

RAF COLLEGE CRANWELL

College Journal Extracts

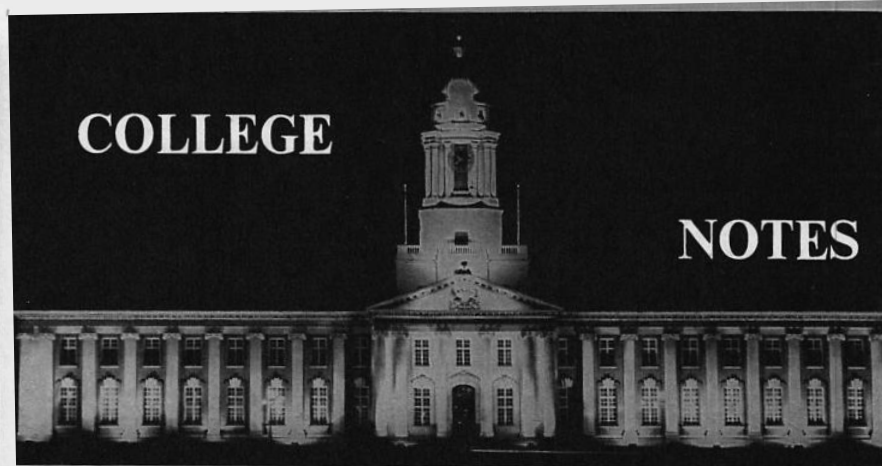


1976

1976 - College Notes



Air Commodore B W Plenderleith, Assistant Commandant Department of Air Warfare.



NEW APPOINTMENTS

ASSISTANT COMMANDANT DEPARTMENT OF AIR WARFARE AIR COMMODORE B W PLENDERLEITH

Air Commodore Plenderleith obtained an engineering degree at Cambridge, specializing in aeronautics, and then spent a year in the aircraft industry before joining the Royal Air Force in 1950. After flying training, and a tour as a flying instructor, he joined Examining Wing at the Central Flying School.

He subsequently served in Bomber Command as a flight commander on a Canberra squadron and as a ground instructor on Vulcans, but in 1958 entered Fighter Command to plan the firing trials of the Bloodhound Mk. 1. After the 1960 Royal Canadian Air Force Staff College Course in Toronto he assumed command of No 139 (Jamaica) Squadron flying the Victor B2. Two years later he joined the Directing Staff at the Imperial Defence College, London.

In 1967 he became Group Captain Operations Royal Air Force Germany and in 1970 Officer Commanding the Air Electronics and Air Engineers School at Topcliffe. In September 1972 he became a group director at the Royal Air Force Staff College Bracknell and a year later, on promotion, was appointed Air Commodore Plans Headquarters Strike Command. He took up his present appointment as Assistant Commandant (Air Warfare) in January 1976.

Air Commodore Plenderleith and his wife Peggy have two daughters. He holds an 11 handicap at golf, a gliding gold C category in height and enjoys swimming. The *Journal* extends a warm welcome to him and his family.

1976 - Annual Prizes Parade



Flight Lieutenant A D Sweetman receives the Sword of Honour at the Prizes Parade from Air Marshal R D Roe CB, AFC, AOC-in-C Training Command.

PRIZES PARADE

The Annual Prizes Parade was the first of its kind to be held at the Royal Air Force College and will henceforth be held annually. In past years it has been the practice to award both annual and entry prizes at the Passing Out Ceremony of a particular Graduate Entry, but changed circumstances at the College make it more appropriate that the winners of the annual prizes should be honoured at a special prizes parade. The Parade was Reviewed by Air Marshal R D Roe CB AFC RAF Air Officer Commanding-in-Chief Training Command.

PRIZE WINNERS

The Sword of Honour

Flight Lieutenant A D Sweetman BA
No 18 Graduate Entry

The Chicksands Cup

Flight Lieutenant A G O'Neill BSc
No 20 Graduate Entry

The Royal Air Force College Prize for Supply Studies

Flying Officer R MacLeman BSc
No 20 Graduate Entry

The Royal Air Force College Prize for Secretarial Studies

Flight Lieutenant A J White BA
No 20 Graduate Entry

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Stanley Robinson

1976 - The College Review (1)



HRH Princess Alexandra, The Hon Mrs Angus Ogilvy inspects the parade accompanied by Air Vice-Marshal W E Colahan CBE DFC.

1976 - The College Review (2)

THE COLLEGE REVIEW

Her Royal Highness Princess Alexandra, The Hon Mrs Angus Ogilvy was the Reviewing Officer at the 1976 College Review, at the Royal Air Force College on Monday 19 July 1976.

Arriving at Cranwell aboard an Andover of The Queen's Flight, Her Royal Highness was received by H N Nevile JP Esq, Her Majesty's Lord Lieutenant for the County of Lincolnshire, Air Marshal R D Roe, Air Officer Commanding-in-Chief Training Command, Air Chief Marshal Sir Andrew Humphrey, Chief of the Air Staff, Air Chief Marshal Sir John Aiken, Air Member for Personnel and Air Vice-Marshal W E Colahan, Air Officer Commanding and Commandant of the Royal Air Force College.

After the Review of the Ceremonial Parade, Her Royal Highness presented The Queen's Medal to Flight Lieutenant A A Young MA of No 20 Graduate Entry who was later presented to Her Royal Highness, together with his parents, at the Reception which preceded Luncheon in College Hall Officers' Mess.

During the visit Her Royal Highness attended a reception at the White Cranes Club, planted a tree in Queen's Avenue and watched a flying display by 'The Poachers'. After the flying display Her Royal Highness talked with families in the spectators' enclosure before leaving by the aircraft of The Queen's Flight at 1510 hours.

Among many others present at the Review were, Air Chief Marshal Sir Ruthven Wade, Air Marshal Sir Alasdair and Lady Steedman,

Air Chief Marshal Sir Douglas and Lady Lowe, Mr. and Mrs. W. J. Charnley, Marshal of the Royal Air Force Sir Denis and Lady Spotswood and Air Chief Marshal Sir Neil and Lady Wheeler.



Photograph : Steaford Standard

1976 - Indoor Ceremonies (1)

INDOOR CEREMONIES

No 19 Initial Engineering Course — 12 September 1975

Reviewing Officer :
Air Vice Marshal W E Colahan CBE DFC
RAF.

