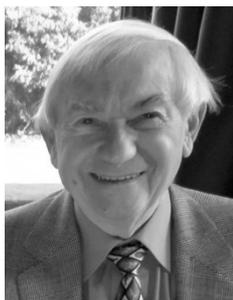


THE RAF HALTON AIRCRAFT APPRENTICE SCHEME

Gp Capt Min Larkin CBE MRAeS



Min joined the RAF as an aircraft apprentice in 1949. He remustered to aircrew as an air signaller/air gunner in 1953 and was commissioned as an AEO in 1959. He flew in Shackletons with Nos 224, 205 and 201 Sqns and Nimrods with No 201 Sqn as Air Electronics Leader and aircraft captain. Other tours included stints as a 'Trapper' and on avionics development at the RAE while staff appointments involved operations, search and rescue, training and personnel management. He completed his 45 years in uniform as Deputy Director of Personal Services. Since then he has been Halton's historian and archivist and in 1995 he founded the Trenchard Museum.

The Origins of Boy Service in the RFC and RAF

One of the main difficulties facing the Royal Flying Corps (RFC) from its foundation in 1912 was a shortage of air mechanics. Nevertheless, by combing through the ranks for skilled artificers among those already in uniform and identifying likely candidates among the many volunteers who were joining the colours, most of the shortfalls during the first two years of WW I were overcome. In January 1917, following the impressive part played by the RFC in the great battles in the previous year, the Army Council authorised its expansion to a total of 106 squadrons (86 to be in France) and in July this was almost doubled to 200. The limiting factor to this huge expansion turned out to be not a shortage of aircrew, nor of aircraft manufacturing capacity, but rather a lack of skilled groundcrew of which more than a dozen were needed to maintain each front-line aircraft.

As the rudimentary methods of training RFC tradesmen hitherto were unlikely to meet the massive new manpower requirement, it soon became clear that the RFC would have to train its own air mechanics. In order to find the thousands of skilled men demanded by the rapidly growing Service, the RFC expanded its training programmes, basing these new units wherever suitable sites could be found, an unavoidable but random process that scattered the schools across the country. For example, a new training school was set up at Netheravon with 200 men, another was formed at Reading with 1,000, and one in a converted jam factory at nearby Coley with another 2,000, and there were many others, large and small. Under the continuing pressure on manpower another very important decision for the future of the RFC was taken; it was decided to recruit boys.¹

This kind of improvisation could not provide all of the men the RFC needed and rationalisation of the training machine became an urgent requirement. In June 1917 Maj Gen Sefton Brancker, Deputy Director-General of Military Aeronautics, submitted proposals to centralise the technical training of men, women and boys in a new large school to be located at Halton.² This new school was under the direct control of the War Office and commanded by Lt-Col Ian Bonham Carter.³

The first 400 RFC boy mechanics enlisted at Farnborough in May 1917, shortly followed by further intakes at Blandford.⁴ These boys moved to Halton in the late summer of 1917 where, by the end of the year, 2,000 boys were under training as air mechanics living in Spartan conditions in dilapidated wooden huts previously occupied by infantry troops.⁵ Although many boys were later transferred to Cranwell, where permanent accommodation was available, several thousand remained at Halton undergoing in equal measure, drill, physical training, fatigues and technical training for which only basic facilities were available.⁶ However, the latter improved with the opening of large workshops in early 1918 which had been rapidly constructed with the help of thousands of German POWs.⁷

The arrival of the first RAF Commandant, Air Cdre F R Scarlett CB DSO, in December 1919 heralded many improvements to all aspects of boy training, in particular the tightening of disciplinary standards which had been allowed to drift downwards after the armistice. The brass 'wheel' badge, worn by all RAF boy recruits for some 75 years, to distinguish them from men, had been introduced in April 1919. Now with some 4,000

boys on strength Scarlett wanted an additional distinguishing feature on their uniforms to facilitate immediate recognition of the sections (later wings) to which they belonged. His reason for this was to ensure that boys committing offences both on and off the station could be dealt with expeditiously by the appropriate authority. His recommendation to the Air Ministry of distinctive coloured hatbands was approved in 1920 and this too became a permanent feature of an apprentice's uniform.



The brass 'wheel' badge, introduced in April 1919 and subsequently worn by apprentices on the upper left sleeve.

In March 1920 No 1 School of Technical Training was established at Halton, the future home of aircraft apprentice training.⁸ Scarlett remained in post until 1924 and oversaw the transformation of a temporary wartime military camp into the beginnings of a permanent RAF station. He had laid firm ground on which Trenchard was able to build his aircraft apprentice scheme.

Introduction of the Halton apprentice scheme

In his memorandum, 'Permanent Organization of the Royal Air Force', which was presented to the House of Commons as a White Paper by Secretary of State Winston Churchill in December 1919, Trenchard placed great emphasis on the importance of training, particularly of skilled ground crew.⁹ He argued that the best way to ensure that,

'... the training of our mechanics in the multiplicity of trades necessitated by a highly technical Service [...] is to enlist the bulk of our skilled ranks as boys, and train them ourselves. This has the added advantage that it will undoubtedly foster the Air Force spirit on which so much depends.' Later in the paper, he continues, 'The training of all these boys will eventually be carried out at Halton Park.¹⁰ [...] The first entry under the scheme will take place early in 1920 at Cranwell [...] and move to Halton as soon as permanent accommodation is ready.'

