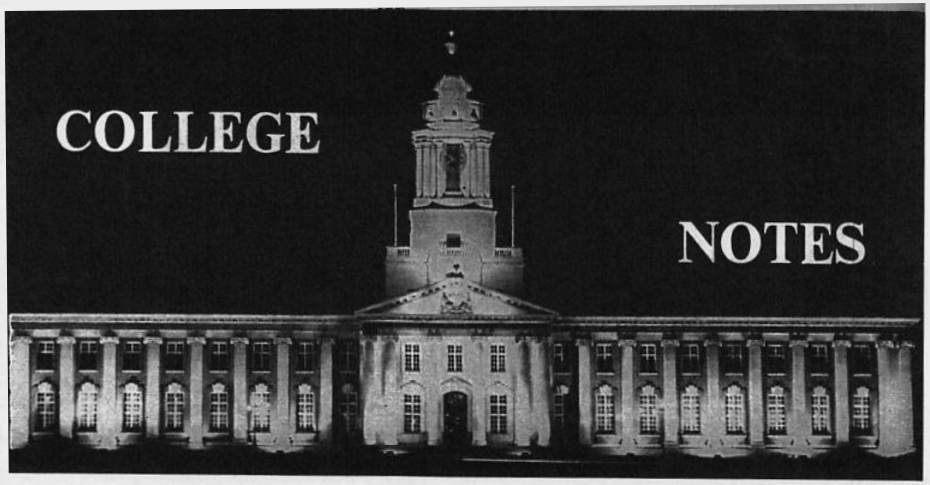
RAF COLLEGE CRANWELL
College Journal Extracts

1979

1979 - College Notes (1)

Air Vice-Marshal B Brownlow OBE AFC
Air Officer Commanding and Commandant



CAREER BRIEF
Air Vice-Marshal B. Brownlow OBE AFC RAF

Air Vice-Marshal John Brownlow entered the Royal Air Force in 1947 and trained as a navigator. He served with No 12 Squadron at Binbrook which was equipped with Lincolns and, later, Canberras. After a staff appointment at Headquarters No 1 Group in 1953 he trained as a pilot, and subsequently flew Canberras with No 103 and 213 Squadrons in RAF Germany. In 1958 he took the Empire Test Pilots' School course, and on graduation became a flight commander in the Experimental Flying Department of the Royal Aircraft Establishment, Farnborough. After attending Staff College in 1962 Air Vice-Marshal Brownlow served in the Operational Requirements Branch of the Air Ministry. He returned to flying in 1964 on becoming OC Operations Wing at RAF Lyneham. During this tour he commanded the transport force deployed to fly oil from Kenya to Zambia after the unilateral declaration of independence by Rhodesia.

On completing the Joint Services Staff College Course at Latimer in 1967 he joined the Directing Staff at the RAF Staff College, Bracknell. He was accredited as Defence and Air Attaché to Sweden in 1969 as a group captain, and on returning to the UK in 1971 took command of the Experimental Flying Department at Farnborough. In July 1973 Air Vice-Marshal Brownlow became Assistant Commandant (Officer and Flying Training) at the RAF College, Cranwell. He was appointed Director of Flying (PE) in September 1974, and Commandant of the Aeroplane and Armament Experimental Establishment in March 1977. He assumed his appointment as Air Officer Commanding and Commandant of the RAF College Cranwell in January 1980.

Air Vice-Marshal Brownlow has been a gliding instructor since 1955, and has served for over 12 years as a member of the RAF Gliding and Soaring Association's Executive Council. He is an active competition glider pilot at National level, holding a Gold C with one diamond, and plays tennis, squash and golf.

He is married and has a daughter who started undergraduate studies at York University in October 1979, and two teenage sons who are at boarding school near Bury St. Edmunds.

