and training staff. In September 1990, Tony converted to the B747 fleet and again took up a check and training post, a position he held until his retirement in October 1995.

'Blue' Featherston having flown the line for some eight years on the B-707, L-1011 and B747 was invited to the Check and Training Department in April 1987. Initially as 'training' on the B747 and then in June 1989 was appointed 'check'. In April 1992, 'Blue' was invited to Fleet Management and appointed Deputy Chief Flight Engineer B747.

As mentioned, training of new crew and conversions was quite a task. The B747 fleet faced a problem with simulator capacity, or should I say the lack thereof. Initially, the B747 classic had only one full flight motion simulator and, with the regulatory requirements of pilots instrument ratings, pilots and flight engineers proficiency checks coupled with recurrent training and cockpit resources management (even allowing for a 24-hour operation), this created a problem.

A second simulator was purchased and 'Blue' oversaw the installation, fidelity and certification requirements for inclusion on the Hong Kong Civil Aircraft Register. Simulator training capacity was no longer a problem.

At the end of the Vietnam conflict there was a mass exodus of refugees from Vietnam to many countries. Hong Kong being just across the South China Sea was a first port of call for many and during the seventies and eighties hundreds of thousands of refugees arrived on Hong Kong shores. Some were resettled to other countries, however many were rejected by UNHCR (United Nations High Commissioner for Refugees) and had to be repatriated to Hanoi. Cathay was given the job to operate the repatriation flights. The L-1011 primarily operated the services and John Gracey handled the crewing side and 'Blue' Featherston represented Cathay in dealings with the North Vietnam authorities.

Years have passed since we left Cathay and I believe the company now operates in excess of 100 aircraft compared to the 66 when the Wombats were there. Many employees contributed to the growth and success of Cathay Pacific Airways. With the purchase of two-man crew aircraft and the winding down of the flight engineer carrying aircraft, there were many flight engineers who were deserved of, but could not be recognised by, promotion for their contribution, professionalism and expertise. As for my part, well I

was fortunate to have joined a few years earlier and that Bob had resigned, otherwise I would have been flying the line and one of these guys would be doing this article.

—Ron Brown

Commercial Pilot Warren Bridge – Mission and Charter Pilot

Papua New Guinea pre-Independence—a country geographically divided between New Guinea to the north and Papua in the south, Port Moresby the capital of Papua, and major centres Lae, Goroka and Madang in New Guinea. All government administration was under Australian Commonwealth Department of Territories, and aviation throughout both Papua and New Guinea was administered by the Australian Department of Civil Aviation (DCA). After independence in 1975, the border was eliminated and the country became a single entity ('Nuigini').

My period in New Guinea was pre-independence 1970 to 1974 inclusive, first as a contracted mission pilot and then as chief pilot for a Lae-based charter company. Apprehension and fear grabbed the gut as first impressions sunk in—the formidable terrain and those tiny strips I was expected to cope with. Add to this the extremes of weather and my relative experience—could I actually handle this? Several strips were outstations serviced only by mission pilots, with many on a mountainside or up a narrow gorge. Tapin, the most extreme I can recall, was a mission strip near Madang; around 800 feet long, 5000 feet AGL, with a dogleg. We did have a super STOL Cessna 182, though—VH-RAJ with canard elevators, four-stage Fowler flaps and aileron-activated wing fences, and it flew like a helicopter.

New pilots spent three months in the right-hand seat to become familiar with the local conditions—the tropical heat and consequent high density altitude up to 4000 feet at sea level knocks performance about a bit. It also took some getting used to, cruising at 10 000 or 12 000 feet with trees flashing past the windows. As mentioned, aviation was controlled by Australian DCA to their standards and flight rules, but because of local terrain a few rules were 'bent' a little. Landings and take-offs into wind were not an option. On approaching the average bush strip, a glance at the wind sock—if there was one—only indicated what a hard time you were going to have on finals, with a quartering tailwind and an overshoot impossible. Thank goodness for the slope—at times up to 17 per cent (Marawaka)—at least you would be able to pull it up. In fact, some strips needed full power after touchdown to get up to dispersal at the top end!

Pre-flight weather briefing was 'first man airborne is the forecaster' and the day's operations were conducted on airborne reports. We coded them 1 to 3—'1' meant 'OK', '2' meant 'Maybe', and '3' meant 'Stay in Bed'. If actual conditions were required by air traffic control and were below minimum, we would transmit the regulation minimum of visibility and cloud followed by 'RS' ('Ratshit', don't believe it). Navigation was purely familiarity with the terrain, knowing all the valleys, peaks, saddles and gaps, and to where they led. We could usually recognise terrain, even when operating on top of cloud, as the cloud cover would dip and rise, taking the shape of the terrain.

A particular hazard with mountain flying was the anabatic (updraft) and katabatic (downdraft) wind effects when approaching thresholds on the edge of sheer drops, or crossing saddles or gaps en route. We would fly parallel to the ridge and, if we encountered a 'Kat', turn away; if an 'Ana', roll over the ridge. At around 10 000 feet these wind effects were quite strong—with strips, the wind sock helped but sometimes we would request smoke at the threshold. When flying like this on a daily basis, you get quite adept at things you should not really do, like sideslipping to lose height, and flap dumping when floating in ground effect, and consistently pushing the limit of visual meteorological conditions. We did lose a lot of pilots in those years (there but for the grace of God ...) and I spent many hours contour flying valleys and rivers for lost aircraft.

I had two incidents, one serious and one minor. The first (serious) was on approach to a strip in the Morobe area after a glide descent from about 8000 feet. I set up a slight undershoot then went for full power which I did not seem to get. DCA wrote it up as attempting to out-climb rising terrain. Suffice to say I could not make the strip and opted for a banana plot in a native village and stalled it into the banana trees. The aircraft broke its back and lost both wings. My two passengers (locals) were thrown into the bush and ran off, while I sustained a broken kneecap and a severe bash in the chest from the control column. The fuselage ended up as a chicken coop in an adjoining village. I was not interviewed or approached by DCA in relation to the accident.

The second incident (minor) was when the engine ingested a bit of aluminium (50 cent size) which had broken off the air intake duct. This caused reduced power and rough running, and I was committed to a landing as soon as possible on the nearest bush strip, Wagau in the Snake Valley. I managed to get it down without damage, even though the engine stopped on finals.

There were some lighter moments, of course, in this very satisfying time in New Guinea. Medevacs (medical evacuations) were quite common as people of the remote and primitive villages gained more contact with modern life. There was a real bushman one time who was coming to Lae for medical treatment—he was totally naked with only a tapa cloth of beaten bark over his head like a long cloak. He had never seen an aircraft before and we had to coax him on board beside me. He refused the seat belt, and I thought he was going to die on me when I started up. When I turned left he rotated to the right, backed up against the side window. I wondered what he would do if I turned right, and sure enough he rotated back again and kept going, ending up with his head in my lap. I propped him back up and he seemed to settle down, but you should have seen his reaction when we cleared the last range and 180 degrees of Pacific Ocean appeared!

We had to evacuate sometimes following intertribal disputes and one time I was to pick up a villager with a cut arm, I was shocked to see that it had been severed at the elbow, and he did not make it to Lae. Another time, a mother and son were on board and the young fellow was really playing up, lying on the rear seat and kicking out the window at 1200 feet. After I had told him I would throw him out if he did not behave, his mother hit him once, knocking him unconscious, and put him under her feet on the floor where he remained unconscious till we landed. (She really must have thought I would throw him out!)

Bullen's Circus went to New Guinea in the 1970s with their elephants. Prior to the shows, all the operators including myself had to drop hundreds of leaflets on villages,

asking villagers not to spear or shoot the elephants and warning them that eating elephant would cause bellyache!

Speaking of animals, I would always put any dogs or piglets into the belly pod of the Cessna 206 because they would always make a mess. Pigs are a sign of wealth and the locals are very protective of them. Once I lost two out of the belly and it took all my powers of persuasion and outright lies to convince the owner that I had not put any pigs on board!

And yes, I had a baby born on board while evacuating an expectant mother who had been in labour for two days.

Catching on quickly to the 'pidgin' language was a great advantage—in fact, a necessity. There were hundreds of local languages throughout New Guinea, but 'pidgin' was universal. To this day, I still use some phrases and terms from those times.

To this day, too, most times when family and friends get together and the beers flow, I love to relate more stories from my flying days in New Guinea—and to have a family who find it so interesting, is good. In fact, life is good, and I know I owe so much to how it all began, 50 years ago in Wagga as a Wombat.

—Warren Bridge

Private Pilot George Dean – Flying Pastor

The aircraft was merely a very practical means of covering the distances in a reasonable time frame. My area of responsibility took in a chunk of outback Queensland every bit as large as the State of Victoria.

When I finally became serious in my determination to learn to fly, I did not imagine how that decision would change my life and that of my family.

I commenced my training at Archerfield in 1979, but in October of that year we lost our 9-year-old daughter in an accident, and everything seemed to lose its challenge. It took until 1984 for me to become motivated to recommence training, and I obtained my Restricted Private Pilot Licence (PPL) that year.

At that stage, with my goal of learning to fly achieved, and being unable to justify the extra expense of an unrestricted licence, I did not think that flying had any future for me. However several months later I was asked to take over the running of Outback Aerial Mission, based in Longreach, which gave me the justification to pursue my navigation training. I obtained my Unrestricted PPL a few months prior to relocating in Longreach in January 1986.

I should point out here, in case some are wondering why an inexperienced pilot would be asked to fill such a position, that the primary requirement was that of a pastor, not a pilot; the aircraft was merely a very practical means of covering the distances in a reasonable time frame. My area of responsibility took in a chunk of outback Queensland every bit as large as the State of Victoria.

Outback flying has its own unique challenges, especially when operating something as underpowered as a Cessna 172. Things as natural as high temperatures, constant

summer thermals, the occasional ‘dust devils’ and the not so uncommon sight of kangaroos breaking cover and bounding across the strip when I was on short final were just the basic ingredients. Add to that the man-made ingredients of ‘homemade’ airstrips of varying length and condition at many of the properties I visited, and of course the need to keep the air intake filter clean and to constantly check the propeller for stone damage, all combined to ‘make life interesting.’

On the positive side, there were a couple of distinct advantages for a novice pilot, namely very few hills and very few clouds. And the flying in wintertime—well how ‘heavenly’ was that? The thermals in summer made it impossible to maintain height within plus or minus 200 feet, but in winter—once the aircraft was trimmed for cruise—it seemed as motionless as though parked on the ground.

Imagine my surprise though, one beautiful winter’s morning with the aircraft trimmed as described, and two female passengers on board, to find the aircraft inexplicably gaining height, very definitely and suddenly out of trim. My front-seat passenger had decided it was time to attend to her make-up and, in the process, hung her make-up purse on a very convenient little lever in front of her. Fortunately, I was able to reverse the flaps before they went past 20 degrees.

My scariest moments (apart from the time I actually wrote off the 172) were coming in to land on a little-used graded strip at a property near Yaraka. I noted some power poles at right angles to the strip and made certain I had good height clearance. Glancing down as I passed overhead, I thought it strange that I could not see any powerlines. Resuming my focus for landing, I was aghast to see the rapid approach and disappearance over the top of the Cessna of the recently relocated powerline. I fully expected the fin to get caught, but thankfully I was able to complete my landing without further surprises. With weak and shaking knees (not your usual ‘kneetrembler’) I climbed out and surveyed my approach path. I then realised how merciful the Good Lord is, as every few seconds the line gave a definite twitch—the anti-collision beacon (funny name that) on top of the fin had literally just scraped under the cable.

At the risk of giving the impression I was a bad insurance risk on every flight I made, I suppose an account of how to write off an aircraft is called for.

One hot afternoon in early December with my wife and our friend Eva, the Salvation Army officer from Longreach, were departing from a dirt strip at the property we were visiting. We became airborne, but immediately began to sink with less than a 100 metres to run before the end of the strip, indicated by the tree-lined dry creek bed just beyond. It was quite amazing that time seemed to go slowly as I considered my options. Should I select one stage of flap and try to balloon the aircraft over the obstructions in my path, or cut the power and hit the trees with the wheels in ground contact? The risk of the former was that I would hit the trees several feet above the ground and spear into them, which could well prove fatal, so I chose the latter, taking out a section of fence before running through to the onslaught, but all the time slowing us.

The left wing then hit a more substantial tree which slewed us around causing the tail to come up which meant we were ‘wheelbarrowing’ on the nose wheel until it collapsed. This resulted in the aircraft doing a slow and ‘graceful’ flip onto its back. We were all able to vacate the wreck without external help, but the glug glug of fuel escaping gave

us some motivation for doing so quickly. The cause was put down to windshear by the investigators, with a full payout by the insurance company. This enabled the purchase of the more suitable and more powerful Cessna 182, with its constant speed propeller.

I could relate other stories of meeting Frith and Duncan Fysh, nephews of Sir Hudson Fysh, of many visits to Dagworth Station of *Waltzing Matilda* and 'Banjo' Paterson fame, of marathon flights in the 172 to Moa Island in the Torres Strait or Longreach to Forest Hill for a Wombat reunion, but I will desist.

For the most part, my thousand hours of outback flying was an enjoyable and rewarding experience. It is hoped that our visits to isolated families and our involvement in the many aspects of outback life has been an encouragement to the resilient yet hard-pressed men and women of the west. My life certainly, and I hope theirs, has been richer as a result. To God be the Glory.

—George Dean

SUPPLEMENTARY FLIGHT CREWS

Known during their service with flying squadrons as 'flight fitters', 'flying techos' or 'flying spanners', many Wombats spent numerous hours in the company of RAAF aircrew during deployments or on test flights.

These flying opportunities were not readily available in squadrons with single-seat aircraft but were very prevalent on transport or helicopter squadrons. Test flights were very common on Iroquois helicopters, where any maintenance on the main or tail rotors normally required test flights to check and set flight parameters, such as autorotation RPM, vibration levels and available engine power.

As Senior Engineering Officer (SENGO) of 5 Squadron and 9 Squadron, Mac Weller spent many hours in Iroquois on test and ferry flights. At 5 Squadron, he often accompanied the squadron test pilot, then Flying Officer Angus Houston (later to become Air Chief Marshal Houston, Chief of the Defence Force) on squadron test flights.

There were also times, particularly during the early introduction of an aircraft, where Wombat tradesmen were purloined by squadron flyers to perform aircrew functions. In the early days of 9 Squadron's operations in Vietnam, tradesman (generally 'gunnies') were used to act as door gunners. Similarly, engine fitters could become pseudo aircrew as flight engineers. For instance, at 34 Squadron, Terry Wilson and Rob Weir were employed as flight engineers on Metropolitan Convair VIP aircraft.

A Wombat as a 'Flying Techo'

An Iroquois provided marvellous opportunities for air and ground crews to share flying experiences. With frequent deployments to remote areas and being a machine that required numerous checks and adjustments to flying qualities, the Iroquois required engineer officers and flight fitters to accompany aircrew on test and ferry flights. Sometimes, however, the remote areas of operations could lead to interesting situations.

During his time as SENGO of 5 Squadron, Mac Weller was appointed as an engineer officer to an accident investigation team investigating the crash of an Iroquois from their sister 9 Squadron on an 8000-foot mountain top in PNG. Fortuitously, a 5 Squadron Iroquois was in the area on operations and it was tasked to fly the team from Goroka to the crash site on Mount Bosavi. The 5 Squadron pilot happened to be Flying Officer Angus Houston and he flew without incident to the mountain top and deposited Weller and a pilot (Ian Satrapa) late in the afternoon onto to a very small pinnacle at a hover.

Because the pinnacle was too small to permit a landing, Weller and Satrapa clambered several hundred feet down the face of the mountain to the crash site and proceeded to conduct their investigations. Flying Officer Houston departed with a promise to collect the two before nightfall.

With their survey complete, they scrambled back up the mountain and became increasingly aware that, with thick cloud enveloping the mountain, their recovery that day was in jeopardy. Their fears were confirmed as they heard but could not see the Huey and eventually Flying Officer Houston advised by radio that he had to return to the base of the mountain and recovery was not possible that night.

The two had no food, no shelter and wore only thin flying suits. Fortunately, a lone Army surveyor had lived on the mountain top for a week or so and was able to share some food and had a spare 'hoochie'. So, tired and thoroughly miserable, the two set about making the best of a night on a PNG mountain top in freezing conditions and with the prospect of a tropical downpour. Knowing also, that their squadron colleague was bunkered down at the base of the mountain in a mission settlement did not help!

Because the pinnacle was so small, and both of them being extremely tired, they wrapped their hoochie around the legs of a metal trig tripod to form a sort of tent. About midnight, a storm blew up and the two quickly reasoned that being under the tripod was not a smart idea at all. But there was nowhere to go and they stuck it out. Several lightning strikes hit the tripod through the night, the metal glowed and the ground stank of a burning smell. The Army guy had his cheek singed as a strike went down a radio antenna lying against his face. Then it poured rain.

