

**RAF FLYING TRAINING**  
**USA 1941 – 1945**  
**(As written in 1999)**

## **FORWARD**

The following account of RAF Flying Training in the United States of America from 1941 to 1945 was written by Derrick W Croisdale in 1999. Derrick was a cadet on Course 20 at No.4 BFTS (British Flying Training School), also known as Falcon Field, which was in Mesa, Arizona. Cadets on Course 20 started on February 14, 1944, and those who completed the course graduated on August 26, 1944.

There were two main schemes established following the passage of the Lend Lease Act in March 1941. This allowed for the training of British pilots in the USA and led to the establishment of the British Flying Training Schools (BFTS) and the Arnold Scheme.

Seven BFTS were established although one was very short lived:

- No 1 Terrell, Texas – started June 9, 1941
- No 2 Lancaster, California – started June 9, 1941, and closed during 1942
- No 3 Miami, Oklahoma – started June 16, 1941
- No 4 Falcon Field, Mesa, Arizona – started June 16, 1941
- No 5 Riddle Field, Clewiston, Florida – started July 17, 1941
- No 6 Ponca City, Oklahoma – started August 23, 1941, and closed on April 17, 1944
- No 7 Sweetwater, Texas - started in May 1942 and closed about three months later in August 1942

Nos 1, 3, 4 and 5 BFTS continued training pilots until VJ Day when Lend-Lease arrangements ceased – all RAF Flying Training in the USA came to an end on August 27, 1945.

The first Class of RAF Cadets in the Arnold Scheme started in April 1941. The scheme was less successful than BFTS and was stopped in February 1943.

After WW2, pilots (ex-cadets) from all six established BFTS and the Arnold Scheme established Associations in the UK. Derrick wrote this account with help from each of these Associations and the names of his main contacts in each Association are recorded on pages 15 and 16 of his account.

Derrick lists two books in his bibliography on page 16; however, since 1999, more books have been published and accounts written about RAF Flying Training in the USA between 1941 and 1945. In addition, many cadets, or their relatives, have written their own accounts about their time in America and several of these have been published. Facts have been updated and new information has been identified. Derrick Croisdale's account was accurate based on the information available to him at the time, but new evidence means that some of his account now needs amending. His original account has not been altered and remains as he wrote it, but necessary changes and amendments to the text for accuracy in light of new information available since 1999 are shown in the Appendices.

Dr Jenny Harding (Father - George Hogarth, Course 3, 5BFTS),  
November 14, 2022.

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## INTRODUCTION

This is not a definitive history of RAF flying training in the USA during WW2. Far from it! It is best described as a story woven around such training. Accurate statistics are hard to come by. Quantitative data used in this story should be regarded only as an indication of the numbers involved; nevertheless they are sufficiently accurate to give a good appreciation of whatever they represent.

It is difficult even to be precise about what is meant by the term "RAF aircrew". The WW2 RAF comprised many nationalities some of whom were grouped into separate units for command purposes. One example was No.6 Group of Bomber Command which was manned entirely by Royal Canadian Air Force (RCAF) personnel and this Group comprised one fifth of Bomber Command! Most of the flying training for the aircrew of No.6 Group would no doubt have been done by RCAF flying schools in Canada which themselves were part of the wider training scheme originally known as the Empire Air Training Scheme (EATS). Similar arrangements applied to Australians, New Zealanders, South Africans, Southern Rhodesians, Americans etc.. Therefore the RAF comprised many nationalities but it is probably true to say that the bulk of RAF pilots who trained in the USA in WW2 would have been of British nationality recruited in the United Kingdom through the RAFVR (Volunteer Reserve) scheme. See Appendix 1

In passing it is worth mentioning that the Canadians have a historic contribution to British military aviation which is out of all proportion to their population. In WW1 30% of the pilots in the Royal Flying Corps (RFC) were Canadian! The Canadian contribution to Bomber Command in WW2 has already been mentioned and this was out of a population of some 18million people of whom about 6million were in the French speaking province of Quebec and they were, at best, luke-warm in their support for Britain's war effort, being of the opinion that Britain was the cause of the French collapse in June 1940!

## THE PRINCIPAL PERSONALITIES

Anglo-American co-operation in WW2 owed a great deal to Churchill and Roosevelt. After the fall of France, June 1940, Britain stood alone against a Nazi Germany which controlled most of Western Europe including the Atlantic coastline from the northern tip of Norway to the Spanish border with France. Churchill's strategy was to get the USA to put its industrial might behind Britain's war effort. His memorable phrase being, "Give us the tools and we'll finish the job". Without the aid of the USA it was unlikely that Britain could have matched the industrial and military might of Nazi Germany and the occupied countries. See Appendix 2

Germany and the USSR were not then at war - indeed they were still co-operating in the spoils of the Nazi invasion of eastern Europe under the secret clauses of the Germany - USSR Non-Aggression Pact signed in August, 1939. Germany did not



invade the USSR until June 1941. So in 1940 Churchill encouraged Lord Lothian, our Ambassador to the USA, and Lord Halifax, Foreign Secretary, to investigate ways in which RAF pilots might be trained in the USA.

President Roosevelt was an Anglophile, well-disposed towards aiding Britain in the fight against Germany. His Ambassador to the UK, Joe Kennedy, father of the Kennedy dynasty, was not so well-disposed towards Britain. After the fall of France he reported to Roosevelt that in his view Britain would go the way of France. Fortunately Roosevelt was inclined to disagree. Similarly when Sumner Welles the US Secretary of State, advised the President that he could not support Britain's plea for RAF training facilities, Roosevelt did not agree, saying that "he didn't rule it out". So negotiations were not suspended. Lord Halifax became our Ambassador following Lord Lothian's death. For the rest of the war Lord Halifax did excellent service in Washington accepting his 'demotion' with good grace. His demotion having resulted from his association with Chamberlain's pre-war appeasement policy.

The key RAF personality was Air Chief Marshall Sir Charles Portal, as he then was, Director of Organisation at the Air Ministry, pre-war. He was responsible for two key decisions. The first was that flying training was too important to be subsumed within Training Command which was responsible for the training of over 300 trades, occupations, etc. So he approved the formation of Flying Training Command. All other training was in Technical Training Command. Thus at a stroke Flying Training acquired some clout.

