2019 BATTLEFIELD TOUR
ADDITIONAL READING MATERIAL

'14 TO '45 - FROM THE B.E.F. AND HOME DEFENCE TO FIGHTER AND BOMBER COMMAND

EXPLORING SOME OF THE ROLES PLAYED BY 33 SQUADRON AND ITS PERSONNEL DURING THE EARLY DEVELOPMENT OF MILITARY AVIATION IN WARTIME OPERATIONS

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Louis Blériot flies across the English Channel
25 July 1909

From the Dover Mercury (16 and 23 July 2009)

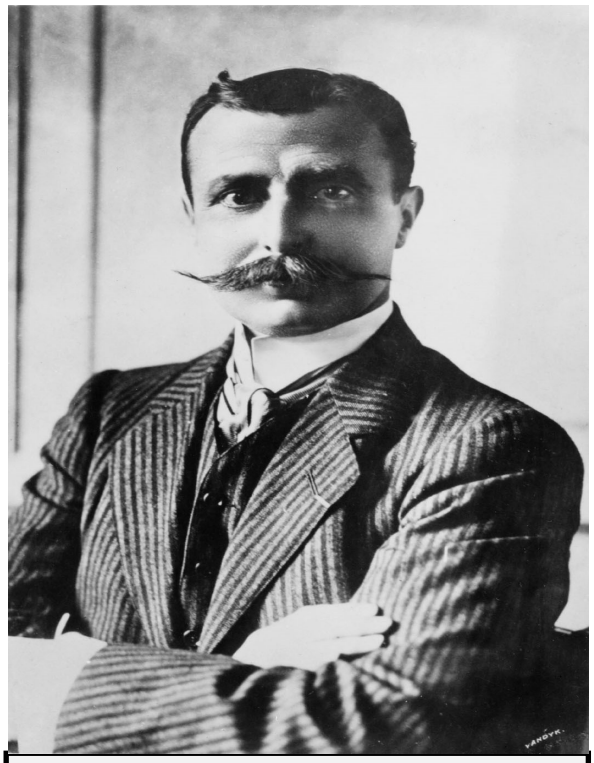
The first aerial crossing of the English Channel, by Dr. John Jeffries (1744–1819) and Jean-Pierre Blanchard, (1753–1809), took place from Dover on 7 January 1785 in a balloon. By the end of the 19th century, balloons were becoming larger and in 1900, the first Zeppelin had flown. In Europe, free ballooning was flourishing in the vanguard of which was the Aéro-Club de France, founded in 1898 and based in Paris. Two years later the Aero Club (now Royal) opened in London.

In 1804, a British amateur engineer, Sir George Cayley (1773-1857), flew a model glider, the world's earliest known successful heavier-than-air craft. In 1853, his full -sized glider made the world's first manned heavier-than-air flight. Between 1891 and 1896 Otto Lilienthal (1848-1896) using gliders made by himself, flew over 2,000 controlled flights. Sadly, he died of injuries when he fell from a craft that had stalled.

In the US, bicycle manufacturers, Wilbur (1867-1912) and Orville Wright (1871-1948) were inspired by Lilienthal's work and made a fabric-covered wooden bi-plane driven by a petrol engine. On 17 December 1903, the Wright Brothers made the worlds first powered controlled sustained flight – it lasted 59 seconds. By 1905, the brothers had built a flying machine with controls that was completely manoeuvrable. In 1904, French Captain Ferdinand Ferber (1862-1909), refined the Wright's earlier aircraft by adding a stabilising fixed tail-plane.

What was happening in the US spectacularly revived heavier than air flights in Europe, especially in France. There, Louis Blériot, (1872-1936), designed a monoplane that managed to fly a distance of 17 miles from Toury to Ateny, on 31 October 1908, making two landings en-route and setting a record for distance flown. Two weeks before, 16 October, a former American cowboy, Samuel Cody (1867-1913), made the first powered flight in the British Isles. Together, these two events led the Daily Mail to offer a £1,000 prize to the first person to cross the English Channel in a heavier -than-air machine.

The summer of 1909 saw two serious contenders, Louis Blériot and Hubert Latham (1883-1912), both waiting in France for unseasonable windy weather to abate. Blériot had sustained nasty burns to his foot on a previous flight but at about 02.30hrs on the morning of Sunday 25 July, he was driven to Barraques, near Sangatte, where he prepared to make the short flight in



Louis Blériot July 1909.

his Blériot No XI 25-horsepower monoplane. The machine was made of ash and poplar and strengthened with piano wires. The controlled parts were the wings, the elevator that took the place of a tail and a rudder that also acted as a balancing fin. It had a *Chauviere modele integrale* propeller and the engine was a 3 cylinder *Anzani* – designed for a motorbike.

Dawn was breaking but it was still quite windy when at 04.41hrs, Blériot set off. One of his aides sent a signal to the Lord Warden Hotel, in Dover's Pier District, where reporters from the Daily Mail were staying. Blériot wife, Alice, was on board the French destroyer *Escopette* that was to follow Blériot across the Channel and, if there were an accident, rescue him.

Popular myth says that while over the Channel a shower of rain cooled the overheated engine, this is not true. Nonetheless, the historic trip was not without incident. About half way across the Strait, Blériot ran into a bank of cloud. Although he did have a compass on board the wind blew him off-course to the east. When the cloud cleared, he saw what he believed to be the South Foreland and followed the coast west to the pre-determined landing site at Northfall Meadow – 300 metres northeast of Dover's Castle.

This spot had been chosen by one of Blériot's aides as

the cliffs are relatively low and the engine was too weak to bank and climb far. He landed 36 minutes 30 seconds after takeoff, travelled at an average speed of 42mph at an altitude of 250ft (approximately 80 metres). Due to gusty wind conditions, Blériot had switched the engine off before landing and so bumped to earth. This caused damage to the undercarriage and shattering a propeller blade.

There were two French journalists, one of whom had been primed to fly the Tricolour from the chosen landing spot to greet him. V Ker-Seymer – a Royal Aero Club official – was on site to verify the flight, Police Constable John Stanford and a few soldiers, who were on duty at the time, were there to meet him. It had been expected that Latham would be the first to land, as his plane was stronger and his publicity machine much better. Indeed, so sure that Latham would be the first to make the crossing, the media circus was at the proposed Latham landing spot at Aycliffe.

Although the British customs were not actually waiting when Blériot landed, they arrived only minutes after Blériot had touched down. However, they were flummoxed as to which category they should register the monoplane; eventually they decided it was a yacht! News of the feat quickly spread and as people arrived, Blériot became concerned to protect his craft. Amongst those present was Eddy King, the owner of the Dover Marquee Company. He quickly organised a protective cover and visitors were charged 6d to look at the Blériot No XI. £60 was collected that day and given to charity.

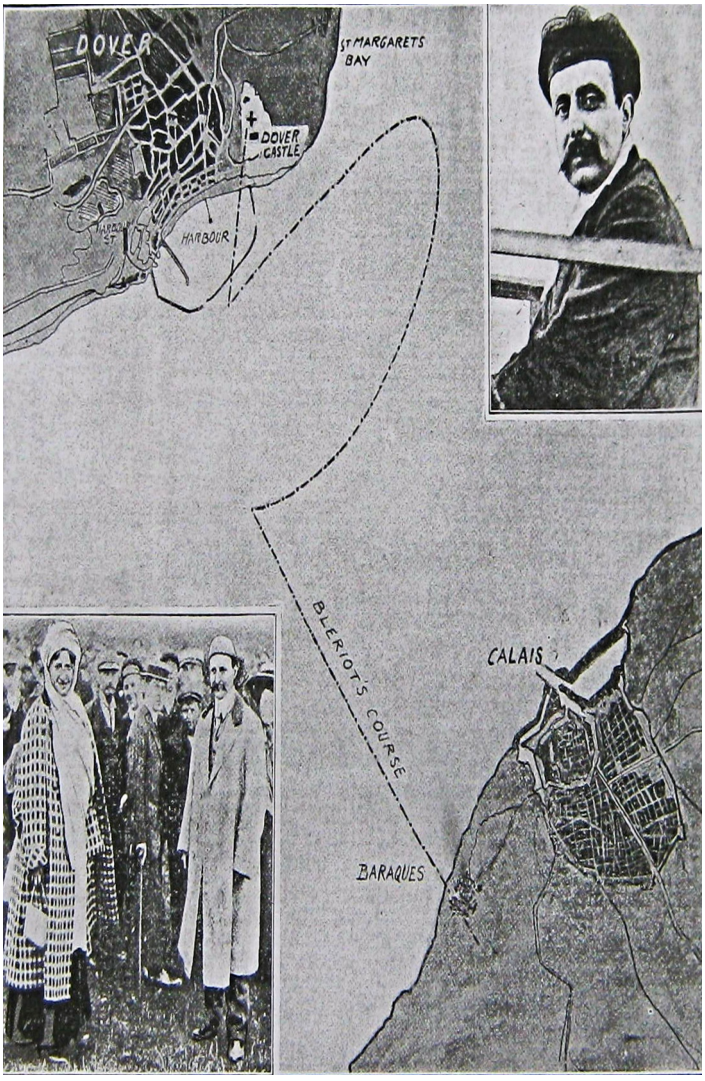
The next day Dover's Mayor, Walter Emden, in honour of Louis and Alice Blériot, gave a grand civic luncheon at the Lord Warden Hotel. A granite memorial on Northfall Meadow was laid, in 1910. As a guide to the shape and size the imprint made by the crowds that came to see the plane was used. Alexander Duckham (1877-1945) of Duckhams Oil, who was involved in the building of the Admiralty Harbour at the time, paid for the Monument. The granite is believed to belong to the same batches as used in the construction of the harbour.

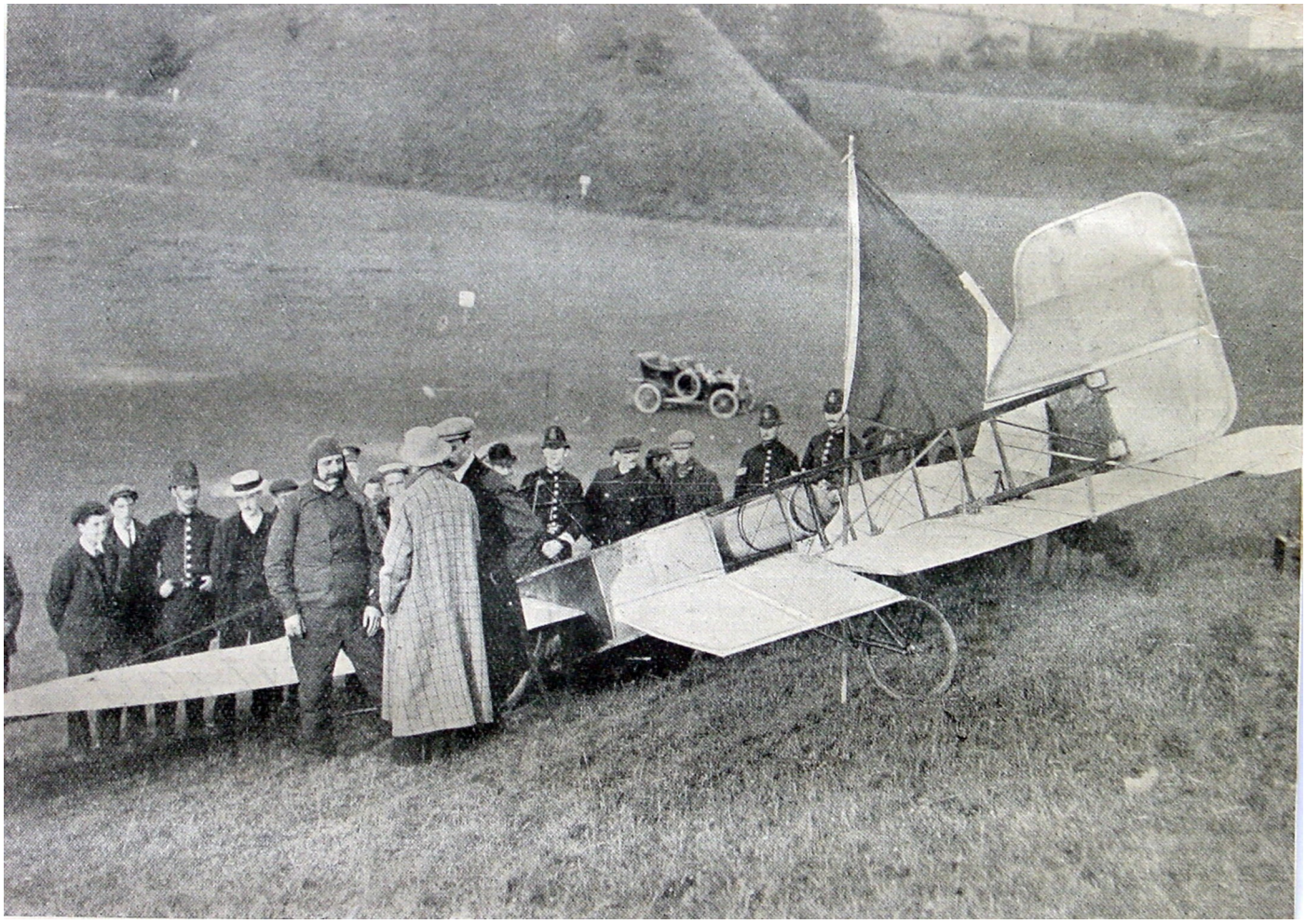
During all the hype and celebrations Gordon Selfridge, proprietor of the great department store, was motoring around Kent. On hearing of the historic flight, he made an appointment to see Blériot and persuaded the pioneer to exhibit his craft at his Oxford Street department store. Following the exhibition, the plane was returned to Paris.

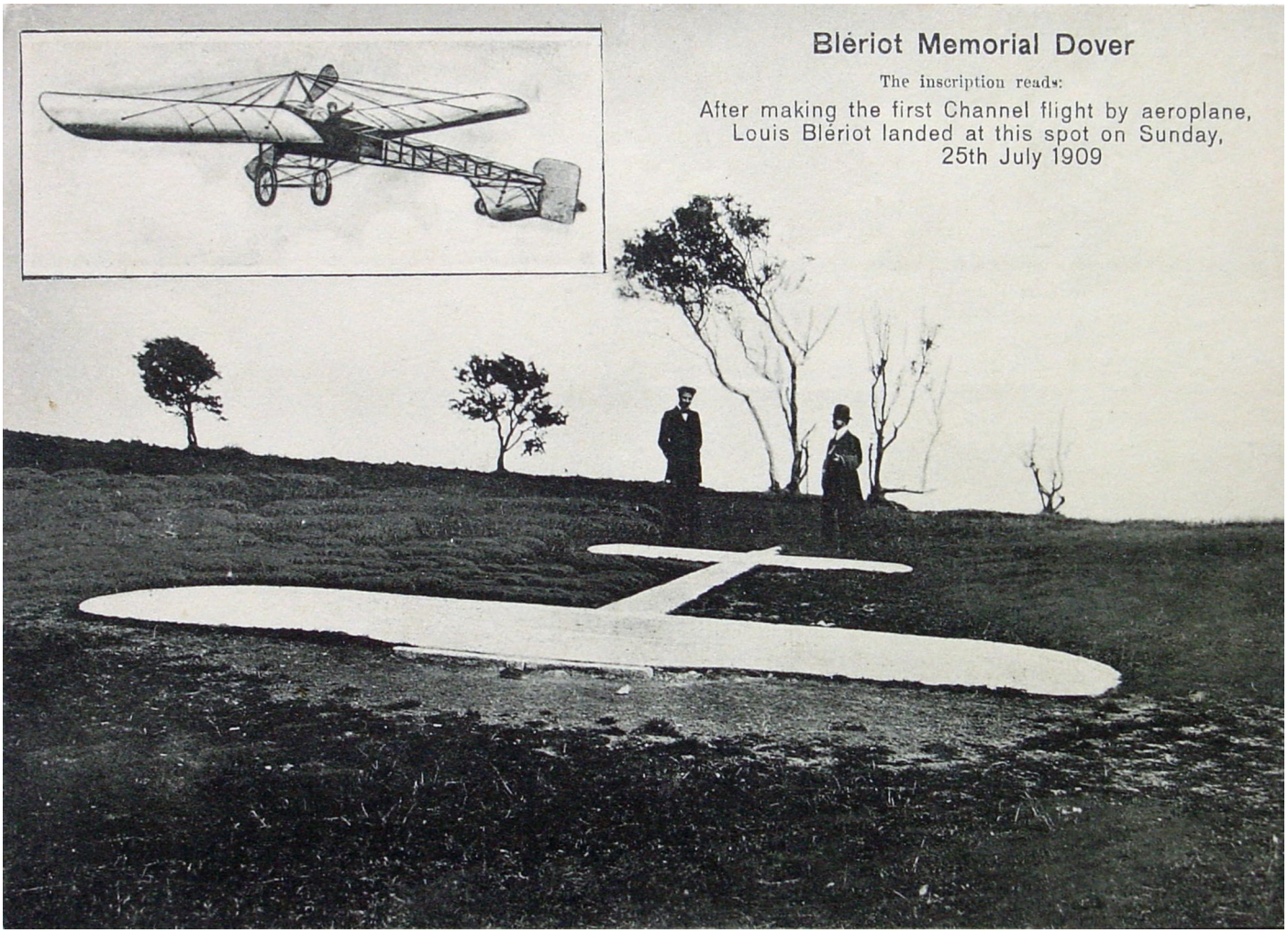
The achievement brought not only fame for Blériot but also it changed people's attitude towards flying. Orders came in for planes from the Blériot's factory and by the end of the year, he had orders for over 100 aircraft. He continued to design and produce aircraft and his business expanded accordingly, producing fighter aircraft during World War I (1914-1918). Following the War, he briefly produced both aircraft and cars in the UK. In 1927, Blériot welcomed Charles Lindbergh in Paris, after the latter had successfully flown across the Atlantic. Blériot died on 1 August 1936, was given full military honours and is buried in Versailles.