1979 - College Notes (2)

The opening of No 1 Initial Officer Training Mess on 17 October 1979

CRANWELL REORGANISED

The last edition of the College Journal featured an article describing the introduction of Single Gate Initial Officer Training (SGIOT) at Cranwell. The scheme resulted from an Air Force Board decision that, in future, entry to commissioned service in the Royal Air Force would be through a 'single gate' located at the Royal Air Force College. The introduction of SGIOT implies a major increase in the training capacity of the Department of Initial Officer Training (DIOT) and a corresponding increase in the total College population. It also implies the closure of the Officer Cadet Training Unit at Royal Air Force Henlow. In anticipation of the onset of SGIOT, it has proved necessary to reorganize the allocation of training and domestic accommodation. During 1979, there was also a major reorganization of the College management structure.

A major milestone in the programme of works services related to the introduction of SGIOT was reached on 17 October 1979 when the old Junior Cadets' Mess was reopened. The Mess, now known as No 1 Initial Officer Training (IOT) Mess will accommodate DIOT students during the second 6 weeks of their 18-week course. In December 1979, the Department of Air Warfare vacated its training accommodation in the Whittle Hall and moved to join the Department of Specialist Ground Training in the Trenchard Hall. The DIOT has now taken over the whole of the Whittle Hall and a third training squadron has formed; eventually there will be 8 DIOT squadrons. Work on No 2 IOT Mess is nearing completion. This Mess, utilizing temporary buildings and a barrack block in the East Camp area, will accommodate DIOT students during their first 6 weeks of training. Another barrack block is being converted for use as an annexe to the Trenchard Hall Officers' Mess and half of it came into use late in the year. York House Officers' Mess accommodation will also be enhanced when current work on the refurbishment of 3 bungalows in the grounds is completed early next year. Plans to construct a fourth officers' mess in the vicinity of the Stadium have now reached an advanced stage.

The SGIOT article in the 1978 Journal reminded readers of the management organization prevailing at Cranwell at the time. A new management structure has been devised which takes account of the anticipated major growth in the DIOT and the requirement to rationalize basic flying tr[illegible]er the control of the AOC (Training Units) at HQ RAFSC. The reorganization, which came into effect on 3 August 1979, introduced a number of significant changes, including:

a. The creation of a Basic Flying Training School (BFTS), to be known as the BFTS Cranwell, under the command of a group captain who reports to AOC(TU) at HQ RAFSC. The BFTS Cranwell consists of the Flying Wing and the major portion of the Engineering Wing of the old Royal Air Force Cranwell organization. The BFTS also includes a Flying Selection Squadron which is located at Royal Air Force Swinderby.

b. The replacement of the post of Station Commander, Royal Air Force Cranwell, established for a group captain, by that of OC Support Unit (SU), Royal Air Force College, established for a wing commander. The SU consists of the Adminstrative Wing and the major portion of the MT Flight of the old Royal Air Force Cranwell organization. OC SU exercises the powers of a station commander and provides support for both the College and the BFTS.

c. The creation of an independent identity for the University Air Squadrons (UAS) Wing of the DIOT. The new College Department, now titled HQ UAS, includes a newly established group captain post, Group Captain UAS.

d. The recognition that the function of the Director of Studies (DOS) had changed considerably in recent years. The DOS post has been replaced by that of the Senior Administrative and Training Staff Officer (SATSO). SATSO is the principal staff officer of the College HQ, both OC SU and Wing Commander College Secretariat reporting through him to the AOC and Commandant.

Coincidental with the introduction of the new management structure, the AOC and Commandant decided to move his HQ from the College Hall to the upper floor of the Station HQ building. The building is now known as the College HQ. Accommodation in the College Hall vacated by the College Secretariat now houses the HQ UAS. The move of the HQ UAS stff from their Whittle Hall accommodation provided more much needed space for the DIOT.

From every point of view, 1979 has been an extremely busy year at Cranwell. Once again the College has adopted a new posture in response to changing circumstances, as it has done several times during its relatively short history. It now stands ready to meet the challenge of SGIOT with confidence and enthusiasm.

1979 - The Annual College Review (1)

The Sword of Honour winner, Flight Lieutenant J P Warren Wilson

Initial Officer Training and Flying Training Prize Winners 1979

The Hennessy Trophy is awarded to the student of each entry who, during Initial Officer Training, most distinguishes himself in leadership and officer qualities.