His other decision was a bold one considering it was taken before the outbreak of WW2. This was that in the event of war flying training in the UK should be abandoned. He recorded his view that flying training in the British Isles in war-time would be "fraught with problems and danger.....the British Isles were cramped, vulnerable and subject to bad weather". After intensive diplomatic activity the Empire Air Training Scheme (EATS) was agreed and signed by all British Dominion Governments on 17th December, 1939. In 1942 EATS was re-named the British Commonwealth Air Training Plan (BCATP). In all the negotiations Canada took a leading role. Training under EATS started in May, 1940. What happened in the Battle of Britain highlights the wisdom of EATS. One example will suffice. On 16th August, 1940, the Luftwaffe attacked RAF Brize Norton and destroyed 46 training aircraft in one attack.

The most influential and important figure for RAF flying training in the USA was undoubtedly General 'Hap' Arnold who in 1939 was the Chief of the US Army Air Corps (USAAC). He, like Roosevelt, was an Anglophile and a great supporter of Britain's war effort. His contribution to RAF flying training was all the more praiseworthy because it resulted in RAF pilots being trained in the USA from early 1941 whilst the USA was still a neutral country. It was another six months before the USA became embroiled in WW2 as a result of the Japanese attack on Pearl Harbour on 7th December, 1941. In Britain's hour of need, Arnold was a friend indeed. What he did resulted in more than 11,000 RAF pilots gaining their 'wings' during WW2 in the USA - about one in six of all RAF pilots trained during the war. His contribution will be described in detail later.



The last personality to merit special mention is Squadron Leader S. Mills, D.F.C., whose contribution will also be described later. He had the honour of having afternoon tea and cakes with President and Mrs. Roosevelt. His good impression on the President helped to influence the President's decision to give the go-ahead to RAF flying training in the USA.

The activities of the above-named resulted in two schemes under which the bulk of RAF flying training in the USA was undertaken. Pilots were trained under either a scheme known as the Arnold Scheme which was operative 1941 - 1943 or a scheme known as the British Flying Training Schools (BFTSs), operative 1941 - 1945. More about these later.

### PRELUDE TO WAR

In the run-up to WW2 the RAF had to fight hard to get government funding for expansion. But what kind of expansion did the Air Ministry want? Fighter aircraft for defensive purposes or bombers for offensive purposes? In one instance the RAF almost seduced politicians into thinking that only a relatively few bombers were needed to bring Germany to its knees within two weeks of the outbreak of hostilities. This was the result of Bomber Command's 'knock-out' strategy which it submitted to the War Planning Board in 1938. The 'knock-out' was to be achieved through 3,000 sorties spread over two weeks, e.g. 200 bombers per day for 15 days. It was claimed that they would destroy 19 power stations and 26 coking plants, all vital to German industry; without them the war machine would grind to a halt. Bomber Command even estimated their losses - 176 bombers. With hindsight one wonders on what data Bomber Command was basing its ability to 'knock-out' specific targets. It is now known that as late as 1942 only one bomber in five was dropping its bombs within five miles of the target. This revelation in 1942 was one of the reasons for switching Bomber Command's strategy from precision bombing to area bombing. If one could not hit small targets then one had to try to hit larger ones! Fortunately there were others who foresaw the need for a strong defensive force to counter a possible German 'knock-out' blow!

However, at the outbreak of WW2 the RAF was 1,200 pilots short of its planned strength. This was largely because eight Flying Training Schools (FTSs) planned for the pre-war period had been scrapped on the grounds that cadet pilots could be trained on operational airfields by experienced pilots. As a result only 7,000 pilots were trained in the period 1935 - 1939 at nine FTSs in the UK. By contrast, at the peak of the war-time training effort 2,000 RAF pilots were getting their 'wings' each month! Thankfully the policy of training pilots in operational squadrons did not long survive the outbreak of WW2. Imagine a Battle of Britain fighter pilot, exhausted after a day's fighting, having to spend a few hours with cadet pilots flying in a Tiger Moth in the hostile skies of England!

## QUANTITY OF TRAINING

In 1939 no-one could have foreseen how many pilots were to be needed by the RAF for the duration of hostilities. However, it is to the credit of people like Portal (RAF) and Arnold (USAAC) that plans were formulated and schemes embarked upon which, in the event, were able to expand to fulfil all RAF requirements for pilots. Indeed towards the end of WW2 both the RAF and the then named US Army Air Force (USAAF) had surpluses of pilots - unlike Germany and Japan which experienced shortages of trained pilots from about 1943 onwards.

The following figures give some idea of how many aircrew were trained for the RAF during WW2.

	<u>Total RAF strength</u>	<u>No. of aircrew</u>
Sept., 1939	175,000	10,000
Sept., 1945	1,075,000	193,000
Increase in aircrew		183,000
Add aircrew killed or missing		70,000
Minimum number trained		253,000

The total number trained would have been greater than 253,000 because of wounded aircrew who were discharged or remustered into non-aircrew duties. Of the 70,000 killed or missing some 8,000 were killed in non-combat flying.

It is difficult to arrive at the overall number of pilots trained for the RAF during the war but a figure of about 70,000 appears reasonable.

Incidentally the September, 1945, figures were not the RAF's peak- this occurred in July, 1944, when the RAF's total strength was 1.2million; the number of aircrew would have been about 200,000. At that time the RAF had 55,469 aircraft on its charge of which 9,200 were first-line operational aircraft.

## QUALITY OF TRAINING

A notable feature of RAF pilot training was the improvement in the quality of training as the war progressed. Admittedly this was partly due to the changes in the weapons of war and the advancements made in navigational and bombing techniques. Nevertheless the RAF had long enjoyed a praiseworthy reputation of training its aircrew to the highest standards and refusing to compromise. Many foreign airforces have copied the RAF's training methods and standards.



At the outbreak of WW2 a pilot was awarded his 'wings' after about 150 hours of flying training, as follows:-

1939

	<u>Hours</u>
Elementary Flying Training School (EFTS)	50
Service Flying Training School (SFTS)	<u>100</u>
Total	150 ('Wings' awarded)

The rest of the pilot's training was done after he joined his operational squadron. This is a considerable advancement over the Royal Flying Corps in 1918 when some pilots got their 'wings' after fewer than ten hours and were then posted to the front-line in France!