The Beckwith Trophy :
Flight Lieutenant R V W Wilson.

Course Members :
Electrical Specialisation :
Squadron Leader P D Thomas, Flight
Lieutenants J P Charlton, A L Dobb,
A C Hutchinson, Flying Officers A J Barnes,
A J Flewitt, P R Griffiths, S J Peters,
A E Warnes.

Mechanical Specialisation :
Flying Officers R M Adams, P B Akehurst,
J H Burgess, C W Hamilton, A C Hold-
stock, N J Oliff, S H Parker, K Richardson,
R C R Simpson, B M Thornton, P A
Turvill, Captain S M Wamae.

No 309 Initial Supply Course 19 September 1975

Reviewing Officer :
Air Commodore J R Rogers CBE RAF.

Prize Winner :
Flying Officer P M Miles.

Course Members :
Flying Officers C J Eagers, J B Sharkey,
Mr K W Holding. Pilot Officers J Cook
WRAF, A J R Davenport, C M Burnell.
Lieutenants J O Omollo, A A Kibisu,
H Matoog, A R H H Al-Bassam, A A
Simbawa.

No 20 Graduate Entry Wings Ceremony 10 October 1975

Reviewing Officer :
Air Vice Marshal F R L Mellersh DFC
RAF.

The Hicks Memorial Trophy :
Flying Officer M R G Buckland.

Officers Receiving Wings :
Flight Lieutenant P A Sneddon. Flying
Officers S P King, J P Stenson, J Turner,
C D Underhill, C P Watters, J M Williams,
A A Young.

No 5 Secretarial Officers' Course 15 October 1975

Reviewing Officer :
Air Vice Marshal W E Colahan CBE DFC
RAF.

Prize Winner :
Pilot Officer A C Blackwell.

Course Members :
Flying Officers G I August, S Blackburn,
P R Watson. Pilot Officers A T Reeves
WRAF, H D Watts WRAF, K C Dalziel,
P Byrne, I Gray (W) ZAF, C M Mwiya (W)
ZAF.

No 6 Secretarial Officers' Course 5 November 1975

Reviewing Officer :
Air Commodore M M J Robinson RAF.

Prize Winner :
Pilot Officer A D Simpson.

Course Members :
Pilot Officers K M Erwich, T E Kennedy
WRAF, J L Ward WRAF, G M Stapleton.
Lieutenant M O Khayundi. Captain S K
Ndungu.

No 20 Initial Engineering Course 7 November 1975

Reviewing Officer :
Air Vice Marshal H Durkin CB MA CEng
RAF.

The Beckwith Trophy :
Flight Lieutenant M J Owen.

Course Members :
Electrical Specialisation :
Flight Lieutenant A G O'Neill. Flying
Officers G B Aitken, S P Ivory, M Lewjs,
C G Neal, K A Rowe, M S Sandersen-
Miller, M W Urry.

Mechanical Specialisation :
Flight Lieutenant D J Fullbrook. Flying
Officers R G Box, P M D Brown, M
Crawley, G C Darlington, R C Farthing,
G J Gatensby, S W S Hodgson, P A Weaver.

No 7 Secretarial Officers' Course 3 December 1975

Reviewing Officer :
Air Commodore H F Glover CEng MRAeS
RAF.

Prize Winner :
Flight Lieutenant D J Reason.

Course Member :
Pilot Officer G C A Copping.

No 310 Initial Supply Course 5 December 1975

Reviewing Officer :
Air Commodore H F Glover CEng MRAeS
RAF.

Prize Winner :
Flying Officer C J Cadiot.

Course Members :
Pilot Officer S B Wilton WRAF. Lieu-
tenants M T Al-Madhi, J Mohammed.



No 9 AERO SYSTEMS COURSE

Back Row : Flt Lt I W Adam, Flt Lt D M Anderson, Flt Lt A Chilver, Flt Lt A Evans, Flt Lt P R Foggie,
Flt Lt N R Ledsham, Flt Lt P A Miller
Front Row : Flt Lt G F Bates, Flt Lt D J Mounter, Flt Lt T J Smith, Herr N Nuelle, Flt Lt I P Smith,
Flt Lt J D Revell, Flt Lt J R Popham.

No 20A and 21 Graduate Entry Wings Ceremony 12 December 1975

Reviewing Officer :
Air Vice Marshal W Harbison CBE AFC
RAF.

Hicks Memorial Trophy :
Flying Officer L Pennell. (Presented 27
February 1976).

Officers Receiving Wings :
Flight Lieutenants J C Cavanagh, J D
Cleaver, R D Middleton, C F Sherrington,
C M Sinclair, A Wright.

No 21 Initial Engineering Course 16 January 1976

Reviewing Officer :
Air Commodore H F Glover CEng MRAeS
RAF.

The Beckwith Trophy :
Flight Lieutenant C Murray.

Course Members :
Electrical Specialisation :
Flying Officers M J Anderson, J J Toshney.
Lieutenant G M K Osmerah.

Mechanical Specialisation :
Flying Officers J P Chitty, B Greenwood,
L J T Hendry, D W McCormick. Captain
E A Ndoli.

1976 - Indoor Ceremonies (2)

No 9 Secretarial Officers' Course 25 February 1976

Reviewing Officer :
Air Commodore D F Bates MBIM RAF.

Prize Winner :
Flying Officer B J O Kennedy.

Course Members :
Flying Officers K G Brackstone, J P Rogers,
B C Debenham, M J J Gray. Pilot Officer
P F G Learner.

No 311 Initial Supply Course 5 March 1976

Reviewing Officer :
Air Commodore A Beill ADC AMBIM
RAF.

Prize Winner :
Squadron Leader J H Champion.

Course Members :
Flying Officers D B Cannon, F M Simpson,
I P Drake, F E Fairbairn. Pilot Officers
S A Culligan, J H Thompson. Lieutenants
H K Muia, E Njeru, A A A Al-Mulhem,
M O Bajaber.



No 10 Secretarial Officers' Course.

No 10 Secretarial Officers' Course 17 March 1976

Reviewing Officer :
Air Commodore M M J Robinson RAF.

Prize Winner :
Squadron Leader D M Higgs.