Winners:

34 IOT Fg Off J P Crosse BA Sy (Regt)
35 IOT Fg Off W Armstrong Admin (Cat)
36 IOT Plt Off M J Crossey BSc GD/P
37 IOT Plt Off(W) S J Duncan MA Admin (Sec)
38 IOT Plt Off B A Moore BA Eng(M)
39 IOT Plt Off H Millar BA Admin (Sec)

The R M Groves Memorial Prize is awarded to the officer who is placed first in the combined final order of merit for flying and associated ground school.

Winners:

30 GE Flt Lt J R Gostick BSc
2 IBFT Plt Off D G Froggatt
3 IBFT Flt Lt J Middleton
4 IBFT Flt Lt L J Trask BSc
5 IBFT Flt Lt J P Warren Wilson BA
6 IBFT Flt Lt I Hollingworth BSc
7 IBFT Flt Lt M E Wood

The Dickson Trophy is awarded to the officer who shows most proficiency in flying.

Winners:

30 GE Flt Lt C H Moran BSc
2 IBFT Plt Off J G Allen
3 IBFT Flt Lt C T Lawrence BSc
4 IBFT Flt Lt C R Lambert BSc
5 IBFT Flt Lt J P Warren Wilson BA
6 IBFT Flt Lt I Hollingworth BSc
7 IBFT Flt Lt I A M Brayn-Smith

The Battle of Britain Trophy is awarded to the officer judged to be the best aerobatic pilot in his entry.

Winners:

30 GE Not awarded
2 IBFT Plt Off J G Allen
3 IBFT Flt Lt M A Leakey BSc
4 IBFT Flt Lt R A Sloan B Tech
5 IBFT Not awarded
6 IBFT Flt Lt I Hollingworth BSc
7 IBFT Flt Lt I A M Brayn-Smith

The Hicks Memorial Trophy is awarded to the officer who is placed first in order of merit in Flying Wing Ground School.

Winners:

6 IBFT Fg Off A C Price BSc
7 IBFT Flt Lt M E Wood
8 IBFT Flt Lt D W Frost BA
9 IBFT Flt Lt J B Wooldridge BSc
10 IBFT Flt Lt M D Hale BSc
11 IBFT Flt Lt T N Lock BSc
12 IBFT Flt Lt C C Edwards BA

The Michael Hill Memorial Prize is awarded to the officer judged to be the best of the Dickson Trophy winners.

Winner:

Flt Lt C T Lawrence BSc (3 IBFT)

1979 - The Annual College Review (2)

THE COLLEGE REVIEW

The College Review was held on 20 September 1979. The Reviewing Officer was Air Marshal Sir Keith Williamson KCB AFC, Air Officer Commanding-in-Chief Royal Air Force Support Command. The Review included the Graduation Parade for No 37 Initial Officer Training Course. During the Parade the annual prizes were presented by the AOCinC.

The Sword of Honour, awarded by the Air Force Board of the Defence Council to the student who in his academic year has most distinguished himself in leadership and in general influence for the good of the College, was presented to Flight Lieutenant J P Warren Wilson BA, a graduate of Oxford University and a member of No 29 Graduate Entry.

The Queen's Medal, awarded to the Graduate Entry Officer who has proved himself to be the most outstanding Student Officer of his intake year, was presented to Flying Officer N S Morris BA, a graduate of Durham University and a member of No 29 Graduate Entry.

The Kinkead Trophy, presented to the Royal Air Force College in 1929 in memory of Flight Lieutenant S M Kinkead DSO DSC DFC, who was killed in the Solent in 1928 whilst making an attempt to break the world speed record of 300 mph, was won by Flight Lieutenant J G Richardson BSc. The prize is awarded to the officer who is placed first in the combined order of merit for flying and associated ground school studies during his intake year. Flight Lieutenant Richardson is a graduate of Manchester University and a member of No 29 Graduate Entry.

Flying Officer G A Ashcroft received the Prize for Supply Studies for achieving the highest standard in Supply Studies in his intake year.

Pilot Officer (WRAF) L Wightman BA, a graduate of Oxford University, received the Prize for Secretarial Studies as the Secretarial Officer who has achieved the highest standard in Secretarial Studies during her intake year.