Up to 1939, many cadet pilots were members of the RAFVR and flew only at weekends or were members of a university air squadron. So the training was far from continuous. At EFTS the Tiger Moth was the principal trainer; at SFTS there were the AVRO "Tutor" and "Prefect", the early version of the Miles "Master" and, just beginning to be used as war broke out, the North American AT6 "Harvard".

By the last year of WW2 a pilot joining a heavy Bomber squadron would have amassed some 440 hours before he became operational, as follows:-

1945

	<u>Hours</u>	
Grading School (GS)	10	<i>See Appendix 3</i>
EFTS	60	
SFTS	<u>160</u>	
Total	230 ('Wings' awarded)	
Advanced Flying Unit (AFU)	80	
Operational Training Unit (OTU)	80	
Conversion Unit (CU)	<u>50</u>	
Total	<u>440</u>	

GS was part of the selection process; about ten hours were flown on Tiger Moths. At EFTS the Tiger Moth and Boeing PT17A "Stearman" were the main trainers. At SFTS the North American AT6A "Harvard" predominated although some pilots got their wings on twin-engined trainers, typically the Avro "Anson".

AFUs were generally equipped with Airspeed "Oxfords", OTUs with Vickers "Wellingtons". The CU would have 'Lancasters', 'Halifaxes' or 'Liberators' as appropriate. The training at these establishments embraced all aspects of multi-engined flying, bad weather flying using Standard Beam Approach (SBA), navigational aids such as Gee and Oboe and bombing aids such as H2s and H2x (ground mapping radar).

Today's RAF pilots get their 'wings' at about 240 hours of flying.

It is clear from the above that the amount of training received by pilots increased substantially as the war progressed in an effort to ensure that a pilot joined an operational squadron as fully prepared for battle as was practicable.

### **GENERAL ARNOLD**

In 1939 General 'Hap' Arnold was the Chief of the U.S. Army Air Corps (USAAC). The USA was a neutral country which traded with all belligerents under the terms of the Neutrality Act, popularly known as the 'Cash and Carry' Act. The USA would sell goods to any country which paid cash and then carried them in their own ships. The USA did not want to show preference to any one country. There was a very strong feeling in the government and country at large that the USA should avoid becoming embroiled in another European war.

However, Arnold regarded a European war as inevitable and, like Roosevelt, regarded Nazi Germany as a menace which eventually would require US intervention. Arnold's primary concern was to expand the USAAC. Knowing that Americans disliked large standing armies - perhaps more accurately disliked having to pay for them - Arnold hit upon the idea of using civilian flying schools to enable the USAAC to expand rapidly. He was a WW1 aviator greatly respected throughout the US aviation industry. So he called a meeting of aviators in the flying training business and told them that he would like to see nine new flying training schools staffed by civilian instructors to train USAAC pilots. He could not promise that he would get government approval but he wanted them to go ahead with the formation of these schools in advance of government approval. He gave them ten minutes to decide! They all agreed. Only later did he get Congress approval - but by a mere two vote majority! This illustrates how much opposition there was to military expansion and how strong was the 'isolationism' lobby in Congress.

At the same time, 1939 - 40, Britain had begun to consider the possibility of flying training in the USA. Diplomatic negotiations took place between Lord Lothian, our Ambassador to the USA, Lord Halifax, our Foreign Secretary, and Sumner Welles, US Secretary of State. At this early stage General Arnold had already begun to think about ways in which the USSAC could help train RAF pilots. He developed two plans. One was to allow RAF pilots to train at USAAC flying schools - this became known as the Arnold Scheme. The other was to create separate flying schools to cater solely for the RAF - these schools became known as the BFTSs. All this planning was being done more than a year before the USA was forced to enter the war.

### **SQUADRON LEADER R.S. MILLS, D.F.C**

In late 1940 Sqdn. Ldr. Mills played an unusual role in securing US approval of the BFTS scheme but it is interesting to relate what he had done earlier that year before being sent to our embassy in Washington.



He was involved in the Norwegian campaign which was short and sharp. The Germans invaded Norway by sea and air on the 9th April, 1940; a week later British and French troops landed in Norway. On the 28th May the Allies succeeded in re-taking Narvik from the Germans but this success was short-lived as complete evacuation of the Allied Forces was ordered on 7th June. The whole campaign lasted only two months.

Mills was in charge of No. 263 Squadron which went to the aid of the Norwegians in April, 1940; they operated five Gladiators from the frozen lake Lesjaskog but within three days all were lost. Nevertheless the squadron was rebuilt with more Gladiators and then re-inforced by No. 46 Squadron equipped with Hurricanes. However, Mills did something which no RAF pilot in his right mind should do - he allowed his squadron to be led into battle by a Fleet Air Arm (FAA) Swordfish! FAA pilots are splendid fliers but they are accustomed to flying over expanses of water and not accustomed to encountering protuberances such as hills, let alone mountains - especially if shrouded in low cloud. The inevitable happened. The Swordfish and its attendant Gladiators struck a mountain with disastrous results. Fortunately Mills was not killed but his injuries meant that he missed the main evacuation of 263 and 46 Squadrons. As it transpired he had reason to thank the FAA as the mountain crash almost certainly saved his life.

This came about because 263 and 46 Squadrons were told to leave Norway by landing their remaining eight Gladiators and ten Hurricanes on the deck of the RN aircraft-carrier HMS Glorious. None of these pilots had ever landed on an aircraft-carrier before! They did so, without damage, at about mid-night on 7th June, 1940, after a day's combat. The Captain of the Glorious reprimanded the pilots for being late! He was allegedly in a hurry to get back to Scapa Flow in order to Court Martial his Flight Captain. The Glorious was an unhappy warship. It was also unlucky because on 9th June the German battle-cruisers Scharnhorst and Gneisenau intercepted the Glorious and sunk it with only 40 survivors - including only two of the RAF pilots who had landed on the carrier two days earlier. It is an unsolved mystery why the Glorious launched none of its own aircraft either for reconnaissance or attack. It is known that the Captain and his Flight Captain were in dispute about the use of carrier-borne aircraft.

What is surprising is the accuracy of naval gunnery compared to airborne bombing. The Scharnhorst attacked the Glorious at a range of 16 miles - equivalent to an aircraft bombing from over 85,000 ft! And the target was small and on the move!