For the 1965 film comedy, 'Those Magnificent Men in their Flying Machines' partly filmed in Dover; a replica of the Blériot No XI was made. For film purposes, it was adapted with two seats and a modern engine. In 1984 Patrick Lindsay flew this plane across the Channel following which the wife of the then Chairman of Dover District Council, Sheila Buss, went for a flight!

Finally, on 25 July 2009, the centenary of the original Channel crossing was celebrated by an exact replica of the Blériot monoplane, flown by Frenchman Edmond Salis making the crossing. He landed at the Duke of York's Royal Military School, not far from Northfall Meadow. In attendance was David Roberts, Chairman of the Royal Aero Club of the UK who brought with him the original propeller, belonging to the Royal Aero Club, from the 1909 aeroplane. It had been presented to the Aero Club by V Ker-Seymer, the Royal Aero Club official who was on site to verify the flight!






Blériot Memorial Dover
The inscription reads:
After making the first Channel flight by aeroplane,
Louis Blériot landed at this spot on Sunday,
25th July 1909

Eastchurch Aerodrome

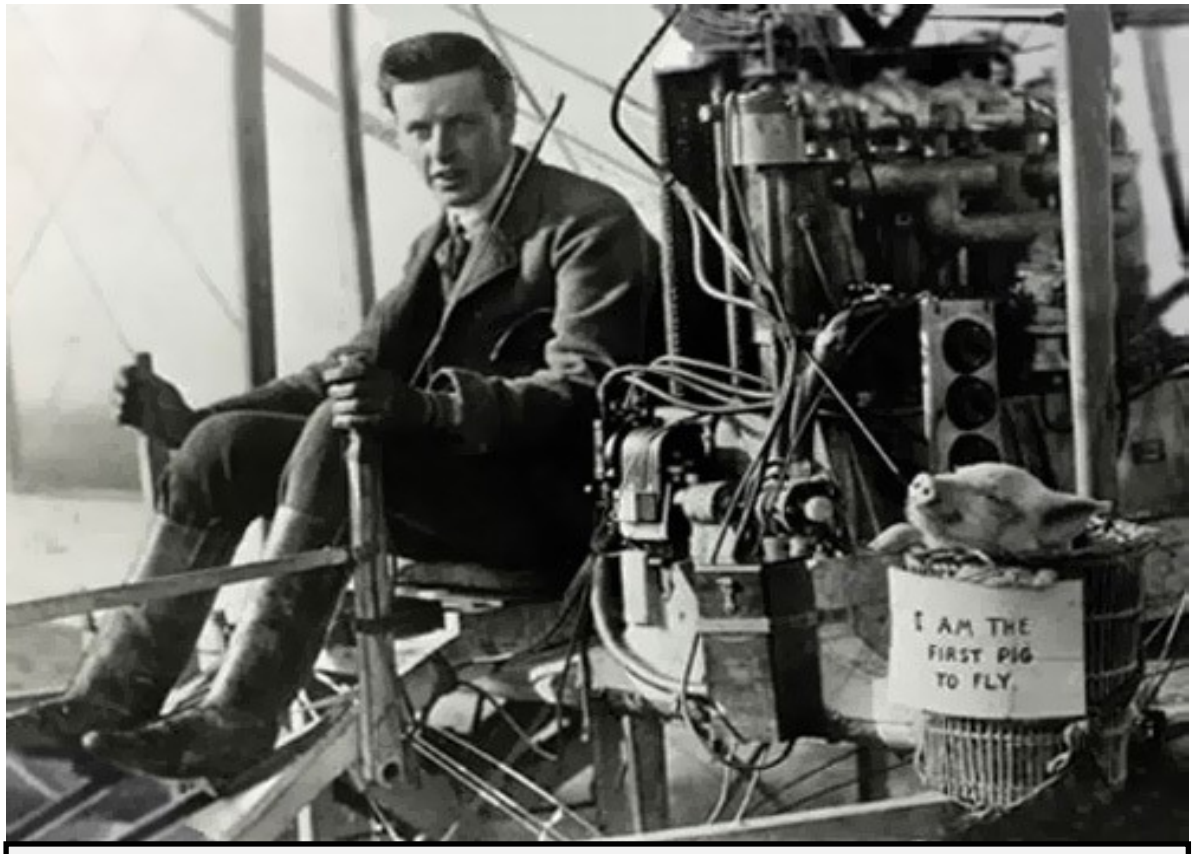
The First British Aerodrome: Eastchurch Flying ground opened by the Royal Aero Club in 1909 (FLIGHT Photo 3 Jan 1930)

Background

Members of the Aero Club of Great Britain had established their first flying ground near Leysdown on the Isle of Sheppey in 1909. Stonepits Farm, on the marshes across from Leysdown, was converted into an airfield. A club house was established nearby at the Mussell Manor (now known as Muswell Manor) and the Short Brothers established an aircraft factory at Shellbeach on Isle of Sheppey. This was the first aircraft factory in the British Isles and the first factory in the world for the series production of aircraft, these being license-built copies of the Wright A biplane.

It was here that John Moore-Brabazon made a flight of 500 yards in his Voisin biplane, officially recognised as the first flight by a British pilot in Britain. Later in 1909, Moore-Brabazon piloted the first live cargo flight by fixed-wing aircraft. In order to disprove the adage that pigs can't fly he attached a waste-paper basket to a wing strut of his aircraft and airlifted one small pig inside the basket. In May 1909 the Wright Brothers visited Sheppey and inspected the airfield before moving on to visit the Short Brothers' factory. They then took lunch at Mussell Manor with members of the Aero Club and there was considerable discussion regarding the possibility of establishing a flying school in Sheppey.

In 1910 both the airfield and the aircraft factory were relocated to larger quarters at Eastchurch, about 2.5 miles (4 km) away. The Short-Dunne 5, designed by John W. Dunne, was built there and became the first tailless aircraft to fly.

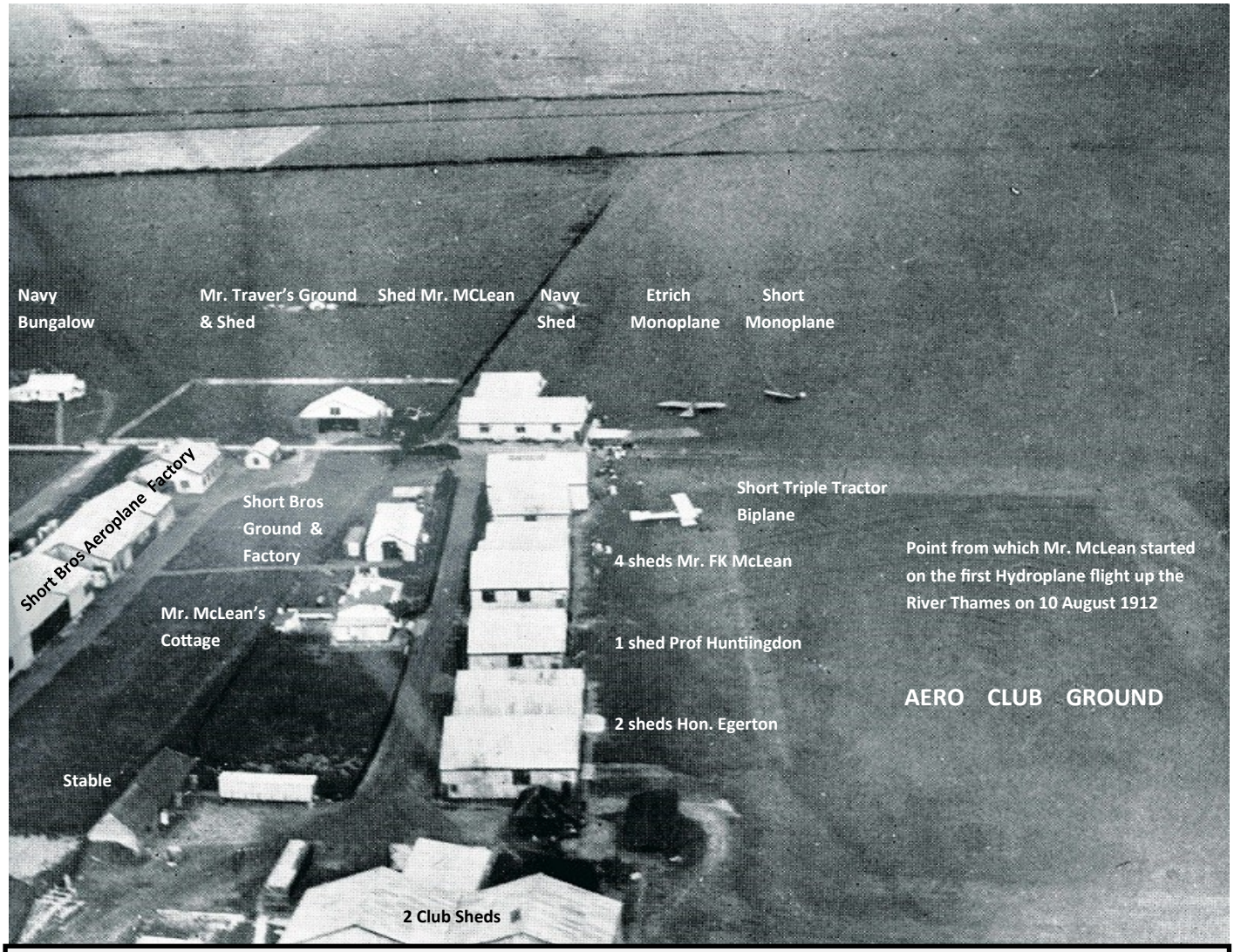


John Theodore Cuthbert Moore-Brabazon, 1st Baron Brabazon of Tara….and passenger!

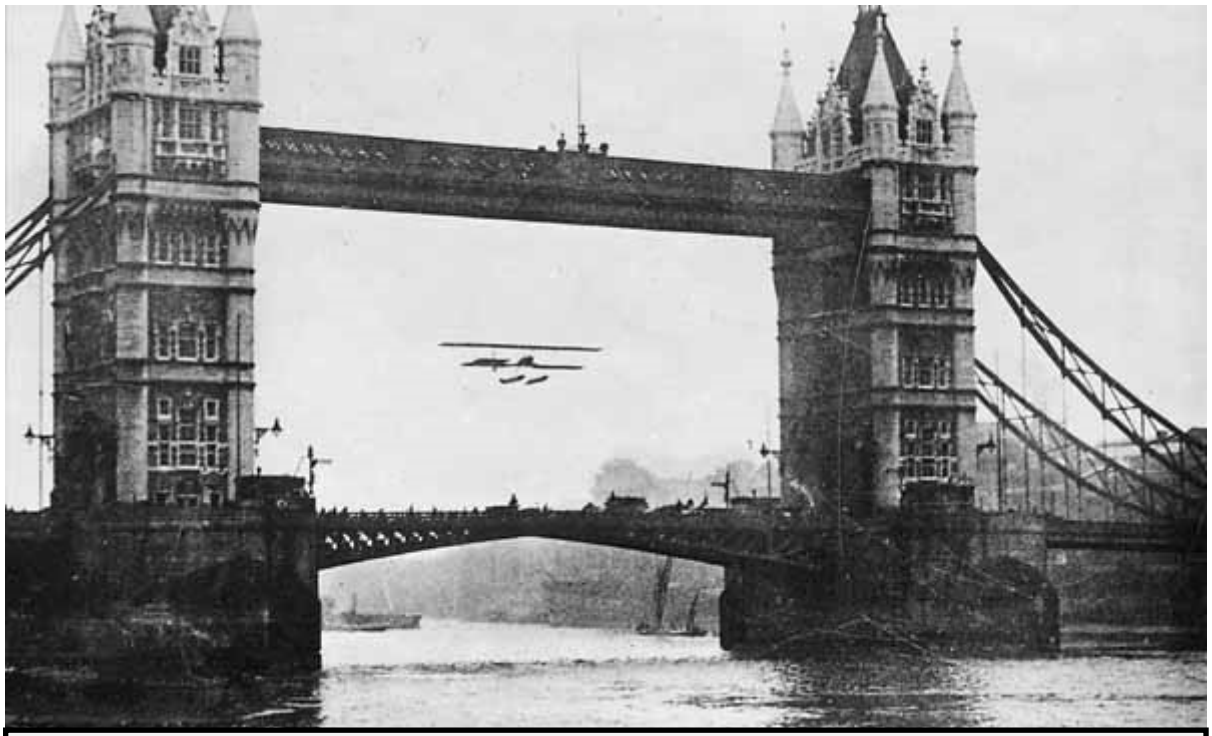
May 1909 – Orville and Wilbur Wright with Mr. Horace Short, after their visit to the Short Bros. factory where Wright biplanes were being constructed. (Flight Photo 3 Jan 1930)

In 1911 Shorts built one of the first successful twin-engine aircraft, the S.39 or Triple Twin. At this time seaplanes had to be taken by barge to Queenborough on the Isle of Sheppey to be launched and tested. In November 1910 the Royal Aero Club offered the Royal Navy the use of Eastchurch airfield, along with two aircraft and the services of its members as instructors. The Admiralty accepted and on 6 December the scheme was promulgated, stipulating that applicants be unmarried and able to pay the membership fees of the Royal Aero Club. Two hundred applications were received, and four were accepted: Lieutenants C.R. Samson, A.M. Longmore and A. Gregory, and Captain E L Gerrard, RMLI. Technical instruction was provided by Horace Short.

Mussel Manor, Sheppey c.1909– back row (L-R): The Manor's owner, The Short Brothers (Oswald, Horace, Eustace), Frank McLean, Griffith Brewer, Frank Hedges Butler, Dr Lockyer, Warwick Wright(not confirmed, no relation to Orville and Wilbur Wright). Front row (L-R): JTC Moore –Brabazon (later Lord Brabazon of Tara), Wilbur Wright, Orville Wright, Hon. C S Rolls.



July 1912 - the Eastchurch Works with other hangars belonging to the Royal Aero Club. A Naval Flying School was formed here in December 1911. Frank McLean loaned aircraft to the school and lived in the house at left centre.



Frank McLean flying through the Tower Bridge, 10 August 1912. (Clan Maclean Heritage Trust)

Sir Francis was a civil engineer, astronomer, pioneering photographer and aviator. He received the Royal Aero Club's Aviator Certificate Number 21 on 20 September 1910. According to his obituary in the London Times of 12 August 1955, Lieutenant Colonel Sir Francis Kennedy McLean, A.F.C. ". . . created a record by flying up the Thames in a seaplane, passing between the upper and lower parts of Tower Bridge and under London Bridge without touching the water." The vertical distance between the upper walkways and the deck of the draw bridge is 141 feet, 0 inches (42.977 meters).