The day broke into a magical calm sunny morning with waterfalls tumbling off the surrounding peaks and the sheen of rainbows amongst the green jungle. Even better was the sound of the whap-whap-whap of the Iroquois lifting off from the plains far below.

But Mac has never quite forgiven one Flying Officer Angus Houston for leaving him stranded overnight on a PNG mountain top!⁷³

—*Mac Weller*

⁷³ In reality, Mac has taken some liberty with this story. Flying Officer Houston was a very responsible and proficient helicopter pilot and the cloud on Mount Bosavi was certainly not of his doing or responsibility!

CHAPTER 10

THE STIRZAKER FACTOR

BY GEORGE!

A warrant officer was posted into the Apprentice Squadron in January 1959. This seemingly insignificant event was to change many young Wombat lives. The new man was George Stirzaker; his name was to become synonymous with the Wombat intake. Because of an officer manning deficiency, George was given the task of office-in-charge of the Wombats. He heralded his arrival by indicating his disgust for the standard of cleanliness and orderliness in the Wombat huts, and for a week he ordered a re-panic every night. Despite their grumbles and disparaging remarks about the posting in of another Warrant Officer Disciplinary (WOD), the Wombats realised there was something different about George. For a relatively young age (40 years), he had the weathered face and the presence of a man who had 'been there, done that'. Additionally, he was small in stature, like a lot of the apprentices, and did not have a booming voice. The Wombats would not know for some time that he was a Rat of Tobruk during World War II.

Most of the Apprentice Squadron staff had previous postings to a recruit training unit. Here, all adult airmen and airwomen (18 to 35 years of age, at the time) were indoctrinated into the Service with a three-month intensive training program, referred to as General Service Training. This catch-all name included lessons in the traditions of the RAAF and sessions of drill under strict disciplinary conditions. Staff posted to the Apprentice Squadron from this environment were afforded no special training in the handling of young apprentices other than a preliminary brief on the role which was:

The Scheme ... imparts a sound knowledge of the Service, its traditions, and customs, and instils in apprentices their responsibility as members of the Royal Australian Air Force. During the three-year period of apprenticeship individual members assimilate Service discipline ...

In essence, the requirements for General Service Training of apprentices were the same as for adults with one significant difference: apprentices were subject to trainee-type discipline for three years—not just three months.

So, from an apprentice's perspective, joining the RAAF was the most significant event in our young life. Most had never had a job; this was our first time away from home. Although somewhat naive, we knew that the RAAF were in control our lives; our parents were no longer there to protect us and, if we were going to make a go of it, we would have to do so on our own merits. But the staff had little empathy for the young, despite the RAAF giving assurances to parents that special conditions would apply to

apprentices. The Wombats knew there would be constraints on their freedom, but they did not expect the discipline to be so strict all of the time. The fact that the apprentices were shaking off pubescence and moving through adolescence away from family was rarely appreciated by the staff. Additionally, the system was not geared to cater for very immature individuals needing greater understanding.

So what was George faced with when he arrived at Wagga—the responsibility for the General Service Training and development of apprentices, which included drill training and parades, and the maintenance and security of a rifle, their kit and equipment.

For apprentices, the amount of time maintaining oneself, and one's personal and Service equipment was considerable. For the smallest indiscretion, the staff handed out arbitrary punishment without recourse to counsel. This punishment (eg. mess duty) led to the erosion of their free time.

Apprentices were restricted to the base during the week, whereas the weekends involved limited leave with curfews. Here were boys who were sworn at, demeaned by unhelpful criticism and generally given a hard time. To get by, the Wombats bonded as an intake—somewhat rebellious to authority.



Presentation to George – Wagga Reunion 1993

Soon after his arrival, George witnessed what was a too common occurrence. The Commanding Officer of the Apprentice Squadron had lined up the Wombats in their flights at 'attention' and he was bellowing his disapproval about how badly they were performing and behaving. Standing at the back, George gritted his teeth, taking the berating by the Commanding Officer personally and attempting to control himself from speaking out. But he knew that the sentiments of what was being said were held by

most of the staff, including the trade instructors. In essence, the Wombats deliberately marched terribly, were not punctual, were impolite, rude, and rowdy, and displayed no apparent self-discipline.

A story goes that one night, about this time; the Wombats were making a nuisance of themselves in the barracks by making excessive noise. An officer, who lived on the base, was so alarmed he raced into the Officers Mess and shouted to the Orderly Officer, 'The Wombats are revolting!' The Orderly Officer reputedly replied with nonchalance, 'Aren't they'. From what George had seen of the Wombats in a short time, many of their misdemeanours were harmless pranks, probably due to high spirits and not inherent delinquency. And he was impressed with the solidarity of the Wombats, albeit for the wrong reasons. The job to turn the situation around was in front of George and his pride was on the line. He knew that he would have to call on all his past experiences: but he had plenty.

GEORGE STIRZAKER – A BIOGRAPHY

George Stirzaker was born on 28 August 1918 in Andover, South England. He was christened on a ship to Australia and his family settled in Hobart. His father was employed in a copper mine but suffered tuberculosis after being gassed in France during World War I. For his father's health, the family moved to the warmer climes of Brisbane. George remembered the kindness of his father. Despite his illness, he used to make toys for George from cardboard. His father subsequently died in 1926. Later his mother was given a position as postmistress at Thulimbah, a village on the main railway line 13 kilometres from Stanthorpe. Attendance at the Thulimbah State School meant a 6.5-kilometre walk each day for George and his younger brother. His mother remarried but, because of George's incompatibility with his stepfather, including many brutal beatings, he ran away from home at the age of 15 years. With no money, but by various means of travel, he reached Kingaroy. While there he obtained a job on a dairy at Ironpot Creek, some 64 kilometres west of Kingaroy. He later worked on a citrus orchard and a rose nursery where he learnt to care for trees and plants.

George joined the Australian Imperial Force (AIF) as an infantryman, at the age of 20. He sailed from Australia in May 1940 with the 2/9th Battalion and eventually, after many destinations and detours, arrived at Gourock on the Forth of Clyde, Scotland. Soon he was moved to Salisbury Plain in the south of England for further training. During the Battle of Britain, he watched the dogfights between the German Luftwaffe and the RAF aircraft. George's battalion was machine-gunned by a German aircraft during the battle.

Soon the battalion was ordered to the Middle East and camped at Ikingi Maryut near the Suez Canal in Egypt. George's first taste of offensive action involved an assault on an Italian outpost about 200 miles (320 kilometres) south of Tobruk. Unfortunately, the support artillery fell short as they attacked; 10 were killed and George was injured. He had shrapnel lodged in an upper arm muscle but the doctor's decided not to remove it. Later, he rejoined his battalion on the way to Tobruk into Desert Fox (General Erwin Rommel) territory. The perimeter of control for the Allies was 13 kilometres from Tobruk Harbour and about 40 kilometres in length—a giant semicircle—with Rommel

GEORGE STIRZAKER, OUR HERO!

*It's like you've been around forever, though we know that's not the case,
but you were there when we were young, causing trouble on the Base.
A bunch of youths, smart-mouthed and clever, 'unruly' was the word
from Staff whose biased verdict stung, unfair and most absurd.*

*It's true, before you came along, when 'Backa' Burke was there
we pushed the boundaries to the hilt, as teens will always dare.
'We'll make these Wombats sing our song, and toe the line they must.
We'll make their youthful spirits wilt or grind them into dust.'*

*Then came a Desert Rat our way, a Pom turned Aussie true,
Who'd fought against the Desert Fox in bloody World War II.
There Rommel's forces faced delay, and faced their first set-back.
Tobruk gave strength, and strength unlocks – and beats the 'Blitzkrieg' tack.*

*Yes, you were there throughout those years, though we often didn't know
the risks you took standing by us then, unfazed by pomp and show.
You stood your ground, ignored your fears, resisted threat and jeer
from higher ranks but lesser men, mouthing 'Wombats' with a sneer;*

*You were sometimes tough, but always fair, we forever are indebted.
You saw potential – encouraged us-- in fact, aided and abetted.
Your inspiration made us dare to hang on that bit longer,
Your wisdom and belief in us, has made us that bit stronger.*

*So George once more we honour you, and give our heartfelt thanks.
From rabble uncontrollable, from all within the ranks,
for setting us on rails true, and putting us on track,
this rabble uncontrollable, whom only you could crack.*

on one side, and the Mediterranean on the other. The conditions at Tobruk were most unpleasant. There were fleas, flies and lots of sand and extreme heat. All their food came from tins as there were no fresh vegetables or fruit. The lack of a balanced diet caused horrible desert sores. There was an airstrip close to the harbour from where the RAF's No 73 Squadron operated. Through a friend he knew in 73 Squadron, George had met all the pilots while in England. Unfortunately, every one of them was killed defending Tobruk, and George had the sad duty of helping to bury the last pilot.

The name 'Rats' was given to them by an English renegade named Lord Haw-Haw, who used propaganda radio broadcasts from Germany to dishearten the Allies. He said, 'The Australian soldiers lived in holes in the ground like rats.' But the derogatory label was turned around into a term of endearment; the 'Rats of Tobruk' is today one of the most recognised and revered names in Australian military history.

Digging in the rocky soil was impossible, so rock piles and caves were used for protection. The battalion was always busy, making the defences stronger, laying mines, patrolling, manning listening posts, bringing up water and ammunition and retrieving the wounded and the dead. They ruled 'no-man's-land,' where they shot out the searchlights erected by the enemy to catch them. They slept fleetingly and never removed their boots or changed their clothes. George rarely talked about the actual fighting at Tobruk but on one occasion he remarked, 'We would allow the German tanks to roll past and then open up with Vickers machine guns on the infantry.' He often recalled the camaraderie of the troops whether in battle or during the quiet periods. Their policy was 'No Surrender!' (which eventually became the Rats of Tobruk motto). When they were not fighting, they often got into mischief. For a bit of a lark, George and his mates raided a food dump under the noses of the Military Police.

Tobruk was a battle where the troops were hopelessly outgunned, but the Tobruk garrison, involving George's 2/9th Battalion, helped delay the advance of the Afrika Korps. The campaign was of considerable strategic importance, and by holding the Germans, the Allies were able to build up their supplies and manpower in Egypt for a later, successful assault. Of the approximate 15 000 Australians in the campaign, 776 were killed, 212 wounded, 65 missing and 954 became prisoners of war. A Victoria Cross (VC) was awarded posthumously to Corporal Jack Edmondson.

The battalion then went by road in blitz wagons to Syria and allotted positions near the Turkish border. Unfortunately, a bladder problem put George in hospital in Egypt for a prolonged stay, and he was eventually evacuated to Australia. When he recovered, he rejoined the battalion in Australia. But George's bladder problem flared again and he was discharged as medically unfit in July 1942. He then met Mary during VE Day (Victory in Europe) celebrations in Brisbane and they married in 1946. In time, they had four children, Terry, Dorothy, John and Kate. Three of them have degrees and all have good jobs. He was inordinately proud of his family and the support they gave him.

After a few jobs in Queensland, George joined the RAAF as a mechanic. But before the course started, the mustering of Drill Instructor became available. Because of his Army background, George believed this mustering would be more suitable. During postings to Richmond and Amberley he trained recruits and quickly moved through the ranks from corporal to warrant officer. While at Amberley, he was awarded the British

Empire Medal (BEM), which was presented by Her Majesty The Queen during her visit to Australia in 1954. He had a brief stint in Thailand, and during a subsequent posting to Canberra, he trained National Service recruits. From Canberra he was posted to Richmond for further recruit training. A long stay in hospital because of a bout of golden staph led to a medical posting to the Apprentice Squadron in 1959.

Before Wagga, George's career in the RAAF was very similar to many of his peers. It could have been expected that he would handle apprentices in the same way as the resident staff. However, this was not the case: George was different. To understand why, there is a need to reflect on George's life, both as a boy and in the Army. His childhood experiences taught him the importance of kindness and consideration when dealing with young people; he knew the loneliness and despair that came from being away from home and family at the age of fifteen. George's experience on the battlefield taught him many things. He had seen what it took to succeed under adversity. This instilled in George a defiant resolve to tenaciously pursue objectives. He served under many styles of leadership and understood intuitively what worked in different situations. He learnt the value of teamwork and the necessary dependence on others in the group situation. George knew that doing a job properly promoted pride. He also appreciated that bonding was achieved by shared experiences: even those against the establishment. George anticipated his war service and his BEM award would set him apart from the other apprentice staff and, with a bit of bluff, he could use his status as a lever to get his own way.

It is interesting to know firsthand what George thought of the Wombats soon after he arrived at Wagga:

I was told that this intake of apprentices was unruly, staff had a poor opinion of them and, in all, they caused everyone problems and the more they tried to have these Wombats toe the line the worse it became. I soon realised that the problem was at the top, and I soon found the problems: so began my task of guiding those young apprentices to the right set of rails. My efforts resulted in my falling foul of the Group Captain, Warrant Officer Disciplinary and Commanding Office Apprentice Squadron, but I was enjoying the results I wanted.

Changes in the Wombats did come—but not overnight. The Wombats knew George meant business by the extra panics episode and leave restrictions. However, the word soon got around that this new Warrant Officer was tough but fair. George's approach acknowledged the differences in the maturity of individuals. His staff started to moderate their handling of the Wombats, and personal mistakes were corrected with constructive criticism and not by abusive words. When a Wombat broke the Air Force Laws, George weighed up the situation and went to 'bat' for them if he thought no real harm was done. The staff, whatever rank, knew that if they treated the Wombats unfairly, they would have George to deal with. Wombat spirit lifted considerably and it became okay to make an honest mistake as long as improvement followed. George convinced the Wombats that it was 'cool' to be smart and proud of their accomplishments. The strong Wombat

identity, which had arisen from harsh treatment, was replaced instead with pride in getting things right as a group. George was a man who had been a 'real soldier'; whose knowledge of life was respected both by the staff and the Wombats.

Many incidents endeared George to the Wombats. On one occasion, upon returning from town patrol, he investigated a disturbance in the quarters. Here he found a Wombat clearly under the weather from too much alcohol. His mates were trying to rectify the situation by applying a cold shower. On questioning one of the helpers, the reply to George was, 'I think it was something he ate, Sir'. By this time the Orderly Officer was alerted and the Wombat was charged for drunkenness. George was called as the main witness at the subsequent charge but stuck to the 'something-he-ate' story. The prosecuting officer gave the 'guilty' Wombat the benefit of the doubt and dismissed the charge.

On another occasion, a Wombat decided to take a chance and spend a weekend in a capital city with his girlfriend. Another Wombat was alerted to answer the absent Wombat's name during the Sunday church roll call. While our Wombat was driving through Yass he 'pranged' the car and was taken to hospital. He was discharged on the Sunday and the hospital promptly billed the RAAF in Wagga. Our Wombat knew that he could be charged for being absent without leave (AWL), plus the more general charge of not notifying the medical staff at the base. Putting his trust in George, the errant Wombat 'came clean' and told him the sorry story. George, by devious means, intercepted the medical bill before it reached anybody with authority in the Apprentice Squadron. The Wombat escaped with only a few words from George and a bill to pay.

Compulsory church on Sunday was always a concern to the Wombats. Although this obligatory arrangement was due to a commitment by the RAAF to the parents, church attendance interrupted the Wombats' valuable free time. The Roman Catholic padre heard about these complaints and suggested that any Wombat was welcome to come to his service, which was considerably shorter than the Anglican service. For a few weeks attendance at the Catholic service skyrocketed. The Church of England padre complained to George about his quickly diminishing flock and insisted that George rectify the situation. Without hesitation, George told the C of E padre that the onus was on him to shorten his service. Obviously, this was not the response the padre wanted, but he was resigned to the fact that George was not going to order the Wombats to return to his service. Also, just as a sweetener, George threatened to encourage a large number of Wombats to change religion from Church of England to Roman Catholic. That threat certainly got the attention of the padre.

It was not unusual for Wombats to sneak out of camp without a leave pass and head for town. Often this was done at night and, if necessary, by foiling the duty staff bed check with a pillow and blanket placed strategically in the bed. On one such occasion, two of the Wombats were caught in town by the town patrol. Fortunately, they had the presence of mind to say very little to their captors, and after they had their names taken, hurried back to the base. Knowing they could be charged for being AWL, the story was spilled to George in the hope of some subsequent amelioration of their misdemeanour. George did better than that and signed two leave passes retrospectively. The AWL charge was avoided, although the Wombats did get a 'rap over the knuckles' from George.

The Wombat's third-year bivouac turned out to be very enjoyable, despite 'roughing it' in the Murraguldrrie State Forest under tents for a week. George was in his element as he was able to display his aerodrome defence skills and a few Army tricks. Of particular interest was his practical instruction for laying trip-wire mines. However, Wombats were quick learners and someone threw a thunderflash (used to simulate grenade explosions) into the staff tent while the occupants, including George, slept. As could be expected in a confined space, the deafening explosion scared 'the pants off' the staff, including the officer-in-charge. The tent filled with smouldering pieces of cardboard and acrid smoke. The chief did not get the joke, but was reluctant to take any action because of George's popularity with the Wombats even when another exploded under the staff lunch table, which George admitted to detonating.