He provided more detail about his intentions for the scheme in a letter to Churchill in November 1919, writing, 'It is necessary to enlist the bulk of the technical tradesmen of the force as boys, because the Royal Air Force cannot hope to compete in the recruitment of men who have served full apprenticeships and who can command high wages in civil life.' He goes on to say that apprentices were to form 40% of all ground crews in the Royal Air Force, and 62% of all the skilled tradesmen.¹¹

It was clear that Trenchard wanted highly skilled men at a price the Service could afford from its very meagre budget, and men who would foster an 'Air Force spirit'. Thus in late 1919 the Halton Apprentice Scheme was promulgated to Local Education Authorities, and entrance examinations were held in London and the provinces.¹² Medically fit potential recruits were offered training in the trade of their choice, or one the selectors thought more appropriate for them.¹³ The rigorous selection procedure ensured that recruits would be of the highest quality, and because of their resourcefulness and intelligence, they could be expected to complete their apprenticeships in three years rather than the five normally served by civilian engineering apprentices. A shorter course meant a cheaper one, which no doubt pleased the Secretary of State for Air, Winston Churchill.¹⁴

In February 1920, still known as Boy Mechanics, the first intake of 235 was accepted at Cranwell for a three-year apprenticeship.¹⁵ The first four intakes trained at Cranwell, and it was not until January 1922 that the first cohort arrived at Halton to become the 5th Entry. This move coincided with the adoption of the rank of Aircraft Apprentice.¹⁶ Two entries a year were planned.¹⁷

On arrival at Halton, apprentices were signed-on for twelve years from the age of 18, allocated accommodation and kitted out and they very soon found their lives falling into a well-ordered routine governed largely by bugle calls.¹⁸ They were woken with Reveille at 0630hrs, called on colour hoisting parade at 0730hrs and sent to bed at 2145hrs.¹⁹ Apprentices were not allowed time to dwell too much on their personal thoughts, as evenings and most of the weekends were taken up with room cleaning,

inspections and parades. Recreational facilities were available in abundance, including a debating society, aircraft modelling and playing in one of the several apprentice bands, in addition a wide variety of sporting facilities was available.²⁰ A world-class RAF hospital on the doorstep ensured their medical and dental care were second to none, and spiritual needs were more than well looked after; but few enjoyed the compulsory church parades every other Sunday! In addition to all these privileges they enjoyed six weeks' holiday a year, mid-term breaks, and were paid, albeit a paltry amount.²¹

The cost of running Halton was a contentious issue in the early days. Following a visit by members of a Parliamentary Select Committee in 1923, they reported that they were;²²

'[...] of the opinion that the management and training of these boys is conducted in a very efficient manner; they were much struck with the discipline, with the order which was kept, and the arrangement by which they were efficiently taught a trade [*and they*] receive a payment of 10s. 6d. a week. This payment seems to the Committee to be unnecessary. These boys are [...] not only extremely well lodged, fed, and clothed, but are taught [...] trades which will be useful to them in after-life. Under these circumstances it would appear that, if any payment is to be made, it should be made by the parents of the boys, and not by the State.'

Fortunately for thousands of apprentices yet to come, this point was not pursued. But the cost issue resurfaced in a Commons debate in 1926 when one MP, Sir Frank Nelson, pointed out that £230, which was estimated to be the cost of training an apprentice, 'is probably more than it costs a parent to send a boy to any of the four or five leading public schools of England.' He went on to complain that, 'these apprentices at Halton get 1s a day pocket money, which, when they number 3,000, will cost the country £55,000 a year, and even now it costs between £30,000 and £35,000 a year.'²³ But, once again, the point was not pursued.



With luck, an apprentice might be treated to an occasional air experience flight. Among the handful of available aeroplanes was this Hart(T), K6450, which was on charge to No 1 SoftT between April 1936 and January 1938.



Passing out parades were always impressive. This one marked the graduation of the 20th Entry in July 1932.

For the first 50 years of the scheme apprentices were classified as minors and their officers and SNCOs acted in *loco parentis*. In addition to their responsibilities under the tenets of normal military discipline, each apprentice was issued with a small booklet entitled *Standing Orders for Apprentices*.²⁴ This contained a myriad of rules which severely restricted an apprentice's freedom to spend what precious spare time he was allowed as he might wish. 'These rules are necessary for your own benefit,' apprentices were often told by their superiors. Some of the rules were reasonable for boys below the age of 18, such as 'Apprentices are to take a bath twice a week' and 'Apprentices are prohibited from visiting public houses and consuming alcohol.'²⁵ One of the oddest rules was, 'Females are not to attend the monthly Apprentice dances.'²⁶ This reflects contemporary society's deeply conservative approach to sex before marriage. Perhaps the most resented rule, especially by older apprentices in their third year of training, was lights out at 2145hrs, when their former school chums were still out enjoying themselves with their girlfriends.

Despite the harsh standards of discipline, most ex-apprentices are only too willing to tell you about the occasions when they broke bounds, climbed in and out through windows stealthily in the dead of night, to avoid being caught by patrolling RAF Police.²⁷ It was a point of honour for apprentices to break as many of the rules as they could, hopefully without getting caught. With an average of 2,000 boys in residence at any one time, the establishment of RAF Police at Halton, known as 'Snoops' to apprentices, was higher than normal. The RAF Police could often be seen patrolling local towns, especially on Saturday evenings when their chances of nabbing a few apprentices in the local pubs or dance halls were high. Apprentice Flight Commanders were always busy during lunch hours hearing charges but never more so than on Mondays when they were usually faced with a crop of charges resulting from apprentices enjoying themselves beyond 'lights out' on Saturday nights. Some apprentices clocked up cricket type scores in days of 'Jankers', but someone had the good sense to rule that punishments awarded for 'youthful' offences were to be erased from apprentice records on graduation. However, many apprentices believe that this anti-establishment

activity contributed as much to the development of the famous Halton Spirit as did all of the communal living, sporting activities, marching with bands and discipline.

Apprentice Technical Training

Technical training at Halton was divided into three distinct, but closely co-ordinated departments: Trade, Academic and General Service Training.²⁸ Initial trade training was carried out in the workshops and later in a mix of workshops and on redundant aircraft positioned on the airfield. The trades taught evolved with the ever developing advances in aeronautical engineering but they were principally engines, airframes, armaments, instruments, electrics and wireless.²⁹ A pass mark in all aspects of his trade training was an absolute for an apprentice to graduate. Until 1951, this mark also governed the rank at which an apprentice graduated.