Course Members :
Flying Officers C J Hinde, C M Towle,
M N Rasby. Pilot Officers SF Cox WRAF,
L C Morley WRAF, J Gooden WRAF,
M A Fairclough WRAF, E Chola (W)
ZAF, S Ngoma (W) ZAF.

No 21A Initial Engineering Course 23 April 1976

Reviewing Officer :
Air Commodore A J B Clements CEng
MIERE Dip EI MBIM RAF.

The Beckwith Trophy :
Squadron Leader R Lewis.

Course Members :
Electrical Specialisation :
Flight Lieutenants C W D Buck, D Turbitt,
D M Webster. Flying Officer J F Bradley.
Mechanical Specialisation :
Flying Officers A Mewes, D Pickavance,
K J Walker.

No 312 Initial Supply Course 11 June 1976

Reviewing Officer :
Air Commodore D I O'Hara MBIM RAF.

Prize Winner :
Squadron Leader J A Gamson.

Course Members :
Squadron Leader J M Minter. Pilot Officers
G L Nolan, J Vickers WRAF. Lieutenants
A M Al-Fraa, D D Edafioka, R O Olupitan,
E D Okujeni. Mr J Cawley, Mr J D
Roberts.

No 22 Initial Engineering Course 9 July 1976

Reviewing Officer :
Air Vice-Marshal J I R Bowring CBE
CEng MRAeS MBIM RAF.

The Beckwith Trophy :
Flying Officer I Virgo.

Course Members :
Electrical Specialisation :
Flying Officers B G Benstead, A J Buckland,
M J Gulliford, D R Haszeldine, G T James,
J M Madden, P R Mercer, S K Rankine,
N L Rich, R J S Stokes, B S Thrower,
D D Woodman.

Mechanical Specialisation :
Flight Lieutenant R E Vincent. Flying
Officers C N A Brown, D N Case, B A
Cormack, G McL Nisbet, S C Taylor,
A M Verdon.

No 11 Secretarial Officers' Course 12 May 1976

Reviewing Officer :
Air Commodore H F Glover CEng MRAeS
RAF.

Prize Winner :
Pilot Officer G St J M Thornton WRAF.

Course Members :
Squadron Leader W A Philp. Flying
Officers D J Gooding, I A B Johnston,
A Clark, N Greenfield, A J McNab, N T
Bale. Pilot Officer A C MacLennan.
Lieutenants E N Okonon, A Lawal.

No 22 Graduate Entry Wings Ceremony 4 June 1976

Reviewing Officer :
Air Vice Marshal W E Colahan CBE DFC
RAF.

The Hicks Memorial Trophy :
Flight Lieutenant I W McNicoll.

Officers Receiving Wings :
Flight Lieutenants M Bagshaw, C McA
Turner. Flying Officers D A Austin, M J
Bryan, P L Chandler, J D Clark, D W
Finlay, C H Hopton, N McLeod, P R
Ollis, S J R Parfitt.

No 13 Secretarial Officers' Course 21 July 1976

Reviewing Officer :
Air Commodore M M J Robinson RAF.

Prize Winner :
Pilot Officer I N Banks.

Course Members :
Flight Lieutenants J Hunter, M Kenrick.
Flying Officer R J Manclark. Pilot Officers
L E Morrison WRAF, D M C Saunders.

1976 - Wings Presentation

Presentation of Wings at Cranwell

10 September 1976

Speech Given by Air Vice-Marshal A Maisner CBE AFC

I cannot tell you how delighted I am to be here today and I should like to convey my heartfelt thanks to your Commandant for inviting me.

It is not just that a day here makes a welcome change from the rather less inspiring environment of MOD or that today's lunch will be so much better than the usual round of sandwiches in my office. I am always thrilled to be back at Cranwell but today particularly so because to be asked to present Wings is a great honour, and as it is an occasion so near my retirement I shall always cherish and remember it. But whatever its significance for me personally, let me hasten to say that for those of you who have just received your Wings this is really your day: yours to be proud of, yours to enjoy, yours to remember, yours to share with your family and friends. May I therefore first of all reiterate my warmest congratulations to the eleven young men to whom I have just presented their Wings and to wish them every success in their careers in the Royal Air Force. I should like to extend my congratulations also to their parents, because — being a parent myself — I know very well that for one's son to reach a milestone such as this demands a degree of parental contribution (and often sacrifice) which deserves recognition.

To receive Wings is beyond doubt the proudest moment in a pilot's life. No other award or event in one's Service career is quite like it; certainly none has such a lasting effect upon the appearance of one's uniform and such an impact on one's entire personality. Just take one look at yourselves in the mirror when you leave here or watch the admiring looks you get from your family and friends, and you will see what I mean!

I was particularly pleased to present one prize today, and to learn that other prizes which recognise special merit and achieve-

ment, are still to be competed for. Frankly, I do not share the fervour for compulsory equality which is prevalent in some circles today. I believe that special merit deserves to be recognised and as DGPM I spend most of my time ensuring that this is so in the context of promotions, appointments, awards. Ours is a meritocratic Service, and I hope it will always remain so.

To present the Wings was the easy part of my assignment today; to leave you with some well-chosen and sagacious advice which might help you in the years to come is much more difficult. Not that I am short of advice to give you — I could go on giving it to you for many an hour! What worries me though is that, with all the mass of advice that has been, is being and will continue to be hurled at you, even with the best intentions, you are bound to forget what it is you are supposed to do or remember!

To help you, let me throw you a "lifeline" of the kind often resorted to in university examination papers; you will recall that these contained — right under the heading and before the mass of questions, some of which seemed to relate to subjects you never heard of — the magic phrase typed conspicuously across the middle of the page and underlined in case you missed the point; "Attempt only X questions". Similarly, I want you to attempt to remember and to follow only TWO items of advice, but two which I consider very important.

The first relates to your approach to flying. Flying is fun, will always be tremendous fun and must be enjoyed. But military flying is, in the first place, concerned with operational effectiveness, and to achieve this you must combine the fun of flying with the full knowledge of your aircraft, of your weapon system, and of everything even remotely connected with your operational mission. Unless you

adopt this approach, you will waste expensive flying hours in peacetime and run the risk of failing in your task in war.