As we came to the end of our third year, graduation loomed as a very important event. Just as the Wombats were gearing up to learn the complex drill required for the graduation parade, George was unexpectedly posted. Who was behind this posting will never be known, but there is a suspicion that some jealous person above George did not want him to have the satisfaction of graduating the Wombats. The Wombats were not to be denied, and a hostile delegation led by the flight sergeant apprentices confronted the Commanding Officer. After a lengthy meeting, the Commanding Officer agreed to represent the Wombat's case to a higher authority and the posting was subsequently cancelled. This incident typified the high regard the Wombats had for George.

Unfortunately, the graduation saga continued. Graduation also involved a ball—a long apprentice tradition. The Wombats had spent weeks planning this big event, from designing and sending out invitations, to decorating the Base Gymnasium. On the days before the graduation, parents and friends began to make their way to Wagga, with ball attire recently made or purchased. However, a hepatitis scare on the base sent the medical staff into panic and, in an apparent kneejerk decision, the ball was cancelled. The Wombats did not take the news kindly. Frustration led to some being on the brink of causing damage around the base, although most expressed their displeasure by making a lot of noise. George quickly brought the situation under control and told the Wombats to put all their energies into the graduation parade.

George had planned a routine for the parade, which was not only difficult, but also different to traditional parades. This meant that rehearsals were long and very testing in the hot sun. The Wombats responded, and the loss of their graduation ball was the trigger for an all-out assault on producing the best possible result. The degree of difficulty was epitomised by a march past in slow time to the tune of *Greensleeves*: drill that had not been attempted before at an apprentice graduation parade. A controversial aspect of the parade was the music chosen, the swinging *Saint Louis Blues*, for the march past in quick time. This tune contrasted strongly with the conventional marching music normally played by the RAAF Central Band.

The precision of the parade was exceptional. The resulting proud and confident spring in the Wombats' step emulated George's renowned sprightly gait. After it was over, one very senior officer, who had seen the Point Cook cadet graduation the week before, remarked that the Wombat's presentation was superior. George revelled in all the praise because the parade's success was final proof of the faith he had placed in the

Wombats. He was called over by the parade reviewing officer, an air vice-marshal, who inquired how he obtained such a high standard. George replied modestly but with some relish, 'Sir, when you have the right ingredients the task is easy and rewarding.'

Weeks before the graduation, the Wombats decided that George's contribution to their upbringing should be rewarded in a tangible way. The Wombats took up a collection and bought an air conditioner for his house. In those days, home air conditioners were very expensive and only a few of the 'well-off' had them. When George was presented with the machine, he was stunned, and for a few moments he was uncharacteristically lost for words. Mary and he were most appreciative and it kept them cool, to the envy of their neighbours, for many hot Wagga summers. George was eventually posted to Edinburgh in South Australia. As his eldest son was completing Year 12, he decided not to go—even giving some thoughts to resigning. After a short time he was re-posted to East Sale in Victoria but went unaccompanied. When he eventually left the RAAF after 17 years, he returned to Wagga in 1966.

Some years later, one of the Wombats had a RAAF appointment that allowed him privy to George's personnel record and reports. This Wombat read with some sadness, that George's opportunity for commission had been adversely affected by his protection and support of the Wombats while at Wagga, and his strong and fearless defence of Wombats in trouble. That was George.

At the age of 47 he found he was too old for most jobs, although skilled in leadership. Undaunted, he turned his hobby of horticulture into a career, exploiting his two years on a citrus orchard and in a rose nursery where he was taught budding, grafting and pruning. He became a gardener at Calvary Hospital in Wagga Wagga for seven years and also cared for the gardens of a number of clients. He established a rose garden in the Memorial Park, which bears his name, and helped establish the Chinese Garden in the Botanical Gardens. While in Tobruk, George saw a lone fig tree, which had lost all its leaves because of the battle, growing out of a cave. The tree survived the war, so in remembrance of the Tobruk campaign, George planted a symbolic fig tree in the grounds of the Kapooka Army Chapel.

During George's retirement years he kept himself busy with many other activities. At one stage he had over 200 bonsai plants and started the Wagga Wagga Bonsai Club. He had a reputation that extended to holding bonsai workshops as far as Queensland and Canberra. George also maintained an interest in classical music and was pleased and proud that his eldest son Terry was the principal clarinettist in the Sydney Elizabethan Orchestra. George was President of the Riverina and Southern Districts Rats of Tobruk Association until its members became too old to travel. The association sponsored a platoon at the Recruit Training Battalion Kapooka, and George was a regular visitor on graduation days to present a perpetual shield. He was an avid reader and possessed a large library of books associated with the armed services of the Free World. While in the RAAF, he flew in aircraft as much as possible. One of the highlights of George's career was, 'being in the second seat of a Mosquito aircraft doing aerobatics with one engine cut'. Consequently, he maintained a keen interest in aircraft and model aircraft during retirement.

George and the Wombats kept close company over the years. The Wombats organised reunions every five years—the first in 1973. George attended all seven reunions and was looking forward to attending the 2008 reunion, marking the 50th year of the Wombats. At each formal reunion, George was easily persuaded to make a speech. During these speeches he repeatedly said that he found pleasure in knowing how successful the Wombats had become. When Wombats passed through Wagga Wagga, George and Mary were always quick with a warm welcome, a cup of tea and biscuits. In the company of Wombats, George made many visits, such as those to the Wombat dedication plaque unveiling ceremony in Canberra, the RAAF Museum at Point Cook, the Shrine of Remembrance in Melbourne, the Army Officers Mess Victoria Barracks in Melbourne, the Officers Mess RAAF Wagga (numerous times), the Temora Aviation Museum and various venues around and near Wagga. Col Bradford, in particular, gave George a lot of comfort and support and was always on hand to assist him and his wife in any way he could. In his later years, George began to regard the Wombats as close as his own family.

In 1984 George was diagnosed with bladder cancer which caused him considerable pain and inconvenience. He had over 50 trips to hospital before the condition was stabilised with radiation treatment. Being the fighter he was, George was determined to beat the cancer. He said, 'Something's got to kill you one day, but I got my back up about it'. Early in 2006, he broke his hip as a result of a fall in his yard. An operation followed and then a period of convalescence. The break slowed him up considerably. He retained his feisty spirit, however, and while in the rehabilitation centre of the Wagga Wagga Base Hospital, gave the hospital staff plenty of cheek. Although still sharp in mind, it was obvious that he was deteriorating physically. He passed away on 21 February 2006 at the age of 87 from a heart attack, just days short of his 60th wedding anniversary. George's typical 'No Surrender' attitude beat the cancer.

George's funeral was held at the St George Anglican Chapel at Kapooka attended by a large number, including many Wombats, who formed a guard of honour. George's son Terry played excerpts from Mozart on the oboe. The funeral also included a tribute by the Returned and Services League (RSL) and a vigil mounted by the Kapooka Recruit Training Battalion.

Nobody predicted how strong and long the relationship between George and the Wombats would be. He saw things in the Wombats that many of the other apprentice staff did not. Under George's tutelage the potential of a group of boys was unearthed. George foresaw that the Wombats, as young as they were, would be very useful to the RAAF. History shows that when the Wombats entered the RAAF workforce they excelled in many areas. And even when many of them finally left the Service, they became very successful in the commercial and public service arena. As time went by the respect between the Wombats and George snowballed. The Wombat dedication plaque in Canberra has as its final sentence, 'The Wombats also recognise Warrant Officer George Stirzaker BEM, whose faith in a group of youths provided life long inspiration.' George's final remarks about the Wombats in his biography were, 'A truly wonderful bunch of men who served the RAAF with distinction.'

Service Medals and Awards – George Henry Stirzaker:

- British Empire Medal
- 1939–45 Star
- Africa Star
- Defence Medal
- War Medal 1939–45
- Australia Service Medal 1939–45
- Long Service and Good Conduct Medal (RAAF)

Unofficial Awards:

- Battle for Britain 1940
- Tobruk Siege 1941
- Front Line Service Medal 1941
- Bronze Cross for services with swords and also for services rendered on the battlefield (Republic of Poland)
- Croix de la Victoire de Chevalier (Republic of France)
- Croix Allies (Federation of European Allied Combatants)

RECOLLECTIONS OF A TRIP TO MELBOURNE WITH GEORGE

Away back, when George was much younger and more mobile, I offered to take him to Melbourne, primarily for him to have a guided tour of the RAAF Museum at Point Cook, conducted by Ron Gretton. Some traumas then invaded both our lives; Canberra bushfires for me, and George gained a new fashion accessory—a bag (the urine type).

However, with his health problems, I thought George may have forgotten my offer—wrong! When I raised it with him, he responded by saying, ‘I wondered when we were going?’

Eventually, we set the dates for our trip as 19–21 April 2005 and it all happened, despite a loss of confidence by George in being further than 10 metres from a toilet.

When I arrived at George’s house at 7 am, he was outside the front gate peering down the road—a good job I was not late! Our drive through to Point Cook was uneventful with a pit stop at the Wangaratta BP on the Hume Highway. This pit stop revealed a regular habit of George’s, which made me squirm. When asking was he ready to go (after our cuppa) and did he want to go to the toilet before we headed off, he would reach down, pull up his trouser leg and openly display his see-through bag, displaying its bright yellow contents. One old dear sitting not far away nearly sprayed a mouthful of coffee everywhere, while two young girls behind the counter, eventually realising what it was, screwed their noses up and said ‘Yuk!’ Such scenes were repeated regularly over the next two days.

George's car conversation was heavy and long on 'bloody politicians,' 'the decay in military standards,' 'young people not being what they should,' 'layabouts,' 'louts,' etc., etc., etc. I did remind him that we were reasonably healthy and lucky to be heading off to see friends, and he agreed—aah, back to music from my CDs!

I had carefully selected a range of CDs that I thought (and hoped) George would like, and I was on a winner—a highly amusing talk by a pioneering Australian surveyor, Len Beadell, (courtesy of Col Bradford) was a big hit. Similarly, he really enjoyed my CD of Jimmy Rodgers (a 1920–30s railroad singer), who is arguably the father of American country and western music. Apparently, as a 15-year-old, George worked his first job at Ironpot Creek (near Kingaroy) and the station owner used to let George listen to the likes of Jimmie Rodgers, Gene Autry and Harry Tarrani on a wind-up gramophone. Let me assure you, there was nothing wrong with George's memory; he sang along to some of the Jimmy Rodgers' songs I played, which he said he had not heard for 71 years!

On reaching Melbourne, Ron Gretton and Russell Garraway met us at the RAAF Museum and we enjoyed a most informative and fantastic guided tour, courtesy of Ron. The RAAF Museum is a credit to all the volunteers who, like Ron, work very hard with great skills to help produce a wonderful display. One of the highlights is the Hawker Demon which Ron and his father Ern (an artificer in World War II) built many years ago.

While being moved around in a wheelchair (a low viewing plane), George had an embarrassing moment. In front of one of the display aircraft, the museum had two life-size mannequins dressed in RAAF overalls, oil cans and spanners in hand, posed as working on the engine. George asked Ron, 'What maintenance are these two airmen carrying out?' Ron explained they were not real people, but only models—poor George grimaced, turned red and spluttered.

We watched a flying display by the RAAF Museum Winjeel and enjoyed a talk with the pilot after the flight. Ron introduced us to one of the museum staff, Harry 'Horse' Park, the last blacksmith to serve in the RAAF. It brought back memories of our own RSTT blacksmith, Sergeant 'Psycho'—'get it hot,' 'everyone back behind the line,' 'no one man's head behind that of another,' etc.

About two hours later we ended the museum tour not far away from the 'two tradesmen' we had encountered earlier. I paused, and grabbed George's undivided attention, and said quietly that I agreed with his earlier vocal stance on layabouts—a warm smile of satisfaction came over his face; he had taught me something at last! I said, 'Yes, look over there, there is a typical example, George. Those two bloody "sumpies" haven't moved in the last two hours.' Luckily for me, George was in his wheelchair, and I was just out of range of his walking stick! Ho ho ho.

I thoroughly recommend all Wombats make a visit to the RAAF Museum while Ron is there and enjoy this wonderful facility of the RAAF's aviation heritage.

After the museum visit 'Garra,' George and I checked into the Kingsway Motel—my Melbourne digs these days since the Travelodge St Kilda Road is no more. I had forewarned the delightful hostess Mary that, while George was now frail of body, his spirit still twinkled through eyes of earlier devilment. So after we signed in, and as we were about to go to our rooms, Mary looked straight at George and said that her lodgings 'were an inn of repute, and that visiting ladies must be off the premises by 11 pm.' George

was momentarily speechless! He eventually recovered, and with a big smile and said ‘Not bloody likely!’ I still do not know if he meant we would not have ‘birds’ up in our rooms, or we would keep them with us until morning!



‘House Rules are House Rules!’

We dined at Bell’s Hotel in South Melbourne and George sure got the kitchen staff’s attention when he bared the leg and checked the bag before we set off back to the motel.

The next morning we gathered at the Melbourne Shrine of Remembrance on St Kilda Road. Graeme Hodgson, Peter Cupitt, Al Hobby, Karl Schirmmeyer, Robin Weir, Colin Macdonald, Russell Garraway, Geoff Schmidt, Andy Lapins, Ron Gretton, Roy Cant and Alby McCracken joined us. The Shrine had been upgraded to include an Education Centre on matters military, particularly Victorian. This is an excellent facility, with the Government funding regular learning visits from schools throughout Victoria. No doubt, such an initiative contributes to the increased interest we see shown by young people on Anzac Day.

Our volunteer guide, Basil Smith (World War II veteran), welcomed us and when he saw George’s surname, he asked George if he was related to Dick Stirzaker. ‘Yes, it so happens, he is my brother!’ said George. No doubt it is a small ‘war’ world, as guide Basil and brother Dick served in the 9th Battalion in World War II, and they still see each other in Melbourne.

The ‘Columns of Entry’ to the military displays provide a deliberately stark and bare space (‘to set a respectful theme’, guide Basil advised). George saw three large spaces above the entrance and gestured firmly with his stick that there should be equal murals of a soldier, sailor and an airman filling these empty voids. An answer was needed *now*, so the Shrine’s Chief Executive Officer (CEO) Dennis Bagley was summoned—George explained his requirements, again using his stick with gusto to emphasise his point. The CEO was a ‘Diplomat Extraordinaire’. He explained to George that, in these modern

Wombats – 50 Years On

times of political correctness, a merchant seaman and a nursing service lady would have to be added to the traditional three. Also, that the wall's bareness was needed to set a sombre tone. Dennis Bagley had so skilfully told George to 'POQ', that George looked forward to the trip!

We had a light lunch at the Army Officers Mess, Victoria Barracks—a jolly time was had by all which was important, as the food quality was typical of the fare provided by civilian caterers these days. Before leaving the mess, George checked his bag once again; froth on top this time, no doubt an indication of an enjoyable time. A lady receptionist in the mess, watching the checking technique, went pale and quickly left her desk.

On returning to Wagga Wagga, we overnighted in Wangaratta. This was because at that time Roger Sanderson ('Sambo') was residing in a comfortable Victorian Government house with guest rooms available. 'Sambo' was working temporarily at the Wangaratta District Court, as a tipstaff. We had dinner at the local RSL Club and Bruce Horsburgh, who lived in nearby Benalla, was able to join us. George's public bag check this time, brought a wry Aussie comment from the club barman—'So that's where he puts it' (the barman had served us numerous ales during our dinner).

It all worked out very well, because George had a great time. For me, it was simply a privilege.