Time-expired airframes were used to provide hands-on experience. Above, a Wallace, 605M (previously K3664) and, below, a selection of redundant Hart variants.



Academic training was comparable with that of a good technical college and was to National Certificate level. 'Schools', as it was known by apprentices, was held in a purpose-built college building which had a well-stocked library and excellent engineering science laboratories.³⁰ All apprentices studied the same mathematics, mechanics and engineering drawing syllabuses, but engineering science was tailored to suit an individual's trade. Included in the syllabus was English and general studies which covered, in some depth, the history of the RAF. In the third year of training, all apprentices were required to produce a set task of 5,000 words on a subject of their choice. A National Certificate, or at least a B Grade pass in the final school examinations, was sufficient to qualify an apprentice academically for commissioning: a C Grade was the minimum requirement for graduation.³¹

General Service Training was an important part of the curriculum, because, once he entered productive service, an apprentice was expected to gain rapid promotion and command men. From the outset of his training he became a member of a society based on the orderly pattern of RAF life in wings, squadrons and flights, where he learned the give and take of community living, and developed a feeling for the customs and traditions of the Service. Under the guidance of his Flight Commander and the NCO instructors, he was taught drill, physical training and Air Force Law. Leadership and management experience were provided through resource and initiative training, field exercises at summer camps and the Apprentice NCO scheme. For the many who were selected for promotion it gave greater responsibility as they progressed through the ranks. The top rank, normally flight sergeant apprentice, was in effect the head boy of the School. He commanded the whole apprentice population and also enjoyed the privilege of commanding his Entry's graduation parade, and parades for visiting VIPs and Royalty.³²



To keep abreast of technical developments Halton had state-of-the-art Blenheims to work on as early as 1937. After brief service with No 114 Sqn as K7039, this one became instructional airframe 1024M at No 1 SofTT.

To keep abreast of changes in RAF engineering practice, four different types of apprenticeships were introduced over the lifetime of the scheme. The original Aircraft Apprentice (AA) training started in 1920 and continued until December 1966, with the graduation of the 106th Entry. This scheme produced single-skill fitters who maintained aircraft and associated equipment and could, if necessary, actually fashion small replacement parts themselves. Initially, aircraft apprentices graduated as an

Aircraftman Second Class (AC2), an Aircraftman First Class (AC1), or a Leading Aircraftman, (LAC), depending on their final trade test results.³³ Some who graduated as LACs in the 1920s were given immediate further training at Henlow and took up their first appointments as corporals. Most pre-war apprentices soon attained LAC rank but, following the 'Great Depression', from the late 1920s to the start of WW II, many did not advance beyond corporal, unless selected for flying training. After the introduction of a new trade structure in 1951, all aircraft apprentices graduated as junior technicians with some gaining accelerated promotion to corporal.³⁴ Most post-1951 AAs were corporals within a year of graduation.

It was in the earliest days of the aircraft apprentice scheme that the term 'Trenchard (or Halton) Brat' came into vogue, initially as a term of derision used by 'old sweats' who took a rather jaundiced view of these clever young upstarts who were destined for rapid promotion to corporal.³⁵ However, as time passed and the 'brats' were able to prove their worth, it became a title which all ex-apprentices are proud to claim, even those who attained air rank.³⁶

In the late 1950s, a study was initiated into the RAF's youth training requirements. This was undertaken in parallel with another study into the requirements for trade specialisations and resulted in the 1964 Trade Structure, introduced in April that year. The aim of the two studies was to match the growing complexity of aircraft and their systems, particularly those associated with the projected TSR2, with ground crew who had the ability to diagnose faults in systems which cut across the traditional trade boundaries.³⁷ The RAF's

previous reliance on maintenance by repair was being superseded by a new concept of repair by component change. As a result, the single-skill Aircraft Apprentice was replaced by a new breed, the Technician Apprentice (TA), who trained in the four trades of airframe, propulsion, electrical and weapons.³⁸ Technician apprentices were recruited with a minimum of four GCE O-levels and more emphasis was placed on their academic training to ensure that most graduated with a National Certificate in Engineering.



Hunters, and the occasional Sea Hawk, in Halton's workshops in the 1970s.

The first TA intake (the 107th Entry) started training in October

1964 but, along with many others in the Service, they were disappointed to learn in April 1965 that the Wilson government had scrapped the TSR2 programme.³⁹ Although the government took options on the purchase of the American F-111 this never came about. The members of Halton's 107th entry were offered a free discharge or re-mustering to another trade. However, most volunteered to remain on the TA course as the high quality of the training they were receiving was very marketable. Equally attractive was the opportunity to graduate in the rank of corporal with early promotion to substantive sergeant after just two year's satisfactory productive service.⁴⁰ With no TSR2 or F-111 on which to employ these highly skilled graduates, on graduation they were initially utilised in single-skill posts but their multi-trade capabilities made them particularly useful as trade supervisors, and in the rectification of the more intractable faults in the complex aircraft systems then coming into service. There were also more openings for TAs to be commissioned in the engineering branch as many of them eventually were. The TA scheme ended in 1972

Whilst the TA scheme took care of engineering support for future aircraft and equipment coming into service, there was a continuing need for single-skill fitters. To meet this requirement a two-year Craft Apprentice (CA) Scheme, with a new numbering series starting with the 201st Entry had been introduced concurrently with the start of the TA scheme. The CA scheme was, in effect, a direct replacement for AA training, but required lower academic qualifications on entry. Craft Apprentices graduated as junior technicians but without formal academic qualifications, unless taken ex-curriculum. However, this did not prevent CAs from being commissioned, with some attaining air rank and others filling senior appointments in industry as we shall see later. The Craft Apprentice Scheme lasted ten years, ending with the 231st entry in 1974.⁴¹