But Sqdn. Ldr. Mills missed that disaster and was re-patriated by another naval warship. Back in England he was awarded the DFC - he had one or two Heinkel IIIs to his credit apart from his other exploits - and soon learnt that he was being posted to the embassy in Washington. It is understood that Churchill had a hand in his selection. Mills didn't know why he was being sent to the USA nor had he any inkling of the momentous meeting which awaited him.

Soon after Mills' arrival in Washington he was surprised to receive an invitation to go to the White House. When he got there he was ushered into the presence of President and Mrs Roosevelt to join them for afternoon tea. He juggled with the best china crockery, sipping his tea and eating thinly sliced sandwiches and a selection of cakes.



All in the best English tradition! But the pleasantries were soon over and Mills found himself fielding a succession of questions from the President about Britain's war effort. Mills later recalled that there were about 30 different questions. He must have acquitted himself well because the next day he was again summoned to the White House. On this occasion he met only the President who told Mills that he had approved a plan for British Flying Training Schools and he asked Mills if he would be prepared to assist in its implementation. Mills expressed his willingness and that was the point - late in 1940 - when things began to move. That was still a year before the USA entered the war.

**IMPLEMENTATION**

General Arnold had been working closely with Air Commodore G.C. Pirie, the British Air Attache, Washington, and by early 1941, had positively identified six locations for the proposed BFTSs. Arnold had also earmarked 545 training aircraft for the BFTSs. Fortunately for Britain, in April, 1941, the USA government passed the Lease-Lend Act which empowered the President "to sell, exchange, transfer, lease or lend war materials to any country whose defence he considered essential to the defence of the USA". This was just what Roosevelt wanted. It immediately facilitated the financial aspects of the Arnold and BFTS schemes.

RAF training under the Arnold scheme began in April, 1941, and under the BFTS scheme in July, 1941. As the USA was still a neutral country efforts were made to keep secret the fact that RAF pilots were being trained in the USA so whilst the cadets were in Canada, awaiting posting to the USA, they were issued with Burton's grey civilian suits which they had to wear en route to their destination and whenever they left their camp. This was supposedly to keep American civilians ignorant of the fact that RAF cadets were in their midst! One can but speculate about what Americans must have thought the grey-suited young men, speaking in a strange English accent, were doing in their towns and cities!

**THE ARNOLD SCHEME**

Under this scheme, up to 30% of the places at USAAC flying schools were made available to RAF cadets. In the USAAC training was done in three separate stages, at different airfields, as follows:-

- 6 Civilian Primary schools, typically using the Boeing PT 17 (Stearman)
- 2 USAAC Basic schools, typically using the Vultee BT13A (nicknamed Vibrator by RAF cadets)
- 5 USAAC Advanced schools typically using the North American AT6 (Harvard)

The statistics relating to RAF training at these schools are:

<u>No. of Cadets</u>						Killed in
Started	Ended	Entered (approx)	Graduated	%Eliminated	Training	
April 1941	February 1943	7,885	4,377	45	81	

The civilian primary schools were the ones General Arnold got off the ground in advance of Congress approval. They were run by American civilians but at each school there was an RAF Liaison Office and a USAAC check pilot.

The USAAC basic and advanced schools were staffed and run by USAAC personnel. At these schools West Point Military Academy discipline was imposed on the cadets as the USAAC was as concerned to identify officer potential as it was to develop pilots. There was only an RAF Liaison officer at each school who maintained a somewhat low-key presence. The syllabus was determined solely by the USAAC. A form of military discipline known as 'hazing' was in operation under which senior cadets (all of six weeks seniority!) had almost total control over junior cadets. 'Hazing' was a demeaning discipline under which junior cadets had to do whatever they were told to do, no matter how trivial. The first eight months (April - December 1941) of the Arnold scheme was when America was still neutral and Britain alone was bearing the brunt of the war in western Europe, the Atlantic and north Africa. Therefore one can imagine how frustrated, to say the least, some of the RAF cadets must have felt when subjected to such a demeaning and, to them, pointless regime. At times tempers flared. To the RAF's credit, if an RAF cadet were eliminated on disciplinary grounds he would usually be posted to Canada to continue his flying training.

## GETTING TO AND FROM AMERICA

*See Appendix 4*

Before describing the BFTS scheme it is interesting to consider the logistics of sending cadets to the USA for flying training. The typical stages were as follows:-

1. Aircrew Reception Centre (ACRC), St. John's Wood, London
2. Initial Training Wing (ITW), various locations throughout Britain.
3. Grading School (GS), various locations. This provided about 10 hours flying on Tiger Moths and was a further refinement of the aircrew selection process. It is thought that GSs were introduced as a reaction to the high rates of elimination being experienced under the Arnold Scheme.
4. Aircrew Despatch Centre (ACDC), Heaton Park, Manchester.
5. Atlantic crossing. Typically, sailings were from Liverpool or the Clyde and went to New York or Halifax, Nova Scotia.
6. ACDC, Moncton, New Brunswick, Canada.



7. Arnold Scheme or BFTS - by train.
8. ACDC Moncton - by train.
9. Atlantic crossing.
10. ACDC, Harrogate and other locations. Here the newly trained pilots received their postings to whatever operational duty they were required to perform.

The Atlantic crossings were typically made by relatively fast unescorted pre-war passenger ships. They had a good safety record - made possible by naval intelligence obtained from the Ultra secret Enigma code-breaking done at Bletchley Park. Even so it was a remarkable record because as late as 1943 there were 120 U-Boats operating in the Atlantic on any one day. It required good intelligence and excellent seamanship to avoid contact throughout the voyage of about ten days. The westward sailings were in lightly filled ships whereas the eastwards sailings, from 1942 onwards, were in ships packed with Canadian and American troops in preparation for the invasion of Europe.

One crossing was dramatic. It was in May, 1941, carrying cadets destined for the Arnold scheme. The ship they sailed in was the Britannic and, unknown to the cadets, it was being used as a bait for the German battlecruisers Bismarck and Prince Eugen. The bait worked and the German warships sailed into an ambush nicely prepared by the Royal Navy. Sadly the ambush was poorly implemented. HMS Hood, although the world's largest warship at the outbreak of war, suffered from a fatal defect - weak deck armour - which meant that they had to avoid long-range engagements in which shells would drop nearly vertically at the end of their trajectory. Her companion was the Prince of Wales, which, although the Navy's newest battleship, had not fully completed her commissioning and had unreliable guns! Sadly, the Bismarck engaged Hood at nine miles range and almost at once scored a catastrophic hit. Hood sank in minutes after a violent explosion; there were only three survivors. Fortunately for the Britannic, the aircraft carriers Victorious and Ark Royal disabled the Bismarck and later the battleships King George V and Rodney finished it off. See Appendix 4

## THE BFTSs

The BFTSs were built to a general specification along the following lines:-

- the airfield to be 1 mile square
- two runways
- hangars and maintenance equipment for PT17A and AT6As See Appendix 5
- control tower
- classrooms for ground instruction
- Link training facility
- administration block
- dormitories
- dining hall and kitchens
- emergency equipment, parachutes, etc.