The Short S.33 was a variant of the S.27 biplane, built specifically for McLean. It was a two-place, single-engine four-bay biplane with the engine in a pusher configuration. An elevator was forward. Although it had been fitted with two floats for operating from the water, McLean had it converted to a land plane by installing two wheels on a tube axle attached to the lower wing with four struts. Two wooden skids were also installed. The fuselage was an open rectangular framework. At the aft end was a horizontal stabilizer and elevator, and two rudders. There were two tail skids. The Short S.33 was 36 feet, 0 inches (10.973 meters) long (following conversion) with an upper wingspan of 70 feet, 6 inches (21.488 meters). It had a gross weight of 1,600 pounds (725.75 kilograms) and was powered by an air-cooled 10.292 litre (628.048-cubic-inch-displacement) Société des Moteurs Gnome Gamma 7-cylinder rotary engine producing 70 horse-power at 1,200 r.p.m. It turned a two-bladed, fixed-pitch wooden propeller with a diameter of 8 feet, 6 inches (2.591 meters) through direct drive.

FLIGHT magazine reported McLean's flight in the 17 August 1912 edition as follows:

ALTHOUGH London was deprived by the appalling weather of the sight of M. Beaumont piloting his hydro-aeroplane up the Thames, the visit of Mr. F.K. McClean more than compensated for the loss. Remembering an appointment in town on Saturday morning, Mr. McClean thought it would be a good idea to come up on his Short machine, and so at 6 a.m. he had it out of its shed at Harty Ferry, in the Isle of Sheppey, and after seeing everything in order he started off. Following the coast round Leysdown, Warden Point to Sheerness, he continued over the Thames. At Gravesend the smoke of various factories rather troubled the aviator but he made good progress. Approaching London Mr. McClean brought his machine lower down and negotiated the Tower Bridge between the lower and upper spans, but the remaining bridges to Westminster he flew underneath, the water just being touched at Blackfriars and Waterloo bridges. He reached Westminster about 8.30 and was taken ashore to Westminster Pier on a Port of London Launch.

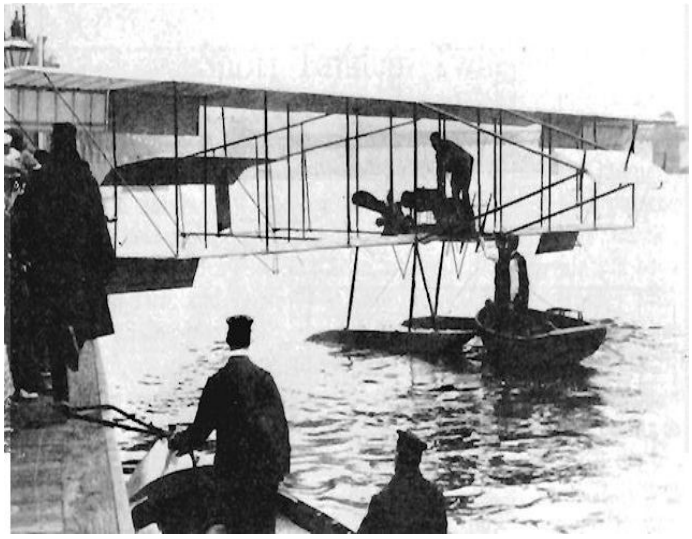
The return journey on Sunday afternoon was not so successful—owing to restrictions as to rising from the water which had been imposed by the police. The bridges had all been safely negotiated, and when near Shadwell Basin Mr. McClean started to manœuvre to get into the air at the point designated by the river authorities. He had made one circuit when the machine side-slipped, and either through hitting a barge or by sudden contact with the water one of the floats was damaged. The machine was then towed into Shadwell Dock, this operation being superintended by Mr. McClean from the driving seat, and dismantled for its

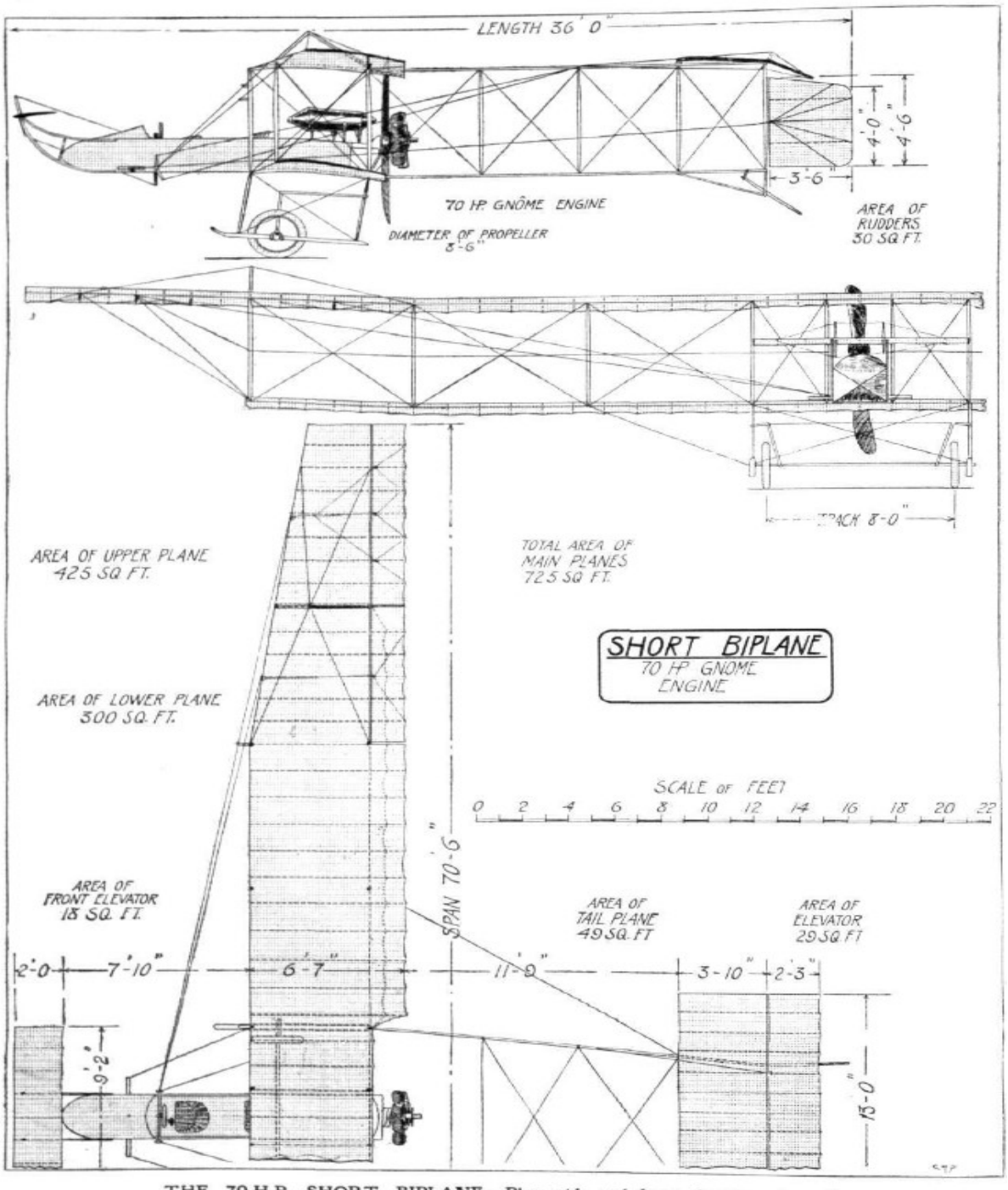
for its *return by road to Eastchurch.*

(FLIGHT, No. 190. (No 33, Vol. IV.) 17 August 1912, Page759, Column 1)

McLean served in the Royal Naval Air Service during World War I and became an officer of the Royal Air Force when RNAS and the RFC were combined in 1918. He is considered to be the founder of the Fleet Air Arm. McLean was decorated with the Air Force Cross in 1919. For his services to aviation, McLean was knighted by George V in July 1926 and later appointed High Sheriff of Oxfordshire.

Sir Francis McLean died 11 August 1955 in London after a lengthy illness. He was 79 years old.





THE 70-H.P. SHORT BIPLANE.—Plan, side and front elevations to scale.

Lieutenant Birch's progress to the Royal Flying Corps

As reported in FLIGHT

To follow the progress of Lieutenant Birch through his initial flying training I returned again to the excellent FLIGHT International online archive. It is remarkable to think that in the early days of aviation the public were so enthralled with developments that they could follow the weekly progress of each individual aviator. FLIGHT published a weekly article entitled 'From the British Flying Grounds', and reported on every student and every lesson undertaken at every flying school.
According to Grace's 'Guide to British Industrial History' there were four aerodromes in Britain and one in France with active flying schools in 1910 and their combined output was 18 trained pupils. Between August and December 1912, the period that Lieutenant Birch started and completed his initial flying training, reports were regularly published In FLIGHT from the following aerodromes and flying schools:
Royal Aero Club Eastchurch Aerodrome
Brighton-Shoreham Aerodrome
Brooklands Aerodrome
Eastbourne Aerodrome
Farnborough (Royal Flying Corps)
Blackburn School
Bleriot School
Deperdussin School
Vickers School
Liverpool Aviation School

The number of trained pupils rose year on year as more flying schools opened: in 1911 - 109; 1912 - 211; 1913 - 336. By 4 August 1914, the number of aerodromes had risen to 13, and 664 pupils had been trained at 34 flying schools.

Lieutenant WCK Birch

Lieutenant Birch learned to fly at the Graham-White School at the London Aerodrome, Collindale Avenue in Hendon. Claude Graham-White established his flying school there in 1911, and he gave H.G. Wells his first flight in 1912. The aerodrome was lent to the Admiralty in 1916 and eventually taken over by the RAF in 1919. The aerodrome was purchased by the RAF in 1925, after a protracted legal struggle, after which Graham-White lost his interest in aviation. Eventually he settled in Nice, where he died in 1959 having made a fortune in property development in the UK and US.

Hendon Aerodrome later became RAF Hendon but after flying ceased there in the 1960s it was then largely redeveloped as a housing estate which was named Grahame Park in tribute to Grahame-White. An original World War I Grahame-White aircraft factory hangar was relocated some years ago to the RAF Museum in London, where it houses the museum's World War I collection and is named the Grahame White Factory.

Twelve of the officers mentioned on the following pages as undertaking flying training can be found on the RFC officers' 'Concentration Camp' photograph taken at Netheravon in 1914; unfortunately Lieutenant Birch was not there.

26 October 1912 - School work started early Monday morning last week, Mr. Lewis Turner being out with **Lieut. Birch** giving a long instructional flight. In the evening Capt. Halahan and Mr. Howard Wright were doing some good straight flights on No.7 biplane, and Mr. Fowler straights on 25-h.p. Blériot. In the morning next day Capt. Halahan flew his first circuit in fine style at a good altitude on No.7 biplane. Lieut. Small flying good figures of eight on No. 5 biplane, and ready for *brevet* tests, Mr Fowler doing straights on 25-h.p. Blériot, Mr. Howard Wright straights on No.7 biplane. In the evening Mr. Howard Wright got in some very good practice at straight flying on No.7 biplane, and Mr. Lan Davies straights on the 35-h.p. Blériot.

Thursday morning, Capt. Halahan did some excellent work on *brevet* biplane, making several good circuits (very fine flying in view of the fact that this is the first time he has been on this machine). Mr. Howard Wright made straight flights on No.7 biplane, and **Lieut, Birch** and Mr. Clarke were rolling on the same machine.

Mr. Howard Wright on Friday making straights flights on No.7 biplane, Mr Fowler also doing straights on 25-h.p. Blériot.

2 November 1912 - School started at 7 a.m. Monday last week, a good morning's work being got in, two pupils passing the necessary tests for their *brevet*. Lieut. S.G. Small started on his first *brevet* test at 7.5 a.m. on No. 5 Graham-White biplane, and attained a height of 180 to 200 ft. on his first circuits, and after steadily flying his five eights landed within ten yards of the Observers. After a few minute's rest he commenced his second test, doing some good eights at a height of from 80 to 100ft. and landing dead on mark agreed by Observers. At 8.25 a.m. Commander M Yeats Brown next away on same machine, doing circuits and figure eights, after which he also made the necessary flights for *brevet*, doing some good flying and landings, height attained for altitude test about 200 ft. Capt. Halahan flying on same machine at 9 a.m., doing good steady circuits. In evening, 4.45 p.m., Capt. Halahan

flying circuits and figure eights on No.5 biplane. Messrs Francis and Clarke were taken for passenger flights on same machine by instructor, Mr. L. Turner.

Wednesday morning Capt. Halahan doing circuits on No. 5 Graham-White biplane. Major Madocks passenger flights on same machine with instructor. In the afternoon Capt. Halahan doing more circuits on No.5. Major Madocks, **Lieut. Birch** and Messrs. Clarke and Francis rolling on No.7.

Thursday, in the morning, Mr. Clarke doing straight flights with instructor.

Major Madocks, **Lieut. Birch** and Mr. Clarke next morning rolling on No. 7 biplane. In the afternoon Capt. Halahan doing figure eights on No.5. Major Liles straight flights on No.7, Major Madocks, **Lieut. Birch** and Messrs. Clarke and Francis rolling on same machine. At 4.20 p.m. Capt. Halahan did necessary flights for *brevet*, making some excellent eights with well banked turns. Height attained during test, 200 ft., making a third *brevet* taken this week at the Graham-White School (two Army and one Naval officers) and the eighth during the month.

Owing to the incessant rain on Saturday very little flying was possible at the Aerodrome, but Messrs. Gates and Turner made some 15-minute trials on the following Sunday,, Louis Noel made a flight on the 80-h.p. Henry Farman, and P. Verrier also put in a couple of flights on the Maurice Farman, in spite of the high wind. Both pilots had a rough time of it, so were glad to put their machines away and reserve their energies for a more suitable day. As there was, we believe, only one other occasion on which there had been a blank day on a race -meeting date, all concerned have not much cause to grumble.

9 November 1912

Tbc

16 November 1912

TBC

23 November 1912 - Friday, last week, school started work at 8.10 a.m., under the supervision of Chief Pilot Noel, **Lieut. Birch** doing 10 mins. solo straights in a slight wind. At 8.20, Lieut. R. G. D. Small got in a little rolling practice on No. 7 biplane, afterwards taking straight instructive flights with Mr. Noel; later in the morning, Major Madocks and Lieut. Birch taking it in turn to do straight flights on the No. 7 'bus. Mr. Davies rolling for over an hour on 4B machine under instruction of Mr. Manton, and showing good improvement. In the afternoon, **Lieut. Birch** doing circuits with Mr. Noel, and Mr. Carr afterwards doing straights with the same instructor.

There was some good exhibition flying to be seen at the London Aerodrome on Friday afternoon. Mr. Noel was out on the 80-h.p. Farman biplane with a lady passenger, while Mr. Manton made several exhibition flights on No. 7 biplane. At 4 p.m., M. Pierre Verrier started out on his Maurice Farman machine for a cross-country flight, which lasted over an hour, with a passenger.

Saturday, **Lieut. Birch** and Major Madocks doing solo straights under instruction of Chief Pilot Noel in a slight wind, and Mr. Power rolling with Instructor Manton. Mr. Noel out trying new Grahame- White- Farman type two-seater biplane, which flew very well.

30 November 1912 - School started in calm weather Monday, last week, at 12.40 p.m., under the superintendence of Mr. Manton, Major Madocks commencing with straights with instructor on No. 7 Grahame-White biplane, followed immediately by Mr. Power on same machine, having 10 mins. rolling with instructor. At 2.30, **Lieut. Birch** out doing straight flights on No. 7 under Chief Pilot Noel. Major Madocks doing solo straights on same machine. At 3.15, Mr. Lan Davis rolling on B4, putting in good practice, and showing decided improvement. Next day, Lieut. R. G. D. Small, accompanied by Instructor Manton, doing straights on No. 7, at 10.20, followed by **Lieut. Birch** also doing straights on same machine. The wind then getting up, school was abandoned till 2.15, when Mr. Power was on No. 7, rolling with Chief Pilot Noel, afterwards solo rolling. Calm morning Thursday, **Lieut. Birch** getting in good practice on No. 7 under Instructor Manton, doing excellent circuits. Major Madocks out at 9.40 doing straights with Mr. Noel, followed by solo straights. Lieut. R. G. D. Small doing straights on No. 7 with Mr. Manton. At 11.30 Major Madocks again on No. 7 doing straights.

Friday, **Lieut. Birch** on No. 5 Grahame-White biplane, doing straights and also circuits, flying very steadily at an altitude of 300 ft., doing figures of eight and landing well.