The Chicksands Cup and Prize, awarded to the Officer who has achieved the highest standard in professional studies on Initial Engineering Courses during his academic year, was won by Flying Officer J C Secker.

Air Marshal Sir Keith Williamson also presented the Hennessy Trophy to Pilot Officer (WRAF) S J Duncan MA, a member of the Graduating Entry, No 37 IOT. The Trophy is awarded to the student of each entry who, during Initial Officer Training, most distinguishes himself in leadership and officer qualities.

The Prize winners with the Air Officer Commanding-in-Chief Royal Air Force Support Command

1979 - Royal Visit

VISIT BY PRINCE BANDAR

Visit by His Royal Highness Major Prince Bandar Bin Sultan Bin Abdulaziz and Princess Haifa—5 April 1979

On Thursday 5 April 1979 His Royal Highness Major Prince Bandar bin Sultan bin Abdulaziz and his wife Princess Haifa, paid an informal visit to the College. The Prince's object was to renew his acquaintance with his old College and to see what developments had taken place since he was last here as a Flight Cadet on D Squadron of Number 96 Entry.

His Royal Highness was met on arrival at College Hall by the Director of the Department of Initial Officer Training, Group Captain D E B Dowling AFC. The Prince was then briefed on the current role of the RAF College, while Princess Haifa was entertained by officers' wives and WRAF officers at the Station Commander's residence.

The visit was a happy occasion and particularly so for Mr L Amies, who was the Prince's former batman, for His Royal Highness presented him with a gold watch. The Prince also met Mr K Adams, who was previously the Sergeant Drill Insructor on D Squadron, but is now a College Projectionist. At the end of the visit His Royal Highness presented to the College a picture and in return was given a print of the College Hall to commemorate his visit.

During the visit the Prince had expressed a wish to present to the College a silver trophy and a substantial sum of money for a major College prize. Subsequently it was agreed with His Royal Highness that the prize should be awarded for the best War Studies essay by a student undergoing initial officer training. The trophy and prize, which it is planned will include a trip to Saudi Arabia, will be awarded for the first time in 1981 based on work completed in 1980. The prize will be known as "The Prince Bandar Prize for War Studies'.

1979 - Lead Article (1)

THE NEW PATTERN OF ENGINEER OFFICER TRAINING

On 4 September 1979 the first entry of Engineer Officers started training which will prepare them for tours of duty in the Aerosystems (AS) and Communications-Electronics (CE) fields of employment. This article describes the background which led to this new pattern of Engineer Officer Training which is closely related to Engineer Officer employment and how it differs from the previous training in the mechanical and electrical specialisations.

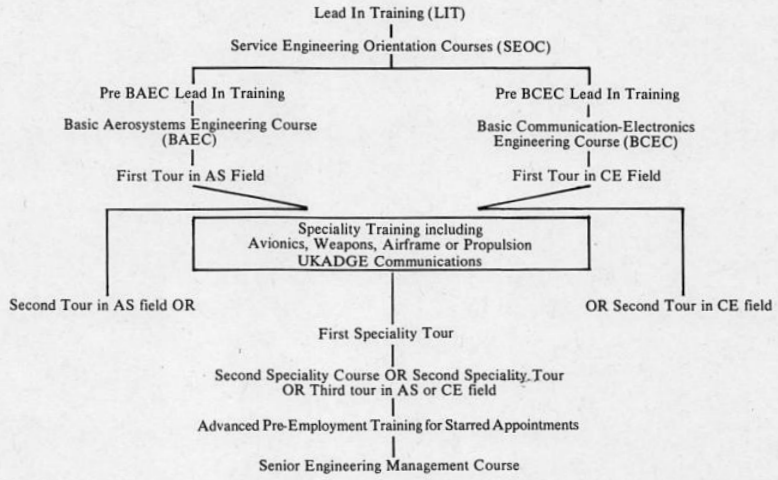
Approximately 3 years ago, staff at MOD (Air), Support Command and in the Department of Specialist Ground Training (DSGT) examined the training and employment of engineer officers and found 3 major drawbacks:

a. The previous Initial Engineering and Maintenance Engineering Courses (IEC and MEC) taught too much to soon; it was 'one shot' training which attempted to lay the foundation for the whole of an Engineer Officer's career in the RAF.