—Geoff Schmidt, 2005



AN ODE TO GEORGE – A WOMBAT TRIBUTE

*He was not the sort of guy,
whose heart should let him down,
'cause despite his size and stature
he'd the biggest heart around.
It was something like his spirit,
fierce and so alive,
just like his sense of loyalty
it would never ... up and die.*

*He was the classic hero,
boy-survivor, of Tobruk,
and countless other battles
for his country, undertook.
A tough little bugger,
the little digger was,
ramrod straight and purposeful,
when he marched and when he stood.*

*Well, that was my impression,
as a Wombat young and new,
when first upon the bullring
I encountered George in Blue.
Then grew the great affinity
'tween George and Wombat core,
said he recognised our camaraderie,
as a 'Rat' – seen, but once before!*

*You wouldn't want to cross him though
his memory, long and sound,
and loyalty's a two-way street,
so don't dare to let him down.
And, amid such understanding,
the bonds grew tight and strong
and respect and fierce commitment,
to our patron, George, lives on.*

*A Saint he surely wasn't,
that wasn't George's way,
and many a superior,
he saw as his fair prey.
Particularly those that damned us,
held in his disdain,*

*as he drilled his bunch of Wombats,
to a perfect presentation, graduation day.*

*I'm sure his chest just swelled with pride
that December march-out day
He'd shown those other bastards,
precision-drill the Wombat way.
And when those brass bands echo,
sometime in future years,
with the airs of Greensleeves, slow,
Wombats true will shed some tears.*

*And when dispersed and parted
to serve throughout the land,
George long remained behind us,
but bonded to each man.
He was there at each reunion,
George never missed a one,
and with pride he marched before us,
his doting Wombat 'sons.'*

*And as the tales of Wombats
came into his ears,
reports of their achievements,
bolstered later years.
The unveiling of the Wombat plaque,
he was there to have his say,
to hear CDF's dedication –
George knew that held held sway.*

*Wombats knew the legacy,
bestowed by George on all,
life's guiding rules of conduct
to make each one stand tall.
Achievement, motivation,
fair play and mateship, too
the quintessential Role-Model,
George, outshone by few.*

*His leadership beyond reproach
with jokes and humour keen,
a prankster, amongst the best,*

*and a player on the team.
He was inspirational,
one to emulate
one, one might aspire to,
one, to call a mate.*

*His well-renowned affinity,
as a gardener of repute,
goes back well beyond the soil,
to man-manager astute.
He knew the way to cultivate,
to nurture, prune and trim,
Wombat-wide achievements,
a testament to him.*

*And as we return him to the soil,
with sadness and remorse,
Wombats will remember him,
as the patron of our course.
The Little Digger Hero,
forever to us bound,
the bonds 'tween us and Stirzaker,
universally renowned.*

© Ken Stone
23 February 2006
Member of No 12
Apprentice Intake (Wombats)

CHAPTER 11

WOMBATS AFTER HOURS

SOCIAL AND RECREATIONAL ANIMALS

Social, sport and recreational activities have been central to the Wombats during training at Wagga and beyond, as reflected in the biographies and life stories of the Wombats. To some extent, apprentices were isolated from both the civil populace beyond the Wagga base and also the other RAAF elements on the base. Leave privileges were very carefully controlled by the Apprentice Squadron administrators so that opportunities to venture outside the base were quite limited, particularly in first year.

On the base, apprentices were segregated in their accommodation and even the mess hall from other trainees. Apprentices were officially discouraged from fraternising with adult trainees. Even where associations did occur from sport and recreational contact, these were short-lived because of the relatively limited time adult trainees were at RSTT compared with apprentices.

Even within the apprentice structure itself, there was a natural segregation of intakes and between apprentices and JEATs. Accordingly, Wombats tended to interface socially and recreationally with Wombats, and not with other apprentice intakes. To an extent, these formally imposed limitations and self-segregation led to the perpetuation of the old adage 'the family that plays together stays together'!

As a consequence, even after Wagga, there was a tendency to continue associating with Wombats and to maintain the ties of the preceding years. The fraternity of Wombats was all but tribal, essentially a brotherhood of shared experience, common values and aspirations.

Social and recreational ventures were very important in providing opportunities for apprentices to become acquainted with the real world and to be released from the drudgery of study and Service discipline. Fortunately, there were many avenues for this release and involved activities as diverse as sport, dances, clubs and even religious endeavours.

One of the extraordinary things relating to these social and recreational opportunities that, in retrospect, Wombats now appreciate was the degree to which RAAF base staff (including many instructional staff and chaplains) organised or were directly involved in, social activities.⁷⁴

⁷⁴ Padres McCormack and Lawless in rugby and soccer respectively; Wing Commander John Burley and Squadron Leader Mick Long in Aussie Rules; Sergeant Gar Finke, Squadron Leader Mick Long, Squadron Leader Smith, Flight Lieutenants Robertson and Kevin Neeves in cricket; Squadron Leader Goettsch in the rifle club; and Corporal Tutt in soccer.

Wombats – 50 Years On

Sport was a very important activity for Wombats; it provided release from unit routine and it allowed an interface with the rest of the base. Additionally, and as outlined in Chapter 1, sport provided an avenue for the individual to establish himself amongst his peers and also to demonstrate leadership potential. It also brought Wombats together on the sporting field as a team.

As an inland regional city, Wagga Wagga provided a fertile environment for sport and over the years has produced many skilful players for a variety of national sporting teams. Additionally, and with an Army Base and Agricultural and Teachers Colleges, the region provided spirited competition for the young Wombats. Moreover, Wagga Wagga hosted a large variety of sports; for example, the four codes of football were all played. So, Wombats had many opportunities not only to play the traditional types of sports but also to try some new varieties. Baseball, basketball, squash and roller hockey were relatively new sports not seen in all States, let alone remote country towns where some members had enlisted.



JEAT Jan Paulga suited for Baseball

Sporting abilities and experience varied widely amongst the Wombats. On enlistment, some had played intra-school competitions in primary and high schools, and a number had also been involved in district competitions before joining the RAAF. Others had not played any sport but were coerced into playing and filled many of the second grade team positions. So sport was integral to the Wagga scene and it should be considered as one of the factors which aided the development of the unique Wombat camaraderie.

Amongst the Wombats, there was some impressive inherent talent that allowed a few to subsequently play at quite impressive levels.⁷⁵ At Wagga, Col Bradford showed a natural athlete's talent; he could not be beaten at either tennis or squash and was not bettered as an athlete or rugby player.⁷⁶



Brothers Col (L) and 'Brick' Bradford – destined for high RAAF achievement.

AUSTRALIAN RULES FOOTBALL

The base Australian Rules Football Club fielded first and second grade teams in the Central Riverina League. The two teams were predominantly apprentices. Games were not only played in Wagga Wagga, but also at some far-flung towns with exotic sounding names like Collingullie, Yerong Creek, The Rock and Temora. The RAAF provided transport, but it was usually a four-ton covered truck. The seating consisted of two rows of side-benches made of wooden slats. In those days, many of the roads to these smaller towns were dirt and very bumpy.

⁷⁵ Barry Leaney played for the Parramatta Eels, Wal Crust the Penrith Panthers, Les Bryksy the South Sydney AFL Club, Geoff Schmidt trialled with the Hawthorn Football Club, Mac Weller played a few games for the Melbourne and Fitzroy Cricket Clubs, and Col Bradford gained selection in a Victorian rugby representative team. Many Wombats also played in various inter-Service teams.

⁷⁶ *The Apprentice Journal 1959–60* records that Col Bradford was the apprentice sportsman of the year for 1960. *The Apprentice Journal 1959–60*, RAAF School of Technical Training, Wagga Wagga, 1959-60.

Some of the football grounds were not clearly defined and doubled as grazing grounds for cattle. On one occasion, the ‘ground’ consisted of a large paddock and a small changing shed. When the RAAF team arrived, the officials from the host club were soon busy, and it was not very long before the goal posts were erected and a man marked out the field in lime. Before play, both teams were sent out to remove the cow pats that littered the field. After each game in these small towns, there being no showers, the players climbed back into the truck in soiled football gear and headed for Wagga. This was a terrible experience because the players were often wet and sore, and it became cold very quickly. The truck seemed to hit every bump and the unpadded seats provided no comfort to aching limbs. Upon arriving back at base after dark, as a final indignity, the truck had to be swept out. You had to be keen on your football.⁷⁷



AFL Practice – Wombat Style

Front: Des March (L) and Les Bryksy

Often the opposing country teams were more experienced with height and weight advantages. Every player played well during the 1960 season but those to stand out were Ron Gretton, a brilliant left-footer who was unbeatable at roving and in the forward pocket. Wayne Hall was definitely one of the most consistent players in the back pocket; Lyle Sydes played some good games at fullback; whilst Les Bryksy really starred in the

⁷⁷ The fortnightly *Groundel* magazine of RAAF Wagga recorded on 21 May 1959 that a first-class junior team had been fielded against Boree Creek, with Wombats Schmidt, Bryksy and Sanderson being amongst the best players.

ruck and, as predicted, went on to play for the RAAF at different bases and played for Central Districts in the Adelaide League. Ron Massicks, Kev Griffin and Geoff Schmidt also played some good matches towards the end of the season. In first year, the Australian Rules team was supplemented with JEATs Lord, Hruza and Hughes.

The seconds upheld the RAAF's name in the Central Riverina League following the failure of the firsts. Over the season, it was best served by Dave Keast in the ruck, Des March and Eric White in the backline, and captain Tab Hunter, who did a good job although unlucky enough to miss several games through an injury. Rob Weir improved during the season as well.

RUGBY LEAGUE

The year 1958 saw two teams, 'Royal Blues' and 'Light Blues', entered in the Wagga Wagga junior rugby league (under-18) competition. Both teams were unsuccessful, although Wal Crust won the best and fairest forward for the 'Light Blues'.

In the 1959 season, two teams also were entered into the junior rugby league competition but instead of competing against each other as in the previous year, one team (under-19) played for the Scott Shield and the under-17s played for the Blake Cup. The under-17s, all Wombats bar two, were the stars of the season. They were coached by former under-18 player, Roger Kenworthy (Tadpole), and throughout the season earned themselves a faultless reputation for a fast open brand of football. They finished premiers. One of the most outstanding under-17s was Col Bradford, playing in the centres, and he was also the top point scorer for his team. Others among the best performers were five-eighth Graham Bushell (captain), Al Bower, Jim Riches, Ralph Herron and Cec Thompson on the wing.

Although the under-19s were not quite as successful, they were far from being disgraced and finished third on the point's ladder. They were well represented by forwards Barrie Leaney and John Gracey.

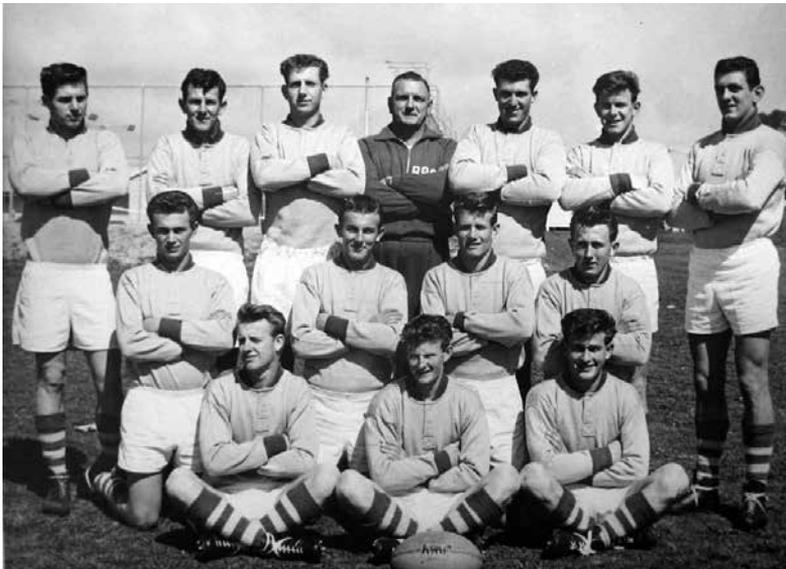
Changes in the junior rugby league allowed two apprentice teams in the Blake Cup open division competition in 1960. The RAAF was represented by two teams, the 'Reds' and the 'Blues'. The 'Reds' proved themselves to be a danger to the more favoured teams and played themselves into the final four and were only just beaten out of the finals.

Once again, the 'Blues' who played grand football emerged undefeated Minor and Major Premiers. Their success was based largely upon the expert management from coach, Sergeant Jim Lamerton, whose idea it was for them to play as a team. It was this team spirit and determination that enabled them to trounce teams with twice their experience and weight. So good were they, in fact, that Padre 'Mac' had to give points away to even get money on! During the competition matches the 'Blues' amassed a total of 205 points and had 9 points scored against them. This unification was further emphasised when the team changed code, added a couple of players and won the rugby union apprentice inter-Service competition that year.



'Reds' Second-Year Blake Cup Premiership Winners

Front (L – R): Thompson, Edwards, Bushell, Humphries, Bradford
Centre (L – R): Dodd, Bridge, Johnson (Oyster), Rolls (Oyster), Bower
Back (L – R): Herron, Haxell, Coach Kenworthy (Tadpole), Sanderson, Sheil, Riches



Premiership Winners – the RAAF 'Blues'

Front (L – R): Thompson, Bushell, Bower
Centre (L – R): Herron, Bridge, Bradford, Humphries
Back (L – R): Gracey, Sanderson; Leaney, Coach Lamerton, Crust, Brown, Petersen (Oyster)

RUGBY UNION

Following a year in which no first grade teams were fielded, RAAF rugby union made a good comeback during the 1958 season by fielding both first and reserve grade teams in the Wagga Wagga and District competition. The teams consisted mainly of apprentices, although quite a few of the first grade backline positions were filled by airmen.

Much improvement was made in the team during the season, beating teams that thoroughly defeated them at the beginning of the season. The last match of the season was a social match against the Army apprentices from Balcombe in Victoria. Boasting a reputation of being beaten only once that season, after a hard-fought 80 minutes of impressive football, the result was a six-all draw. Wombats Crust and Moore played impressively in the all-apprentice RAAF team.

Postings depleted most of the union team; however, two teams again entered the Wagga Wagga competition. The A grade mostly consisted of adult trainees, while the Reserve grade consisted mostly of apprentices from all three intakes. The Reserves succeeded in reaching the finals, but were defeated in the first semi-final in a hard-fought match.

GO-KART CLUB

The first President, Flight Sergeant Apprentice Col Macdonald, and Secretary, Corporal Apprentice Robin Maxey-Fisher, had explored all avenues to acquire go-karts for an enthusiastic group of 60 apprentices who wanted to race go-karts but nothing was forthcoming until senior management convinced the Apprentice and J/T Club to purchase the first go-kart, which was the blueprint design for the production of 12 more karts. All trade sections were involved, but it was mainly through the efforts of Warrant Officer Irvine that the karts were completed.

At the first race meeting held on the go-kart track Sergeant Apprentice Denis Hersey set the lap record for the 125 cc division and Leading Apprentice Ian 'Stretch' Clayton for the 98 cc division. Many Wombats were driving karts prior to driving any other motor vehicle.



Time Trials of Wombat Go-Karts

CRICKET

Cricket was well organised at Wagga with the base fielding A and C grade teams; the former was composed mostly of staff and senior players and played on turf wickets, whilst the C grade was predominantly composed of apprentices and the games were played on matting.

Wombats contributed extensively to the C side, with games played under sweltering conditions in the hot Wagga Wagga summers. Grounds varied in condition and standards. Like Aussie Rules, transport was provided by the RAAF in the form of a truck with wooden bench seats. But cricket enthusiasts enjoyed their cricket and obviously developed their skills to the point that, in subsequent service, some played representative cricket.⁷⁸

TENNIS

As a game, tennis provided a particularly good outlet for apprentices. It could be played amongst Wombats on an ad hoc basis on reserved courts at the back of the mess or on rather better standard courts at the Officers Mess. Many tough matches were played in this manner with no quarter given, but lifelong mateships developed.

An apprentice team also played in a Wagga Wagga night competition. A quite humorous incident occurred one night when Bradford and Weller played a doubles match against a team which included a flight lieutenant education officer (EDO) from the base. He was big, brash and uncoordinated, and got quite excited, but try as the two apprentices might, the EDO and his partner won a tight match. The EDO rushed up gleefully to the net to receive congratulations and then in a moment of madness attempted to hurdle the net. His feet got caught in the top of the net and he crashed to the court at the feet of the two apprentices, who could scarcely disguise their glee at the flight lieutenant's discomfort. These outings were very popular but they did cut into study time.

SOCIALISING

Outside sport, and like other red-blooded young men, meeting girls was high on the agenda of most Wombats—after all, they had their motto to try to live up to!

Early in the piece, meeting with the locals of the opposite sex was generally achieved with forays into town. There were some ideal places to check out the talent and perhaps even share some time with them. These included the Wagga Wagga swimming pool which was a popular spot, having only been opened shortly before the Wombats' arrival in Wagga. There were also skating rinks and dances and two movie theatres, as well as the youth groups of the local churches. These not only had talent, albeit well chaperoned

⁷⁸ The *Groundel* of RAAF Wagga recorded on 21 May 1959: 'splendid performances by Blaxland, Bushell and Weller'. *Groundel*, vol. 6, no. 19, Thursday 21 May 1959.

Wombats After Hours

by the church ladies, but also served supper, with fabulous homemade cakes that many a Wombat craved—so even if one missed out on the talent there were other consolations.

A popular daytime exercise was trying for the casual pick-up by simply wandering the main street, ‘window-shopping’ so to speak, while ogling the local girls. At night the dances at the Wonderland Theatre (one could only ‘wonder’ where it had gotten its name, for in reality it was little more than a tin shed with a wooden floor) the Teachers College and Vernon’s ‘nightclub’ were popular. In later times at Wagga Wagga and with the advent of espresso coffee, the Lumeah Coffee Lounge became an ‘in’ spot, although a trifle expensive for the lowly paid apprentice. Even in the final year, they still only received about \$10.00 a week.