The Heads of Agreement for Contractors to accept were proposed on 29th March 1941 - just about coincidental with the USA Lend-Lease Act. Consequently the Agreement was vague as to payment, often stating 'to be at the cost of the British (or the US Government under Lend-Lease)'.

The work had to be completed by Contractors within 60 days of signing the contract. The training syllabus was to be laid down by the RAF. Suitable 'room and board' had to be provided for \$25 (about £6) per month per cadet. The operators of the schools received their income based on flying hours, for example, \$21.50 (about £5) per hour for the PT17 Stearman. The US War Department, as it did on many occasions, went ahead without waiting for all the legal niceties to be finalised. A letter from the War Department to the Chief of the Air Corps (Arnold) dated April 26th, 1941, stated "It is the expressed desire of the Under Secretary of War that preparations for the training involved be not delayed pending receipt of legal clearances".

Money to finance the operating companies came mainly from the private sector. For example South West Airways operated No. 4 BFTS, Falcon Field, Mesa, Arizona, and among the principal shareholders were Hollywood film stars - James Stewart, Robert Taylor, Henry Fonda and Cary Grant. The operators wanted to call the airfield 'Thunderbird Field' but Sqdn. Ldr. Mills said he would prefer a British bird of prey - the falcon. The operators agreed. It was insensitive of the operators to want to call it 'Thunderbird' as the airfield was surrounded by Indian reservations and the Thunderbird was a mythical bird in Indian folklore which swooped down and stole papooses!

The BFTS statistics are:-

See Appendix 6

Location	No. of Cadets		Entered	Graduated	%Eliminated	Killed in training
	Started	Ended				
1. Texas	Aug 41	Aug 45	2,200	1,320	40	20
2. California	July 41	Dec 42	580	350	40	1
3. Oklahoma (Miami)	July 41	Sept 45	2,124	1,376	35	15
4. Arizona	Sept 41	Sept 45	2,181	1,380	37	23
5. Florida	Aug 41	Sept 45	1,719	1,325	23	23
6. Oklahoma (Ponca-City)	Aug 41	April 44	1,850	1,113	40	7
TOTALS			10,654	6,864	35	89
			====	====	==	==

The local people, into whose midst these training schools were thrust, treated the RAF cadets with overwhelming hospitality. Daughters of the British Empire and British War Relief were typical organisations which arranged weekend dances, etc. The ordinary citizens took cadets into their homes at every opportunity.

No. 2 BFTS had a short life. It was only about 60 miles from Hollywood which held a magnetic attraction for cadets of the 1940s! One suspects that the USAAC thought that the site of this BFTS was too good to waste on the British! At any rate the



USAAC moved in. They liked the location so much that even today there is a huge US Air Force (USAF) near there - Edwards.

No. 6 BFTS, Ponca City, Oklahoma, closed earlier than the rest. There were reports of sub-standard maintenance. etc. and, in any event, by early 1944 the RAF was finding itself with an embarrassing number of pilots so no doubt the opportunity was taken to close one of the BFTSs.

*A cadet on the last course at #6BFTS who moved to #4BFTS remembers heavy snow at Ponca City that winter and believes that contributed to closure.*

The BFTSs were RAF establishments in that the Commanding Officer, Adjutant, Chief Flying Instructors (replaced by civilians in later years), several ancillary staff e.g. PT. Instructors, were all RAF personnel. The BFTSs, were subject to RAF Law and discipline. Flying regulations were strictly adhered to. At one BFTS the Commanding Officer (a Wing Commander), flying a Harvard, came across two Stearmans, each with an instructor and pupil, engaged in a dog fight - contrary to regulations, worse, they 'attacked' the Harvard, no doubt thinking they were scaring the life out of a cadet. The C.O. flew back to the airfield and awaited the two Stearmans. He sacked the two instructors on the spot and also 'black-balled' them with regard to employment in any other BFTS.

The BFTSs were unique in that they had 'straight through' training, at the same airfield, from ab initio stage to 'wings'. Nowhere else in WW2 was this the case. All other RAF training under EATS or BCATP comprised two stages - EFTS and SFTS at different airfields. The USAAC had three stages. Incidentally, post-war the RAF adopted 'straight through' training.

The BFTS instructors were civilians who had been trained up to RAF instructor's standard. The syllabuses for flying and ground instruction were entirely RAF. The flying syllabus reflected RAF needs as the war progressed and included, for example:

- night flying
- instrument flying
- long distance cross-country flights
- formation flying

- to a much greater extent than in the USAAC syllabus which tended to concentrate on skilful aerobatic flying.

The training comprised 27 weeks, there were 300 cadets under training at any one time in each BFTS, 100 cadets arriving every nine weeks.

The long cross-country flights covering two or three States caused a legal problem - it was claimed that they fell foul of certain laws governing inter-state commerce! The US War Department gave that short shrift - this was warfare not commerce was the gist of their response.

Closures of the BFTSs came almost over-night. Many RAF cadets were close to graduating but unhappily were unable to get their 'wings'. At No. 4 BFTS in Aug., 1945, a tornado destroyed most of the Stearmans and there were all replaced within

days. But two weeks later the school was closed and the airfield sold to the City of Mesa for \$1!

## TOTAL RAF PILOTS TRAINED IN THE USA IN WW2

In 1940 - 41 some refresher training was provided mainly for Americans who wanted to join the RAF. This amounted to several hundred but it was outside the main stream training schemes and was relatively short-lived and is therefore excluded from the figures below. A small number of RAF pilots were trained under schemes devised mainly for the training of naval pilots; they also are excluded.