7 December 1912 - Owing to the exceptionally bad weather prevailing during the whole of the past week no school work was done until December 1st. (No mention of Lieut. Birch)

14 December 1912 - On Tuesday, last week, after having had to wait several days for the weather to calm down, at 11.30 **Lieut. Birch** started his second part *brevet* tests, coming through well and thus gaining his pilot's certificate, on No. 5 biplane.

4 January 1913

Salisbury Plain.

Royal Flying Corps,—As nearly all the officers and men of the Royal Flying Corps have been enjoying a short period of leave, there is not a great deal to record. On

Landour
India

24th Aug 1891.

2nd Lieut. W. C. K. Birch
Yorkshire Regiment

375.

17th Dec: 1912

375

BIRCH, William Claud Kennedy.
58, Cheyne Court, Chelsea, S.W.

Born 24th August, 1891, **at** Landour, India
Nationality British
Rank or Profession 2nd Lt., Yorkshire Regt.
Certificate taken on Grahame-White Biplane
At The Grahame-White School, Hendon
Date 17th December, 1912

Saturday week, Capt. Dawes took Lieut. Wadham over to Farnborough on the Maurice Farman, 214, and while he came back on the same machine Lieut. Wadham brought over Maurice Farman, 216. Air Mechanic McCudden afterwards made a trial of half an hour on 214.

11 January 1913

Salisbury Plain

Royal Flying Corps.—On Wednesday week Air Mechanic McCudden was out testing Maurice Farman biplane 214 and afterwards Lieut. Wadham took over the machine and put up a fine flight.

This officer, Lieut. Wadham, was first out on Thursday morning testing the weather on the Maurice Farman 214. Lieut. Carmichael afterwards went for a trial flight, but owing to a ground fog on landing he ran into the fence of the Bristol hangars with disastrous results to the propeller. Fortunately the pilot escaped unhurt.

In afternoon Air Mechanic McCudden put up an excellent flight, flying for one hour at a height of 4,000 ft. Lieut. Wadham then did some scouting round the Plains. Major Brooke-Popham was out on BE 203 biplane, which has been overhauled. He made five flights, including one of 30 mins., in which after a height of 5,000 ft. was reached his engine went wrong. A graceful descent was made, and on landing it was found that a tappet-rod had broken. During Friday, Saturday, and Sunday work confined to workshops owing to bad weather.

18 January 1913

South Farnborough.

Royal Flying Corps.—Active preparations have been taking place during the last few days, pending the departure of No. 2 Squadron to their new quarters at Montrose in Scotland. An advance party proceeded en route for Montrose early on Wednesday morning to prepare things for the main body. It is intended to fly the machines belonging to the Squadron to their new base, and up to the time of writing it was not definitely known what day the long journey by air would commence. Parties equipped with tools and spares will proceed by road in motors, keeping in touch with the aeroplanes in case of breakdown through any causes. It speaks volumes for the pluck and enthusiasm of the officers, who have undertaken the responsible and by no means easy task of transporting the machines by air, especially when one considers the distance and the time of the year (when the weather is anything but ideal), saying nothing of the difficult nature of the country over which their journey lies. It is to be hoped that good luck will attend the pilots on their journey.

25 January 1913: No mention.

8 February 1913 : No mention

15 February 1913

22 February 1913 - Page 235, very good RFC and Upavon (CFS) RFC reports with lots of names, but no mention of Birch or Joubert.

R. F.C. Flight to Montrose.

THE five Army pilots actually started their journey to Montrose on the 13th inst., but their progress was not very great, mainly owing, of course, to the very bad weather experienced. The pilots were Capts. C. A. H. Longcroft, J. H. W. Becke, and G. W. P. Dawes, and Lieuts. F. F. Waldron and P. W. L. Herbert, the two first being on B.E. biplanes, and the others on Maurice Farman machines. The first stop was to have been Towcester. Three of the pilots landed at Reading, while the others returned to Farnborough, the fog making it impossible to go forward. A fresh start was made on Monday, and Capt. Becke reached Towcester from Farnborough, after making a stop at Blakesley for petrol. Capt. Longcroft, who had started from Reading, landed about 3 miles west of Oxford. Lieut. Waldron, who started from Farnborough came down at Port Meadow, Oxford, and Capt. Dawes reached Banbury. Lieut. Herbert started from Reading and landed at Moreton-in-the-Marsh. In each case a descent had to be made for petrol. On Tuesday, Lieut. Herbert went on a few miles to just by Banbury.

Special Training for R.F.C.

On April 1st the squadrons of the Royal Flying Corps stationed on Salisbury Plain will commence a special course of training in conjunction with the Royal Field Artillery and Siege Artillery Brigade.

1 March 1913

Page 254 – good RFC and Upavon reports, weather totally unfit for flying most of the week: RFC has returned to Bulford Camp from the Cavalry school at Netheravon.

8 March 1913

Two pages (289-290) with detailed RFC and Upavon reports, no mention of Birch or Joubert.

15 March 1913

Nil – extremely bad weather over area.

22 March 1913

Roval Flying Corps.—During last week the weather was against flying except on Wednesday and Thursday, when Lieuts. Cholmondeley, Carmichael and Anderson were out several times on the M. Farman 216 and Major Higgins on the BE 203. The undercarriage of the latter machine was damaged on the 13th inst.

Night Flying by the R.F.C.

Officers of the Royal Flying Corps at Farnborough had a night out on the I2th inst., when some experiments in night flying were successfully carried out. At one time there were five biplanes in the air simultaneously.

29 March 1913

Roval Flying Corps.—Owing to the unsettled weather there is very little to record. Most of the officers and men being away on leave for the holidays. Tuesday of last week Capt. Fox flew over from Farnborough on a new Maurice Farman biplane, doing the journey in good time. The monoplanes are being sent back to Farnborough. Several machines have been scouting around from the Central Flying School when the weather permitted. The sheds at Millhall are nearly finished, and will soon be occupied.

30 August 1913

Royal Flying Corps. 3rd and 4th Squadrons (Netheravon).—

On Monday week Lieut. Roupell on Henry Farman, and Capt. Herbert took up Mec. Barret and Lieut. Wilkinson. Lieut. Burroughs out on Avro 285. Major Brooke-Popham was on Avro 285 on Tuesday, and was afterwards relieved by Lieut. Burroughs. Lieut. Roupell on Henry Farman, after a trial trip, made three flights with passengers, taking up Capt. O'Kelly, Lieut. Perry and Lieut. Wadham, the latter being taken to Bournemouth and back in 1 hr. 44 mins. Capt. Herbert on Henry Farman took up Lieut. Lloyd for a trip, and also Mechanic Edwards. Lieut. Cholmondeiey put in some good flying during the day, including a one-hour trip, and another, taking up Lieut. Cruickshanks, Mechanic Pratt and Mechanic Steed.

Lieut. Roupell did some aerodrome flying on Wednesday, while Lieut. Cholmondeley on Henry Farman took up Capt. Fox. Later, Capt. Fox and Lieut. Conran on 50 h.p. Bleriot, flying for two hours between them, while Lieut. Burroughs was up on Avro 285.

Thursday Lieut. Roupell on Henry Farman took up Lieut. Allen three times, Lieut. Cholmondeley, also on observing practice, taking up Mechanic Miles, then Mechanic O. Gorlligian for aerial photography, and **Lieut. Joubert de la Ferte** for 1 hour's reconnaissance. Lieut. Conran on Avro 285 for a flight, but owing to engine trouble had to land near Shrewton, returning to the sheds later.

On Friday Lieut. Conran, on Avro 285, was observing artillery fire, while Lieut. Porte, on BE 203, with Mechanic O. Gorlligian as passenger, taking photographs. Lieut. Roupell on Henry Farman, with Lieut. Allen observing for one hour, after which he made another flight with Lieut. Allen. Lieut. Cholmondeley on Henry Farman round the aerodrome, and later taking up **Lieut. Joubert de la Ferte** for a flight of 45 mins. Again Lieut. Porte up on BE 203, taking up Capt. Forsyth for a flight, and another flight alone. No flying on Saturday on account of bad weather.

6 September 1913

Royal Flying Corps. 3rd and 4th Squadrons (Netheravon).—

On Monday week, Lieut. Abercromby was out on Avro for two flights of 15 mins. each, and Major Brooke-Popham one on Avro 290. Lieut. Roupell on H. Farman 286, solo, and then three flights with Lieut. Porter, for the purpose of observing. Lieut. Cholmondeley on H. Farman 274, and later went to Chichester and back, for his superior *brevet*, taking 2 hours 20 mins., finishing up with a splendid spiral. In the evening he made two more flights, taking up Mechanic Milner and Mechanic Miles some ten miles the other side of Winchester. Capt. Herbert on H. Farman twice, once with Lieut. Conran to Plaitford, for a 37 minutes' flight. Lieut. Allen four times on H. Farman, once with Capt. Kingston, and another time with Mechanic Reeves.

On Tuesday, Lieut. Allen was out on II. Farman. Capt. Herbert on H. Farman, taking Lieut. Burroughs. Lieut. Cholmondeley on H. Farman, taking up Mechanic Miles as passenger, for 55 mins., and two solo flights. Lieut. Roupell on H. Farman, with Major Brooke-Popham, to Farnborough and back in 2 hours 25 mins. Lieut. Abercromby out on Avro 285, and Major Brooke-Popham on Avro 290. **Lieut. Joubert de la Ferte** arrived from Farnborough on the new 80 h.p. Blcriot, taking 1 hour 16 mins.,and flying at the average height of 2,000 ft. Later he made two more flights on the machine. Lieut. Conran and Lieut. Wadham flying alternately on Avro 288.

Lieut. Herbert on H. Farman 284, on Wednesday, with Mechanic Wadham, after which he went over to Dorton in Oxfordshire, taking 2 hours. Lieut. Roupell also on H. Farman, with Mechanic Aylen as passenger, up for 40 mins., before departing for Dorton ; his time was I hour 35 mins. Lieut. Cholmondeley on H. Farman, with Mechanic Miles. Lieut. Allen on H. Farman with Mechanic Littlejohn, C , also flew to Dorton, where Lieut. Cholmondeley made a solo flight, but, on landing, slightly damaged his machine. Lieut. Roupell and his mechanic were just off to Netheravon to report the accident, when, in trying to rise in too restricted a space, the machine failed. Lieut. Roupell was injured, and his passenger shaken. We wish Lieut. Koupell and his passenger a speedy recovery. **Lieut. Joubert de la Ferte** on 8o h.p. Bleriot for a good flight of 40 mins., after which he made five flights. Lieut. Wadham out on 70 h.p. Bleriot, and later made two flights, with Lieut. Lawrence and Mechanic McCudden. Lieut. Abercromby on Avro for two flights, once flying to Pewsy for 34 mins.

On Thursday, **Lieut. de la Ferte** made half-an-hour's trial on 80 h.p. Bleriot, and then went to Stockbridge in 57 mins., flying at 2,000 ft. Lieut. Wadham on 70 h.p. Bleriot, with Lieut. Porter, flew over the Isle of Wight, taking 2 hours 25 mins. out and home. Lieut. Conran out on 80 h.p. Bleriot, and Lieut. Wadham on 70 h.p. Bleriot. Capt. Herbert arrived here from Dorton, with Major Brooke-Popham, and Lieut. Allen, with Mechanic Littlejohn, arrived back from Dorton in 57 mins. Lieut. Abercromby made a trial on Avro 285, followed by a flight of 2 hours 5 mins. on reconnaissance work. Lieut. Burroughs and Capt. Picton-Warlow also out on an Avro.

On Friday, **Lieut. Joubert de la Ferte** on 80 h.p. Bleriot, and Major Brooke-Popham, Lieuts. Wadham and Morgan on Avro.

13 September 1913

Royal Flying Corps. 3rd and 4th Squadrons (Netheravon).—

During the past week the weather has been a nightmare, rendering flying impossible, so that things have been very quiet with work in the air.

ROYAL FLYING CORPS (MILITARY WING).

WAR OFFICE summary of work for week ending October 17th :—

No. 1 (Airship) Squadron. Farnborough.—The " Beta, " " D e l t a " and " E t a " have all been out most days this week carrying out reconnaissance and instructional flights, the latter usually at night. On the 14th these three airships took part in a tactical exercise which formed part of the inspection of the R.F.C. (M.W.) at Farnborough by the G.O.C. in C. Aldershot Command.

No. 2 Squadron. Montrose.—Capts. Becke, MacLean and Todd arrived from Farnborough on BE 2 machines during the course of the week. Lieuts. Dawes and Lawrence are now on the way up to Montrose by air.

No. 3 Squadron. Netheravon.—Several long cross-country flights were carried out by the pilots of "A " and " C " flights during the week. The newly-joined officers were also out most days practising.

No. 4 Squadron- Netheravon.—The pilots of " A " and " C " flights were out occasionally, but the week was chiefly devoted to continuing the overhaul of machines, and to settling down in the new barracks.

No. 5 Squadron. Farnborough. — The machines of this squadron were out daily. On the 14th they took part in reconnaissance work during the inspection by the G.O.C. in C. Aldershot Command.

Flying Depdt, Farnborough.— Experimental work on BEs and M. Farmans was continued ; Flying Depot machines also took part in the G.O.C. in C.'s inspection.

General News.—Gen. Sir Douglas Haig inspected the units of the R.F.C. (M.W.) stationed at Farnborough on the 14th. After inspecting the personnel, the aircraft and the Mech. Transport on parade, he proceeded to carry out a tactical inspection. For this three airships and eight aeroplanes were employed. Training of recruits has now been considerably augmented. The new recruits' course includes instruction in drill, revolver shooting, gymnastics, swimming and athletics —also in practical and theoretical instruction in technical work of various kinds. A portion of the new barracks at Netheravon has been taken over and occupied.

1 November 1913

Royal Flying Corps. 3rd and 4th Squadrons (Netheravon). —

On Monday, last week, there was good flying. Lieut. Wadham was out early on his 70 h.p. Bleriot 221 for two flights, once with Lieut. Charton. Major Brooke-Popham was out on Avro three times. Later, Sergt. McCudden took over the machine, and made four flights. **Lieut. Birch** and Capt. Picton-Warlow were out early in the morning.

Lieut. Joubert-de-la-Ferte led off on Tuesday early on Bleriot, flying round the aerodrome for 40 mins., afterwards he flew to Brooklands in 55 mins. Lieut. Wadham later out on Bleriot for 2 hrs. 5 mins. Sergt. McCudden on the Avro for 55 mins., relieved later by Capt. Picton-Warlow and **Lieut. Birch.** Lieut. Conran also on 70 h.p. Bleriot for three flights, twice with Air-Mechanics Barlow and Pratt as passengers.

Lieut. Joubert-de-la-Ferte arrived back on Wednesday from Brooklands, calling at Farnborough on his way. Lieut. Conran also on Bleriot for four flights, taking up Mechanics Macrostie, Barlow, Robertson and McCudden. Lieut. Wadham also taking up Mechanics Bibby, Morgan and Bowyer. Lieut. Cholmondeley on Henry Farman for a short flight, after which Lieut. Shekleton made two flights on same machine.

On Thursday **Lieut. Joubert-de-la-Ferte** went to Farnborough and back on a Bleriot. Later made a flight round the aerodrome. Lieut. Stafford, on Henry Farman, with Mechanic Littlejohn, went to Cheltenham and back. Lieut. Porter, on BE 204, with Mechanic O. Grolligan, also visited Cheltenham. Lieut. Conran, on Bleriot, after one flight round aerodrome, also went to Cheltenham with Capt. Beor, taking 1 hr. 42 mins. for the double journey. Lieut. Wadham, on Bleriot, up three times. Lieuts. Cholmondelev and Shekleton were out alternately on Henry Farman, and Capt. Picton-Warlow went up twice on an Avro.

On Friday, Lieut. Wadham on Bleriot and Major Brooke -Popham on Avro were out early, and on the latter

machine **Lieut. Birch** made one, Sergt. Ridd two, Sergt. McCudden three flights. Lieut. Stafford on Henry Farman for four flights, taking up Major Brooke-Popham three times, and Capt. Picton-Warlow. Capt. Herbert, Lieut. Allen, and Lieut. Cholmondeley were flying a Henry Farman, and later Lieut. Stafford made another flight, followed by Lieut. Allen, two trips, and Major Brooke-Popham three flights. Lieut. Shekleton on Henry Farman 352, up three times, and Lieut. Cholmondeley once. In the afternoon, Lieut. Cholmondeley took up Capt. Mostyn Pryce of the Rifle Brigade, and Lieut. Davis of the King's Royal Rifles Lieuts. Conran and Wadham were flying their Bleriots on Saturday.