b. The IECs and MECs contained too much demotivating academics early in the course and did not teach enough maintenance engineering management of men and resources; the structure and balance of the courses was wrong.

c. The mechanical and electrical specialisations were inadequate for the needs of a highly technical modern air force. It would be more appropriate to train some engineer officers in the AS field of employment bringing together the mechanical, electronic, electrical and managerial knowledge to work on and around aircraft; and then to train other officers to manage and maintain the RAF and NATO ground communications and radar equipment in the CE field.

Having identified these shortcomings, the Air Force Board in March 1978 endorsed a paper on the future employment and training of engineer officers describing how they should be trained to work initially in the AS and CE fields and progressively develop their knowledge through speciality courses in an integrated training and employment pattern. This pattern is shown below.



Let us take an officer through this pattern of training and employment.

Lead In Training (LIT) The current training pattern no longer differentiates between the ex-serving airmen with an Ordinary National Certificate who previously attended the Maintenance Engineering Course and the type of student with a Higher National Certificate or Higher National Diploma or a degree who previously attended the IEC. To cater for the widely differing backgrounds of academic ability all students are tested and interviewed to ascertain how much of the 12 weeks LIT they require.

These tests cover Maths, Electronics, Engineering, Drawing, Thermodynamics, Aerodynamics and Statistics. The ex-serving airman with a rusty ONC may require the whole 12 weeks of LIT, a man with a recent HNC or HND may require 8 weeks, the graduate with a mechanical or electrical engineering degree may require 4 and a graduate with a first class degree in aeronautical engineering none.

Service Engineering Orientation Course. Having completed his LIT the engineer officer then enters the 7 week SEOC where he is told about the AS and CE environments in which he will work and the principles of maintenance engineering. The training places the junior engineer officer at the centre of the wheel in so far as how RAF operations affect him and, for the graduate, he could be planning the detachment of a Harrier flight to Scotland after only 6 weeks of starting engineering training, this exercise taking place at the end of the SEOC. In the middle of the SEOC the students will be asked to choose between the AS and CE fields for their first appointments and based on their choice, Service requirements and their academic backgrounds and experience they will be allocated to the AS or CE fields. It is emphasised that this is only for their first appointment and after a speciality course they could either continue in their original field of employment or cross over to the other field. It is, however, unlikely that an officer with a CE background will follow the Propulsion or Airframe Engineering Speciality Courses.

Pre BAEC or Pre BCEC Lead In Training. Before proceeding to the BAEC or BCEC, many students will require topping up on the subjects supporting the engineering disciplines in these 2 courses and therefore specialist LIT courses have been devised covering Computers, Control and Electrical Power Systems, Engineering (and Thermodynamics in the pre BAEC LIT) for the 2 employment fields. After completing either of the 2 courses the student will move on to either of the 2 main courses.

BAEC. The 38 week BAEC prepares students for their first appointments in the AS field and lays the foundation for the future employment as Engineer Officers. The course covers those traditional skills and knowledge one would expect of an AS officer namely: airframe, avionics, weapons, and propulsion technologies supported by materials, computers, guidance, control engineering, electronic warfare and management studies. These have all been carefully integrated into 5 main phases proceeding from relatively simple to complex systems. These phases are: Flight line, Hawk, Jaguar, General (covering Nimrod, Helicopters and transport aircraft) and the Tornado phases. These are not a series of pre-employment training phases but the aircraft are used to illustrate the various avionics, propulsion, airframe, weapons and computer systems which the junior officer will have to maintain during his first appointment. By continually relating his learning to RAF aircraft, systems training will remove the indigestible academics which were an undesirable feature of previous engineering officer training. Some 40% of the course is practical, working in seminars or syndicates, in environmental exercises, carrying out hands-on maintenance engineering and management in hangar and bay environments. At the end of the BAEC the junior engineer officer will be trained to work in a wide range of first tour AS appointments such as OC Hawk line Flight at Brawdy, J Eng O 3 Sqn at Gutersloh and OC Nimrod line Flt at Kinloss.