Undoubtedly, within the calendar of events the apprentice dances were popular and were held periodically at the Apprentice Recreation Hut. These were also segregated affairs for individual intakes, rather than a combined thrash. The RAAF seemed to play a key role in organising these and advertised when they would be held and also provided a bus to collect the girls and deliver them back to Wagga Wagga afterwards. Apprentice dances were the province of second and third-year apprentices, a privilege not yet received by the first-year intake.

These dances were well run and supervised by apprentice NCOs of the intake. In the case of the Wombats, we had our own band that played on the night with Mick Dambergs on drums, Tony Harding on guitar, Ross Affleck on saxophone, Al Hahn playing trumpet, and Bruce Horsburgh tickling the ‘ivories.’



‘The Legioners’ Dance Band

Wombats Affleck on saxophone, Hahn on trumpet, Dambergs on drums and Horsburgh on piano

Another source of ‘talent’ was from the ‘WRAAFery’. One night on the cramped dance floor, things were really moving with the couples rocking and jiving, when one ‘Fat WRAAF’ with flailing arms struck Al Hahn’s horn, pushing it halfway down his

throat and breaking the mouthpiece—a short stay of proceedings until the tempo was reinstated, sans trumpet.

The Wombat band was a talented group. They rarely rehearsed but were able to play most requests, with no sheet music, as a combo or as individual artists. The fifties were twixt 'old-time' and 'rock-and-roll': the former being popular because it provided opportunities to dance together, while rock-and-roll was a chance for the boys to do their own thing without the problem of worrying about partners' toes. For the traditional dances, the band played the barn dance, Pride of Erin, foxtrot and, of course, the waltz. The modern dances involved wild tunes from artists like Bill Haley, Buddy Holly, Elvis Presley and Johnny O'Keefe.

Bruce was regularly requested to belt out tunes on the piano from Jerry Lee Lewis like *Great Balls of Fire*. Bert was on demand for *When the Saints Come Marching In*, with *Golden Wedding* being Mick's forte. Ross had a great rendition of *Caravan*.



Bruce Horsburgh Tickling the Ivories

Other highlights of the dance were refreshments from the adjoining canteen that served soft drinks, coffee, confectionary and similar fare throughout the night. Most of the apprentices had already done a run into town beforehand and stoked up with some illicit 'Dutch courage', if nothing more than to curb their shyness and improve their footwork. In point of fact, very few actually knew too much about the finer art of dancing or for that matter other worldly things. But this was a good time to practise and refine one's style.

Wombats After Hours

The guys tried to look 'cool' in their stovepipe trousers, thin black belts and shirt sleeves rolled back from the wrist. This 'fifties look' was somewhat offset by the obligatory Service haircut. On the other hand, the girls were very attractive with their full-skirted dresses and lots of petticoats, looking very grown-up in their pointy-toed stilted shoes. Of course, the well-teased hairdos were a necessary crowning adornment.



Wombat Apprentice Dance – c. 1960

Once a friendship was struck it was important to move on to more serious matters. Many a Wagga Wagga girl must have wondered why so many apprentices wanted to share with them matters piscatorial, beneath the moonlight reflecting in the Apprentice Club fish pond, rather than the real motivation, matters oscular. More than one apprentice in amorous embrace ended up with his coat tail saturated. There were other misadventures as well, like having a date and then, with the 'Dutch courage' taking its toll, mistakenly taking home the wrong girl—well they shared the same first name, and ironically their birthday!

The Wombats were usually in high spirits and, combined with loud music, the occasions could be quite raucous. The room available for the dances was not big and overcrowding was always a problem. But when the lights were turned down and the music became softer, this established an intimate situation for a bit of smooching to melodies like *Blue Moon* and *Red Sails in the Sunset*. The band breaks allowed for time to cool down outside and perhaps grab a drink of punch (which, from time to time, had more than the advertised ingredients).



The Apprentice Club Fish Pond – Venue for many a romantic interlude on balmy, moonlit dance nights

Overall the dances were recognised as being reputable and parents had little to fear. Many Wombats began or furthered their romantic connections at these dances to the extent that marriage was the end result. In fact, nine Wombats subsequently married Wagga girls.

SATURDAY NIGHTS

By the time the Wombats reached the latter half of third year, all could wear civilian clothes to town and, consequently, Saturday nights were a big occasion. Most would have played sport during the afternoon and were now free from the RAAF for a few hours; study could wait until Sunday.

A typical night in third year would start with joining up with your mates and travelling into town with one who owned a car. The trick was then to find a pub where you could avoid the town patrol, consisting of Apprentice Squadron staff travelling around in a RAAF car. A popular spot was the out-of-the-way Palm and Pawn at North Wagga Wagga. Here a car could be parked in a back alley. By climbing through the back fence, a group could sit partly hidden in the rear of the beer garden and be ready to make a quick exit if the town patrol appeared at the front bar. The oldest-looking Wombat was then sent to the back bar to buy a round of drinks. The most popular drink was a cruiser of beer which was a huge 20-ounce (570-mL) glass costing two shillings (20 cents). This was the best value for money and reduced the risk of visiting the bar too often and being

Wombats After Hours

caught. If three cruisers were consumed quickly the boys could get a 'buzz on', which seemed to induce enough courage to approach the girls at one of the dances in town.



Wombat 'Sumpies' Taking on some Dutch Courage

Front (L – R): Maxey-Fisher, Lapins, Bridge
Back (L – R): Bower, Mattiazzi, Clayton, (unknown), Holmes, Mascord, Sheil

Another low-risk method used to obtain alcohol involved the corner bottle shop at Romano's, situated at the intersection of Fitzmaurice and Sturt Streets. By standing at the right place, a clear view up these streets allowed early detection of the town patrol. When the coast was clear, the bravest could quickly enter the bottle shop, make some purchases, and fade into the darkness of Sturt Street. Then, a popular route to the dance at Vernon's, located at the top of Baylis Street, was via the Rose Garden at the back of the council chambers and along the back streets parallel to Baylis. The alcohol was consumed before arriving at the dance, and you were ready to 'party'.

There were four main venues for dances: the Wonderland (later the Windjammer), Vernon's, the Half-Holiday (the South Wagga Tennis Club) and the Teachers College. Care had to be taken at the Half-Holiday as the 'bouncers' were elderly ladies who made sure that no shenanigans took place. The entrance fee to Vernon's was only two shillings, but a way was found to avoid paying. As you entered the door your ticket was torn in half—half for them and half for you as a pass-out ticket. After a while you could go to the toilet and pass this ticket through the back toilet window to one of your mates outside. The recipient could then enter the dance by showing the illicitly procured pass-out at the front door. This procedure was repeated a number of times until all were inside.



The Wagga Wagga Dance Scene.

L-R: Mick Haxell, Anne Cheetam, Margaret Nash and Tony Coad

If a Wombat was lucky enough to find a girl that agreed to some quiet companionship, favourite romantic places were on the top of Willans Hill, down by the Wagga Beach, in the gardens at the Teachers College or at the downstairs and darkened Lumeah Coffee Lounge. Alternative venues to the dances were the two picture theatres.

The Capitol theatre in Gurwood Street was particularly popular for couples because the back rows had bench seats designed for two people. If you missed the last-bus or had spent the fare, then a ride had to be hitched from Don Jones' corner. One daring Wombat, who ran out of money, caught a ride on the ladder on the back of the bus. If late at night and there were no cars around, the options were to walk or run the seven miles (11 kilometres) back to base.

PAINT DAY

One of the unofficial apprentice traditions involved the 'initiation' of the first-year apprentices when the 'third-years' were away on the end-of-year bivouac. The object was to chase the 'first-years' and throw paint at them or, if they were caught, to apply liberal coatings of paint, with a rag on the end of a stick, to their bare skins. The Wombats looked forward to their turn, having been daubed by the Tadpoles the year before, although that battle was even because the Tadpoles were called on parade before the 'event', which enabled some of their paint supply to be appropriated by the Wombats.

Paint was patiently collected from many sources over the time leading up to the 'initiation' ceremony and was mixed with other materials such as Prussian blue and metal filings. In those days, most paint was oil-based and possibly contained toxic levels of lead.

Wombats After Hours

The paint was very difficult to get off, particularly as some of the Oysters were unlucky enough to end up with it in their hair, thinking they would not be painted if they were still in uniform—wrong! Where this occurred, the individual had his hair cut off and his bare scalp rubbed with kerosene to remove the paint. The method used was for the bald unfortunate to sit on a chair with two of his mates either side of him. Then a large kerosene rag was held at each end and moved firmly back and forth across his head. The Drill Instructors, who turned a blind eye during the paint day, extended the fun the next day by asking all the Oysters to remove their berets on parade!

Another sidelight to the initiation was one Wombat who was so caught up with the activity that he went to an adjoining farm and daubed a few cows. Then covered in paint he secreted himself into a new staff-airmen's brick block, that had a bath and proceeded to scrub himself clean within the facility. Upon being challenged about what he was doing he announced, 'I've only been posted here two days and those bloody Wombats have gotten me already!'

TRIPS HOME

Apprentices were allowed to travel home twice a year: once midyear and once at the end of the year. Additionally, those who lived in Sydney and Melbourne or smaller distances could go home at Easter. As travel was normally by rail, those who lived in Western Australia, South Australia and Queensland, would spend some of their leave on a train. Moreover, the different rail gauges ensured that the trips were regularly broken by the need to change trains. On the longer trips, the boys did many things to overcome the boredom, but the crowded conditions of eight to a compartment (commonly referred to as 'dogboxes') made it difficult to do very much. Sleeping was also a problem, and it was a blessing if you were allocated a compartment that was not full so that you could stretch out. The smaller boys climbed into the luggage racks above the seats, allowing them to lie down, albeit in a very narrow 'bed'. Often apprentices from the higher intakes would take up more than one seat by finding a compartment with younger apprentices and forcing them out. When this happened, the evicted were forced to travel in the area between the carriages or in the narrow corridors.

Travelling from Melbourne to Wagga was always wearisome. Just as sleep set in, you would have to change trains at Albury, and just when you got to sleep on the final leg, you would arrive in Wagga tired and exhausted.

One concession to travelling home was made at Easter time. Even if you came from further away than Melbourne and Sydney, you could stay with one of your apprentice mates in those cities, if a letter of invitation from the surrogate parents was arranged. This privilege was often abused and instead of staying at your mate's home, you would hitchhike further afield, eg. Adelaide. There was considerable risk in doing this, because hitchhiking was a hit-and-miss affair and there was always the danger you could be stranded. Sometimes Wombats made it to their distant homes, with little time and needed to 'hit' the road again and return to Wagga before leave expired. But it was a tremendous adventure and you never knew what was going to happen late at night, standing on the side of a highway with no traffic and in the middle of nowhere.



A Fortunate Few had Cars

THINGS SPIRITUAL

Matters of a spiritual nature and their influence on the Wombats came from a variety of sources. In pursuance of its obligations for the care and nurturing of the youthful apprentice, the RAAF itself was keen to ensure that Wombats were exposed to the faith. Understandably and in line with their personal charters, chaplains were keen to develop an interest and hopefully draw apprentices to the faith. Finally, the era of the late fifties and early sixties was one of much public interest in evangelism, principally through the efforts of an American preacher, Billy Graham.

Overall, these factors coalesced to produce a variety of responses amongst the Wombats. For some, it was a case of total lack of interest and outright rejection of the matter despite some exceedingly dedicated efforts by Base Chaplains. Others, perhaps in response to upbringing and the urgings of parents, felt obliged to pursue and listen. Some of these responded and became quite dedicated to the faith in their time at Wagga. This often proved difficult amongst the pressures of study and, moreover, people had to learn to endure a bit of good-natured banter from others not so committed. For a number of others, and in retrospect, the seeds of faith were laid unknowingly amongst some, such that in time, God's call was to come in the future (see George Dean's story in Chapter 9 and his biography in Section 2, and Colin Macdonald's story hereunder).

For the loyal Christian at Wagga, one's commitment could be exercised in a number of ways. Chaplains ran Bible studies, youth services, church services and occasionally organised trips to churches in Wagga. In *The Apprentice Journal* of 1958–59, Leading Apprentice Weller recorded that, under the leadership of Padre Lawless, groups of apprentices made two trips by bus to Melbourne to attend meetings addressed by Billy Graham and that several made commitments to the faith at these meetings. In fact, Billy Graham had an impact even amongst the Wombat nonbelievers, with a 'Billy Graham'

becoming a commonly used term to describe anybody making a decision in any field of endeavour.

A quite concentrated and profound group developed on base amongst the apprentices and families involved in church activities. Families such as the Lawless, Sparkes, and Stanes were very hospitable to many apprentices. From the social side of these interfaces, which included Bible studies, parties and other gatherings, arose a number of long-term friendships and even marriages, not only in this generation but the one that followed also!

Wombats developed varying opinions of the chaplains. Father McCormack was universally admired for his commitment to the faith together with his ability to colourfully describe his injured medical condition during football games. Norm Lawless was a deeply committed Christian who worked tirelessly in the faith, although he was not well understood by many Wombats who perhaps confused his enthusiasm for zealotry.

In a sense, the fundamental Christian message of concern for others has permeated both the believing and secular elements of the Wombat fraternity. Many Wombats have worked throughout their working lives and in retirement in service organisations, charities and in their own way to provide care for others.

For an early portion of the Wombats' time at Wagga, church services on Sunday were compulsory. Many Wombats objected on the grounds that the time spent at church cut into their free time at weekends. To ensure that every boy attended, a compulsory church parade was held and the rolls were called. However, on the march to the churches, some boys found various ways, when the duty Drill Instructor was not looking, to break from the ranks and hide. A popular hiding spot was a row of hedges that paralleled the path to one of the churches. To reduce the time in church, some boys 'changed' their religion to Roman Catholic because the this service was much shorter than that held in the protestant churches. In many respects, church attendance had little impact on furthering the religious beliefs of the boys. In fact, the reverse was true, as there was much resentment because of the forced nature of the arrangement. The Drill Instructors may have had sympathy for the boys' plight, as it is possible they turned a blind eye to the diminishing numbers by the time the marchers arrived at their destinations.

During our time at RSTT, the Anglicans and OPDs (Other Protestant Denominations) were blessed with the building of a grand new chapel. It was something to behold and was constructed from two sleeping huts that had been joined together longitudinally with the central, abutted, wall(s) removed. The chapel was fitted out with new pews and altar, and Flying Officer 'Pansy' McGrath,⁷⁹ the RSTT Administrative Officer, had painted a fabulous inspirational mural to the left of the altar, featuring fighter aircraft and an RAAF pilot.

⁷⁹ Flying Officer McGrath was christened with his nickname, 'Pansy', because he always wore immaculately tailored, summer drab trousers made of terylene cloth, rather than the cotton drill most others wore. These specially made summer uniform trousers were commonly known as 'pansy drabs'—obviously, 'real' men would not have worn them!

Entry to the chapel was through a small portico at the far end of the building opposite the altar. Within the side wall, on the right, was another double door that was customarily latched from the inside, and lead out onto the roadway.

On one memorable Sunday, it was reserve chaplain Mackenzie Baird's (OPD) turn to take the service. He was particularly renowned for his long and boring sermons and on summer days could easily lull the majority of his congregation of apprentices to sleep in no time. Well, that day, the large contingent of Anglican and OPD apprentices were duly delivered to the doorway of the chapel by the duty Drill Instructor, who conducted the boys in single file into the chapel, to be greeted by the smiling chaplain as they filed in through the door. Unbeknown to the Drill Instructor and Chaplain Baird though, the 'Great Escape' was in progress! The first apprentices to enter went straight to the side exit, unlatched the door and as the apprentices entered the end of the building they exited the side door at the same rate; something of a grand circle route. The boys, out of sight of their supervisors, disappeared in all directions, with the doors being closed by the last one out. It is a shame no-one was there to witness the amazement on poor Mackenzie Baird's face, at the miraculous disappearance of his 100-strong congregation.

McKenzie Baird's real drawcard though was through his youth group that met for dances in the hall of St Andrew's Presbyterian Church in Wagga Wagga. There were lots of nice girls to meet and dance with and the church ladies, who were no doubt there to chaperone, came armed with wonderful cakes and goodies to be enjoyed at supper. Each in its own right was a sound enticement for Wombats to attend the function to slate their appetites.

COLIN MACDONALD'S STORY

As a schoolboy I had been attending Grammar schools since I was 9 years of age (Church of England Grammar School ('Churchie') in East Brisbane and Townsville Grammar School ('TGS' obviously) in Townsville). I attended Grammar schools for the discipline needed to be applied to cause me to learn. At Morningside State School in the first few years of schooling my concentration and grades were abysmal. I entered 'Churchie' at 9 years of age believing I was a dunderhead. At 13 years of age, I transferred from 'Churchie' to 'TGS' as a boarder. At 'Churchie' we had grown up on a diet of daily chapel, as the school had a full-time chaplain as well as its own chapel and organist. There was no way of escaping morning chapel and the singing of hymns. At 'TGS' it was not so strict but we had a church parade each Sunday morning. We went to outside church congregations as the school lacked a chapel or a chaplain. I grew to accept this situation.