8 November 1913

Royal Flying Corps. 3rd and 4th Squadrons (Netheravon).—

On Monday of last week a very high wind was blowing, but Capt.Fox was out on the 70 h.p. Bleriot 221, flying for 16 mins. _ Similar weather conditions prevailed on Tuesday, and only one flight was made, Lieut. Cholmondeley on H. Farman 352, flying to Grateley Station. There was no change on Wednesday, but Lieut. Wadham and Lieut. Conran were both out flying for 35 mins. on their Bleriots in spite of the very high wind. On Thursday, Major Brooke-Popham was out on the H. Farman 352 for 10 mins. Capt. Picton-Warlow on Avro 290 for 20 mins., on which **Lieut. Birch** also made a 20 mins. flight.

On Friday, **Lieut. Birch** on Avro 290 for 10 mins., after which Capt. Picton-Warlow took over the machine for 10 mins. Major Brooke-Popham on H. Farman 351 for two flights of 20 and 30 mins.

Lieut. Cholmondeley, on H. Farman 352, flew to the Central Flying School, Upavon. Lieut. Stopford on H. Farman 295, with Lieut. Shekleton as passenger, flying for 1 hr. 20 mins., after which Lieut. Shekleton took over the machine for 10 mins. Capt. Fox on the 70 h.p. Bleriot 221 ; after flying for a few minutes the engine gave out. In landing, the machine turned completely over and was smashed, but Capt. Fox escaped unhurt. On seeing Capt. Fox's machine descending, Lieut. Shekleton immediately got his H. Farman out and flew over to the scene with Mechanic Barrett as passenger. The bad weather prevented any flying on Saturday.

15 November 1913: Nil

22 November 1913: Nil

29 November 1913: Nil

6 December 1913

Brooklands Aerodrome

Lieut. Joubert de la Ferte arrived from Netheravon, on Tuesday, via Woolwich, on the two-seater Bleriot monoplane, and returned to Netheravon after a short stay.

ROYAL FLYING CORPS (MILITARY WING).

WAR OFFICE summary of work for week ending November 29th :—

No. 1 Airship Squadron. Farnborough.—

The " Delta " has been out several times during the week, carrying out instructional flights. Free balloon ascents were made for training purposes.

No. 2 Squadron. Montrose.—

Several long cross-country flights were made during the week. On the 27th ult. Capt. Longcroft flew from Montrose to Farnborough, and then on to Portsmouth and back to Farnborough, a non-stop flight of 630 miles (7 1/4 hours). The squadron has been carrying out revolver musketry training.

No. 3 Squadron. Netheravon.—

There was a considerable amount of flying in the B.E. and Bleriot flights throughout the week ; 1,461 miles in all were covered.

No. 4- Squadron. Netheravon.—

The officer and N.C.O. pilots of A, B, and C flights carried out reconnaissance flights daily ; 1,051 miles in all were covered.

No. 5 Squadron. Farnborough.—

The B.Es. and Maurice Farmans of this squadron were flown each day. The officers who have recently joined obtained a considerable amount of practice.

The detachment at Dover carried out reconnaissance flights over the surrounding district.

Flying Depot.— Much work was carried out in the workshops during the week.

13 December 1913: Nil

20 December 1913: Nil

The War in the Air: Vol. 1 - The Part played in the Great War by the Royal Air Force by Sir Walter Alexander Raleigh

The **Formation of the Royal Flying Corps**

In November 1911 the Prime Minister requested the standing sub-committee of the Committee of Imperial Defence, under the chairmanship of Lord Haldane, to consider the future development of aerial navigation for naval and military purposes, and the measures which might be taken to secure to this country an efficient aerial service. Things had moved fast since 1908, when a distinguished general had expounded to a similar committee the futility of observation from the air. This time the committee came to a quick decision, and recommended immediate action. The chief of their recommendations were as follows:

- The creation of a British Aeronautical Service, to be regarded as one, and to be designated 'The Flying Corps'.
- The Corps to consist of a Naval Wing, a Military Wing, and a Central Flying School for the training of pilots.
- The Flying Corps to be kept in the closest possible collaboration with the Advisory Committee for Aeronautics and with the Aircraft Factory, so that the work of experiment and research should have its due influence on practice.
- A permanent consultative committee, named 'The Air Committee', to be appointed, to deal with all aeronautical questions affecting both the Admiralty and the War Office.

The preparation of a detailed scheme was delegated to a technical sub-committee, and the deliberations of this body were remarkable for agreement and dispatch. Their report was ready by 27 February 1912; it passed through its successive stages with very few alterations, and was approved by the Committee of Imperial Defence on 25 April.

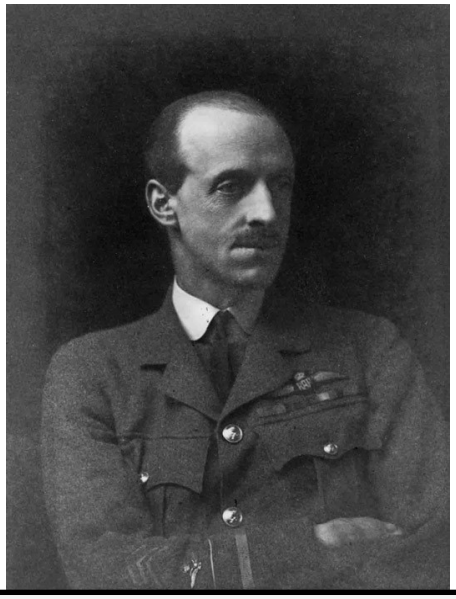
The Royal Flying Corps was constituted by a Royal Warrant on 13 April 1912; a special Army Order was issued two days later setting up the necessary regulations, and on 13 May the old Air Battalion and its reserve were finally absorbed by the new body. The advantage of government by committee is that it obtains, by successive stages, the sanction and support of the many for the plans initiated by the few. Nothing was ever created by eight men. But eight or more men, expert in various ways, can render invaluable service by listening, criticizing, and befriending. The plans which were considered and adopted by the technical sub-committee had been prepared in private by a small informal body of three, that is to say, by Brigadier-General David Henderson, Captain F. H. Sykes, and Major D. S. MacInnes.

Brigadier-General David Henderson had served at the battle of Khartoum in 1898, and had distinguished himself in the South African War. He was the author of a book on The Art of Reconnaissance, which ran through several editions. His interest in reconnaissance, and his appreciation of its importance in war, made him a friend to aviation. In 1911, at the age of forty-nine, he had learned to fly at Brooklands, and thereafter, as Director of Military Training at the War Office, did all in his power to encourage the new movement.

Lieutenant General Sir David Henderson
KCB KCVO DSO
Commander RFC in France 1914-1915

Captain Frederick Hugh Sykes was a General Staff officer who had seen service in many lands. In the South African War he served with the Imperial Yeomanry, and was severely wounded. In 1901 he joined the 15th or King's Hussars, and for two years was stationed in West Africa. Thereafter he was attached to the Intelligence Department at Army Headquarters in India, passed the Staff College, and in February 1911 became General Staff officer in the Directorate of Military Operations under Brigadier-General Sir Henry Wilson. It was in July and August

1904, while he was on leave from West Africa, that he made his first acquaintance with the air. He obtained permission to be attached to the balloon units training with the army on Salisbury Plain; made many ascents, and went through the course and examination at the Farnborough balloon school. Thenceforward he took every possible opportunity to improve his knowledge of aeronautics. He was quick to discern the significance of aviation. When, in 1910, he saw flight in France, he recognized that the work of cavalry in distant reconnaissance was dead and done with. During his time at the War Office he spent the mornings, before breakfast, in learning to fly, and in June 1911 took his pilot's certificate on a Bristol biplane at Brooklands. Within the office he insisted on the importance of military aeronautics, and when the Committee of Imperial Defence took up the question he was naturally chosen to serve on the committee which prepared a draft organization.



Air Vice Marshal Sir Frederick Hugh Sykes
GCSI GCIE GBE KCB CMG
First CO Military Wing RFC 1912-1914

Associated with him was Major Duncan Sayre MacInnes, of the Royal Engineers, who had been through the South African War, and at the time of the formation of the Flying Corps was serving with the Military Training Directorate. Only those who worked with him will ever know how great a debt the Flying Corps owes to his industry and devotion. During the war he was employed under the Directorate of Military Aeronautics, and in 1916 was made Director of Aircraft Equipment, with the rank of brigadier-general. He wore himself out in the service of the country, and died in May 1918. These three men laid the groundwork of the plans which were approved by the technical sub-committee. The record of the preliminary meetings of the sub-committee, and of the evidence given by witnesses, is full of interest, and shows history in the making.

Brigadier General Duncan Sayre MacInnes CMG DSO

'It has been suggested to me', said the chairman, 'that the Royal Flying Corps is a better name than the Royal Air Corps.' And again, when the name for the tactical unit of the force was under consideration, and objection was taken to the words 'company' and 'group'—'Why not squadron?' said the chairman. It is the happiness of the small technical sub-committee that the scheme which they approved was equal to the strain of an unexampled war, and that the very names which they chose are now engraved on the history of the nation.

The choice of the squadron, consisting of three flights of aeroplanes, with four machines to a flight, as the unit of the new force was judicious and far-sighted. In France the unit was the 'escadrille', consisting of six machines, and roughly corresponding to what we call a flight. This precedent was rejected. Not enough competent officers, it was feared, were available to command a large number of small independent units. On the other hand, if too large a unit had been chosen, it would have been difficult to put the air service at the disposal of the various army formations which might ask for assistance from the air. The squadron, when it was created, was elastic and manageable, and secured for the air force, as the war has proved, that corporate spirit and that pride in history and tradition which are the strength of the regimental system.

Threat of War? The Agadir Crisis

The deliberations of the sub-committee were conducted in a severely practical spirit. Many of the constructive problems which came before them still remain problems, and might have been debated, with much to be said on both sides, till the conversion of the Jews; but the pressure of time made itself ominously felt in all their proceedings. The country, as a whole,

was not awake to the German menace. The sudden appearance of the German gunboat *Panther* at Agadir in July 1911 ought, it may be said, to have awakened it. But the average Englishman could hardly bring himself to believe that a great European nation would seek war as a duellist seeks a quarrel, from sensitive vanity and pride in his own fighting skill. The army and the navy were quicker to discern the reality of the threat. The military machine that was to supply the small expeditionary force was working at high pressure, and the air was tense. If Germany intended to make her bid for the mastery of Europe, it was recognized that she had every reason for making it soon.

'All the heads of departments', said the chairman, at a meeting in January 1912, 'are very anxious to get on with this—Lord Haldane told me so last night, Mr. Churchill told me so two or three days ago, and the Chancellor of the Exchequer himself is anxious to see it done, and wisely: but what is the best method to pursue in order to do in a week what is generally done in a year?' 'At the present time in this country,' he said later, 'we have, as far as I know, of actual flying men in the Army about eleven, and of actual flying men in the Navy about eight, and France has about two hundred and sixty-three, so we are what you might call behind.' Moreover, the committee realized that an air service would be needed by the army of Great Britain more than it is needed by the armies of foreign powers.

Support for a BEF

In a memorandum by the War Office, drawn up in the same month of January 1912, it is pointed out that a British expeditionary force might have to operate as a detached force, and that to such a force information is all-important.

The need for haste appears in many of the recommendations of the committee. For the supply of trained flyers to the army and the navy, and for the formation of a reserve, the first necessity was to start work at the Central Flying School, for which a site had been chosen on the Upavon Downs of Salisbury Plain, north of the Upavon-Everley road. The buildings necessary for this school could not be ready till the end of June, so the committee recommended that the work of the school should, in the meantime, be carried on in canvas tents and sheds. Some problems of wide import forced themselves on the attention of the committee, and were of necessity settled with a view to immediate results and immediate efficiency. When shelter is needed from a pitiless storm, the leisurely plans of the architect must give way.

The Commissioned vs NCO Pilot Question

One of these problems was the rank of pilots. Should every pilot be an officer, or should we follow the example of France, and train some mechanics to the work of piloting? From the first, Mr. Churchill was in favour of admitting to the State school of aviation not only a proportion of officers of both services, but also petty officers, non-commissioned officers and men, as well as civilians. In the report of the technical sub-committee the war establishment for an expeditionary force is planned on these lines.

The Military Wing of the Royal Flying Corps was to contain seven aeroplane squadrons, each squadron to number twelve machines, with an additional machine for the commanding officer. Two pilots were allowed for each aeroplane, and, in addition, to provide for the wastage of war, an equal number in reserve. The war establishment, calculated on this basis for the purposes of the expeditionary force, required the services of three hundred and sixty-four trained pilots, of whom, it was suggested, one hundred and eighty-two should be officers, and one hundred and eighty-two non-commissioned officers. This part of the scheme cannot be said to have failed in practice: it never reached the test of practice.

The surest and readiest way to obtain the services of skilled flyers was to offer them commissions in the Flying Corps, and it was felt to be invidious that some pilots should enter the corps as officers, while others, of equal skill, should enter in the non-commissioned ranks.

Some of the witnesses were of the opinion that not many men of the skilled mechanic class would be ready or willing to risk their lives as pilots. The experience of the war has disproved this forecast; an observer in war must have at least as cool a head and as stout a heart as a pilot, and every one who has flown on the western front knows that among the very best observers not a few were non-commissioned officers.

But the fact is that the question was settled by lack of time. To give effect to the scheme outlined in the report of the technical sub-committee would have required much time and experiment and adjustment; in practice the simpler way was chosen, and the business of piloting was reserved, in the main, for commissioned officers.

Courage is found everywhere among English-speaking peoples; the real point to secure is that the pilots of one squadron, or the pilot and observer of one machine, should not only meet on duty, but should live together. That perfect understanding and instant collaboration which spells efficiency in the air is the product of habitual intimacy and easy association during leisure hours. In the early days of the Royal Flying Corps a certain small number of non-commissioned officers were trained to do the work of piloting, so that the officers who flew with them in two-seater machines might be freed for the more important

work of observation.

This experiment was not favourably reported on, and the opinion has often been expressed that men chosen from the non-commissioned ranks of the army or the lower-deck ratings of the navy do not make good pilots. A wise judgement on the question will consider all the circumstances. Promotion in both army and navy was slow before the war, so that a non-commissioned officer or petty officer was often a married man, considerably in advance of the age at which the most successful war pilots are made. The inspired recklessness of youth does not long persist among those who from boyhood up have to earn their living by responsible work. Moreover, commanding officers, whether in the army or the navy, were naturally reluctant to let their skilled men be taken from them, so that the men whom they sent to be trained as pilots were too often men for whom no other good use could be found. 'If they don't break their necks,' said one naval officer, 'it will wake them up.'

Again, in 1918, when cadets, after a preliminary technical training, were graded as officer cadets or non-commissioned officer cadets, all the more promising men were given commissions, so that only men of inferior intelligence were left to become non-commissioned pilots.

It is surely rash to lay stress on vague class distinctions. A stander-by who happened, during the war, to witness the management of an Arab camel convoy by a handful of British private soldiers, remarked that though these soldiers knew no language but their own, their initiative and tact, their natural assumption of authority, and their unfailing good temper, which at last got the convoy under way, showed that they belonged to an imperial race. The question of the rank of pilots is really a social question, a question, that is to say, not of individual superiority but of smooth collaboration. If a whole squadron of the Flying Corps had been staffed, as was at one time suggested, by men picked from the non-commissioned ranks, there can be no doubt that it would have made a name for itself among the very best.

An Independent Service?

The largest question of all in the making of the Flying Corps was the question whether the air service was to be a new and independent service, taking rank with the army and the navy, or was to be, for the most part, divided between the army and the navy, and placed under their control. This question, it might seem, was settled by the opening words of the sub-committee's recommendations: 'The British Aeronautical Service should be regarded as one, and should be designated "The Flying Corps".'

But subsequent developments soon showed that this settlement was not accepted on all hands. The navy never fully accepted it. The British navy is a body enormously strong in its corporate feeling, conscious of its responsibilities, proud of its history, and wedded to its own ways. Its self-reliant character, which had made it slow to recognize the importance of the air, made it slow also, when the importance of the air was proved, to allow a weapon necessary for naval operations to pass out of its own control.

When the active combatant service of the Royal Flying Corps came into being, it consisted of a Naval Wing and a Military Wing.

The Naval Wing had its headquarters at Eastchurch, where the Naval Flying School had been established. For administrative purposes the Naval Flying School was placed under the orders of the captain of *H.M.S. Actaeon,* and all officers and men were to be borne on the books of the *Actaeon*. Experiments with seaplanes and flying boats were still in their infancy, and the organization of the Naval Wing was wisely left undetermined for the time.