My first advice to you then is this: make the aim of your flying the achievement of mastery — total mastery — of your aircraft and of your operational role.

My second advice relates to your responsibilities and standing as an officer. Whilst your dreams, aspirations and main responsibilities will, I hope, remain "aircraft-shaped" for a long time to come, you must never forget that you are also Royal Air Force officers. Significantly, the Wings which you have just received depict the Royal Crown and the letters "RAF" to serve as a constant reminder, if indeed a reminder is needed, that you also hold the Queen's Commission and are members of the Royal Air Force.

You will by now have received your Commissioning Scrolls and you will recall that in the very first sentence they tell you that HM The Queen has placed "special trust in your loyalty, courage and good conduct". Although the Commissioning Scroll in its present form was approved by King George V as long ago as 1926 — exactly 50 years ago — it is incredible how full of meaning and importance these words are in the social climate of today. "Loyalty, courage and good conduct" — never let any of these be suspect; they are the foundation of your standing and of your credibility as an officer.

There are several other qualities equally important which you will also need to develop and to sustain — qualities of leadership, integrity, innate sense of duty, self-discipline and self-sacrifice. This is not very easy to do at a time when these qualities are not all that conspicuous in the world outside. But the crux of the matter is that as an officer you are the corner-stone of the Service, and you must set the very best example at all times.

Thus, my second advice to you is that in addition to the mastery of your aircraft you should also aim to achieve the mastery over yourself; never be satisfied with anything less than the best in you.

Finally, let me say a few words about the future: the future of the Service and your own future in it. You are inheriting nearly 60 years of Royal Air Force history, tradition and experience which should provide you with a sound basis for meeting the many challenges which lie ahead.

The new aircraft coming into service, their weapons and equipment will help you to meet the challenge of the ever-present threat and of the new strategic and technical developments. But you must recognise that, for economic reasons alone, we are likely to remain numerically weak for some time to come. And the weaker we are the more likely it is that someone will seek to exploit that weakness. Thus, the challenge that will continue to confront you will be to compensate for the numerical weakness by increased efficiency in every imaginable field of Service endeavour.

At least as important and probably more difficult will be the challenge of the constantly changing social conditions. Although the basis of a Service society is necessarily different in important ways from a civilian society, we cannot isolate ourselves from it. Indeed, we cannot survive and meet our tasks if we grow too far apart from the rest of society. In this lies our dilemma, and we have to keep asking ourselves whether the differences are there for good reasons. And it will be your responsibility as officers to try to discern and use those changes which are permanent and good, and to resist those changes that are ephemeral and bad. A very demanding challenge, gentlemen, and one in which your qualities of loyalty, courage and good conduct will be thoroughly tested.

But I don't want to leave you with the impression that your air force careers will be a prolonged series of economy measures interspersed with steps against manifestations of the permissive society. Nothing could be further from the truth; the problems I have described, though they may bother you occasionally, will form only a small part of the wide spectrum of your activities. First of all there will be the flying which initially at least should, and I am sure will, take up most of your time: the thrill of converting to a

new aircraft, of joining your first squadron of "flying for real", of operational exercises, of overseas detachments, of goodwill visits and so on. I know there is an element of luck in all this, of being in the right place at the right time — but don't worry, you will get your share!

Also, there will be the excitement of your first steps in leadership and man management; of such jobs as officer IC barrack block looking after the welfare of your airmen, as officer IC a sport trying to weld a team together, flight commander, squadron commander posts, culminating with that best job of all — that of a station commander!

And last but not least there will be the satisfaction of being a member of a team and of the comradeship of the Squadron and of the Mess, with its many social occasions, some formal some informal, all of which make life in the Service such a unique experience.

I hope I did not sound too much like a recruiting officer — this would have been quite unnecessary since I am preaching to the converted! But if I sounded a bit envious, this was perhaps understandable since, most regrettably, I cannot join you in exploring the vista of experiences which lie ahead of you.

But I have kept you long enough from the less formal part of today's celebrations. Once again, I congratulate you all on your success in gaining your Wings and I wish you all the very best of luck, good fortune and satisfaction in your chosen career. Enjoy this your day, always be proud of your Wings and may they inspire you to great things in the future.

1976 - Lead Article (1)

Electronic Warfare Training in the Department of Air Warfare

In almost every facet of military operations today, armed forces depend to a greater or lesser degree on electronics. A strike aircraft, for example, relies largely on electronic devices for its communications, navigation and weapons delivery systems. The air defence networks, in opposition, have a similar requirement to ensure that the anti-aircraft artillery, surface-to-air missiles and fighter aircraft can be brought to bear effectively on a penetrating force. In the maritime sphere, the anti-submarine aircraft is almost totally reliant upon electronic devices to locate and destroy the submerged enemy submarine. It is essential, therefore, that at every level of command, and in every role, the special problems and vulnerabilities of military electronic systems are fully appreciated. In the Royal Air Force we must know not only how to protect our own systems from enemy interference but also how best to interfere and degrade the enemy's electronic systems. This is the business of Electronic Warfare (EW), and one of

the vital functions of the Department of Air Warfare is to train officers of all ranks in the fundamentals and applications of EW techniques.

Interestingly, this is by no means a new task for the Department, but rather a task on which a renewed emphasis has been placed in very recent years. Although the history of EW can be traced back to the pre-1914/18 war days, the subject really came of age in the 1939/45 war when opposing forces began to rely substantially on their radar and communications networks. Perhaps the greatest single success ever achieved in the EW field was during the attack by Bomber Command aircraft on Hamburg on 24 July 1943. On that occasion, a force of 791 aircraft was tasked to attack that very well defended city—a task which under normal circumstances would have resulted in the loss of at least 50 aircraft. However, unknown to the German defences, each aircraft had been briefed to

drop “window” (or “chaff” as it's known today) as it approached the target area. “Window” consisted of strips of aluminium foil designed to produce false radar echoes on the air defence radar screens — thereby confusing the operators. The device had never been used before operationally but, during this one raid, approximately 40 tons of “window” (92 million strips of aluminium foil) were dropped. The tactic was very successful and the aircraft loss rate was reduced to 1.5 per cent (12 aircraft of the 791).