So as the Wombats arrived at RSTT in January 1958, I noted in dismay that we had a Sunday morning church parade as well as scheduled religious education classes with the RAAF padres. The RAAF was looking after our spiritual health on behalf of our parents, as we were not yet adult. I advised the RAAF I was of the Church of England denomination. To my dismay, in the first months after arrival in 1958, the Church of England padre held a church service on a Sunday morning that lasted some one and a half hours in total, coupled with a rambling sermon. For whatever reason, I felt that one

hour was sufficient but 1.5 hours was an imposition for a 16-year-old, particularly one who had suffered daily chapel as a schoolboy in his pre and early teens. I was grown up—if not adult! Indeed, there was an amount of rebellion in me.

So I began to look around at how I could escape such a church parade. Go to sick parade? More than once and that routine would become a pattern noticed by the Drill Instructors. Skip out and hide? I figured that skipping out would work for a time (between the church parade assembly and the actual service) but I reasoned the consequence of being caught was worse than actually attending the worship service. That reasoning was supported by actual examples of other Wombats with similar rebellion in their hearts. I observed 'sickies' being sprung and skip-outs being caught. I noted the consequences. I had the evidence before my very eyes.

Then I noticed that the Catholic Wombats had a service that lasted some 40 minutes or about 50 per cent of the time of the Church of England service. So I asked the Drill Instructors if I could join the Catholic church parade flight. The answer was a short, 'No!' I inquired as to why and was told, 'You are not on the Catholic roll'. However, offered the Drill Instructor, 'You could go to Apprentice Squadron Administration Office and ask to change your denomination to Catholic and, presto, your name would appear on this here Catholic roll'. The consequence of this was: I would have to assemble with the Catholic Wombats and go to Mass whether I wanted to or not.

This sounded too easy! Change your denomination. What a radical thought. What a deliciously rebellious idea! The idea appealed to my heart.

I marched up to Apprentice Squadron administration building just over the railway line. I approached with trepidation. I was not convinced the Drill Instructor had given me the 'good oil'. I asked in a faltering voice, 'Can I change my denomination?' 'Yes!' was the NCO's reply, 'but you have to fill out a form'. I then realised the RAAF had a form for everything! I duly filled out the form and signed my change of denomination to make it 'official'. No christening! No sprinkle of water! No religious instruction! No rebellion! Just a RAAF form and a signature by myself were all that was required. Best of all, the question, 'Why?' never passed the lips of the NCO. Oh! How I wished it had, so that I may be practised in its response.

Next Sunday, I duly assembled with the Catholic Wombats and we marched off to Mass. My name was on the Catholic roll. It was called and I duly acknowledged my presence. I sat down the back of the small chapel. The bells, smells and incense were not foreign, as the Church of England at 'Churchie' was what was known as 'High' Church of England. The sermon by the Catholic padre was suitably brief and to the point. I was set. My objective was achieved.

At this point I learned another lesson in the RAAF—RAAF Forms were circulated especially to those responsible for delivery of a service. Unbeknown to me, the RAAF Catholic padre saw my change of denomination form. I had not 'quietly' slipped into his church parade without notice. I had, in reality, moved in with high visibility. I might as well have flown a flag! I might as well have set off a cannon!

During the week following the first Sunday, I was smartly marching across the railway line towards the barracks (and past the WOD post) when the RAAF Catholic padre approached me from behind on a RAAF yellow pushbike, colloquially known

as a 'treadly'. He had been lying in wait near the WOD office to my left! 'Apprentice Macdonald!' he called. I halted and saluted this officer, mindful the WOD was outside his hut and looking in our direction. 'Oh shit! What have I done?' were the first words that flew through my mind as my stomach muscles tightened. The padre said, 'Get on the bike'. He meant to dink me further down the 'Golden Mile'. I mumbled, 'But were are not allowed to dink and the WOD is looking.' To which he replied, 'You let me worry about the WOD'. Now here was another early lesson in the RAAF—the officers and the NCOs coordinated and oft agreed on a course of action well in advance. WOD Dutton watched me mount the bike side-saddle and saw me being dinked off down the road. He turned his back on the spectacle without his customary roar of disapproval.

Now the Padre had me just where he wanted me. I felt totally disarmed and in public. His arms circling my chest, his hands firmly gripping the handlebars, I could never have imagined being this close to a RAAF officer, and a Catholic priest to boot! He said, 'I see you have become a Catholic?' I was not sure whether this was a question or a statement such was my state of mind. This state of nervousness was heightened as he breathed in my left ear to the rhythm of his pedalling. I gulped and responded, 'Yes, Sir', looking straight ahead and wondering where this was going to lead. 'Do you have any questions?' he asked as he continued to pedal the 'treadly' and breathe in my ear. 'No, Sir', I replied, thinking what a predicament into which I had managed to get myself. I wondered how may 'No, Sirs' would see me through. I waited for the question, 'Why?' But it never came. Then sitting on that 'treadly' is such a public confessional, I wondered if I had the guts to tell him the truth. What he said caught me by surprise. He said, 'Welcome!' and then continued, 'If you have any questions about the form of the Mass or confession then come and see me'. I replied much relieved, 'Yes, Sir'. Then he said, 'See you at confession'. I could not see his face as he was still breathing in my ear to the rhythm to his pedalling but I am sure he had a huge smile with the prospect of me fronting up to confession.

Now we had just passed the Sergeants Mess Canteen, where we purchased hamburgers after hours and were approaching the Base Theatre. He stopped the 'treadly' and let me off. I smartly saluted as he rode off towards the Officers Mess. I near sprinted the remaining distance eastwards, towards my sleeping hut.

After that experience I resolved not to change denominations again! Not even at Diploma Cadet Squadron three years later. The RAAF have forms you know!

But the last laugh is God's. I married a Catholic girl of Irish descent in Melbourne when I was just 21 years of age. The marriage celebrant was careful to ensure I was re-christened a Catholic by the sprinkling of water, the compulsory learning of the catechism and a dose of confession—as if confession was a dose of salts for the spirit. He wanted to make sure I was no longer a protestant! Many decades later, Gwen and I moved back to a protestant church. This is where God had His best laugh at my expense. I was again christened by full immersion in water! No easy sprinkling this time; a big dunking ensued. It was another spiritual bath to cleanse me yet again of my sins, as if confession had been of no effect. And the church services to this day are close to two hours each Sunday. I can see Him now, looking down laughing, knowing in His infinite wisdom and foreknowledge that all the hours of worship 'deficit' logged up at RSTT and subsequent years would be paid back in multiples decades later!

NEUTERED WOMBATS

The loss of their ball was undoubtedly the 'Blackest Hour' for the Wombats at Wagga, when the cancellation of their graduation ball was announced.

The ball was to be the ultimate occasion; one for which all Wombats had waited three years. The ball was recognition to be shared with friends and families of success after the long slog of training. Invitations had been sent out, RSVPs received, new clothes and outfits purchased, travel arrangements made and expectations were high. This was to be a fantastic night of celebration, dancing, socialising and formality. This was the occasion of their final metamorphosis from youth to manhood, from apprentice to airman, to a new phase of life, a new uniform and a new start in the PAF. At last, they would be able to drink alcohol openly and, although most were at or beyond the legal drinking age already, they had been deprived of this privilege solely through their status as apprentices and the restrictions applied to them for that reason. But it was not to be!

Was this, at last, official retribution being levelled at the Wombats, at their most vulnerable time? Was this a way that those running the show could demonstrate they had the final hand? Through this strategy, the 'official' proceedings of a formal graduation parade and the presentation of certificates could be fulfilled; whereas, to deny these little bastards their final moment of celebration—what a fiendishly delicious plot. Who conceived this, 'the final solution', has never been fully determined. The plot and its execution were perfect, and in the knowledge of the perpetrators it is unlikely that it was down to them by design; far more probable that it was a case of taking advantage of a fortuitous opportunity.

Preparations for the event and the graduation were well in hand. Formal invitations had been distributed across the country. The Wombats, under George's tutelage, were mastering the complicated drill routine for the big parade; this was reputedly the first time that the slow march had been built into the ceremonial display of an apprentice march-out. Certainly, never before was it executed as a slow march-past in line abreast formation. This was a drill manoeuvre that would immediately highlight the most insignificant timing or alignment error, its execution had to be impeccable.

The protocol for the afternoon was, that following the parade and the music of the RAAF Central Band, afternoon tea would be held in the Airmen's Mess. That evening the ball was to be held in the Base Gymnasium with the RAAF Band providing the music, RAAF catering and the hospitality of the base included. There would be drinks for all and the evening would culminate with the blue triangles of the graduates being ceremoniously removed en masse by their partners at midnight. With the axing of the ball there was a huge hole in the program.

There was utter disbelief on the part of the Wombats when the news broke. There was a wishy-washy excuse about hepatitis being the reason, and the base being unable to provide food and hospitality, which forced the cancellation of the ball. However, it seemed these concerns did not extend to people from the general public being on the base and mixing with a bunch of apprentices who, if the rumour was true, could well have been sources of infection and transmitters of the disease. The Wombats were shocked and angry at the decision.

Hearsay had it that, despite representations by George Stirzaker and the Wombat flight sergeant apprentices, Apprentice Squadron and base management were unmoved and would not entertain changing their minds. Around this time, the deal was set in concrete with letters forwarded to all the parents and guests 'regretfully' advising them of the situation, although reinforcing that they would be welcome at the parade. This led to many parents and friends cancelling their visit to Wagga entirely and apprentices being forced to share their big day, after three years of study and toil, on their own.

As might have been expected, there was a backlash to this decision that affected the Wombats so badly. One night shortly after the announcement, there was a tremendous amount of activity on the apprentice parade ground. Suddenly, front-end loaders from on-base building sites started up and commenced shifting large volumes of soil onto the parade ground. The nocturnal Wombats worked hard driving to and fro delivering yard after cubic yard of dirt onto the hallowed ground. After three years of training, they were expert drivers of every type of plant used by the RAAF. An immense quantity of soil was quickly gathered and shaped into a huge 'gravesite'. Next, to add to the authenticity, fireboxes that resembled small 'dunnies' were gathered from base-wide and assembled into rows resembling headstones at a bizarre cemetery. A cross bearing a sign was erected on the massive 'grave'—'Here Lies Our Grad Ball – RIP'. An indelible statement of protest had been made.

The next day, the morning's apprentice parade was cancelled—well not so much cancelled, as abandoned. WOD Dexter Dutton and his bunch of Drill Instructors were in absolute despair over the sacrilege to their parade ground. It took much more effort on their behalf just to gather resources to undo the ingenuity of the Wombats of the previous night and to return the ground to normal.

It goes without saying that on the day (9 December 1960) the Wombat graduation parade was a performance without equal, probably before and since. It was conducted to perfection and George himself was probably at least a foot taller at the end of the ceremony. Even the RAAF Central Band was said to be impressed and played the graduates off to the tune of the *Saint Louis Blues*, as a tribute to the graduating Wombats.

Not all staff were anti-Wombat and that night Flight Lieutenant Nick Harris, the Base Catering Officer and a winner of the Opera House Lottery (shared with three or four colleagues), opened his home and hosted a celebration for all those Wombats that were not otherwise engaged with family and friends at restaurants and other gatherings throughout Wagga. This was a night that Wombats would not soon forget.

BEYOND WAGGA

After leaving Wagga and commencing at their new units, outside of the work environment, the on-base living and social lifestyles for the mainly single Wombat tradesmen (there were two exceptions of marriage immediately after graduation from RSTT in December 1960) stationed at the Aircraft Depots and Motor Transport Repair Sections were certainly less regimented and free of the constraints imposed during the Wagga days. There was an airmen's club with a 'wet canteen' and, when not on duty,

Wombats After Hours

Wombats were now free to go off base any night without leave approval and to go where they wished to go on weekends.

Sport continued to be a major source for the social development and focus of many Wombats. Summer sporting activities at both No 2 Aircraft Depot (2AD) and No 3 Aircraft Depot (3AD) included surf beach swimming and board riding, with Wombats from Amberley going to Surfers Paradise or Coolangatta, and the Richmond Wombats going to Bondi and Manly. The social events of the surf clubs were an added attraction. As for winter sports, rugby union was an approved midweek activity at RAAF Richmond with inter-squadron teams vying for the annual championship trophy of the RAAF Base. The RAAF Richmond rugby union competition also had an annual game with the Cobar Camels Rugby Union Club and rotated the venue on an annual basis. In 1961, the Cobar Camels visited RAAF Richmond. However, these on-base competitions and liaisons with the broader sporting community were not the case at Amberley, where the sporting activities were restricted to local community sports at the weekend.

Weekend sporting opportunities for Wombats at 2AD and 3AD were many. The local community competitions catered for rugby league, Australian Rules, soccer, squash, tennis, hockey, tenpin bowling and others. Wombats at 2AD had the opportunity to participate in the local rugby league competition with either the Windsor or Richmond clubs. However, RAAF Base Amberley was represented in the local Ipswich rugby league competition in its own right. Most Wombats from the two Wagga apprentice rugby league teams of 1960, the RAAF 'Reds' and RAAF 'Blues', participated in these competitions. In mid-1961 there was a gathering of many of the Wombats from both the Richmond and Amberley bases for an inter-base rugby union match held at Richmond, a much enjoyed game and an even better social gathering of Wombats.

The 'truckies' at Laverton went on fishing trips without managing to impress anyone with their catches, but usually they had a good time. Alternatively, rabbit shooting in the Thornton/Taggerty area of the Eildon farming region in the Goulburn River Valley had very fruitful returns. The local farmers were only too pleased to take the 'truckies' out 'spotlighting' for the plague-abundant rabbits and only got upset with them when their aim was off the mark and the rabbits got away. Bags of 30 pair a night were not uncommon from a 10-acre (4-hectare) paddock.

The winter months were the key to the Wombats' introduction to local communities, mainly through their involvement with the local sporting teams either as players or spectators and supporters. Fraternisation with the fairer sex locally was of high priority for the Wombat and, as was the case with the relationships already established by some of the Wombats with Wagga girls during the apprentice years, quite a few of the relationships established in 1961 at either 2AD or 3AD ultimately resulted in marriage. However, some Wombats still had a predilection to the 'single' life.

For the Richmond-based Wombats, local hotels, such as the Macquarie Arms (also known as the Royal and once used as the Officers Mess of the 50th West Kent Regiment

from 1835 to 1840)⁸⁰ and the Fitzroy in Windsor, immediately adjacent to RAAF Richmond, usually had some form of entertainment on Friday and Saturday nights for the carousing Wombat. Similarly, the Palais Royal in Ipswich catered for the Amberley boys. There were also regular watering holes in Brisbane (Breakfast Creek Hotel), Sydney (Australian Hotel), Parramatta (Lennox Hotel or Railway Hotel) and Melbourne, where hotels and clubs were used as meeting places for the weekend sporting events or just for carousing or socialising. The price of a middy/pot of beer in 1961 was about 11 pence (9 cents) and rose to an exorbitant 11½ pence (10 cents) by the end of the year.

Sunday afternoons at the Macquarie Arms, Windsor, were a particular drawcard for live entertainment; the 'Maori Hi Fi's' were popular with their bawdy songs full of innuendo. The live bands usually kicked off at about 1 pm and continued through to 6 pm, which was Sunday closing time. The catch was that the hotel was only legal for bona fide travellers from outside of a 50-mile (80-kilometre) radius. In those days it was alright to legally travel 50 miles or more, and to drink in a hotel—as long as you had a meal with the drink—and then drive home afterwards, regardless of the driver's blood alcohol level! The practice was even overseen and controlled by the NSW Police, not to monitor the rate of drinking, but to ensure that each patron had a meal and that they had travelled at least 50 miles to get to the hotel!

These hotel licensing regulations, and the visits by the police, certainly led to some inventive travel arrangements and stories to justify one's presence in the hotel on Sunday afternoons. Nevertheless, Sunday afternoon at the Macquarie Arms was a 'must' on the weekly calendar and, regardless of where a Wombat had spent the Saturday night, or not travelled from, a suitable story was always at hand to support the Hotel Admission Logbook entry for the day. Unfortunately, there was always someone's story not to be believed or that could not be supported with the appropriate evidence—evictions ensued.

The social lives of the Wombats did not specifically rotate around the sporting scene and the hotel entertainment circuits. Almost all Wombats attended dances in their respective local areas. The Amberley contingent frequented the Saturday night dance at the Ipswich Showgrounds, whereas the Richmond crew had the regular choice of the Palais Dance Hall (sprung floor and all) on Parramatta Road in Leichhardt or the infrequent, but more intimate, dance function at the Masonic Lodge Hall in Richmond.