	<u>No. of pilots trained</u>
Arnold Scheme	4,377
BFTSs	<u>6,864</u>
USA TOTAL	11,241 =====

The number of RAF pilots trained in WW2 is estimated to be about 70,000. Canada accounted for about 60% of all aircrew trained for the RAF in WW2 the remainder, apart from the USA, being trained mainly in S. Rhodesia, S. Africa, Australia and New Zealand. But it seems that around 75% of all RAF pilots got their 'wings' in North America.

There are two tailpieces to this story worth relating.

## PORTAL FAILS TO REPAY A DEBT

*See Appendix 7*

In 1942 General Arnold had overall command of the USAAF operations in Europe. At first the B17s confined their raids to targets in France in daylight. They adopted the protective 'box' formation for defence against the German fighters. Losses were not heavy but nevertheless the USAAF thought fit to provide fighter cover - mainly Thunderbolts and Lightnings. The latter were not quite a match for the opposing Messerschmitt 109s.

In 1943 the USAAF extended operations to targets in Germany. Losses began to mount. The Luftwaffe attacked the B17 formations on the way out and on the way back. Adequate fighter protection could not be provided by Thunderbolts and Lightnings. The USAAF adopted 'shuttle' bombing, that is flying from England to bomb Germany then flying on to N. Africa or Russia. The idea was to bomb again on the flight back to England. It was not a success. Losses mounted to unacceptable levels culminating in a disastrous raid on Schweinfurt - Regenberg on 17th August, 1943, when 117 B17s were lost out of a total of 317.

At this stage Arnold pleaded with Portal (now Chief of Air Staff) to provide Spitfire support for the B17 raids on Germany. By this stage of the war the Spitfire was well



equipped with extra fuel tanks for long-range operations. As early as Autumn, 1942, Spitfires were flying non-stop from Gibraltar to Malta - 1,100 miles.

But Portal refused and the USAAF continued to suffer grievous losses until December 1943 when the Merlin - powered P51 Mustangs arrived in England and provided the long-range fighter protection so badly needed.

Bearing in mind that in 1943 there were about 1,500 Spitfires based in England - mainly in the South East - it is hard to understand why Portal refused to help the man who had done so much for Britain and the RAF in their hour of need.

The probable explanation lies in the opposing philosophies of the RAF Bomber Command and the USAAF. By 1942 Bomber Command had incontrovertible evidence that precision bombing was wasteful, if not useless. Only one-fifth of its Bombers dropped their bombs within five miles of a target. Hence area bombing was adopted. But the USAAF believed that their Norden bombsight was superior to the MkXIV used by the RAF and that bombing by daylight was more precise than by night. Portal probably refused to provide fighter cover because he could not support the USAAF in persisting with its precision - bombing strategy. But in human terms his action no doubt led to the loss of hundreds of USAAF aircrew before the arrival of the P51 Mustangs. In fact the USAAF bombing was no more accurate than the RAF's and the final ironic twist to this story is that by 1944 - 45 the USAAF had covertly acknowledged this and began to adopt area bombing (although the euphemism 'marshalling yards' was used when they intended to attack a town or city!). In the far East many Japanese towns and cities were subjected to area bombing. The further irony is that by 1944 Portal had come to the conclusion that area bombing was not achieving its objectives and was not worth the vast expenditure of RAF resources deployed in Bomber Command. He believed that devices like H2S/H2X made precision bombing a better option. As we now know Bomber Command's Commanders-in-Chief, Harris, threatened to resign over the issue and Portal was forced to back down in the interest of maintaining national morale.

**A SURPLUS OF PILOTS**

As a result of EATS, BCATP, Arnold Scheme and the BFTSs, by 1944 the RAF enjoyed a greater supply of well trained pilots than losses justified. Therefore many pilots were re-trained as flight engineers or assigned to non-flying posts. But one group deserves a special mention. They are the 1,500 pilots loaned by the RAF to the Glider Pilot Regiment (GPR) in 1944 - 45.

The GPR had suffered heavy losses in the Italian, Normandy and Arnheim landings. In the latter operation in September, 1944, out of 10,000 troops engaged, 7,600 were killed, wounded or taken prisoner. But the Allies were soon planning a second Rhine crossing using airborne troops and the GPR was desperately short of pilots. The RAF obliged. The second crossing was to be up river from Arnheim and was code-named Operation Varsity. It was the biggest airborne assault of WW2. In total the US and Britain provided 1,750 aircraft for paratroop carrying, 1,350 aircraft for towing an equal number of gliders and 900 fighters for escort. All paratroops and gliders landed

in 2 hours 36 mins. This was after a 'softening up' by the RAF and the USAAF; they flew 16,000 sorties over a three day period dropping 49,500 tons of bombs.

The British Glider Force totalled 440 Horsas and Hamilcars. The Horsas carried up to 28 troops and the Hamilcar up to eight tons of equipment. Only 80 of the 440 British gliders landed unscathed. Each glider carried two pilots making a total of 880 pilots involved. Of these 101 were killed of whom 61 were RAF pilots on loan to the GPR.

The glider pilot's task was a dangerous one. They suffered broken tow-ropes, sea drops, anti-glider defences, murderous enemy ground fire and, of course, they were 'sitting' targets both under tow and after release.

## EPILOGUE

Suffice it to say that today the Arnold Scheme and all the BFTSs have associations of pilots who trained in the USA in WW2. Very close contacts have been maintained with the many Americans who trained and entertained the thousands of RAF cadets who spent an intensive few months of their life to get their coveted 'wings'.

A British film was made in 1943 called 'Journey Together'. A young Richard Attenborough plays the part of an RAF aircrew cadet sent to No. 4 BFTS, Arizona. About 15 mins of the film was shot on location at No. 4 BFTS in 1943 and features Edward G. Robinson as an American flying instructor. It is worth seeing to get the feel of war-time RAF aircrew training. Sadly Richard Attenborough is eliminated and sent to Canada to train as a navigator. But as a member of a Wellington crew on operation he performs heroically to get their Wimpy back to base on a wing and a prayer. See Appendix 8

In 1995, on the occasion of the 50th Anniversary of VE day, the association of No. 3 BFTS (Miami, Oklahoma) decided to hold a re-union in Miami. Tulsa TV covered the event and then decided to put together a TV documentary describing the story of No. 3 BFTS, including war-time film footage. In the event six, eight minute films were produced entitled 'Silver Wings in Prairie Skies'. These are available on videotape and may be purchased from Ken Odell, 11 Well Cross, Edith Weston, Rutland, LE15 8HG (Tel: 01780 721369).