The distribution of the aeroplane squadrons of the Military Wing was left for the consideration of the War Office, but the sub-committee recommended that one squadron should be stationed at Salisbury Plain, within reach of the Central Flying School, and one at Aldershot, in the neighbourhood of the Aircraft Factory.

All recruits training as pilots, whether for the Naval Wing or the Military Wing, were to graduate at the Central Flying School, and thence were to be detailed to join either the Naval Flying School at Eastchurch, for a special course of naval aviation, or one of the military aeroplane squadrons, for a special course of military aviation.

That was the plan. So far as the Military Wing was concerned, it was punctually carried out. In the Naval Wing a certain centrifugal tendency very early made itself felt.

The official name 'Royal Flying Corps, Naval Wing', after making its appearance in a few documents, dropped out of use, and its place was taken by a name which in process of time received the stamp of official recognition—'The Royal Naval Air Service'. Thereafter the words 'Military Wing', though they were still used, were no longer required, and 'The Royal Flying Corps' became a sufficient description of what was a distinctively military body.

The Admiralty from the first worked independently. Soon after the Naval Wing of the Royal Flying Corps was created the First Lord of the Admiralty set up a new department to supervise it, and placed Captain Murray Sueter in charge, as Director of the Air

Department. At an earlier date Commander C. R. Samson had been placed in charge of the Naval Flying School. The energies of the school, pending the establishment of the Central Flying School, were devoted mainly to elementary training in flying. By the provisions of the original scheme this elementary training belonged to the joint Central Flying School, while the Naval Flying School was to be used for experiment and for specialized training in naval air work. But the Naval Flying School continued throughout the war to train naval flying officers from the beginning, teaching them the art of flying as well as its special applications for naval purposes.

Air Commodore Charles Rumney Samson
CMG DSO & Bar AFC
First CO Naval Wing RFC 1912-1914
CO RNAS Eastchurch July 1914—Mar 1915

The question whether there should be a single air service, specialized in its branches, or separate air services, organized for mutual assistance, is a question that stirs deep feeling, so that the very virtues which make men serviceable to their country are ranged in opposition one to another. The old allegiances are not easily forgotten; when a sailor learns to fly he remains a sailor, and the air for him is merely the roof of the sea. The knowledge, moreover, gained from his life at sea is knowledge not only useful but essential to him if he is to do good work in the Naval Air Service. He must be able to recognize the various types of war vessels, and the various nationalities of vessels of the merchant marine. He must know all about the submarine, the mine, and the torpedo. He must be well versed in weather observation, and able to navigate safely without the aid of landmarks. He must understand naval tactics, and must be able to bear a part in them. All this, it has been urged by many sailors, is a much more complicated and experienced business than the mere flying of an aeroplane. The Naval Air Service, they contend, should be a part of the navy.

There is force and weight in these contentions, yet they are not conclusive. If the navy were itself a new invention, a very similar kind of argument might be used to subordinate it to the army. The main business of the navy, it might be said, is to supply the army with transport facilities and mobile gun-platforms. But this is absurd; the sea will not submit to so cavalier a treatment. Those who believe in a single air force base their opinion on certain very simple considerations.

As the prime business of a navy is the navigation of the sea, so, they hold, the prime business of an air force is the navigation of the air; all its other activities depend on this. The science of aeronautics is yet in its childhood; its development must not be cramped by tying it too closely to a service which works under narrower conditions. If there should be another great war (and though no one desires it, no one dares to think it impossible), the fittest man to hold the command of united land and sea forces might well be a Marshal of the Air.

But the strongest argument for a single air force is not so much an argument as an instinct. Every kind of warfare develops in men its own type of character. The virtues of the soldier and the virtues of the sailor are not the same; or, if they are the same (for courage and duty can never be superseded), they are the same with surprising differences.

The soldier is drilled to fight men when the occasion arises; the sailor is at war all his life with the sea. The character of the sailor—his resourcefulness and vigilance, his patience and stoicism, his dislike of formality—is put upon him by his age-long conflict with his old enemy. In seafaring men there is a temper of the sea, admired by all who have ever made acquaintance with it.

Those who were privileged to watch the performance of our flying men in the war know that there is developed in them a temper not less remarkable and not less worthy of cultivation—the temper of the air.

War in the air demands a quickness of thought and nerve greater than is exacted by any other kind of war. It is a deadly and gallant tournament. The airman goes out to seek his enemy: he must be full of initiative. His ordeal may come upon him suddenly, at any time, with less than a minute's notice: he must be able to concentrate all his powers instantaneously to meet it. He fights alone. During a great part of his time in the air he is within easy reach of safety; a swift glide will take him far away from the enemy, but he must choose danger, and carry on. One service cannot be judged by the standards of another service.

A soldier who knows nothing of the sea might easily mistake naval discipline for lack of discipline. A like mistake has often been made by those who are

brought into casual relations with the air force. But the temper of the air force is a new and wonderful thing, born of the duties and dangers which war in the air has brought with it. To preserve that temper as a national inheritance is the dearest wish of those who covet for the air force a place beside the navy and the army. Now that the officers for the air force are being trained, as officers for the navy and the army have long been trained, at a cadet college with its own traditions, the question will solve itself. The necessity for collaboration during the war did something to unite the branches of the force. But perfect unity can be attained only by men who have lived and worked together. Men who have lived apart speak different languages.

In April 1918, when the Royal Naval Air Service and the Royal Flying Corps were united in the Royal Air Force, it was found necessary to deal with this language difficulty. The Naval Air Service and the Flying Corps used different names for the same thing. The Naval Air Service used the names they would have used aboard ship. The officers' mess they called 'the ward-room mess', and the dining-room 'the mess deck'. The cookhouse with them was the galley; rations were victuals; and kit was gear.

In July 1918 an order was issued by the Air Ministry prescribing the terms to be adopted in the new force. The use of starboard and port for right and left was ordered as a concession to the sailors; and at all air stations the time of day was to be denoted, as on board ship, by the sounding of bells. In some few cases the naval and, military usages were both discarded in favour of a new term proper to the air force.

Thus, non-commissioned officers and men, who are described in the navy as 'ratings' and in the army as 'other ranks', were named, in accordance with a practice which had already grown up, 'airmen'. Names are full of compliment and fantasy: 'airman' is the official name for those members of the air force who spend their time and do their work on the ground.

These are not light matters. One of the strongest bonds of human sympathy is community in habits of speech. Divergences in speech are fruitful in every kind of hostility. It was a Scottish captain of the merchant marine who expressed a dislike for the French, and when called on for his reasons, replied that as a people they are ridiculous, for they call a boy a 'mousse'. The navy and the army have always been loyal comrades, ready to help each other at short notice. These relations persisted between the two branches of the air force.

In the scheme for the Royal Flying Corps it had been provided that each branch of the service should be treated as a reserve to the other branch. Thus in a purely naval war the whole of the Flying Corps was to be available for the navy, and in a war that should call for no assistance from the navy (if such a war can be conceived) the whole of the corps was to be available for the army. In accordance with these ideas machines flown by naval officers played a very successful part in the army manœuvres of 1912 and 1913.

The RFC Deployment to France in 1914

The original British Expeditionary Force, under the command of Field-Marshal Sir John French, began to embark on 9 August; by the 20th its concentration in a pear-shaped area between Maubeuge and Le Cateau was complete. It consisted of the First Army Corps, under Lieutenant-General Sir Douglas Haig; the Second Army Corps, under Lieutenant-General Sir James Grierson, who died soon after landing in France and was succeeded by General Sir Horace Smith-Dorrien; and the Cavalry Division, under Major-General E. H. H. Allenby. The Germans made no attempt to interfere with the transport of the expeditionary force from England to France. They had many other things to think of, and there is evidence to show that they viewed with satisfaction the placing of that admirable little force in a situation where they hoped that they could cut it off and annihilate it. That they were disappointed in this hope was due not a little to the activity and efficiency of the newest arm, numbering about a thousand, all told, the RFC.

The RFC Corps took the field under the command of Brigadier-General Sir David Henderson. It consisted of Headquarters, Aeroplane Squadrons Nos. 2, 3, 4, and 5, and an Aircraft Park. Fairly complete arrangements, thought out in detail, had been made some months earlier for its mobilization. Each squadron was to mobilize at its peace station, and was to be ready to move on the fourth day. On that day the aeroplanes were to move, by air, first to Dover, and thence, on the sixth day, to the field base in the theatre of war. The horses, horse-vehicles, and motor-bicycles, together with a certain amount of baggage and supplies, were to travel by rail, and the mechanical transport and trailers by road, to the appointed port of embarkation, there to be shipped for the overseas base.

The Aircraft Park, numbering twelve officers and a hundred and sixty-two other ranks, with four motorcycles and twenty-four aeroplanes in cases, were to leave Farnborough for Avonmouth on the seventh day. Instructions were issued naming the hour and place of departure of the various trains, with detailed orders as to machines, personnel, transport, and petrol. On the second day of mobilization a detachment from No. 6 Squadron was to proceed to Dover, there to make ready a landing-ground for the other squadrons, and to provide for replenishment of fuel and minor repairs to aircraft. Squadron commanders were urged to work out all necessary arrangements for the journey.

How carefully they did this is shown by some of the entries in the squadron diaries.

In the diary of No. 2 Squadron (Major C. J. Burke's) a list is given of the articles that were to be carried on each of the machines flying over to France. Besides revolvers, glasses, a spare pair of goggles, and a roll of tools, pilots were ordered to carry with them a water-bottle containing boiled water, a small stove, and, in the haversack, biscuits, cold meat, a piece of chocolate, and a packet of soup-making material.

Each pilot had been instructed to climb to at least 3,000 feet in order to have a good chance of reaching shore in the event of engine failure over the Channel. In the event some climbed as high 8,000 feet. Each crew member had been issued with an inner tube to provide flotation in the event of ditching as life jackets had not been provided in time. The Navy positioned vessels across the Channel to rescue any downed machines.

Headquarters Royal Flying Corps

The programme for mobilization was, in the main, successfully carried out. The RFC Headquarters left Farnborough for Southampton on the night of 11 of August, their motor transport having gone before. They embarked at Southampton, with their horses, and reached Amiens on the morning of the 13th.

Royal Flying Corps Aircraft Park

The movements of the Aircraft Park, though it was the last unit to leave England, may be next recorded, because it was in effect the travelling base of the squadrons. The personnel and equipment were entrained at Farnborough during the evening of Saturday, the 15th of August, and travelled to Avonmouth. Of the twenty machines allotted to them only four, all Sopwith Tabloids, were actually taken over in cases. Of the other sixteen (nine B.E. 2's, one B.E. 2 c, three B.E. 8's, and three Henri Farmans) about half were used to bring the squadrons up to establishment; the remainder were flown over to Amiens by the personnel of the Aircraft Park, or by the spare pilots who accompanied the squadrons. The Aircraft Park embarked at Avonmouth very early on the morning of the 17th, arriving at Boulogne on the night of the 18th. They disembarked, an unfamiliar apparition, on the following morning. The landing officer had no precedent to guide him in dealing with them. Wing Commander W. D. Beatty tells how a wire was dispatched to General Headquarters: 'An unnumbered unit without aeroplanes which calls itself an Aircraft Park has arrived. What are we to do with it?' If the question was not promptly answered at Boulogne it was answered later on. The original Aircraft Park was the nucleus of that vast system of supply and repair which supported the squadrons operating on the western front and kept them in fighting trim. On 21 August the Aircraft Park moved up to Amiens, to make an advanced base for the squadrons, which were already at Maubeuge. Three days were spent at Amiens in unloading, unpacking, and setting up workshops. Then, on the 25th, they received orders to retire to Le Havre. The retreat from Mons had begun, and Boulogne was being evacuated by the British troops. How far the wave of invasion would flow could not be certainly known; on the 30th of August, at the request of the French admiral who commanded at Le Havre, the machines belonging to the Aircraft Park were employed to carry out reconnaissances along the coast roads; on the following day German cavalry entered Amiens. There was a real danger that stores and machines landed in northern France for the use of the RFC might fall into the hands of the Germans; accordingly a base was established, for the reception of stores from England, at St.-Nazaire, on the Loire. The advanced base of the Aircraft Park moved up, by successive stages, as the prospects of the Allies improved, first from Le Havre to Le Mans, then, at the end of September, to Juvisy, near Paris; lastly, in mid-October, the port base was moved from St.-Nazaire to Rouen, and at the end of October the advanced base left Juvisy for St.Omer, which became its permanent station during the earlier part of the war.

The following RFC squadrons flew to France:

2 Squadron

No. 2 Squadron, at Montrose, had the hardest task. Its pilots started on their southward flight to Farnborough as early as 3 August; after some accidents they all reached Dover. Their transport left Montrose by rail on the morning of 8 August and arrived the same evening at Prince's Dock, Govan, near Glasgow, where the lorries and stores were loaded on *S.S. Dogra* for Boulogne.

3 Squadron

No. 3 Squadron was at Netheravon when war broke out; on 12 August the machines flew to Dover and the transport moved off by road to Southampton, where it was embarked for Boulogne. The squadron suffered a loss at Netheravon. Second Lieutenant R. R. Skene, a skilful pilot, with Air Mechanic R. K. Barlow as passenger, crashed his machine soon after taking off; both pilot and passenger were killed.

4 Squadron

No. 4 Squadron on 31 July had been sent to Eastchurch, to assist the navy in preparations for home defence and to be ready for mobilization. From Eastchurch the machines flew to Dover and the transport proceeded to Southampton.

RFC Dover (Swingate Down)

By the evening of 12 August the machines of Nos. 2, 3,

and 4 Squadrons were at Dover. At midnight Lieutenant -Colonel F. H. Sykes arrived, and orders were given for all machines to be ready to fly over at 6.0 a.m. the following morning, 13 August. The first machine of No. 2 Squadron to start left at 6.25 a.m., and the first to arrive landed at Amiens at 8.20 a.m. This machine was flown by Lieutenant H. D. Harvey-Kelly, one of the lightest hearted and highest spirited of the young pilots who gave their lives in the war. The machines of No. 3 Squadron arrived safely at Amiens, with the exception of one piloted by Second Lieutenant E. N. Fuller, who with his mechanic did not rejoin his squadron until five days later at Maubeuge. One flight of No. 4 Squadron remained at Dover to carry out patrol duties, but a wireless flight, consisting of three officers who had made a study of wireless telegraphy, was attached to the squadron, and was taken overseas with it. Some of the aeroplanes of No. 4 Squadron were damaged on the way over by following their leader, Captain F. J. L. Cogan, who was forced by engine failure to land in a ploughed field in France.

5 Squadron

No. 5 Squadron moved a little later than the other three. It was delayed by a shortage of shipping and a series of accidents to the machines. When the Concentration Camp broke up, this squadron had gone to occupy its new station at Gosport. On the 14th, when starting out for Dover, Captain G. I. Carmichael wrecked his machine at Gosport; on the same day Lieutenant R. O. Abercromby and Lieutenant H. F. Glanville damaged their machines at Shoreham, and Lieutenant H. le M. Brock damaged his at Salmer. The squadron flew from Dover to France on 15 August; Captain Carmichael, having obtained a new machine, flew over on that same day; Lieutenant Brock rejoined the squadron at Maubeuge on the 20th; Lieutenants Abercromby and Glanville on the 22nd. **Lieutenant R. M. Vaughan**, who had flown over with the squadron, also rejoined it on the 22nd; he had made a forced landing near Boulogne, had been arrested by the French, and was imprisoned for nearly a week. The transport of the squadrons, which proceeded by way of Southampton, was largely made up from the motor-cars and commercial vans collected at Regent's Park in London during the first few days of the war. The ammunition and bomb lorry of No. 5 Squadron had belonged to the proprietors of a famous sauce: it was a brilliant scarlet, with the legend painted in gold letters on its side: 'Lazenby's Sauce - The World's Appetiser'. It could be seen from some height in the air, and it helped the pilots of the squadron, during the retreat from Mons, to identify their own transport.

Original Contingent of RFC Officers

The names of the officers of the RFC who went to France, the great majority of them by air, deserve record. They were the first organized national force to fly to a war overseas. The following is believed to be a complete list up to the eve of Mons, but it is not infallible. Officers and men were changed up to the last minute, so that the headquarters file, having been prepared in advance, is not authoritative. The squadron war diaries are sometimes sketchy. Even when surviving pilots set down what they remember, the whole war lies between them and those early days, and their memory is often fragmentary. The following list is compiled, as correctly as may be, from the diary of Lieutenant B. H. Barrington-Kennett (a careful and accurate document), the war diaries of Squadrons Nos. 2, 3, 4, and 5, which were kept in some detail, the headquarters' records, and the reminiscences of some of the officers who flew across or who travelled with the transport.