The Royal Air Forces experience and expertise gained in EW during World 2 was later carried over to the “V” force era, and the Valiants, Victors and Vulcans all carried EW equipments to aid their high level penetration sorties into enemy airspace ; indeed, one Valiant squadron was employed as a specialist EW unit. During the mid 1960's however, tactical concepts were changed to take account of the newly deployed surface-to-air missile systems, and the emphasis was changed to penetration at low level, below enemy radar cover. Hence, EW techniques were temporarily of much reduced importance, and interest in EW waned drastically.

The advent of the surface-to-air missile also had a significant effect on the concept of operations for tactical aircraft. Until the Vietnam war, it had never been considered necessary to equip tactical aircraft with EW systems. However, United States Air Force losses to surface-to-air missiles in Vietnam caused a rapid reappraisal of the situation and, before long, United States tactical aircraft were equipped with both passive and active EW devices to enable the aircrews both to detect and “jam” the missile electronic control systems. The reappraisal was not, of course, confined to the United States Air Force ; air forces world-wide realised that a new era had arrived and that a considerable amount of money would need to be spent on EW equipments and training if tactical aircraft were to remain viable. This latter viewpoint was strengthened further by the experiences of the combatants in the 1973 Arab-Israeli war, in which extensive use was made of EW equipment and techniques.

The Royal Air Force, for its part, was not slow to realise the implications of the Vietnamese and Middle East experiences. In

addition to the procurement of EW equipments (a subject which is beyond the scope of this article) it was clear that a training scheme would be required to train officers at almost every level of command in the principles and techniques of EW ; moreover, this training in many cases would need to be pitched at ab-initio level. Accordingly 3 major categories of officer were identified. Perhaps the most important were those officers in front line squadrons and air defence units who would be expected to employ — or combat — EW techniques in their day-to-day operations. Then there were the staff officers who would of necessity become involved in providing EW advice, thereby extensively influencing the decisions made on EW. Thirdly, it was essential that senior officers and commanders should understand the basics of this very complex subject because of their direct involvement in the many important decisions that would need to be taken.

Thus it was that the EW courses provided by the Department of Air Warfare evolved. Prior to 1971, the main EW instruction in the Department had been confined to a few lectures given routinely to the various in-house courses, together with an annual requirement to run a course of one week's duration for NATO Senior Officers.

With the advent of the new training requirement, three new courses were introduced. The first of these, the Electronic Warfare Officers' Course (EWOC) was designed to fulfil the needs of the front line units. Ministry of Defence policy in this was to ensure that at least one officer in each front line unit received sufficient basic EW training to enable him to organise training programmes for the other members of the unit. The course that has now evolved is of three weeks' duration and is held once per quarter. Twelve students attend each course, most of whom are detached from the unit on which they are destined to become the nominated EW officer. The course is divided broadly into three phases. First of all, instruction is given on the principles of radar, communications and EW. Next come three days of external visits to Royal Air Force stations of particular EW interest. Finally, visiting lecturers are invited to lecture in their individual fields of EW expertise. Overall, the course appears to be very popular with our students and it certainly evokes an enthusiastic response.



NATO SENIOR OFFICERS' ELECTRONIC WARFARE COURSE

*Wg Cdr Mansfield, Col McInerney, Col Merritt, Col Miller, Col Mitri, Col Nardini, Col Reagor, Col Schauder, Col Schneider, Col Schwenke, Col Skydsberg, Col Venetsanos, Col Width, Col Deville, Col Domenech De Celles, Col Evertse, C V Farand, Col Frapier, Col Guelzow, Col Harrington, Col Johnson, Col Lauderdale, Col Mahlberg, Col Malaganne, Gp Capt Maloney,
C V Brusson, Gp Capt Carver, Brig Ulleberg, Brig Gen Numan, Air Cdre Rogers, Maj Gen Geschiere, AVM Colahan, AVM Lamb, Brig Gen Hoffman, Brig Gen Sanderson, Col Chatelle, Col A'Antonio.*

1976 - Lead Article (2)



No 31 Air Warfare Course.

Courses for staff and senior officers are, of necessity, very much shorter than the EWOC and more limited in their scope. The Staff Officers' EW Course is held once per year and is designed to meet the requirements of Wing Commanders and Squadron Leaders, together with the equivalent ranks of the other Services and Civil Service. The course, which is of 5 days' duration, caters for 40 officers. Again, it commences with a revision of the fundamentals, followed by a phase in which visiting officers are invited to lecture on specialised EW topics. The courses have always been well received by those attending — indeed, the most frequent complaint concerns the fact that there is only one course per year, and this limitation is now under review.

Courses for senior officers are of two days' duration and can really be more accurately termed "EW Study Periods". They cater for the ranks of Group Captain and above and,

again, about 40 officers can attend, including officers of the other Services and the Civil Service. However, the maximum number attending in practice is normally between 20 and 25. The study periods follow much the same pattern as the staff officers courses but, in the shorter timescale, the lectures tend to be rather less detailed and a greater emphasis is placed on overall EW policy.

The EW course that imposes the greatest workload on the Department is the NATO Senior Officers' Course, held annually. This joint service course, which is of one week's duration, is open to senior officers of all NATO countries, including France. The students — usually between 35 and 40 very senior officers — arrive at Cranwell on the Sunday afternoon, ready for a Monday morning start. They descend on Lincolnshire from the far corners of Europe, some driving, some flying, and some by rail. During the

ensuing week, the Department is transformed by the multitude of different uniforms, vast quantities of gold braid, and the sounds of 10 or more different languages — to say nothing of the smell of some very strange tobaccos.

For five days, the instructional and social programmes of the course keep the Department very busy indeed. However, the students obviously learn a lot and they are certainly appreciative of all the efforts that are made to make their stay enjoyable. All in all, running the course can be a very satisfying experience indeed — though there are just a few slight sighs of relief on the Friday evening when (and if) all the visitors have successfully caught the correct train/aircraft/car on their return journey.

Of course, the presentation of EW lectures is not limited to designated EW courses — indeed the Department's EW Specialist lectures to every student who attends a course in the Department with the exception of those on the Flying Supervisors' Course. He also ventures forth into several military establishments both at home and overseas and, during the past year, has lectured to students in Teheran and Copenhagen, as well as in more routine locations such as Bracknell, Blandford Forum and Shrivenham.