## ACKNOWLEDGEMENTS

I am greatly indebted to the following who kindly gave me historical material and information which I have freely used in the text.

The Arnold Scheme	:	F. Norman Bate, MBE, MIMgt. Registrar
No.1 BFTS	:	A.J. Allam, Hon. Sec.
No. 2 BFTS	:	K.J. Clarkson, ACP. Hon. Sec.
No. 3 BFTS	:	A.H. Stredwick, Membership Recorder.



- No. 4 BFTS : Capt. W. McCash, AFM, Chairman, who kindly let me use material he compiled for a talk to the RAeS, Gatwick Branch, on the subject of flying training in the USA for the RAF in WW2..
- H.J.S. Buckle, Hon. Sec.
- R.H. Brown, Registrar.
- No. 5 BFTS : J.F. Potter, Chairman
- No. 6. BFTS R. Whittaker, Chairman

### BIBLIOGRAPHY

Two books were especially helpful:-

"By the Seat of Your Pants" by Hugh Morgan ; Newton.

"The Right of the Line" by John Terraine ; Hodder and Stoughton.

Derrick W. Croisdale (ex No. 4 BFTS)



## **APPENDICES - Amendments to the text for accuracy**

### **Appendix 1. INTRODUCTION**

Page 1 – Paragraph 2.

- No.6 Group (Royal Canadian Air Force -RCAF) Bomber Command was not entirely staffed by Canadians. There were no RCAF trained Flight Engineers in 6 Group, and every Flight Engineer in the group was British. One British Flight Engineer, Pilot Officer Christopher W Panton, who flew with the RCAF was killed flying a Halifax in the Nuremberg Raid of 31 March 1944 433 (R.C.A.F.) Squadron. He is buried in the Durnbach War Cemetery, Bayern, Germany.

### **Appendix 2. THE PRINCIPAL PERSONALITIES**

Page 1 – Paragraph 1

- Winston Churchill said *“Give us the tools and we’ll finish the job”* during a speech on February 9, 1941, which was broadcast from London

### **Appendix 3. QUALITY OF TRAINING**

Page 5 – Comparison in pilot training hours between 1939 and 1945.

- **Grading School:** The 1945 figure includes 10 hours flying a Tiger Moth at a Grading School (GS). GS were developed to aid aircrew selection and weed out those cadets who were less likely to graduate as pilots. They were not introduced until late in 1941 and cadets on the early courses at any of the BFTS would not have attended a GS prior to training in America;
- As well as weeding out those not suited for pilot training, a big motivation for setting up the Grading system was to avoid wasting the time, expense and effort of sending trainees overseas, only to have them wash out through unsuitability.

### **Appendix 4. GETTING TO AND FROM AMERICA**

Bottom of Page 9

- Although St John’s Wood was the main Aircrew Reception Centre (ACRC), there were others such as Torquay and Babbacombe in Devon;
- Grading School – as mentioned previously, cadets on the early courses at any of the BFTS would not have attended a GS prior to training in America;



- Aircrew Dispatch Centre (ACDC), Heaton Park. Heaton Park was not opened until September 1941 so cadets on early BFTS courses and early Arnold Scheme classes were sent to a Personnel Dispatch Centre (PDC) such as at Wilmslow and West Kirby;
- Aircrew Dispatch Centre (ACDC) or Personnel Dispatch Centre (PDC) Moncton was opened in October 1941. Early BFTS courses went via No 1 Manning Depot, Toronto which was the Coliseum Building on the Canadian National Exhibition grounds accommodating up to 5,000 personnel. My father, George Hogarth (Course 3, 5BFTS) spent four days at No 1 Manning Depot before taking the train to Clewiston where he arrived on October 2, 1941. Peter Allam's father, Bert Allam, and other fellow cadets went to 1BFTS in Terrell, Texas via No 1 Manning Depot.

Page 10 – last paragraph

- This paragraph starts, 'One crossing was dramatic'. This crossing certainly sounds dramatic as written, and Derrick is likely to have based his account on what was believed about this incident at the time of writing. In fact, we now know that no evidence exists that MV Britannic (or any other Allied ship) was 'used as bait'. The foray of Germany's Bismarck and Prinz (not Prince) Eugen into the Atlantic to attack convoys had been known about for some time and there was never any intention to 'encourage' them to target specific ships in order to ambush them. The Royal Navy simply stationed as many ships as it could in each of the possible breakout routes the two German ships would have to use to get into the north Atlantic;
  - Bismarck and Prinz Eugen are both described as 'battlecruisers' – Bismarck was a battleship while Prinz Eugen was a heavy cruiser;
  - The battleship, HMS Prince of Wales, mentioned by Derrick was sunk on December 10, 1941, in the South China Sea. My father, George Hogarth, who was a cadet at 5BFTS in Florida, wrote to a friend that *"The loss of the 'Prince of Wales' was a bit of a blow which struck this continent pretty hard, and especially us, for we felt quite a brotherly love for the [ship], as it was in our convoy coming over here."*

## Appendix 5. THE BFTSs

Bottom of page 10

- The general specification required hangers and maintenance equipment for PT17A and AT6As, but until August 1942, hangers and maintenance equipment were also needed for a third plane, the Vultee BT-13A.
  - Training was in three parts – Primary, Basic and Advanced Training (PT, BT and AT) and BFTS cadets stayed at the same field for all three parts. The Stearman PT 17 was used for Primary training. For cadets in the early courses, the Vultee BT-13A was used for Basic training and the AT-6 Harvard for Advanced training. Following a fatal crash at 5BFTS (Clewiston) in January 1942, and concerns about the safety of the Vultee BT-13A, it was withdrawn from the training programme and cadets starting training in August 1942 undertook basic and advanced training in the AT-6;

- Although the specified Stearman for Primary Training was the PT-17 at each BFTS, there were occasions when other Stearmans were used:
  - In 1940-1941, there was a shortage of the Continental engine used in the PT-17 and so 150 Stearman trainers were built with a Jacobs engine, and these planes were designated Stearman PT-18s. At 1 BFTS (Terrell), the Stearman PT-18 was used until about Course 7. The PT-18 may have been used at other BFTS, but it seems unlikely that they were at 5BFTS (My father's Course 3 Logbook shows him flying PT-17s in October 1941).
  - On August 1, 1945, a hurricane in Arizona caused four Stearman PT-17 aircraft to be blown into an orange grove and 37 to be totally destroyed at 4BFTS (Mesa). On August 4, 40 Stearman PT-13 (powered by Lycoming engines) were flown in from Minter Field, Bakersfield, California, to replace these PT-17s. As they were not equipped for night flying or instrument flying, Primary Training had to be modified; however, as Japan surrendered on August 14 and all flying training in the USA stopped, in the end it mattered not at all!!