In 1969 a one-year Mechanic Apprentice course was introduced starting with the 401st Entry. Its trainees graduated as LAC with many of them still less than 17½ years of age. This was short-lived and the scheme was terminated after ten intakes.⁴² Another short-lived course training medical admin apprentices for one year starting with the 301st Entry in 1964 ended in 1969.⁴³

By the early 1970s, apprentice training had reached a crossroads and after considerable debate in the upper echelons of the Engineer Branch it was decided to continue apprentice training with the introduction of the Apprentice Engineering Technician (AET) scheme.⁴⁴ The January 1973 Entry, the 123rd, was the first to undertake AET training. The winds of change were now well and truly blowing through Halton. The maximum age of recruitment of apprentices was raised to 18½ and, exceptionally, 21. With many apprentices now older than direct entry airmen, there was no need for any of the 'rules' which governed the lives of their predecessors. Indeed some AETs were married during training, had children and lived in MQs. The standards of behaviour expected of AETs when off duty was similar to that required from all RAF personnel. Their adult status was recognised by the discontinuance of the NCO ranks and the removal of all apprentice insignia from uniforms.⁴⁵

However, certain aspects of the original scheme were retained such as the apprentice entry numbering system and AETs were accommodated separately from airmen. However, following a concerted campaign led by the RAF Halton and RAF Cranwell Apprentices Associations, supported by some prominent ex-apprentices serving at air rank,⁴⁶ NCO apprentice ranks and the wearing of the iconic 'wheel' badge were reinstated in 1982. Ironically, many of the apprentices serving at this time were keen to see these symbols of their past heritage restored. 'After the re-introduction of the "wheel" it was paraded for the first time at the Graduation of the 134th Entry on 29th September 1982. AET Prevett, the Parade Commander, was so chuffed, he wore a 'wheel' on both arms. We did not charge him with being improperly dressed,' recalled Air Cdre M J Evans, one of four former Halton apprentices who returned to command the station.⁴⁷

AETs were trained as dual-trade airframe and propulsion technicians and initially followed the National Certificate curriculum in their academic training as their predecessors had done. This element of the course was replaced in 1977 by the Ordinary Diploma and for most the Higher Certificate awarded by the newly

formed Business and Technician Education Council (BTEC). These certificates were awarded for achievement in all aspects of trade and academic training.⁴⁸ The AET scheme ended in June 1993 with the graduation of the 155th Entry, which also marked the end of apprentice training in the RAF.⁴⁹ AETs enjoyed the highest level of aircraft engineering training during the life of the various apprentice schemes and, unsurprisingly, produced the highest number of commissioning candidates. At the end of 2015, only 65 ex-AETs were still serving, of whom twenty-six were holding commissions, with several at senior officer level and six at air rank.

Halton was arguably one of the first aeronautical engineering colleges in the world and certainly the first in any air force. The 'Halton Apprentice' label soon became synonymous with aeronautical engineering excellence, a reputation that rapidly gained recognition throughout the aircraft Industry and internationally. The Royal New Zealand, Pakistan, Ceylon and Rhodesian Air Forces and the Burmese and Malayan Air Forces all sent boys to Halton to train alongside British apprentices. The Venezuelan Air Force sent boys to train at Halton in the 1950s.

The Halton Apprentices' Contribution to WW II

When the expansion of the RAF began in the mid-1930s, ex-apprentices, as Trenchard had planned, formed about 50% of the trained strength of the Service. With recruiting buoyant, the size of Halton intakes ballooned, reaching over 1,000 boys per entry. The 40th Entry, which enlisted in August 1939, was the largest ever with 1,385 boys taking the King's shilling.⁵⁰ Coincidentally with the arrival of this large entry, as a war emergency measure the duration of training was gradually shortened, initially to 2½ then to 2 years. This reduction in training time reached its nadir with the early graduation of the 39th entry in April 1940 after only 20 months. Many of this entry were still less than 17½, some as young as 16, officially still boys but now serving as airmen on the front line. The youngest recruit to join the RAF, at just 15 years and 2 months, was Apprentice Harry Clack. Sadly, he would also become the RAF's youngest casualty on active service when he was killed in an accident while employed on aircraft salvage at Croydon in the closing days of the Battle of Britain, still a month short of his 17th birthday.⁵¹

Interestingly, apprentices were the only people who continued to join the wartime RAF; from September 1939 until 1945 all other recruits were enlisted, or commissioned, into the RAFVR.

A large minority of the boys joining the RAF as apprentices saw it as a route via which they might achieve their real ambition, which was to become pilots. Ever since 1921, airmen had been able to volunteer for training as sergeant pilots and to serve as such for six years before returning to their ground trades, retaining their rank.⁵² The idea was to create future leaders of the technical branch with an appreciation of the challenges faced by aircrew. Several hundred ex-apprentices serving on these engagements at the start of hostilities were, however, retained in flying posts. Many were soon commissioned rising quickly to executive positions on operational squadrons. Sqn Ldr Donald Finlay, an ex-apprentice of the 12th Entry



The end of an era. HRH The Duke of Gloucester reviewing the final graduation parade, that of the 155th Entry in June 1993.

and a triple Olympian, was well known to the public as one of the country's top athletes. He commanded Nos 41 and 54 Sqns in the Battle of Britain, shooting down four enemy aircraft and winning a DFC.⁵³ Finlay was one of 116 former apprentices who flew as pilots in the Battle; several of them became 'aces', some destroying more than 12 enemy aircraft, among them Sqn Ldr 'Ben' Bennions,⁵⁴ Wg Cdr 'Taffy' Higginson,⁵⁵ Flt Lt Geoffrey 'Sammy' Allard⁵⁶ and Gp Capt Frank Carey.⁵⁷ Sgt Samuel Butterfield destroyed eight enemy aircraft in 14 days of intensive operations in May 1940 accounting for four on a single day before being shot down himself over the Channel. He was rescued only to be shot down again a few weeks later and killed.⁵⁸