Finally, it must be emphasised that the success of the EW courses depends to a great extent both on the willingness of our visiting lecturers to come to Cranwell, and on the co-operation of the Royal Air Force stations that host the courses during their "walkabouts". In this respect, the Department is extremely grateful to all the visiting EW lecturers (there are too many to mention them individually) and to the stations that host us so generously. For our part, we can only hope that our EW students are gaining the maximum benefit from their courses and that our efforts are helping to increase EW awareness throughout the Royal Air Force. Without such an awareness — and the equipment to go with it — the effectiveness of a modern air force must surely be degraded to an unacceptable level.

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THE R J MITCHELL AIR MUSEUM

By WING COMMANDER D BENNETT AMRAeS RAF (Ret'd)

Southampton, where the great aircraft designer Reginald Joseph Mitchell lived and worked from 1917-1937 after leaving his native city Stoke-upon-Trent, became the centre this year of celebrations of the 40 years of his ubiquitous Spitfire, and not before time, saw the opening of the R J Mitchell Hall dedicated to his memory.

After far too many abortive attempts, years of indecision and abortive attempts to find a worthy home for the Supermarine S6 Schneider Trophy seaplane owned by the City of Southampton and a Spitfire Mk 24 on loan from MOD (Air), it became plain to see that somehow, whatever happened, a Museum to house these aviation treasures must be opened in the Ruby Anniversary year of the Spitfire.

In 1974, after galloping inflation had put paid to a rather over-ambitious scheme for a Museum near to Southampton University Air Squadron's Headquarters, three very polished displays in July of that year at the annual Southampton Show by a Spitfire Mk 19 of the Royal Air Force's Battle of Britain flight, triggered off a tremendous revival of local interest in Mitchell's dream child. The Mayor at this time, a dedicated Southampton man, held a meeting early in 1975 as a result of which an old Entertainment Hall, not unlike a mini-hangar, near to the local ATC Squadron Headquarters, was saved from demolition. Alan Jones, the Squadron's CO, immediately produced plans for an R J Mitchell Hall and the Council agreed a four-year lease of the property for that purpose.

The summer of 1975 was therefore the start of a revival. It also saw the first flight of a reproduction S5 seaplane, with a 200 HP Rolls "Continental" in lieu of the 900 HP "Lion", flown by Captain Keith Sissons from Calshot. This gave the R J Mitchell Committee a tremendous boost, since R J M's name came to the fore at a vital time for them. Cranwell too, was much in mind, since College Hall contains three fine oil paintings of Schneider Trophy pilots, "Batchy" Atcherley, Waghorn

and Kinkead. Waghorn won the trophy for Britain in 1929 at 328 mph and if "Batchy" had not been disqualified for missing a pylon we could have been second as well. As it happened the Italian Macchi 52 flown by Dal Molin was second and D'Arcy Greig third in an S5. Kinkead had been killed in March 1928 in an attempt in an S5 on the World Speed Record and D'Arcy broke the British Speed Record in November 1928 in another S5, similar to the one that gained the Schneider Trophy for us at Venice in 1927. Calshot in 1975 saw a revival of those halcyon days when the reproduction seaplane appeared and many older people, who remembered those historic days found it hard to believe their eyes as the very accurate S5 taxied out and ultimately made its maiden flight. It was hard to believe we were looking at a 1927 design, so beautiful were R J Mitchell's aircraft. The aircraft belongs to Leisure Sport in Surrey and after various modifications it has done a certain amount of flying since August 1975 and will, it is hoped, be seen more often in our skies.

The publicity that the S5 received also gave a big booster to the R J M Committee and by October all was set for a start on the Hall.

The story of the refurbishing and rebuilding is a very remarkable one by any standards, since the hard core of the voluntary labour force was provided by ATC Cadets working over weekends towards Duke of Edinburgh's awards using thousands of pounds worth of building materials and the expertise of local firms. Weekend after weekend the Hall was a hive of industry as the building began to be transformed, so that when in February 1976 the S6 seaplane and Spitfire arrived on "Queen Marys" they were manhandled into the Hall and re-assembled by a specialist team from 71 MU aided by numerous Cadets aged 14 to 19, all of whom played a part on that great occasion, The Rt. Hon Edward Heath, a visitor that day on sailing business, called into to see the S6 and Spitfire and recalled that, like myself as a boy, he too had watched the 1929 and 1931 Schneider Trophy contests from Seaview, Isle of Wight.



S - 5 (R), Calshot, August 1975.

The weekend of 5 to 7 March was devoted to 40th Anniversary celebrations of the first flight of the Spitfire prototype K5054, so clearly a development of Mitchells' great Schneider Trophy seaplane in its fuselage shape. Eastleigh had seen that epic flight in 1936, as Cranwell later was to see Whittle's Gloster jet fly from the South Airfield and in 1976 Squadron Leader Mick Raw, flying a Spitfire 11A P7350 and carrying 5000 specially flown philatelic covers came, into the Eastleigh circuit, flew round and then took a route embracing R J Mitchell's old home, the Civic Centre, R J Mitchell Hall, the two old Supermarine factory sites at Woolston and the Vickers-Supermarine Headquarters at Hursley Park, Winchester. Dr Gordon Mitchell, R J M's only son unveiled a commemorative plaque at Eastleigh in the Airport Lounge and was guest of honour at a Spitfire Symposium organised by the Southampton Branch of the Royal Aeronautical Society at the University on the following day. This "40 Years On" special was oversubscribed months before and 500 delegates attended to hear

such famous men as Jeffrey Quill, Douglas Bader, Bob Stanford Tuck, Eric Brown and old Supermarine and Rolls-Royce experts recount the Spitfire story. The highlight of the day was the flying display at Hamble, when three Spitfires performed together with a 6/10 scale Spitfire G-BBJI designed and built by John Isaacs, whose "Fury" flew in the Golden Jubilee flypast which the Queen and Prince Philip attended at Cranwell in 1970. Neil Williams flew both Alan Swire's and Douglas Arnold's Spitfires with panache and what a memorable performance he put up on that cold and windy March day!

The success of the Southampton weekend added further inspiration towards the official opening of the R J Mitchell Hall scheduled for 11 June. The hardest part, which took three months, was the collation and layout of the many photographs, models, papers and displays to back the main exhibits of the two aircraft and a Rolls Royce "Merlin" engine, loaned by Jersey Motor Museum.