## Appendix 6. BFTS STATISTICS

Page 11

The first five BFTS airfields weren't ready for use when the early courses arrived, and the cadets started their training on alternative airfields within the respective state making use of US Army Air Corps Primary Training facilities, or, in the case of 5BFTS, the Arnold Scheme Carlstrom Field in Arcadia. The only location ready for occupation when the first cadets arrived was #6 Ponca City, which had a planned start date in August 1941.

**Table 1: British Flying Training Schools (BFTS) – Dates and Locations**

#	Location	State	Field name	Started 1941	First location	Moved 1941	BFTS Ended
1	Terrell	Texas		June 9,	Love Field, Dallas	August 11	August 1945
2	Lancaster	California		June 9,	Glendale, Los Angeles	July 17	December 1942
3	Miami	Oklahoma		June 16	Army School, Tulsa	July 13	August 1945
4	Mesa	Arizona	Falcon Field	June 16	Thunderbird Field, Phoenix	September 27	August 1945
5	Clewiston	Florida	Riddle Field	July 17	Carlstrom Field, Arcadia	September 23	August 1945
6	Ponca-City	Oklahoma		August 23			April 1944



**Table 2: British Flying Training Schools (BFTS) – Number of cadets entering, graduating, eliminated or killed in training (with place of burial)**

#	City	State	Cadets Entered	RAF Pilots Graduated	% Eliminated	Killed in training	Location of Cemetery*
1	Terrell	Texas	2200	1320	40	20	Terrell (Oakland) Memorial Park
2	Lancaster	California	580	350	40	1	Lancaster Cemetery
3	Miami	Oklahoma	2124	1376	35	15	Miami (Grand Order of the Republic) Cemetery
4	Mesa	Arizona	2181	1380	37	23	Mesa City Cemetery
5	Clewiston	Florida	1719	1325	23	22**	Oak Ridge Cemetery, Arcadia
6	Ponca-City	Oklahoma	1850	1113	40	7	Ponca City (Independent Order of Odd Fellows) Cemetery
			<b>10654</b>	<b>6864</b>	<b>35</b>	<b>89</b>	

\*The British Plots in these Cemeteries are cared for by the Commonwealth War Graves Commission.

\*\*There are 23 cadets buried at Oak Ridge Cemetery, Arcadia. 22 were cadets from 5BFTS and one was an Arnold Scheme cadet training at Carlstrom Field, Arcadia.

#### **Appendix 7. PORTAL FAILS TO PAY A DEBT**

Page 13

- In today's context, the sentiments expressed in this section may be debatable, though it is entirely possible that Derrick Croisdale was basing this account on information available to him at the time when he wrote this paper, reflecting the clashing philosophies regarding day versus night and precision versus area bombing which were prevalent at that time;
- At the bottom of page 13 Derrick writes, *“At this stage Arnold pleaded with Portal (now Chief of Air Staff) to provide Spitfire support for the B17 raids on Germany”* and in the second paragraph on page 14, he continues, *“But Portal refused and the USAAF continued to suffer grievous losses until December 1943 when the Merlin – powered*

*continued to suffer grievous losses until December 1943 when the Merlin – powered P51 Mustang arrived in England and provided the long-range fighter protection so badly needed.”. What follows is a suggested justification for this decision by Portal:*

- In fact, B17s *were* escorted on many occasions by RAF Spitfires;
- On display at Shuttleworth in Biggleswade, Bedfordshire, is a 1941 Supermarine Spitfire Mk V which was used to escort USA air force bombers between 1942 and 1943. This Spitfire is documented as having flown as an escort to the famous Boeing B-17F Flying Fortress, Memphis Belle.

## **Appendix 8. EPILOGUE**

### **Page 15 – Second Paragraph**

- ‘Journey Together’ was made by the RAF Film Unit during WWII to stress the importance of the navigator on RAF's bomber crews. Richard Attenborough (then aged 22 and an RAF pilot) plays David Wilton, one of a group of cadets hoping to become RAF pilots. However, David has poor height perception and cannot master landings, so he's eliminated and sent to Canada to become a navigator but is despondent as he really wants to be a pilot. He becomes part of a Lancaster crew (not a Wellington crew). After one mission, they don't make it safely back to base because the plane has been hit and ends up ditching in the North Sea; however, they are rescued, and all survive thanks to David's (Mr. A's) navigational prowess! The scenes with the Lancaster were filmed by the RAF Film Unit at RAF Methwold in Norfolk in August 1944 and the film was released in 1945.

I am grateful to Peter Allam, Janice White née Oakley and Kathryn Masters née Harrison for help with these amendments:

- Peter's father, A J 'Bert' Allam was on Course 4 at 1BFTS at Terrell, Texas. Bert was the Hon Secretary of the UK No.1BFTS Association and was one of the contributors to the original account written by Derrick Croisdale in 1999;
- Janice's father, Frank Oakley was on Course 15 at 4BFTS at Mesa, Arizona (Falcon Field). <https://www.americanairmuseum.com/person/247977>. Janice and her husband Alastair have been enthusiastic and expert researchers on everything connected with #4 BFTS Falcon Field for many years. Janice is now Treasurer for the new Falcon Field Association: *The Next Generation*;
- Kathryn's father, Hugh Harrison was on Course 27 at 4BFTS. <https://www.americanairmuseum.com/person/246882>. Kathryn is now Chair of the Falcon Field Association: *The Next Generation*.

Everyone who reads this owes a huge debt of gratitude to Derrick Croisdale. Although all six BFTS Associations which were established at the time, contributed to the original account, Derrick was the author who wrote with such precision that, with just a few amendments, his account is still valid today. As I write, Derrick is still alive and continues to share his memories of life at Falcon Field during WW2. He is an active supporter of the new Falcon Field Association: *The Next Generation*.

Dr Jenny Harding (Father - George Hogarth, Course 3, 5BFTS), November 14, 2022.