An alternative Saturday evening for the Richmond crew was 'by invitation only' to a dance and get-together run by a few of the Windsor girls in their personally 'renovated' old bake house, affectionately referred to as the 'Bakery'. These gatherings usually totalled no more than 25 to 30 and invitations were always keenly sought. The 'truckies' in Melbourne also supported local suburban dances or went into the city for dancing and clubbing.

At the closure of the Saturday night entertainment, it was not unusual for the contingents of Wombats at Richmond and Ipswich to venture further afield to continue

⁸⁰ *The Historic Hawkesbury*, published by Council of the Municipality of Windsor, date unknown.

their evening socialising. The beaches of Sydney and the Gold Coast for dawn swimming sessions or diversions through Kings Cross and The Valley for education on the seedier side of life were common outings to round off the Saturday night.

Usually the weekend entertainment circuit ended up with Wombats seeking food and sustenance and it was not uncommon for Wombats to congregate at popular eateries at late hours. Such places as the Italian café, opposite the Palais Hotel in Ipswich, (where toasted tomato and cheese sandwiches were the go) or Jimmy Wau's Chinese Café (for prawn omelettes out of tin billies whilst sitting in the gutter), were common meeting places. In Sydney a hamburger with the lot (including beetroot) from the Aussie Hamburger shop at the Parramatta end of Parramatta Road, or the local steak and hamburger shop in Richmond for a steak and two-egg toasted sandwich were always popular.

These excursions and the wider nocturnal roamings of the Wombats were cause for the purchase of 'suitable' transport. The remuneration of the Wagga apprentice days was certainly not sufficient to enable the majority of the Wombats to buy cars. Initially, the only vehicle available to the Richmond crew of Wombats belonged to armourer Les Bryksy, who was also renowned for his strength and his huge hands. His 1950 single spinner Ford was the chariot of choice for many an excursion and road trips from Richmond, including return trips to Wagga. One of these was a disaster, when close to Young a rear universal joint disintegrated and the tail shaft disengaged from the car's differential. This resulted in both rear axles seizing, causing the car to veer from the road at high speed. Later, an extended weekend trip to the Gold Coast saw a rear tyre blow out on a precipitous bend of the gravel-surfaced Gwydir Highway, with a similar outcome for the same car and its intrepid driver.

Over the year, others entered into car ownership, either by direct investment of their own money or via personal loans—in one instance a grand total of £27 (\$54) to buy a 1928 DeSoto, a vehicle which saw service 'above and beyond' in relocating three apprentices from Amberley to their new fifth-year apprentice posting at Edinburgh in South Australia. Personalities, preferences and pocket finance came to the fore with the varying car purchases, such as a Peugeot 205, a Vanguard Spacemaster traded up to a Simca Vedette, Holden FCs (by far the majority) and others, with the end result being that Wombats became mobile and ready to roam as they wished.

Reality always returned on Monday morning—back to the daily, morning parades and the Monday's 'Panic Night' This was the ritual cleaning and 'spit polishing' of their quarters by living-in airmen. It included cleaning and dusting each individual living space, polishing the floor, cleaning the windows, beating the bedside mat and generally presenting each living space in a pristine condition. Additionally, they were rostered for the cleaning duties of each accommodation block's toilets, showers, stairwell and immediate garden. These tasks were rotated to each member on a weekly basis. If the overall condition did not meet respective commanding officer's inspection standards, then it was all repeated the next night.

The secondary duties of a serviceman were also rotated on a regular basis. The weekly blocks of guard duty (shouldering, unarmed .303 rifles whilst manning, alone, remote piquet lines) or, alternatively, covering a designated 'beat' while punching 'bundy

clock' stations. Duty fire crew on a permanent seven-day live-in basis was another and, for Richmond electrical fitters, there was duty as the overnight boiler room attendant.

The willingness of the Australian Defence Force local commanders to involve themselves in community projects and aid programs was demonstrated in November of 1961, when the Hawkesbury River flooded and established the highest flood level of the 20th century. Measured at the Windsor Bridge, the river reached a height of 15.10 metres (49 ft 6 in) isolating the Windsor township and making the Richmond township and RAAF Base Richmond accessible only via very lengthy detours. The only floods to exceed the height of the 1961 flood were the 1799 flood at 15.25 metres (50 ft 0 in) and the 1867 flood at the enormous height of 19.26 metres (63 ft 2 in)⁸¹. As the flood waters receded from the surrounding district's businesses and farms the Base Commander authorised the collection and repair of pumps and motors from affected farms and businesses at RAAF expense. Wombat electrical fitters at 2AD spent the last six weeks of 1961 stripping, cleaning and repairing the various types of electrical pumps and motors before returning them to their owners, free of charge.

⁸¹ Michelle Nichols, *Disastrous Decade: Flood and Fire in Windsor 1864–1874*, Deerubbin Press, Berowra Heights, 2001 – 'Flood levels of the Hawkesbury River recorded at Windsor Bridge for major floods of 9.15 metres (30 feet) and over'.

KOKODA WALK – JOHN GRACEY

Everyone has a reason why they walk the Kokoda Track in Papua New Guinea (PNG). For me, I had lived in New Guinea as a young fellow, and my parents would often take short breaks from the coastal heat, where we lived, and go up into the cool of the hills in the Owen Stanley Range. Whilst there with our friends, my father would look back into the ranges and talk in awe and pride about the Kokoda Track and the soldiers that fought on it. Just over 50 years later I decided with my partner that we would go and find out just why my father was so amazed at what those soldiers accomplished.

Not like in 1942, you cannot just arrive and go walk the track; you require a trekking permit, obtainable from a tour group. The Kokoda Track Authority was set up to try and control the number of tour groups and tourists using the track. The tourist numbers have increased from 1584 in 2004 to 3750 in 2006. The Authority collects fees from the tour operators and then distributes the money to the landowners and villages along the way for land access and accommodation etc. Tours operate from Moresby to Kokoda or vice versa.

A reasonable level of fitness is required; the fitter you are, the more you will enjoy it. We trained for three months, walking up and down hills during the week to strengthen our legs, and then 30-kilometre walks on the weekends to get some endurance. As the time got closer, our tour company sent us a list of what to bring, and everything you bring has to be carried. The porters were to carry our bed-rolls and tents etc., whilst we carried our personal equipment that gave us a backpack of about 15 kilograms. We chose to take two pairs of lightweight quick-drying clothing to give us a change. Others in the group did not have a change and wore the same clothes, wet or dry, every day.

To walk the Kokoda Track, it takes about 50 hours to travel the 96 kilometres. This normally takes eight days; however, some fitness tours will do it in four days. There is a Kokoda Challenge foot race held each year, with entrants from Australia and New Zealand plus locals. In 2006, the winning time was less than 18 hours nonstop. We took the eight days, walking from Port Moresby to Kokoda, and then flying back to Moresby.

As a tourist in town or expat, you cannot go unescorted down the streets of Port Moresby for fear of being bashed, robbed and/or raped. Razor wire fences surround houses to try and create secure compounds. Our hotel, the Gateway, located at the airport, looked like a prison with its high walls, razor wire and guards on the front gate. The local men who resort to crime are known as 'Raskols'.⁸² The Raskols, armed with machetes, use the Kokoda Track coming and going to their villages, one of the reasons for using a tour group.

We arrived in Moresby the day before the walk, and were met by a tour official who introduced us to the other walkers, there were 11 of us, aged from mid-30s to 60 plus. We were briefed on what to expect and told there would be a resupply of food by aircraft

⁸² 'Raskol' gangs are gangs in Papua New Guinea, primarily in the larger cities (including Port Moresby and Lae). Raskol is a Tok Pisin word deriving from the English 'rascal'; and is used to refer to gang members or criminals in general.

at about the halfway stage, and asked if we would like to have a cask of wine and a bottle of champagne included.

The Kokoda Track is a walking path only—no vehicles can traverse the steep and narrow way. During the wet season (December–March) the track is closed to the tourist and, at times, it is impassable even for the locals. The track starts on the southern side of the Owen Stanley Range, just outside of Port Moresby, at a place called Ower's Corner and winds its way to Kokoda, a village located on a small plateau in the Yodda Valley on the northern side of the range.

Our group consisted of 11 tourists, plus 17 porters and a local group leader. The first steps on the track were down a steep winding path to one of the valley floors and the first of many knee-deep river crossings. During the night, even in the dry season, the clouds descend and leave their moisture in the trees. As you pass under the forest canopy the condensation drips from the leaves during the day making the exposed tree roots wet and the ground slippery. It did not take long for us to start falling and slipping over. Initially, we treated it light-heartedly but soon there was nothing funny about it, it hurt.

After the first day the thought was; 'Am I going to make it?' I tried to make conversation with the group leader to find out what to expect for the day. 'Easy day, only three lik-lik hills' was the lie from the group leader in his broken English. The first hill took over 1.5 hours to climb so you start to pace yourself and walk slowly to conserve energy and try not to slip or fall, not like the enthusiastic first day. For the group it all came together on the third day, it was during the long 10-hour trek that we got our breathing right and found our energy levels high. The energy was most likely attributed to the food they fed us with no-one losing weight on the trip. There were some walkers with blisters and others with injuries from falling over, but no-one complained—it was like a badge of honour. We shared our first-aid kits and tried to help each other. For myself, I had hurt both knees from falling over but the painkillers I took were strong and worked well.

After a day's walk sleeping is not a problem; however, sleeping arrangements vary—from being alone in a tent to everybody in the one room, each has its moments. Arriving at a bush camp site, your porter will erect your tent. The hired tent is only a pup tent that is meant for lying in, not for standing or even crouching. Before you zip up for the night to stop the 'creepy crawlies', you have to put your backpack and wet boots into the tent to protect them from the night rain and whatever. Being tired and sore it is an effort to get down low enough to crawl into the tent. For communal rooms, the village children would greet you on arrival and usher you to your camping site that usually consisted of an eating area, toilet, washing facilities and sleeping area (communal room), this is usually a woven thatched hut built up from the ground on stilts. As night falls, the cockroaches that have been hiding in the thatched roofing, descend en masse and the room becomes alive. A torchlight makes them retreat back into the thatch, only to return when the light is removed. The toilets are similar, except the cockroaches pour up from the smelly hole in the ground!

Keeping clean was easy for the first few days, we would bathe and relax in the cool creeks. As we climbed further up into the ranges, the evening temperatures became quite nippy and the creeks freezing. Most of us decided to go dirty until we descended

to warmer temperatures. 'Wet Wipes' were very popular. No matter what you did, you still could not smell any worse than the porters.

One of the villages at which we overnighed was Naduri (this was where we had our supplies flown in). The airfield here is located on a plateau and has quite a slope to it. The aircraft land going uphill and take off downhill. At the end of the runway, it becomes a cliff and drops off a long way down into a large valley; it must give the passengers of the aircraft a heart-in-the-mouth take-off. Standing on the edge there looking down into the valley with the mountain range on all sides was spectacular.

The higher the altitude the lush the forest became. From the head-high kunai grass on the lower sections to the rainforests, fern jungles, orchids and the pandanus trees (some up to 20 metres tall), all were just amazing. The quiet of walking on a moss carpet in the moss forest, the chill of the altitude, the dampness of the mist and the eerie dim light were quite spooky.

Mount Bellamy, at 2190 metres above sea level, is as high as the track gets (Mount Kosciuszko in Australia is 2228 metres). To get this far requires you to cross the rugged and precipitous jungle-covered Maguli Range following the spur lines and up and down the ridges; climbing hundreds of metres up then hundreds down and repeating it, gradually getting higher. The track has steps hacked into it, some at random, by the local natives. There are small steps and big ones each entwined with tree roots that can very easily trip a walker. The climb from Ofi Creek to the top of the Maguli Range is steep. The first section was called the 'Jap's Ladder', a very steep climb consisting of some 3000 steps with the top of the range a further gruelling two-hour walk away. Rivers and creeks flow through the ranges, some have log crossings others do not and have to be waded across. It was about this time of the year in 1942 that our soldiers were on the track, it was also the wettest month in 20 years and the track had turned to mud and the swollen mountain creeks were running fast. Nothing that bad for us, it only rained on a few of the nights. The ground, however, is always wet as you get higher, this makes it very tiring going uphill and treacherous coming down. Most of our injuries came from either slipping or tripping downhill. After Mount Bellamy you start the descent to Kokoda, going down and then up, and gradually getting lower. Going down did not make it any easier.

Bomana War Cemetery, a very peaceful and serene place in Port Moresby, contains the headstones for thousands of Commonwealth servicemen killed in New Guinea, including the Kokoda casualties.

Remnants of World War II on the track are still very much evident. Weapon pits and trenches are still visible, rifle shell casings can still be found, as well as aircraft wrecks and unexploded bombs. There are memorials to the fallen. The village of Efogi 2 has a memorial to the Japanese who died, built by a former Japanese soldier, who, 37 years after the war, came back to try and find the remains of his fallen comrades. Brigade Hill has a memorial for our soldiers that fell there but the main memorial is at Isurava, built on a very impressive site overlooking the Yodda Valley and Kokoda a thousand metres below. The solemn Isurava site is the actual place where Bruce Kingsbury's actions earned him the Victoria Cross.

Arriving in Kokoda and the end of the walk, we were greeted with a ‘sing-sing’ by a rather motley mob of natives. This would also be our last night in a communal room (cockroach free, well almost) before heading back to Moresby. With no razor wire around the sleeping area, the porters, who were great guys, stayed awake all night to protect us from any prowling Raskols. To walk Kokoda is not a holiday, but it is a worthwhile inspirational adventure.

AUSTRALIA’S FIRST WOMBANAUT – GEOFF SCHMIDT

After being commissioned into the Instrument category and on my initial posting to No 481 Maintenance Squadron Williamtown, I met one of the most unique characters the Apprentice Scheme had produced. He was (then a sergeant) instrument fitter John ‘Choppy’ Gannell. A larger-than-life chap (but in fact about 5 ft 0 in (1.5 m) square!), always up to mischief, a super organiser, a great entertainer, and probably the most generous individual I have had the pleasure of meeting.

Later in our careers, Flight Lieutenant Gannell worked for me in HQSC. Suffice to say, AEENG1’s social program was robust. (I must add that our ‘top cover’, Wing Commander Bob Bartram AEENG1, was another quiet, shy, ex-‘appie’ off No 3 Course – Sunbeams.) Local pubs, Bell’s, Druids and the Town Hall were venues where the leaders of the instrument trade conducted many frank and meaningful discussions—getting back by 5 pm to lock up the ‘B’ class cabinet was always a challenge. Similarly, ‘Choppy’ was the instigator of the famous ‘Banksa’ BBQs (first in 1973), which sees an all ranks instrument gathering on the first Friday in December for a session of ‘wisdom transfer’. Sadly, ‘Choppy’ has left us for the big ‘clean room in the sky’, but the ‘Banksas’—now extended to all avionics trades—continue to this day).



Space Shuttle Atlantis on the Launch Pad

‘Choppy’ was a proud Daffodil off No 7 Apprentice Course (other notables were Les Holt, Terry McGee and ‘Bodgie’ Moore). I had always chided ‘Choppy’, that there *were only two types of apprentices – Wombats, and those who wished they were*. My catchcry used to set him going and his revenge on me was usually swift and effective.

To celebrate the 40th anniversary of the Apprentice Scheme, all 'appie' intakes returned to Wagga in 1988 and marched up Baylis Street in order, by intakes—a most impressive sight. After we had 'broken off' from our March, I confronted 'Choppy' and, confident of a Wombat win, challenged him to a headcount of Daffodils versus Wombats. Well, to my embarrassment the bloody 'Daffies' outnumbered us by five! So over the ensuing years, 'Choppy' was relentless in his gloating of the course superiority of his beloved 'Daffies.' So a plan to turn the tide back to the Wombats was called for!

Luckily, I had a personal friend who was a pilot astronaut (as you do). He did two trips as the pilot on the shuttle Endeavour, and one as the Mission Commander on Atlantis. On this latter mission (11–31 March 1996), Atlantis docked with the Mir Space Station. And who was a valuable crew member on this mission? 'Wally Wombat', no less!

The story continues with an extract from *RAAF News* written by myself and 'journalised' by the famous RAAF photographer and 'journo', Wombat Denis Hersey, who composed the catchy title ('Australia's first astrobat ...') to this article:

Australia's first astrobat, or should that be wombanaut?

Burrowing herbivorous marsupials like the wombat are rarely found anywhere in the Australian bush and then mostly at night. However one of the nocturnal species, one 'Wally' by name, has achieved eternal fame by being the first wombat in space!

Wally recently returned to earth after completing a 221-hour mission aboard the space shuttle Atlantis. And what, one would ask, would a hairy, four legged eater of vegetation be doing orbiting the globe, taking up valuable space and oxygen?

Well, mission specialist Wally, an official member of the crew, was no oxygen bandit but a trained observer studying global vegetation patterns as pertaining to grass eating marsupials. Other foodstuffs examined by Wally included the Russian cuisine aboard their Mir space station which Atlantis was docked to for five days.