While many of their colleagues were fighting in the air, thousands of former apprentices were working tirelessly on the ground to ensure their aircraft were in fighting condition. Promotion in the ground branches had been slow, even non-existent in some trades, in the inter-war years. With the rapidly growing numbers now joining the Service, thousands of ex-apprentices suddenly found themselves racing through the ranks to SNCO and warrant officer, providing a vital source of experienced technical supervisors on front line squadrons, maintenance units and as instructors for the growing number of technical training schools.⁵⁹

Halton apprentices contributed to all of the major air campaigns of WW II, both in the air and on the ground. The introduction of the four-engined bombers in 1941 brought an urgent need for an additional crew member, a flight engineer. His role was to assist the pilot to manage the complicated systems in these more advanced aircraft.⁶⁰ Former Halton apprentices were ideally suited to this new challenge, and several thousand of them transferred their engineering skills from the ground to the air in this role. The heavy losses sustained by Bomber Command are reflected in the 2,000 casualties listed in the Apprentices Roll of Honour in St Georges Church at Halton. More than 400 of these men had been flight engineers. Of the five ex-apprentice flight engineers who flew in the Dams Raid, only one returned.⁶¹

From the beginning of apprentice training, some were posted on graduation to serve on aircraft carriers, then under the control of the Royal Air Force. When control of the Fleet Air Arm passed to the Royal Navy in January 1937 it lacked the facilities for training its own aircraft engineering apprentices.⁶² To meet the immediate need for these skills, volunteers were invited from the 35th, 36th and 37th Entries to transfer to the Royal Navy, and 160 of Halton's apprentices answered the call. Subsequently the RN sent 400 directly recruited Fleet Air Arm apprentices to train with the 38th to 41st Entries.⁶³ So – be careful when telling your RN friends this snippet as they can get very upset to learn that the junior Service, in the form of Halton apprentices, provided an important element of the foundations on which the carrier force developed into a vital arm of the nation's capability in WW II and beyond. Many of the initial Halton transferees were killed in various sea battles during the war; fifteen went down with HMS *Glorious* at the end of the Norwegian campaign in 1940.⁶⁴

In 1943 hundreds of boys, mainly orphans and some as young as 14, were driven out of Poland by Hitler and, after a tortuous journey through the Middle East, ended up in the UK. Two hundred of these Polish boys were selected to train at Halton as aircraft apprentices and another 100 at Cranwell. They spent most of their first year in the RAF settling into their new country and learning English. At Halton, they joined the 49th and 50th Entries which eventually graduated in the late 1940s. Although able to remain in the RAF on a five-year engagement, most opted to leave the Service.⁶⁵ Many of the latter forged very successful careers in industry and academia in this country. Only five of Halton's Polish contingent elected to return to Poland.

Halton apprentices' loyalty and devotion to duty during WW II was recognised by the large number of decorations they received. Notable among them was Sgt Gray of the 20th Entry, an observer, who was, along with his pilot, Fg Off Garland, awarded one of the first two air VCs of WW



563627 Sergeant Thomas Gray VC

II.⁶⁶ Some 1,000 other gallantry awards went to former aircraft apprentices and 2,500 were Mentioned in Dispatches. However, on-going research into this topic is continually uncovering hitherto unknown awards. Recent discoveries include six George Crosses and thirteen George Medals.⁶⁷

Given that, at the end of the war, only some 20,000 apprentices had graduated from Halton, it is clear that their contribution to WW II had been impressive and this was acknowledged by many senior commanders. For example:

‘The consistent technical excellence of the RAF has rested upon the skill and high devotion to duty of those who learned at Halton their trades and first formed their sense of duty. Their success in the air and on the ground pays a finer tribute than any words of mine to the standard of Halton’s achievements.’

Marshal of the Royal Air Force Viscount Portal

‘Halton throughout the years has made an outstanding contribution not only to the RAF but to the country as a whole.’

Marshal of the Royal Air Force Sir Dermot Boyle

‘One thing is absolutely true, the air battles of Burma were won in the classrooms and workshops at Halton; won not just by knowledge and skill of your maintenance crews, it was won by the spirit that Halton produced.’

Admiral of the Fleet Earl Mountbatten

‘Halton has given the Royal Air Force not only its hard core of efficient technical NCOs and airmen but also a magnificent core of officers many of whom are in high rank in all branches of the Service.’

Air Marshal Sir John Whitworth Jones

Achievements of Halton Apprentices

Lord Trenchard was proud of, and took a keen interest in, his apprentices at Halton and visited them often at work and play. He had always intended that the best of each Entry should be awarded cadetships at Cranwell, but were he alive today he would be amazed to discover that over 20% were commissioned, with 110 attaining air rank.⁶⁸ One of these, MRAF Sir Keith Williamson, a Cranwell apprentice, became CAS, and several others served on the Air Force Board, including Air Chf Mshl Sir Michael Armitage who was AMSO in the early 1980s and has been the Patron of the RAF Halton Apprentices Association since its foundation in 1980. Of those apprentices who became Cranwell cadets, thirteen won the Sword of Honour, giving credence to Trenchard’s vision that the new Service should base the selection of its future leaders on ability and merit, and not class and social background. Halton apprentice training gave many a boy from a humble background the chance to aspire to heights not normally expected of him. This very deliberate commissioning from the ranks was an outstanding example of social mobility, uncommon for the time.⁶⁹

Of the Halton apprentices who achieved air rank, thirteen were knighted. One, Sir John McGregor, left the RAF as a sergeant after WW II, emigrated to Hong Kong where he joined the colony’s Civil Service in a lowly position and made his way up the promotion ladder to become head of the Hong Kong Executive Council and adviser to the last Governor, Chris Patten, during the negotiations leading to the transfer of the colony to China in 1997. Thousands of former apprentices made senior officer rank. On-going research indicates that some 1,000 have been awarded State Honours.⁷⁰ Uniquely, at the moment two former Halton Craft Apprentices hold high executive positions in the two principal RAF Charities: Air Mshl Sir ‘Dusty’ Miller is President of the Royal Air Forces Association, and Mr Lawrie Haynes is Chairman of the Trustees of the RAF Benevolent Fund. In his day job Lawrie is CEO of Rolls Royce Nuclear and Marine. Well known to all those who follow air shows around the country is one of the nation’s most skilled display pilots, Air Mshl Cliff Spink, who was a Halton apprentice in the 104th Entry.