HEADQUARTERS

Brigadier-General Sir David Henderson, K.C.B., D.S.O.; Commander, Royal Flying Corps.

Lieutenant-Colonel F. H. Sykes, 15th Hussars; General Staff Officer, 1st Grade.

Major H. R. M. Brooke-Popham, Oxfordshire and Buckinghamshire Light Infantry; Deputy Assistant Quartermaster-General.

Captain W. G. H. Salmond, Royal Artillery; General Staff Officer, 2nd Grade.

Lieutenant B. H. Barrington-Kennett, Grenadier Guards; Deputy Assistant Adjutant and Quartermaster-General.

Attached:
Captain R. H. L. Cordner, Royal Army Medical Corps.

Captain C. G. Buchanan, Indian Army.

Lieutenant the Hon. M. Baring, Intelligence Corps.

2nd Lieutenant O. G. W. G. Lywood, Norfolk Regiment (Special Reserve); for Wireless duties.

NO. 2 SQUADRON

Squadron Commander: Major C. J. Burke, Royal Irish Regiment.

Flight Commanders:

Captain G. W. P. Dawes, Royal Berkshire Regiment.

Captain F. F. Waldron, 19th Hussars.

Captain G. E. Todd, Welch Regiment.

Flying Officers:

Lieutenant R. B. Martyn, Wiltshire Regiment.

Lieutenant L. Dawes, Middlesex Regiment.

Lieutenant R. M. Rodwell, West Yorkshire Regiment.

Lieutenant M. W. Noel, Liverpool Regiment.

Lieutenant E. R. L. Corballis, Royal Dublin Fusiliers.

Lieutenant H. D. Harvey-Kelly, Royal Irish Regiment.

Lieutenant W. R. Freeman, Manchester Regiment.

Lieutenant W.H.C. Mansfield, Shropshire Light Infantry.

Lieutenant C. B. Spence, Royal Artillery.

Captain A. B. Burdett, York and Lancaster Regiment.

Captain A. Ross-Hume, Scottish Rifles.

Lieutenant D. S. K. Crosbie, Argyll and Sutherland Highlanders.

Lieutenant C. A. G. L. H. Farie, Highland Light Infantry.

Lieutenant T. L. S. Holbrow, Royal Engineers.

2nd Lieutenant G. J. Malcolm, Royal Artillery.

Supernumerary:

Major C. A. H. Longcroft, Welch Regiment;

Captain U. J. D. Bourke, Oxfordshire and Buckinghamshire Light Infantry; Flight Commander.

Captain W. Lawrence, 7th Battalion, Essex Regiment (Territorial Force); Flight Commander.

Attached:

Lieutenant K. R. Van der Spuy, South African Defence Forces.

NO. 3 SQUADRON

Squadron Commander: Major J. M. Salmond, Royal Lancaster Regiment.

Flight Commanders:

Captain P. L. W. Herbert, Nottinghamshire and Derbyshire Regiment.

Captain L. E. O. Charlton, D.S.O., Lancashire Fusiliers.

Captain P. B. Joubert de la Ferté, Royal Artillery.

Flying Officers:

2nd Lieutenant V. H. N. Wadham, Hampshire Regiment.

Lieutenant D. L. Allen, Royal Irish Fusiliers.

Lieutenant A. M. Read, Northamptonshire Regiment.

Lieutenant E. L. Conran, 2nd County of London Yeomanry.

Lieutenant A. Christie, Royal Artillery.

Lieutenant A. R. Shekleton, Royal Munster Fusiliers.

2nd Lieutenant E. N. Fuller, Royal Flying Corps, Special Reserve.

Lieutenant W. C. K. Birch, Yorkshire Regiment.

Lieutenant G. F. Pretyman, Somerset Light Infantry.

Lieutenant W. R. Read, 1st Dragoon Guards.

2nd Lieutenant A. Hartree, Royal Artillery.

Lieutenant V. S. E. Lindop, Leinster Regiment.

Lieutenant G. L. Cruikshank, Gordon Highlanders (Special Reserve).

Lieutenant W. F. MacNeece, Royal West Kent Regiment.

2nd Lieutenant L. A. Bryan, South Irish Horse.

Major L. B. Boyd-Moss, South Staffordshire Regiment.

2nd Lieutenant E. W. C. Perry, Royal Flying Corps, Special Reserve.

NO. 4 SQUADRON

Squadron Commander: Major G. H. Raleigh, Essex Regiment.

Flight Commanders:

Captain G. S. Shephard, Royal Fusiliers.

Captain A. H. L. Soames, 3rd Hussars.

Captain F. J. L. Cogan, Royal Artillery.

Flying Officers:

Lieutenant P. H. L. Playfair, Royal Artillery.

Lieutenant K. P. Atkinson, Royal Artillery.

Lieutenant R. P. Mills, Royal Fusiliers (Special Reserve).

Lieutenant T. W. Mulcahy-Morgan, Royal Irish Fusiliers.

Lieutenant R. G. D. Small, Leinster Regiment.

Lieutenant W. G. S. Mitchell, Highland Light Infantry.

Lieutenant G. W. Mapplebeck, Liverpool Regiment (Special Reserve).

Lieutenant C. G. Hosking, Royal Artillery.

Lieutenant H. J. A. Roche, Royal Munster Fusiliers.

Lieutenant I. M. Bonham-Carter, Northumberland Fusiliers.

2nd Lieutenant A. L. Russell, Royal Flying Corps, Special Reserve.

Wireless Flight:

Lieutenant D. S. Lewis, Royal Engineers.

Lieutenant B. T. James, Royal Engineers.

Lieutenant S. C. W. Smith, East Surrey Regiment (Special Reserve).

Attached:

Captain D. Le G. Pitcher, Indian Army.

Captain H. L. Reilly, Indian Army.

NO. 5 SQUADRON

Squadron Commander: Major J. F. A. Higgins, D.S.O., Royal Artillery.

Flight Commanders:

Captain D. G. Conner, Royal Artillery.

Captain G. I. Carmichael, Royal Artillery.

Captain R. Grey, Warwickshire Royal Horse Artillery (Territorial Force).

Flying Officers:

Lieutenant H. F. Glanville, West India Regiment.

Lieutenant F. G. Small, Connaught Rangers.

Lieutenant R. O. Abercromby, Royal Flying Corps, Special Reserve.

2nd Lieutenant C. W. Wilson, Royal Flying Corps, Special Reserve.

Lieutenant H. le M. Brock, Royal Warwickshire Regiment.

Lieutenant R. M. Vaughan, Royal Inniskilling Fusiliers.

Lieutenant L. da C. Penn-Gaskell, Norfolk Regiment (Special Reserve).

Lieutenant A. E. Borton, Royal Highlanders.

Lieutenant Lord G. Wellesley, Grenadier Guards.

Lieutenant C. G. G. Bayly, Royal Engineers.

Lieutenant C. E. C. Rabagliati, Yorkshire Light Infantry.

2nd Lieutenant A. A. B. Thomson, Royal Flying Corps, Special Reserve.

2nd Lieutenant L. A. Strange, Royal Flying Corps, Special Reserve.

2nd Lieutenant R. R. Smith-Barry, Royal Flying Corps, Special Reserve.

2nd Lieutenant D. C. Ware, Royal Flying Corps, Special Reserve.

2nd Lieutenant V. Waterfall, East Yorkshire Regiment (Special Reserve).

Captain R. A. Boger, Royal Engineers.

Captain B. C. Fairfax, Reserve of Officers.

Attached:

Lieutenant G. S. Creed, South African Defence Forces.

AIRCRAFT PARK

Squadron Commander: Major A. D. Carden, Royal Engineers.

Flight Commanders:

Major Hon. C. M. P. Brabazon, Irish Guards.

Captain W. D. Beatty, Royal Engineers.

Captain R. Cholmondeley, Rifle Brigade.

Lieutenant G. B. Hynes, Royal Artillery.

Flying Officers:

Lieutenant G. T. Porter, Royal Artillery.

2nd Lieutenant C. G. Bell, Royal Flying Corps, Special Reserve.

2nd Lieutenant N. C. Spratt, Royal Flying Corps, Special Reserve.

Lieutenant R. H. Verney, Army Service Corps.

Aeroplanes Deployed by Squadrons

The battle of the machines ended, for the time, in compromise. It was judged important that the Flying Corps should have four squadrons ready for war by the spring of 1914, and large changes would have caused delay. In the event, at the date of mobilization, No. 2 Squadron and No. 4 Squadron were furnished throughout with B.E. 2 machines; No. 3 Squadron made use of Blériots and Henri Farmans, and No. 5 of Henri Farmans, Avros, and B.E. 8's. A single type of machine for a single squadron is a thing to be desired; the squadron is easier for the pilots and the mechanics to handle; but in the early days of the war there was no formation flying; each machine did its work alone, so that uniformity was of less importance.

When the Flying Corps arrived in France they were received by the French with enthusiasm, and had their full share of the hospitality of those days. The officers were treated as honoured guests; the men with the transport were greeted by crowds of villagers, who at all their stopping-places pressed on them bottles of wine, bunches of flowers, fruit, and eggs. At Amiens the transport and machines were parked outside the town, without cover, and the officers were billeted at the 'Hôtel du Rhin' and elsewhere. The hardships of the war were yet to come. Lieutenant B. H. Barrington-Kennett, with his mind always set on the task before them, remarks:

'There seemed to be a general misunderstanding amongst the troops as to the length of time during which rations have to last. They were apt to eat what they wanted at one meal and then throw the remainder away. R.F.C. peace training does not encourage economy with food, as the men are financially well off, and can always buy food and drink in the villages.'

On Sunday, 16 August, the headquarters of the Flying Corps, the aeroplanes of Nos. 2, 3, and 4 Squadrons, and the transport of Nos. 3 and 4 Squadrons moved from Amiens to Maubeuge. Second Lieutenant E. W. C. Perry and his mechanic, H. E. Parfitt, of No. 3 Squadron, who were flying a B.E. 8 machine (familiarly

known as a 'bloater'), crashed over the aerodrome at Amiens; the machine caught fire, and both were killed. There was another accident on the 18th, when the aeroplanes and transport of No. 5 Squadron followed. Second Lieutenant R. R. Smith-Barry and Corporal F. Geard, also flying a B.E. 8 machine, crashed at Péronne; the officer broke several bones, and the corporal was killed. Three of these machines in all were flown over at the beginning; they had been allotted to the Aircraft Park, and were taken on charge of the squadrons in the field to fill vacancies caused by mishaps. The third of them was the machine flown over by Captain G. I. Carmichael.

At Maubeuge the French authorities gave all the help they could, providing blankets and straw for the troops. The Flying Corps were now in the war zone, but for the first two or three days the conditions were those of peace. They saw nothing of the British army till one evening British troops marched through Maubeuge on their way to Mons. *'We were rather sorry they had come*,' says **Wing Commander P. B. Joubert de la Ferté**, *'because up till that moment we had only been fired on by the French whenever we flew. Now we were fired on by French and English.... To this day I can remember the roar of musketry that greeted two of our machines as they left the aerodrome and crossed the main Maubeuge-Mons road, along which a British column was proceeding*.'

To guard against incidents like this the Flying Corps, while stationed at Maubeuge, turned to, and by working all night painted a Union Jack in the form of a shield on the under-side of the lower planes of all the machines.

While the Flying Corps remained at Maubeuge and began to carry out reconnaissances over Belgium, the little British army had moved up north to Mons, where it first met the enemy.

Extract from 'The Fated Sky'

by ACM Sir Philip Joubert de la Ferté

The Royal Flying Corps' 'Concentration Camp' at Netheravon, 1914

At midsummer, and largely as a result of agitation in the House of Commons on the state of the R.F.C. a 'concentration' camp was created at Netheravon where the four available squadrons, Nos. 2,3,4, and 5 assembled. No. 1 had started as an Airship Squadron and was rearming with aeroplanes at this time. The Minister for War had stated in the House that there were 101 serviceable aircraft in the R.F.C. and an effort was made to assemble 101 that would fly. I never heard what was the official figure, but an air photograph taken of the Concentration Camp shows a smaller number. Just before the Squadrons assembled one of the pilots in No.4 Squadron, which was already at Nethervon, had a very narrow escape from death when the rudder of his aircraft bent in the air. The weakness in this part had been for a long time a source of controversy between the Squadrons and the designers of the Royal Aircraft Factory. When this accident happened the Service Chiefs took a strong line and 'grounded' all the aircraft of this type. Whether it was the impending visit of the M.P.s to Netheravon , or whether there had been a sudden rush of production at the factory, I do not know, but the next day a large squad of mechanics with the necessary number of reinforced rudders arrived at Netheravon and proceeded to effect a change to the satisfaction of the pilots.

It was at this camp that we were first told officially , but secretly , of the imminence of war with Germany, I shall never forget the solemn meeting of No.3 Squadron when our Squadron Commander, Major R. Brooke-Popham, told us what was expected. Up till then it is unlikely any but the more seriously minded of us young ones, even after the Agadir scare in 1911, had thought very much about war with Germany, but here we were faced with it in the near future and we knew that although we had plenty of energy and confidence, our equipment was woefully bad. There were at least eight different types among the 'hundred' serviceable aircraft, and of those only three were British. The engines were largely of French origin. We had no transport of our own worth mentioning, spares were lamentably deficient, and the reserve of pilots and mechanics was derisory. However, we had about two months in which to do something, and they were very busy months. Although mobilization had not been ordered we were, in fact, carrying it out in secret. But in spite of all our hurry there was so much to do that even three days after the declaration of war on 4 August we were still frenziedly searching for spares and transport. Personally, I was pursued for two years by a bill for a pair of Blériot wings that I took without adequate authorisation from the works at Brooklands and carried off in triumph to Netheravon.

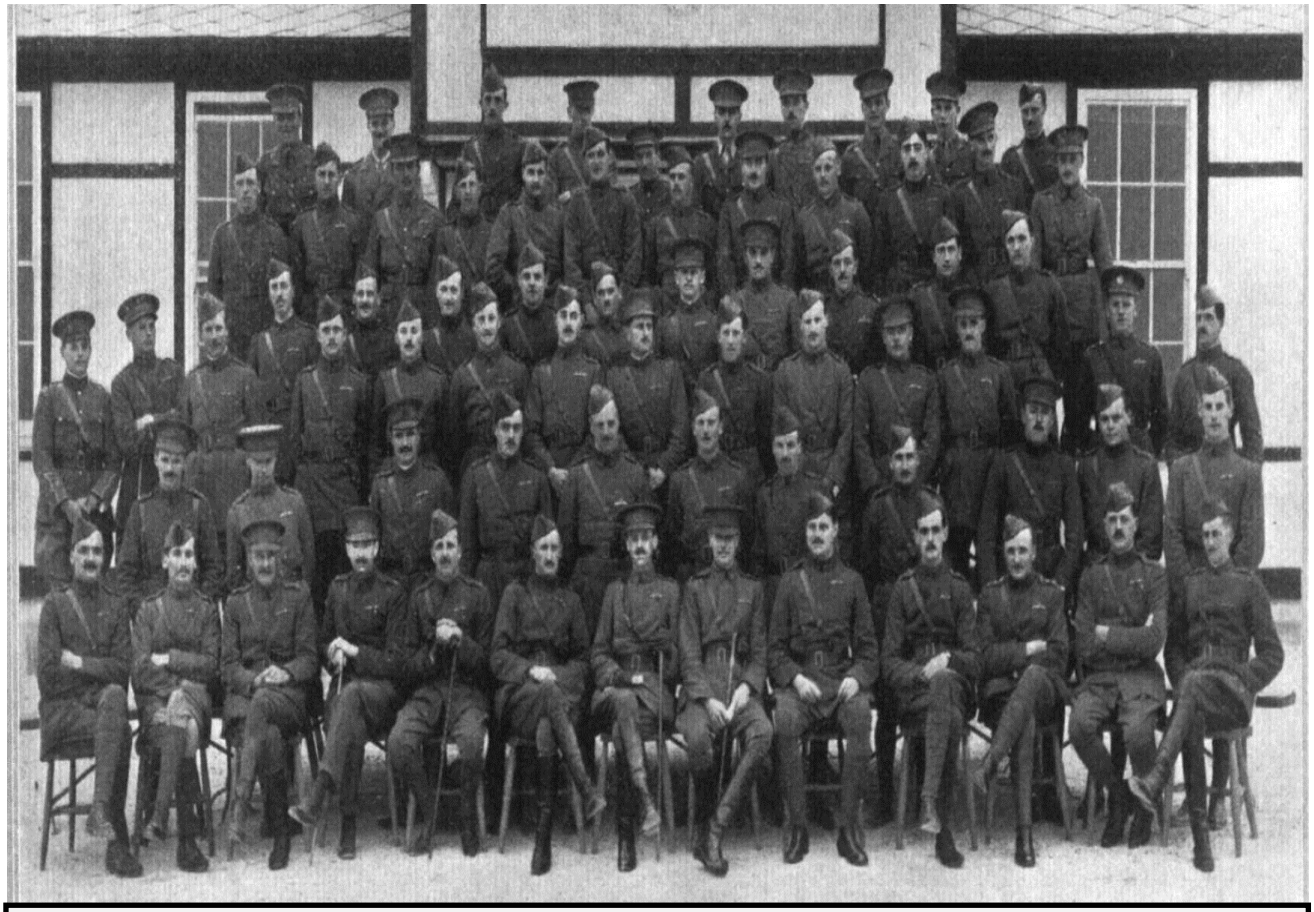
The RFC deploys to France

We left Netheravon on 12 August, 1914, for Dover. The flight started with a tragedy as one of our reservists stalled his aircraft—my old friend No. 260—when taking off, and crashed, killing himself and one of our best engine mechanics. The rest of us got to Dover without further incident, except for one heart-stopping episode which occurred to me. We had been ordered, secretly, that if a Zeppelin was seen by any of us we were, regardless of our safety, to ram it. I was proceeding peacefully twenty miles north of Portsmouth at about 3,000 feet, when my mechanic gripped my shoulder and shouted in my ear, "Zeppelin, sir!" Shuddering with fright, I looked over my shoulder and saw one of the Spit forts lifting its head above the morning mist. In this light it looked just like an airship - but I had a lot to say to the mechanic when we landed.