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A few weeks before the opening, the news came that our S6 seaplane was not an S6B (S1596) as everyone had thought for years. As it so happens it is a more valuable asset for it has now been proved to be an S6A N248, which in 1929 was flown by "Batchy" Atcherley when, though disqualified, he broke the 50 kilometre and 100 kilometre World Record at 331 mph. Suitable arrangements to alter the numbers on the aircraft will be made in due course.

The opening ceremony, carried out by Dr Gordon Mitchell, was an historic occasion for Southampton and brought together a large number of old Supermariners but sadly only one of the four surviving Schneider Trophy pilots, Air Commodore D'Arcy Greig. The three who we did not see were Air Vice-Marshals Frank Long and S W Webster and Group Captain Leonard Snaith, who was my Flight Commander in the Advanced Training Squadron at Cranwell when I was a Cadet in 1936. Leonard Snaith is in South Africa and by coincidence, on the day of the R J Mitchell Hall opening, was lecturing on his Schneider Trophy reminiscences to the Pietermaritzburg Aero Club and the South African Air Force Association. We were honoured with the presence of Marshal of the Royal Air Force Sir Dermot Boyle, and of Dr John Tanner from the Royal Air Force Museum, who put the stamp of approval on the R J Mitchell Hall. Perhaps the opening ceremony and the feeling towards Mitchell

can best be summed up in the words written in the red of the Royal Air Force roundel in a display designed by EDDU Hendon as follows: "From time to time, out of the ranks of obscurity, a man little-known to the public emerges to make a vital contribution to the continued existence of his country. Such a man was R J Mitchell, whose classic aircraft materialised at a turning point in our Island history.

Memories being what they are, the achievement — in this case that of the aircraft and its pilots — is often remembered before the man who made it possible. So it is fitting that there should be a memorial to a man to whom we owe so much. Today we remember him with pride and lasting gratitude". A wonderful tribute indeed.

The R M Mitchell Hall would not have been possible but for the dedication of Alan Jones, 424 Squadron ATC, the Chairman of the R J M Committee, who made it possible with his drive and initiative, backed by many willing workers. Now we must hope that the life and work of Mitchell remains for all time in Southampton for all to see, since the heritage we have must never be lost.

Dr Gordon Mitchell remarked that the day of the opening was one of the proudest of his life and that a dream had ultimately become reality. I, too, am proud to have been involved with such a valuable project, now one of the highlights of my life.

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DEPARTMENT OF SPECIALIST GROUND TRAINING

END OF COURSE PRESENTATIONS TO
MAINTENANCE ENGINEERING STUDENTS



No 12 Maintenance Engineering Course.



Flying Officer G B Griffiths receiving the Halahan Trophy from Air Commodore Glover

No 12 Maintenance Engineering Course, after twelve months at Cranwell, finished training in July 1976. At the final ceremony Air Commodore Glover presented the prizes, both major awards being won by the same officer.

Halahan Trophy Winner: Fg Off G B GRIFFITHS.

Halahan Trophy Runner-up: Fg Off R M GIBBON.

Royal New Zealand Air Force Prize: Fg Off G B GRIFFITHS.

RECENT CHANGES IN THE AEROSYSTEMS ENGINEERING COURSE

The origin of the Aerosystems Engineering Course lies in the early days of the missile era when a need was identified for the advanced training of officers, who were already well-qualified, to fill specific posts operating at the frontiers of the existing technology. Appropriately named, in 1954, the Advanced Guided Weapons Course, its aims were centred on the rapid advance of missile systems, but within a few years it had absorbed the Advanced Armament Course to become the Advanced Weapons Course. Under this title the course developed a weapons systems approach to follow both the state-of-the-art and changes in defence policies. The present name Aerosystems Engineering Course was introduced in 1967 when space technology and other developments added new dimensions to the problems of remaining in the forefront of the technology of air warfare.

In the period 1954-1975, the length of the course which was initially one year, increased by stages to 1 year 8 months before finally settling at 1 year 3 months. However, in 1975, the cut-backs in defence expenditure and the resultant stagnation in new projects contributed to a call for a drastic re-appraisal of the aims of the course, to more closely relate them to the current tasks of the posts to which graduates of the course would go.

Most Royal Air Force students selected to attend the course are senior flight lieutenants with a background of an engineering degree or equivalent and some 6 years of productive service and experience following initial training. On the course, they are joined by selected officers from other countries, for example, Australia and the USA. In their productive service, all of these officers will have tended to specialise in Mechanical or Electrical engineering depending on their degree training and thus a revision of the course had to recognise the need for cross-training of

specialists to produce a systems engineer adequately but economically trained to satisfy the requirements of a range of post-graduate appointments.

Two specialist Training Design Advisers (TDAs) were appointed to devise such a course. In accordance with the principles of the Systems Approach to Training they started their task with a thorough examination of the job specifications of the posts to be filled, which enabled them to determine the disciplines in which advanced training would be necessary. For each of these disciplines they devised a questionnaire to assist in the determination of the depth to which any subject and, indeed, any topic within those subjects would need to be treated. Armed with these questionnaires, the TDAs conducted a series of group interviews involving both the incumbents of posts to be filled who were, by definition, graduates of earlier courses and also heads of the employing departments, many of whom had progressed to their positions through the same post-graduate training. The statements and discussions arising from these meetings, firmly based on previous training and current experiences, enabled the TDAs and the Heads of Subjects of the Department of Specialist Ground Training, who were present at the meetings, to devise a series of training objectives which the student would have to achieve if he was to be adequately prepared for an appointment within the spectrum of posts concerned. Some posts required knowledge in managerial subjects at an appropriate level in addition to technology and this was incorporated within the objectives through a similar consumer research process.

When the whole package was put together and time estimates added, it was considered that the requirement could be met in 38 training weeks as opposed to the 59 training weeks previously needed. This represented a

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considerable saving both in direct costs of training and in the loss of students' productive service.