Although thousands of former apprentices had very successful careers in the RAF, many did not reach their full potential until life beyond the Service. The aircraft industries were naturally the first port of call for many ex-apprentices where they made magnificent contributions on the shop floor, at all levels of management, and in the boardrooms. Many former apprentices who trained as pilots and flight engineers continued to fly with civil airlines. The majority of these pilots became aircraft captains, two making notable contributions to the introduction of the Blind Landing System. Captain Eric Poole was the first pilot to land an aircraft using the system while carrying passengers and Captain Charles Owens was the first to land an aircraft using it with Her Majesty the Queen on board.⁷¹

After leaving the RAF, many ex-apprentices turned away from engineering altogether and forged successful second careers in other professions including medicine and the law. Some became top surgeons and a few served on the Crown Court circuit. Considering they were the two professions most apprentices had spent three years avoiding at Halton and Cranwell, a surprising number became vicars and policemen. In the latter respect, two Cranwell apprentices excelled, one becoming a bishop and another followed in Lord Trenchard's footsteps by becoming head of the Metropolitan Police.

Some former apprentices ended up as BBC TV stars. Most notable of these was Cliff Michelmore who, having graduated from Halton in 1938, was serving as a squadron leader with a military wireless station in Germany in the mid-1940s when his talent as a broadcaster was recognised by the BBC. He later hosted *Two-Way Family Favourites*, a radio programme much loved by the UK population in general and especially by personnel serving in Germany in the immediate post-war years. Michelmore, ultimately became the anchor man for BBC TV news and current affairs programmes.⁷²

The most famous of the aircraft apprentice alumni is Air Cdre Sir Frank Whittle who gave the world the jet engine. Whittle initially applied to join the 7th Entry at Halton in January 1923 but failed the medical owing to his lack of height. In an article he wrote for the *Halton Magazine* while in Halton Hospital for a short period in early 1944, Whittle explains the advice he was given by a flight sergeant physical training instructor which enabled him to add three inches to his height, enough to be accepted for the 8th Entry in September 1923.⁷³ However, because the permanent barrack building programme at Halton had fallen behind schedule, this entry was trained at Cranwell. Interestingly, at the critical stage of the development of the engine which was to power the first flight of a British jet aircraft, Whittle requested and received the support of four ex-Halton apprentice engine fitters to help out in his workshop at Power Jets.⁷⁴ Whittle's final examination results along with those of 40,000 other former Halton apprentices are preserved at the Trenchard Museum Archives at Halton.



Cliff Michelmore as an apprentice.

Trenchard's legacy.

While ex-Halton apprentices who became high achievers contributed much to its legacy, Trenchard's aim in founding his scheme had been to produce a cadre of well-motivated, highly trained airmen capable of becoming competent supervisors in the direction of work and control of men. Most ex-apprentices did exactly that. They were the true heroes of the piece, becoming SNCOs and warrant officers whose training taught them never to accept second best in keeping our aircraft serviceable and safe. They gave of their best in the inter-war years, during WW II, throughout the Cold War and in peacetime, in all theatres, in all circumstances and rightly earned the sobriquet, 'The Backbone of the Royal Air Force.' Thus it is as an apprentice engineering school that Halton is best remembered, and indeed revered, not only in this country but across the industrial world.

Perhaps our founder Lord Trenchard summed up his, and the legacy of Halton in a speech he gave in the House of Lords in December 1944 on the air campaign during the war. Here is the appropriate extract

‘Some of your Lordships will remember that after the last war we set up in the Air Force a very large training School at Halton. It was, I believe, the largest of its kind in the world. It was a great experiment and was bitterly criticised at the time. Nevertheless, I feel justified in saying that the experiment has richly justified itself. There is no doubt at all in my opinion, that Halton and the Halton spirit have been a pillar of strength to the RAF all over the world. The Halton trained men have provided the nucleus on which the great expansion of the air force was centred. They have set and maintained an extraordinarily high standard of efficiency. You have only to look at the promotions and honours gained. A large number of these men are senior Air Vice-Marsals and Air Commodores running the highest technical offices in the Air Force. Surely the efficient maintenance of aircraft has also been one of the outstanding features of the war and that has been made possible by the Halton training of our men.’⁷⁵

On 25 July 1952, No 1 School of Technical Training, RAF Halton received the highest accolade that any unit in the RAF can receive – the award of a Queen’s Colour. This Colour is unique in being the only one to be awarded to a youth training school in any of the armed forces and, having been received from Her Majesty by a sergeant apprentice, a unique custom was established that it may, on occasions, be carried by an NCO.⁷⁶ This custom continues at RAF Cosford, the current home of No 1 School of Technical Training, where young men and women are trained as aircraft engineering technicians on a modern apprenticeship course.



Sgt App F M Hines of the 63rd Entry receives the Colour for No 1 School of Technical Training from HM Queen Elizabeth II on 25 July 1952.

Acknowledgement. I am indebted to Gp Capt F Monahan for providing access to his, as yet unpublished, PhD thesis.

Notes: TMA – Trenchard Museum Archive;

TNA – The National Archives

¹ Armitage, M; ‘The Origins of the Boys’ Service in the RFC and the RAF’, in *Spirit of the Air*, Vol 1, No 2, 2006, p29. Boys were actually serving in the RFC within a year of its formation. In July 1912 Maj Sykes (later Maj Gen Sir Frederick Sykes, CAS April 1918 to March 1919) wrote to the War Office suggesting the establishment of nine boys per squadron, plus ten for the airship squadron and four for the Flying Depot, and received authority from the Director of Military Training on 10 April 1913 to enlist twenty-five boys in the Military Wing of the RFC. Although War Office instructions regarding the terms of enlistment of boys were not received until 16 June 1913, twenty-five boys had been serving since 28 February 1913. See also McInnes, L and Webb, J V; *A Contemptible Little Flying Corps*, (The London Stamp Exchange, 1991) p21.