BCEC. The 33 week BCEC provides the essential common core of training for all engineer officers entering the CE specialisation and provides the foundation for their future employment in the CE field. The topics covered in the BCEC are radar and communications systems, maintenance management of CE systems, electronic warfare, airborne early warning, computers and surface to air missile systems (SAMS), and again the topics have been integrated into a course which takes the student through the relatively simple systems in the Airfield Phase to the complexities of the United Kingdom Air Defence Ground Environment (UKADGE) and Communications and Electronic Warfare phases, and rounding off the course with 2 short NADGE and SAMS phases. Unlike the BAEC where we have an aircraft hangar to teach skills and knowledge in a practical environment we do not have the very expensive equipment on which to train our CE officers; indeed, many of these systems are not available in UK but are confined to the operations of our NATO allies in Europe. Therefore the BCEC includes a one week visit to Europe to see the NATO systems in action and

1979 - Lead Article (2)

to meet CE engineers in other arms and nations, who do not work on aircraft and who make a vital contribution to the defence of NATO.

Speciality Courses. After his first tour in either the AS or CE fields the junior engineer officer may either have a second tour in one of these fields or be selected for a speciality course. At the time of writing this article the lengths of the speciality courses have yet to be precisely decided and their syllabuses approved. The Propulsion Engineer Speciality Course could be 6 weeks long, the Weapons Course 12 weeks, the Airframes Course 8 weeks and the Avionics Course 14 to 16 weeks. The preparation of separate Communications and UKADGE Speciality Courses, whose material is currently contained in the BCEC is still under review. Having studied his speciality course the junior engineer officer could be posted to a range of speciality appointments including: OC AC Servicing Flight at Binbrook, OC Propulsion Flight at Lyneham, OC Air Electronics at Odiham, OC Armament Flight at Wyton or Mech Eng (Weapons) at Strike Command. The future training and employment could include a second speciality course (eg Weapons after Avionics or Propulsion after Airframes) or a second speciality tour without further training. The training is given when it is required by the job specification.

Advanced Training. Finally there are 2 further courses which are taught in DSGT: the advanced Aerosystems Engineering Course (AEC) of approximately one year which forms part of the Advanced Pre-Employment Training of Engineering Officers for starred appointments and the 13 week Senior Engineering Management Course (SEMC). Up to 15 engineer officers a year are selected for the AEC which is recognised by the award of a Diploma of Loughborough University of Technology and for certain students who successfully complete a project, an MSc. DSGT staff act as mentors for other APET courses administered at, for example, the Cranfield Institute of Technology and Southampton University. The SEMC will cater for approximately 50 engineer officers a year. The SEMC is divided into 7 main phases: Operational Engineering, Procurement and Development, Introduction of New Equipment, Unit Appointments, Engineering Authorities and Employment and Training of the Engineer Work Force phase. The aim of the SEMC is to provide a mid-career technological and management update for engineer officers with a demonstrated potential to reach wing commander rank. It is designed to prepare engineer officers for senior appointments.

From this article it will be seen that we are aiming to give the engineer officer his training when it is required and not all at the beginning of his career; it is firmly directed towards the maintenance management of modern AS and CE systems, and the engineering knowledge is related to these systems by careful phasing of the courses. All the courses have been designed by engineer officers and technical Admin (Educ) officers for engineer officers. The designers have had to fit in the course design task with their teaching loads over a very hectic 2 years full of debate, argument and discussion. We have no doubt that they will be interesting and challenging courses to both those officers who attend them as well as those who teach them. Their worth can only be proved by the standard of officer we produce in DSGT over the coming years.

No 12 Aerosystems Engineering Course

Left to right: Sqn Ldr Martin Flt Lt McArthur Flt Lt Crouch Flt Lt Haywood Sqn Ldr Cossar Flt Lt Atkinson Wg Cdr Phillips Flt Lt Cather Flt Lt Stevenson Sqn Ldr Britten-Austin Flt Lt Hill Flt Lt Stanfield Flt Lt Steward