The first course to commence training on the new syllabus (No 9 Course) started in February 1976 and completed training in December 1976. Quite clearly, it was a formidable task for students to attempt in 38 weeks an MSc level course including such a wide range of disciplines as Mathematics, Computing, Aerodynamics, Thermodynamics, Propulsion, Materials, Structures, Electronics, Telecommunications, Radar, Control Engineering, Guidance Engineering, Electronic Warfare and Weapons Systems Engineering. The assessment of the effectiveness of the revision of the course required

internal validation to check that the students had achieved the stated training objectives. A later external validation of the training objectives will also be needed. The internal validation operated since No 9 AEC started training has suggested measures to improve the training of No 10 Course starting in 1977.

However, the final test will be the performance of the man in his job as judged very largely by his predecessors. The College is confident that the outcome will follow the prediction of the famous boxing commentator, the late W Barrington-Dalby, in that "A good young 'un will always beat a good old 'un".

23 INITIAL ENGINEERING COURSE

The address below was given by Air Vice-Marshal S M Davidson CBE C Eng FRAES FIERE on 8 October 1976, to officers and students of 23 Initial Engineering Course.

**Commandant : Officers of No 23 IEC ;
Ladies and Gentlemen :**

At the end of one particularly trying day in Whitehall in 1692, the Secretary of the Admiralty (Samuel Pepys) wrote in his diary : "The life of a virtuous administrator in the Navy is a continual defensive war against Ministers of State and in particular against the Lords Treasurers and all other prejudiced inquisitors and malcontents".

Life in MOD Whitehall in 1976 is not quite as bad as that. It is, nevertheless, a great pleasure to abandon it for a day to be with you here at Cranwell: a place of very special memories for me.

And how good to be back — even for so short a while — among some of the young of our Service and their families. Folk in my somewhat remote Central Staff position need to be reassured from time to time (as I have been reassured today) about the quality of intellect, bearing and basic professional competence of those who are just starting their Service careers — because high quality in all our defence resources — men and material — is as important today as it has ever been in our nation's history ; and we must not allow defence reviews or redundancy schemes, or any of the other miseries of our nation's present financial and social situation lead us to think otherwise.



No 9 GD Aero-Systems Engineering Course



23 Initial Engineering Course (Electrical)

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You Graduates of No 23 IEC are all too young to appreciate from your own experience that the great 1970's wrangle over size and shape of forces and defence expenditure is not a new phenomenon. As I look back over my life in the Service and remember also the earlier Royal Air Force history that I was taught as a boy on this station just before the war, I am reminded of that old fashioned doctor's/chemist's phrase "The Mixture as before", because I can see quite clearly that what is happening today is really familiar stuff to any of us who have experienced or made a study of the history of defence policy matters.

Our business — yours and mine — no matter what part we play in the Royal Air Force, is national defence and national defence is an odd business. It always has been. It is rarely well understood by the British people at large ; and the longer we are separated in time from national involvement in a major international conflict the more difficult it seems to be for the ordinary man in the street to see justification for defence expenditure,

particularly expenditure on highly complex air power, when there are so many other urgent calls on his tax pocket.

In Victorian times it was Rudyard Kipling who so aptly pointed his finger at this aspect of the British public thought — and summed up his view of the situation in his superbly characterised barrack room ballads. The pungent view of his Cockney soldier, Tommy Atkins, leave us in no doubt about the public's peacetime attitude to defence effort and those engaged in it in the days of Queen Victoria.

O it's Tommy this, an' Tommy that, an'
'Chuck him out, the brute !'

But it's 'Saviour of 'is country' when the
guns begin to shoot ;

Many views and most circumstances have, of course, changed dramatically since those rather primitive days but the history books will show you how Lord Trenchard had to struggle with this very same basic problem in the

context of new thinking on air power throughout the '20s and '30s. But how convincingly the Battle of Britain vindicated his views and actions.

And so it that today we find the man in the street and in the pub and in the club, saying "we haven't had a major war for 30 years — so there is no point in spending all that money on national defence forces". They find it very difficult to accept the unpleasant truth of the matter which is, of course, that we have been at peace — albeit uneasy peace — for the last 30 years simply because we, with our allies, have maintained — in addition to adequate conventional forces and as a deterrent to war — a highly potent and balanced nuclear striking force, the acknowledged preparedness and power of which has been sufficient to keep potential aggressors out of our air space and off our homelands and our really vital interests these last 3 decades.

We professionals in the Royal Air Force — and that includes you young men now — all work in direct support of that essential defence power ; and the more widely experienced of us know this to be the truth of the matter. And I can assure you that you can trust those now in Lord Trenchard's place in Whitehall to be as resolute and realistic in their time as he was — in the nation's interests — in the similar circumstances of the 1920s and 1930s.

But what, you young men may ask, is your own role in all this as you move off to your first career postings ? To which I answer that it is to think yourselves through this aspect of defence philosophy in the widest context, and then to join your new units radiating confidence in the worth of your mission. For, I assure you, it is vital that you testify to the truth of this in your new work both as professional engineers and (even more important) as junior commanders. And I say this because, through your close daily contact with our

NCOs and airmen (particularly the NCOs) you will be best placed to help them to understand and cope with the pressures bearing on them and their families as a result of the constant publicity given by the media to the nation's current political, economic and social problems. By so doing you will not only be encouraging them as individuals and boosting their morale, but you will also be helping to ensure the future of those qualities of life and work that have made the Royal Air Force the very special society that it undoubtedly is : a thoughtful, loyal, hard-working, technological society in which misdemeanours are discouraged by discreet but firm discipline, and when that fails, by sharp instant constructive punishment ; and a truly caring society which regards the whole man and his family as part of the working community's responsibility in every respect.

All of which brings me back to my key-point — namely — the need fully to understand our wider purpose and its importance in the general scheme of things in these especially trying times.

If you are not already clear about this you young engineers must think it through for yourselves. And when you have done so, I am sure that you will share my readiness to explain to all and sundry not only that our operational role (and our work as engineers in support of it) is vital to the safety of the nation ; but also that our corporate way of life, our behavioural standards and community spirit are of greater importance now than they have ever been — both for us and our families, and as an example to others.

I congratulate you — and your families and all the College staff who have taught, guided, encouraged and helped you — on the success you have achieved in your training here. And I wish you all possible success and good fortune in your future careers in this great fighting Service of ours.



23 Initial Engineering Course (Mechanical)