² ‘Notes on the History of Boys Training in the RAF’; AHB document dated 5 September 1955. Copy held in TMA.

³ Later air commodore and Commandant of No 1 School of Technical Training Halton, 1927-1929.

⁴ Armitage, *op cit*, p29. See also Martin, Sqn Ldr C; ‘Early Apprentice Memories’ in *Halton Magazine*, Winter 1949, p57.

⁵ Armitage, *op cit*, p29.

⁶ Ross, J; *The Royal Flying Corps Boy Service* (Buckland Press, Dover, 1990) p73.

⁷ Taylor, B; *Halton and the Apprentice System* (Midland Publishing, Leicester, 1993) p11.

⁸ See Note 2.

⁹ Cmd 467. A copy may be accessed at TNA as piece AIR1/17/15/1/84 and it was reproduced verbatim in *Flight* for 18 December 1919, pp1622-25.

¹⁰ Escott, Sqn Ldr Beryl; *The Story of Halton House, Edn 5* (Halton House Officers Mess) p42. Halton Park was the original name of the land between the airfield and Halton House.

¹¹ Transcript of the Trenchard Memorial Lecture delivered at the Halton Branch of the Royal Aeronautical Society on 19 April 1990 by Air Chf Mshl Sir Michael Armitage KCB CBE, ex-Halton Apprentice, 56th Entry. Copy held in TMA.

¹² TNA AIR2/129. Air Ministry Pamphlet ‘Entry of Boy Mechanics to the Royal Air Force’ was published in October 1919; its content was summarised in *Flight* for 20 November 1919, p1517. Candidates would be nominated by, and have the endorsement of, their Local Education Authority and entry was to be competitive, via an examination which, it was anticipated, would be ‘similar to that which already exists for the entry of boy artificers into the Royal Navy.’

¹³ Over 20 trades were taught at Halton in the early days of apprentice training. Most were sub-divisions of fitter, carpenter, blacksmith, and coppersmith, A full list of these sub-divisions can be seen in a document entitled ‘Apprentice Training at Halton’, dated 11 May 1983, held in TMA.

¹⁴ Boyle, Andrew; *Trenchard Man of Vision* (Collins, London, 1972) p330.

¹⁵ Apprentice intakes were trained at No 2 School of Technical Training at Cranwell until 1926. Entries 1 to 4, and 8, completed the full three years at Cranwell. The 9th and 10th entries began at Cranwell but moved to Halton to complete their training.

¹⁶ See Note 11.

¹⁷ The 1st Entry enlisted in January 1920. Between 1920 and 1945 there were two intakes a year with the exception of 1941 when only one was recruited. From 1946 to 1964 there were three a year, and from 1965 to May 1990 there were two a year with occasional reductions to one and increases to three. The last entry, the 155th, enlisted in May 1990.

¹⁸ RAF Form 266, ‘Entry as an Aircraft Apprentice’. See also Tunbridge, Paul; *History of RAF Halton No 1 School of Technical Training* (Buckland Publication, London, 1995) p26.

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- ¹⁹ Standing Orders for Apprentices Wings Stationed at Halton Camp, 1927; copy held in TMA.
- ²⁰ Full details of the numerous recreational and sporting facilities available at Halton from 1920 to 1993 can be seen in various editions of the *Halton Magazine* held in TMA.
- ²¹ Ten shillings and sixpence a week in the first year from 1920 to 1952. Apprentices received a ten shilling note on the pay parades held once a fortnight. One shilling was deducted for barrack damages and the amount remaining in credit was paid as a lump sum before proceeding on the main block leave periods. Small pay increases were given in the second year and third years, or on attaining the age of 17½ whichever came first. After 1952, annual pay increases for apprentices kept pace with the pay awards to the Armed Forces. Free travel warrants were also introduced in the WW II years and beyond.
- ²² *Flight*, 9 August 1923, p480.
- ²³ *Hansard*. HC Debate, 25 February 1926, Vol 192, cc 820-824.
- ²⁴ Copies held in TMA.
- ²⁵ Standing Orders for Apprentices Wings Stationed at Halton Camp, 1935, pp4 & 20; copy held in TMA.
- ²⁶ Standing Orders for Apprentices Wings Stationed at Halton Camp, 1927, p23; copy held in TMA.
- ²⁷ The *Halton Magazine* September 1943, p4.
- ²⁸ RAF Training Command Public Relations Document, dated April 1974.
- ²⁹ The wireless trades were initially taught at Flowerdown. Apprentices selected for this training enlisted at Halton where they completed some basic training with their entry before moving to Flowerdown. Aircraft Apprentice training in the electrical trades moved to Cranwell in 1929 and to Locking in 1952 from where the aircraft-related aspects of this training moved to Cosford in 1963.
- ³⁰ Constructed in the early 1920s this building was originally intended to be the RAF Records Office. It was opened in 1925 as the Apprentices' 'Schools'. It is currently known as Kermode Hall after the first director of education at Halton (1922-1939), A C Kermode.
- ³¹ Apprentice final academic examination results are held in TMA. This requirement was for Aircraft Apprentices only. For the later schemes see text.
- ³² When The Queen presented Her Colour to No1 School of Technical Training on 25 July 1952, the Escort Squadron to the Colour was commanded by Flt Sgt L Parkin of the 63rd Entry. Over 1,500 apprentices were on parade. A copy of the programme for this event is held in TMA.
- ³³ 'An Apprenticeship in the Royal Air Force', AM Pamphlet 15, p8. 40%-59% in final trade tests qualified an apprentice as an AC2, 60%-79% as an AC1, 80% and above as an LAC.
- ³⁴ A minimum mark of 60% was required in final trade tests to qualify as a junior technician.
- ³⁵ Many articles on, and memoirs of, apprentice life are held in TMA.
- ³⁶ For example, Air Mshl Sir 'Dusty' Miller and Air Mshl Cliff Spink.
- ³⁷ Taylor, *op cit*, p21.
- ³⁸ Starting in 1959, some intakes included Dental Technician Apprentices who, except for their professional training, which was carried out at the Institute of Dental Health and Technology, were fully integrated with engineering entries.
- ³⁹ TNA CAB/238/39. Conclusions of Cabinet Meeting CC(65)20 held at 10 Downing Street on 1 April 1965.
- ⁴⁰ See Note 28.
- ⁴¹ See Note 28.