In fact, Wally is no ordinary wombat, but the diminutive three inch long, one inch tall non combustible talisman and mascot of retired RAAF engineer, WGCDR Geoff Schmidt of Canberra.

How Wally came to be an 'Astrobat' was due to his mentor Geoff's posting to California in the early eighties when still in the Air Force. Whilst working on the F-111 strike aircraft project at Sacramento, Geoff met astronaut USAF COL Kevin Chilton's father, an employee at MacDonnell [sic] Douglas.

Through the family friendship Geoff got to know Kevin, especially when Kevin visited Australia and stayed with the Schmidts. And, of course, when Kevin joined the space program Wally was recruited, but not before having passed the vigorous physical and mental testings so much part of the astronaut's role.

Wombats – 50 Years On

COL Chilton, commander of this particular mission, had this to say about Wally: 'He met all the requirements to be a good crew mate. He didn't talk back to his commander or didn't eat any of my food!'

But the main reason for Wally's intrepid journey into space originates back in early 1958 when Geoff and another one hundred plus lads between the ages of 15 and 17 years joined the RAAF as engineering apprentices. This particular intake of apprentices, the 12th, were named the 'Wombats', a very close knit group, whose achievements in both the military and civilian life are well known.⁸³

Wally's memorable mission into space puts other apprentice intakes on notice ... your response to match this Wombat achievement is invited!

Suffice to say, no other intake has come back with an event to match or better Wally's magnificent feat. The famous wombat figurine (made in Batemans Bay from compressed oyster shell) resides on Geoff's office wall in Canberra.

⁸³ *RAAF News*, vol. 38, no. 8, 8 September 1996, p. 18.

CHAPTER 12

WOMBATS – AN ONGOING FRATERNITY

ONE FOR ALL ~ ALL FOR ONE

Well, this may well be the last chapter of the Wombats book but it certainly will not be the last chapter on the Wombats. Possibly, the 50th reunion may be the ‘last hoorah’ in terms of major reunions but it will certainly not be the last Wombat reunion, and that is for sure. While ever Wombats are still upright, there will be Wombat reunions, as Wombats will get together whenever opportunities prevail.

The strength of Wombat mateship exceeds even that of Aussie mateship and while ever there are Wombats around they are going to get together and reminisce over the good times and how it was back then and how good it is going to be next time.

The bonds of friendship have stood the test of time, when the 139 kids that graduated, together with those others that fate initially drew together as Wombats in 1958 who have maintained their close association.

Who could have guessed the cohesion of that group with a common link in the simple name ‘Wombats’, which would become iconic. That shared experience of a bygone age that would be likened to a genetic link to the future, for truly each is a part of the ‘Wombat’ family.

Having read this book, you will realise that Wombats have indeed lead incredible lives with an amazing diversity of enterprise and achievement. People ask, ‘Why is it so?’ and truly it is hard to identify that single cohesive element that bound this group from January 1958 to eternity. Some suggest it was ‘George’, but clearly it predated George. This is borne out by the fact that most of the JEATs had left before George arrived, but the bonds between the JEATs and between the JEATs and apprentices were already forged. In point of fact, it was the very spirit of the Wombats that attracted George’s patronage in the first place (and alienated them from the establishment at Wagga). Not since his days with the Rats of Tobruk, had George seen the camaraderie of the Wombats.

Clearly, we should not regard the 50th reunion as the end of an era for, surely, it is just a step along the Wombat journey. Regardless of whether there are Wombats around or not, the spirit of the Wombats will live on through our kids and the values and principles that we bestowed in them. Why, there have even been linkages of marriage between Wombat offspring and their genetic links will certainly be for infinitum.

All of us Wombats have now retired from the RAAF and most are now in full retirement. We have lost a few along the way, but these are not forgotten and it is tremendous that some of their wives have joined in the reunion.

Wombats – 50 Years On



Catching Up with Old Friends

So how can we make the best of the remaining years and, as Wombats, what legacies do we leave to this world?

As individuals, it is up to us to continue this first-generation Wombat journey for as long as possible, and this means keeping active in mind, body and spirit for the future. It would be trite to give advice about such matters as eating properly, controlling those ever-increasing waistlines through diet and exercise, drinking in moderation, consulting our doctors, giving up smoking and all those other salutary musts for longevity.

We are too old now to change our ways to any great extent and old habits die hard. What is incumbent on us to do now is to demonstrate that 'Old Wombats' die even harder!



Old Wombat Habits Die Hard

Wombats – An Ongoing Fraternity

What better way to live the good life than to remain in contact and to enjoy the benefits of reunion by simply keeping in touch. We are the children of the communications age, so let's communicate. If the arthritis has not got your thumb seized up, or it is not lodged in other parts, pull out your mobiles and get on messaging, there is email and voice too, so no need to be incommunicado. For the 'grey nomads', do not just run with the mob, put some intention into your itineraries and plan a visit to a Wombat mate in the route plan. You might even pull a decent meal along the way.

How we live the rest of our lives perhaps rests, to some extent, on wealth and stability. Generally, the RAAF provided us with a sound financial start through regular pay cheques. There was generally enough money to achieve the important things in life. We can bask in the thought that our families have been provided for, the kids have been educated and poverty is not an issue. You have done your bit by the kids so get out there and enjoy your 'SKI' holiday; they will survive regardless, so make the most of your life right now, live it to the fullest. So get out there and actually **Spend the Kids Inheritance**.



A Regular Regional Reunion of 'Sandgroping' Wombats in Western Australia

Life is a wonderful personal achievement; something of which we should all be proud. Everything from here on in is a bonus. That is not to say that we would not like to be more comfortable in retirement. Some luck here and there and some better opportunities might or might not have placed us in a wealthier position than some

others. Chances are now limited to changing our existing situations—so get used to what you have and count your blessings. If you fret for the past, it normally means that you are not making the most of the present.

There is any number of options to maximise your financial situation and to take advantage of your resources. Make sure you are not denying yourselves access to what is rightfully yours. Check on your entitlements with the Department of Veterans' Affairs (DVA), take some advice from Centrelink and have a chat with your financial adviser. Investigate the so-called 'reverse mortgage'.

If bothered by deteriorating health, particularly if affected with a disability for reasons of 'operational' or 'eligible service' in the RAAF, you might qualify for a pension through Veterans' Affairs. There is a strong likelihood that certain medical conditions will develop and become worse with age—specifically, those conditions related to exposure to the sun, high noise levels and the result of strenuous physical events like heavy lifting and, of course, anxiety and mental health conditions. With the latter, the Vietnam Veterans Counselling Service is open to all ex-Service members, whether Vietnam veterans or not.

If you have a troublesome disability, seek advice now and submit a DVA claim (or claims) for a disability pension and allowance. There is plenty of evidence available from the RAAF to support claims, such as the workshop safety history of each posting, personal medical records and accident reports. Although your complaint may not be serious at the moment, once you have your leg in the door you are then in a position to quickly upgrade your status if your condition worsens.

Those who persevere with a claim have a good chance of being successful, eventually. An appeals process is available through the Veterans' Review Board—an independent tribunal created by the Australian Parliament to review decisions about repatriation pensions. Additionally, one year after an unsuccessful claim, another claim can be submitted if further information about the disability is forthcoming. Once you are issued with a pension card denoting your eligibility, you are entitled to free medical attention for the specific condition and concessional rates for pharmaceuticals.

Also available from Centrelink is the Commonwealth Seniors Health Card for both you and your partner (wife, de facto, etc.). This card provides veterans of our age with concessional rates for certain health and prescription costs. The card also provides access to the Seniors Supplement, which assists eligible seniors with the cost of general living expenses. Eligibility for the Seniors Health Card is income-tested but the limits are very generous and have recently changed, so check your current entitlements under the new legislation.

Contentment is an important ingredient of our mental health for the years to come. We should now consider our next life instalment and look forward with optimism, resilience and enthusiasm. Our new circumstances should be a challenge not a burden.

As *Wombats*, we should be planning our days and making sure there is always something on our personal agenda.

Whatever one can do to keep one's mind active is a bonus, so if it is sitting down with a crossword or reading a book, we need to keep our brains ticking over. If you are looking for things to do, think about volunteering—there is any number of good causes

Wombats – An Ongoing Fraternity

from mentoring kids through to delivering meals or driving 'Miss Daisy'. The University of the Third Age (U3A) is well patronised by our generation and social clubs like Probus are a cheap means of extending friendships and interacting socially with others of our era. You might even think about getting on their speaking circuit.

No doubt, your recent adventure in providing biographical details of your life for this book may have been a challenge and what a great way to leave something for the kids. The first rule of genealogy is to record your own life story, even before you start the ancestor hunt. So, hopefully, our insistence to contribute might have led some of you into more expansive autobiographical pursuits.



Hobbies, Interests and Pastimes

Boys Toys – Gadgets as Built by Wombat 'Gadget' Waters



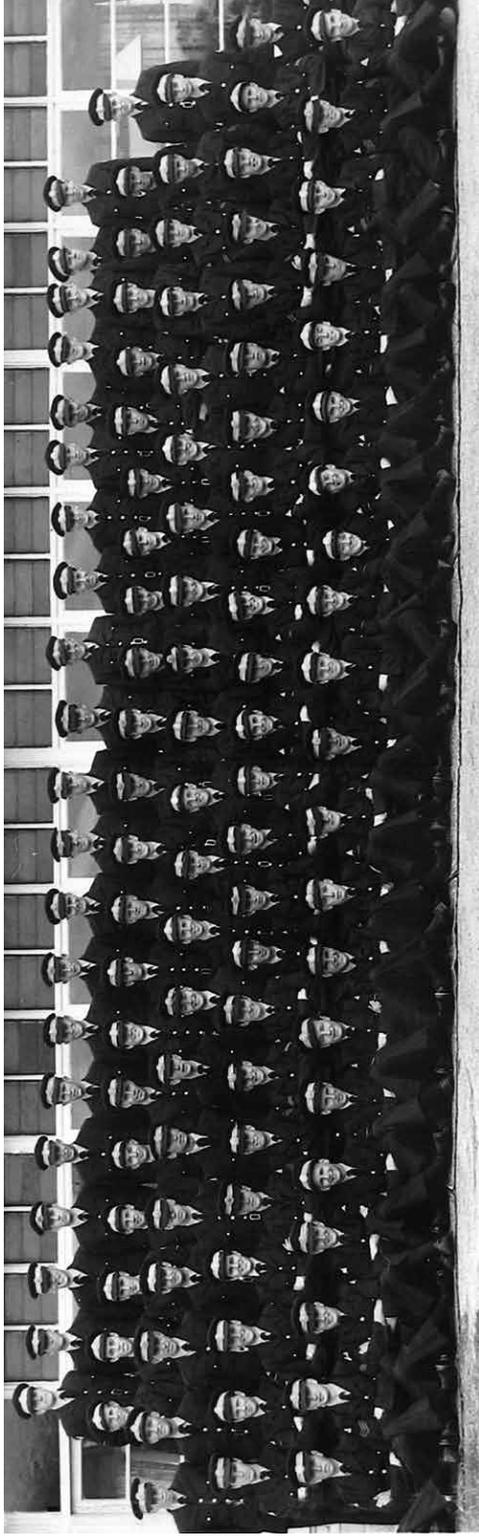
Wombat Warren and June Bridge

In the tranquillity of retirement, there are great opportunities to seek and achieve solace of the mind. It may involve catching up on a relative or previous friend (eg. ring a Wombat) with whom you have lost contact over the years. Resolving a family feud (life is too short to waste years bearing grudges) may bring you satisfaction, or organising a family reunion, thereby reuniting far-flung cousins, aunts and uncles. The time has also come to strengthen or shore up your relationships with your children and grandchildren.

Additionally, something that is dear to us: investing in your relationship with your partner. Love releases nature's painkillers, leading us to a deep sense of contentment and wellbeing, which aids overall health. Anything that keeps you calm and relaxed can shed years from your biological age.

The pursuit of spirituality can also bring inner peace, whether by way of a chosen religion or through other means like yoga and tai chi. Meditation practices lessen anxiety and, more importantly, teach us to control stress, which disrupts the immune system and can make us more susceptible to disease.

The bottom line is *Carpe Diem* – Seize the Day; make the most of every minute and keep in touch. You never know when you are going to be called ... for the next reunion. Until then!



Wombats – The Whole 109 Yards

MEMBERS OF THE 1958 INTAKE (WOMBATS)

RAAF ENGINEERING APPRENTICES

Allen, I. R.	Dicker, B.	Karpys, T. M.
Affleck, W. R.	Dodd, R. E.	Keast, D. G.
Andrews, G.	Donkin, R. H.	Kropman, P. J.
Bailey, F. J.	Donovan, V. J.	Lapins, A.
Baker, B.	Eames, G. B.	Large, K. G.
Barrett, M. G.	Edwards, A. C.	Larter, P. J.
Benton, R. J.	Edwards, W. L.	Leaney, B. W.
Bird, R.	Eller, S. G.	Lee, R. A.
Bishop, C. J.	Featherston, K. M.	Lenghaus, W.
Blaxland, G.	Firns, E. G.	Lenox, D.
Boardman, S. J.	Flintoft, T.	Locke, P. B.
Bower, A. R.	Ford, R. J.	Locke, W. R.
Boyce, T. D.	Forrest, R. J.	MacDonald, C. W.
Bradford, C. E.	Franks, K. G.	MacIntyre, J. C.
Bridge, W. R.	Garraway, R. A.	Mackie, L. S.
Broderick, B. J.	George, J. A.	March, D. J.
Brooker, M. E. M.	Gracey, J.	Marshall, D. C.
Brown, R. W.	Gretton, R. I.	Mascord, F. A.
Bryksy, L. V.	Griffin, K. V.	Massicks, R. W.
Burr, J.	Hahn, A. L. F.	Matters, R. A.
Bushell, G. J.	Hall, W. N.	Mattiazi, R.
Butler, L. E.	Harding, R. A.	Maxey-Fisher, R.
Buzzini, R. G.	Hartley, R.	McCracken, A. H.
Cain, T.	Haxell, M. J.	McLoughlin, G. W.
Caldwell, R. W.	Haywood, R. E.	McKay, W.
Cant, R. W.	Heck, J. M.	Mercer, C. E.
Church, N.	Herron, R.	Moore, K. J.
Clayton, I. D.	Hersey, D. C.	O'Halloran, G.
Coad, A. S.	Hobby, A. H.	O'Hara, R. A.
Crawley, B. W.	Hodgson, G. J.	O'Neill, T.
Crow, B. A.	Holmes, K. J.	Paterson, J.
Crust, W. O.	Horsburgh, A. B.	Pike, G. A.
Cupit, T. W.	Humphries, B. L.	Reeks, A. G.
Cupitt, P. G.	Hunter, J. R.	Riches, J. E.
Dambergs, M. C.	Hurford, B. W.	Rowe, J.
Darch, B. L.	Jacques, F. E.	Ryan, R. J.
Dean, G. A.	Jones, P. R.	Sanderson, R. K.

Schirmmeyer, K. H.	Thompson, C. J.	Whitchurch, A. W.
Schmidt, G. R.	Tickner, P.	White, E. J.
Sheil, P. M.	Valom, B.	Wicks, L. H.
Smith, E.	Vaughan, D.	Widgery, B.
Smith, M. J.	Viereckel, N.	Williams, K. J.
Stein, L. D.	Villa, V. B.	Wilson, T. C. A.
Stone, K. R.	Wassell, B.	Wise, K. J.
Stott, M.	Waters, D.	Wood, C. D.
Stott, P. G.	Watson, E. B.	Woodrow, B.
Stow, K.	Watts, R. E.	Worner, H. J.
Stuart-Sutherland, A. R.	Weir, R.	Wren, C.
Sydes, L. F.	Weller, E. M.	Zucker, G.
Tasker, N. C.	Whately, D. B.	

JUNIOR EQUIPMENT AND ADMINISTRATIVE TRAINEES

Baxter, A. R.	Field, B. S.	McDonald, C. P.
Biddle, J. W.	Foran, J.	McGrath, L. R.
Blakiston, M. A.	Hawkins, W. B.	Parker, F. J.
Bowman, E. T.	Hruza, M. F.	Paulga, J.
Bull, R. W.	Hughes, W. J.	Payne, C. F.
Calliess, G. R. G.	Jones, D. B.	Senior, I. K.
Campbell, R. N.	Kalenkowski, E.	Sprague, V. P.
Chilby, J. R.	Leach, R. H.	Wall, R. G.
Clark, M. L.	Leifels, J. A.	Watkins, R. C.
Coen, J. L.	Lord, D. E.	Welsh, K. J.
Courtney, W. T.	Lyford, G. G.	Whalley, E. L.
Cummings, N. V.	Madden, C. W.	Whittle, T.
Daly, A. L.	Martin, H. F.	