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- ⁴² See Note 28.
- ⁴³ Letter MTE/862/2/Trg dated 11th March 1965. Copy held in TMA.
- ⁴⁴ Loose minute AF/4826/72/S10(Air) dated 27 Dec 1973. Copy, and other relevant documents, held in TMA
- ⁴⁵ *Ibid* and loose minute DDDAB & P(RAF) 1249 dated 13 December 1973, also held in TMA.
- ⁴⁶ Air Chf Mshl Sir Michael Armitage and Air Mshl Sir Eric Dunn.
- ⁴⁷ Email 09/08/2016 from Air Cdre Evans to TMA recalling his time as OC Halton.
- ⁴⁸ MOD Letter HN/16/15/Air dated 28 October 1977; copy held in TMA.
- ⁴⁹ The final graduation parade of RAF Apprentices actually took place at Cosford in October 1993 with the graduation of the avionics tradesmen of the 155th Entry.
- ⁵⁰ Nominal roles on joining are included among the records of each Entry, all of which are held in TMA.
- ⁵¹ *Croydon Guardian*, 25 April 2008; copy held in TMA.
- ⁵² The conditions under which airman could be trained as pilots had been announced by Air Ministry Weekly Order 706 of 8 September 1921. With the re-introduction of the air observer, by Air Ministry Order A.196 of 9 Aug 1934, airmen, including ex-apprentices, could also volunteer to fly as such but, until 1939, only on a part-time basis.
- ⁵³ Obituary, *Daily Telegraph*, 22 April 1970.
- ⁵⁴ Obituary, *Daily Telegraph*, 12 February 2004.
- ⁵⁵ Obituary, *Daily Telegraph*, 20 February 2003.
- ⁵⁶ Holmes, Tony; *Hurricane Aces 1939-1940* (Osprey, London, 1998).
- ⁵⁷ Franks, Norman; *Frank 'Chota' Carey: The Epic Story of G/C Carey CBE, DFC and 2 Bars, AFC, DFM, US Silver Star* (Grub Street, London, 2006) p173.
- ⁵⁸ *Haltonian Magazine*, issue No73, p3, November 2014. Copy held in TMA.
- ⁵⁹ Hansard. HL Debate, 6 December 1944, vol 134, cc131-89 – speech by Lord Trenchard, extract held in TMA. See also Kimber, C; *Son of Halton. The Memoirs of an Ex-Brat* (Cox and Wyman, London, 1977) and Bishop, P; *Fighter Boys: Saving Britain 1940*; (Harper Perrenial, London, 2004) p34.
- ⁶⁰ Pennal, Tom; *Through Chestnut Avenue* (Scotforth Books, Lancaster, 2002) p617.
- ⁶¹ Those who died were Sgts Ronald Marsden (32nd Entry), David Horsfall (33rd Entry), Guy Pegler (37th Entry) and James Taylor (39th Entry). Plt Off (later Gp Capt DFC*) Ivan Whittaker (37th Entry) survived the raid. Air bomber Fg Off John Fort DFC (19th Entry) also survived but was killed in action with No 617 Sqn on 15 September 1943.
- ⁶² AP3003, *A Brief History of the Royal Air Force*, p58.
- ⁶³ Myers, Commander Bill; 'Two Shades of Blue' in the Halton Apprentices Naval Wing Association publication. Copy held in TMA.
- ⁶⁴ Their names are inscribed on the Fleet Air Arm Memorial at Lee-on-Solent.
- ⁶⁵ 'History of the Polish Aircraft Apprentices at RAF Halton and Cranwell 1943-1948' in *Halton Magazine*, September 1943, p16. Copy held in TMA.

⁶⁶ *London Gazette* No 34870, p3516, 11 June 1940. Posthumous awards. LAC Reynolds, the rear gunner in Garland's crew, who was also killed, received no recognition. This is still a contentious issue in some quarters.

⁶⁷ Hebblethwaite, Marion; *One Step Further. Those whose gallantry was rewarded with the George Cross* (Chameleon HH Publishing, Witney, various dates 2005-11).

⁶⁸ MoD official, named, portrait photographs of apprentices who attained air rank are on display in the Trenchard Museum

⁶⁹ For more detail see the RAF College Character Book and Ross Mahoney's PhD thesis, 'The Forgotten Career of Air Chief Marshal Sir Trafford Leigh-Mallory, 1892-1937: A Social and Cultural History of Leadership Development in the Inter-War Royal Air Force', University of Birmingham, March 2014.

⁷⁰ Current research programme at TMA.

⁷¹ *BEA News*, No 253, 28 October 1971.

⁷² Michelmore, Cliff and Metcalfe, Jean; *Two Way Story* (Elm Tree Books, London, 1986).

⁷³ *Halton Magazine*, March 1944, p2.

⁷⁴ *Haltonian Magazine*, June 2016, p31.

⁷⁵ *Hansard* – see Note 59.

⁷⁶ This was the first Colour Her Majesty presented to an RAF formation as Queen. In May 1951, as Princess Elizabeth, standing in for HM King George VI who was ill, she had presented a King's Colour to the Royal Air Force.