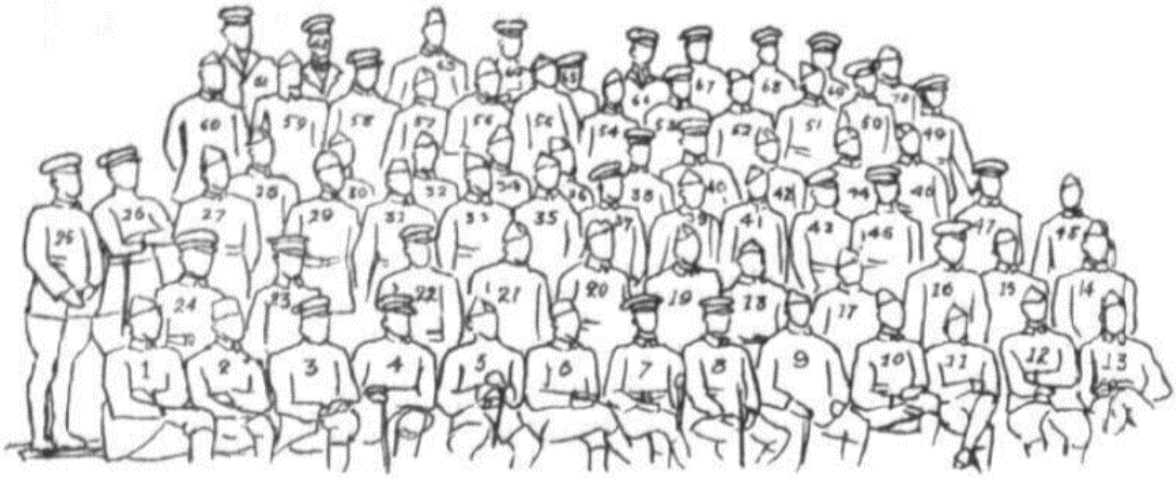
That night we bivouacked at Dover, and my lasting impressions of a long period of sleeplessness were the hardness of my couch, the appalling snores of one of our Flight Commanders, and the following dialogue between the sentry posted outside the hangars and the N.C.O. in charge of the guard. Time - midnight, or thereabouts:

"*Now you got a rifle and you're ter use it. If you sees anybody, you calls' 'Alt, 'oo goes there?' If 'e don't 'alt you just pulls the bolt back. There ain't a man in England wot won't 'alt when you pulls the bolt back. If 'e don't 'alt, then you fires*."

Next morning we were served out with a motor-car tyre inner tube which we were instructed to blow up and wear round our middles in case we fell into the 'Drink' on our way to France. It was as well that nobody had to try out this primitive life-saving device, which was certainly very difficult to wear in the tiny cockpits of the aircraft of that day. As he crossed the French coast one pilot found the Cap Gris-Nez lighthouse so inviting an object that he spent a little time trying to drop his inner tube, like a quoit, on to the spiky top. There was a good deal of competition as to who should



Concentration Camp at Netheravon 1914 : Officers of the Royal Flying Corps. Lieut. Joubert de la Ferté (15) and Lieut. Vaughan (34) would go on to command 33 Squadron. (FLIGHT Photo 10 July 1914 page



CONCENTRATION CAMP AT NETHERAVON.—Officers of the Royal Flying Corps: (1) Capt. Beatty, (2) Capt. Dawes, (3) Maj. Brabazon, (4) Maj. Musgrave, (5) Maj. Raleigh, (6) Maj. Higgins, (7) Col. Sykes (Commanding Officer), (8) Lt. B. H. Barrington Kennett (Adjutant), (9) Capt. Conner, (10) Capt. Cholmondeley, (11) Capt. Herbert, (12) Capt. Charlton (13) Capt. Carmichael, (14) 2nd Lt. Fuller, (15) Lt. Joubert de la Ferte, (16) Lt. Mills, (17) Lt. Hynes, (18) Capt. Waldron, (19) Capt. Todd, (20) Capt. Beor (Camp Commdt.), (21) Capt. Stopford, (22) Capt. Grey, (23) Capt. Shephard, (24) Capt. Holt, (25) Lt. Smith, (26) Lt. Christie, (27) 2nd Lt. Stodart, (28) Lt. Penn-Gaskell, (29) Lt. Redwell, (30) Lt. Dawes, (31) Lt. James, (32) Lt. Martyn, (33) Lt. Spence, (34) Lt. Vaughan, (35) Lt. Mansfield, (36) Lt. Roche, (37) 2nd Lt. Humphreys, (38) Lt. Read, (39) Lt. Gould, (40) Lt. Adams, (41) Lt. Mitchell, (42) Lt. Borton, (43) Lt. Cogan, (44) Lt. Corballis, (45) Lt. Small, (46) Lt. Mapplebeck, (47) Lt. Allen, (48) Hon. Lt. Pryce (Qr.-Mr.), (49) Lt. S. G. Small, (50) Lt. Morgan, (51) Lt. Lewis, (52) 2nd Lt. O'Brien Hubbard, (53) Lt. Playfair. (54) Lt. Porter, (55) 2nd Lt. Wadham. (56) Lt. Noel, (57) Lt. Glanville, (58) Lt. MacNeece, (59) Lt. Freeman, (60) Lt. Harvey Kelly, (61) attached, (62) Mr. Carpenter, (63) Lt. Shekelton, (64) Lt. Atkinson, (65) 2nd Lt. Hartree, (66) attached, (67) Lt. Hosking, (68) Lt. Waterfall, (69) Lt. Lywood, (70) Lt. Hordern.

land first in France. Our senior Squadron Commander was quite determined that he was to have the honour. He therefore drew out a course (carefully avoiding some large woods) which, if flown over according to orders, would ensure his arrival first at Amiens aerodrome. Most regrettably, one of his flying officers, who was equally determined to be first, took a short cut across the woods and touched down a few seconds before him.

NO PYJAMAS!

We had left England equipped as to clothing and necessaries on a South African War scale. This was on the advice of the old soldiers who had either never learned or forgotten the maxim that no war is ever like the war that preceded it. So when we arrived at our billet, a fine modern hotel with comfortable beds, all sheeted and blanketed, none of us had any pyjamas. Not having entirely shed our civilization in the twenty-six hours since we had left our barracks, we clamoured to the proprietor for night clothes. A hasty distribution of white cotton nightdresses produced some remarkable results. One six-foot-four officer had one which barely reached his knees; another of about five feet eight had enough spare cloth wrapped around him to make the mainsail of a sizeable schooner. These two proceeded to dance a can-can down the corridors of the hotel, to the delight of the hotel staff.

MAUBEUGE

On 16 August we moved to Maubeuge, leaving a small detachment to form the first overseas Aircraft Park. We also discarded a number of very undesirable machines, amongst which was the Entente Cordiale Blériot, a crock that must have been bought over for propaganda purposes, as it was certainly useless for anything else. The machine had originally been purchased by the Daily Mail and flown around England for advertisement. Under the right wing was a large 'Daily', under the left a large 'Mail', while on the rudder were crossed a Union Jack and a tricolour. Its arrival at Amiens had created a furore amongst the populace , but it had not the same popularity amongst those who had to fly it.

At our destination we were made very welcome by the French, and by night everyone had settled in comfort in the billets alloted to them. Two of us were lodged in a branch of the well-known general store '*Le Familistère*', which at that time covered most of the towns in Northern France. In an atmosphere of ancient cheese and other strong scented goods we were given an excellent dinner by the manager and his wife. The meal lasted till late as we were kept busy toasting *'La Victoire'*, *'Les Allies'* and *'L'Aviation'*, in the intervals of listening to our host's reminiscences of the 1870 war.

The next few days were spent in tuning up our aircraft , studying maps and generally putting a polish on ourselves and our equipment. The weather was fine and we should have enjoyed ourselves, but a constant stream of rumours of German successes in Belgium rather dampened our spirits. I think everyone was anxious to be doing something more active, and it was with relief that we received orders for the preliminary sorties.

On 19 August Lieutenant Gilbert Mapplebeck and I did the first R.F.C. reconnaissance from Maubeuge. It was a sunny day with about five-tenths cloud. Mapplebeck was sent off in the direction of Louvain in a BE2 and I was told to go to Waterloo in my Blériot. Flying for the first time on 1:1 000 000 maps, both of us went adrift. Gilbert lost himself on the way back to Maubeuge, and I spent most of the day flying around parts of Belgium to which I had not been instructed to go. After getting lost over the coal-mining area of Mons I finally decided to land at a large town where the houses still seemed to be flying the Belgian flag. This was Tournai, where my aircraft was refuelled and I was given lunch by the Commandant of the Place. From there I took off again, lost myself once more and, running out of fuel, landed near Courtrai. Here my reception was not at all friendly. It had not occurred to the War Office to provide us with identification papers and a good many of us were to experience difficulty owing to this lack of foresight. I was on my way to prison in Courtrai when I was saved by the intervention of a Belfast linen manufacturer. He was in the crowd around the aircraft and, hearing me swear vey heartily, rushed forward, shouting,"Och, shure and he's an Englishman," and taking from his pockets a small Union Jack (which is still one of my treasured possessions), hung it on the aircraft. Immediately the atmosphere changed. My aircraft was refuelled and I was given directions to Waterloo, over which I finally did my reconnaissance and, tired but thankful, regained Maubeuge– having long been given up as dead. Both reconnaissances were negative, but at least they showed that the defence of Liege had held up the German advance. The next day other reconnaissances found the head of the German columns moving westwards, and the following day the advance guard of the BEF marched through Maubeuge towards Mons.

Mons Day, 23 August, was full of excitement for our Flight……..

(Ed: The Battle of Mons was the first battle fought by the BEF since its arrival in August.; 70 000 soldiers with 300 guns faced the German First Army of 160 000 men and 600 guns. Many of the BEF were professional soldiers, Boer War veterans who had leaned hard lessons in South Africa. The BEF performed well as it steadily withdrew south, but by the end of 1914 , after Mons, Le Cateau and the First Battle of Ypres, the pre-war British Army was close to being wiped out.)

From "Recollections Of An Airman" Chapter 3: War!
by Lt Col L A Strange DSO, MC, DFC (5 Squadron RFC)

RUMOUR OF WAR

The first rumours of war are still fresh in my memory. I was at Upavon at the time; the Sixth Course of Instruction at the Central Flying School was drawing to its close, and we were all getting duly worried about our forthcoming examinations. Suddenly all flying was stopped, and although we asked each other why, I fancy everyone realized that the veto had some connection with the rumours of war which were flying about. Our surmises soon proved correct, for we ascertained that all machines were to be overhauled and made fit for active service. All instructional machines were to undergo this conversion on account of the shortage of aircraft in the R.F.C. Matters began to assume more definite shape when our Commandant, Captain Godfrey Paine, assembled us all in the lecture room and discoursed on the probability of war with Germany. He added that all who were considered sufficiently advanced in flying were to be posted to Active Service Squadrons forthwith. There was much excitement. The lucky ones were wildly elated, while their less proficient brethren were duly depressed. To my great joy I was considered fit; with others who had been chosen I hurriedly packed my kit and went off to report myself at the R.F.C. headquarters at Farnborough. I did not stay long there, for I was promptly despatched to join No. 5 Squadron at Gosport. I do not think I have ever worked so hard in my life as during those first few days with the Squadron. It was one continual bustle to get our stores listed according to schedule, sort them and pack them on their different lorries. There were a hundred and one other things to be done, in view of the probability of our Squadron going overseas as a complete unit. There was glorious weather during those first weeks of August, 1914. In the warm evenings we used to sit up on the top of Fort Grange, where we had our quarters alongside the aerodrome, and listen to the transports going down the Solent from Southampton in an endless stream. It was the British Expeditionary Force on its way to France at a time when the military critics in the press were debating whether our share in the war would be a purely naval one or whether there was any possibility of our sending a small force to the Continent during its latter stages. Everything was ready. Machines, lorries, mechanics, and pilots only waited the word to move, but for three whole days we were kept mad with impatience while we waited for it to come.

ON OUR WAY

At last our marching orders arrived; an hour later the Squadron's transport vehicles rolled out of Fort Grange on their way to Southampton, accompanied by the cheers of those they had left behind them. It was a miscellaneous and un-soldierly collection of vehicles, most of which had been requisitioned from various commercial organizations. The headquarters stores lorry was a huge, covered, red van, with BOVRIL painted in black letters all over it; we may have laughed when we saw it go off, but later we blessed it because it was so easy to spot from the air on the frequent occasions when we lost our transport. Our bomb lorry was originally destined for the peaceful pursuit of propagating the sale of Lazenby's Sauce (The World's Appetizer), while Peek Frean's Biscuits, Stephens' Blue-Black Ink, and the ubiquitous Carter Patterson were also represented.

For us pilots there was still much work to do before we crossed the Channel in our own fashion. For instance, I had to fly an unwanted 50 h.p. Gnome Avro back to the C.F.S. and return to Gosport with a Henri Farman which we did want. It was a ticklish journey, because the blue skies of those early August days were now covered with low-lying clouds from which the rain poured down. I had no less than three forced landings; at one of them, which occurred close to the village of Over Wallop, I went into a cottage for a cup of tea and found an old woman crying because she had received a postcard from her son, stating that he was just off to the wars. I did my best to cheer her up, but she persisted that she would never see him again.

We were due to start off the following morning at daybreak. Owing to the fact that one of the lorry drivers was in Portsmouth when the order came for our transport to proceed to Southampton and could not be found in time, my mechanic went in his place, while I was detailed to take the driver in my machine's second seat, although he had never been in the air before. Well, we started off all right; but I soon saw that my machine would require careful handling if we were to avoid coming to grief, because my passenger weighed thirteen stone, while in addition to my own kit, I had to carry his kit and rifle. As the machine had a Lewis gun mounted in front for my future observer to use, my load was far too heavy for safety, but having had experience with 35 h.p. Bleriots, I knew how to manage a machine that would only just fly. We struggled on to Shoreham, where we landed to fill up with petrol. Most

of the other machines had been woefully overloaded, and, if I remember rightly, there were several accidents en route. To add to our troubles, there was a strong head wind against us. As crows are supposed to fly, it is about seventy odd miles to Dover, but it took me two and a half hours to get there, while at one time I had hard work to avoid being battered down on to the Sussex Downs. I had hoped to see Marjorie when I flew over Lancing, or to find her at Shoreham when we landed, but there was no sign of her, although she came to the aerodrome after I had left.

DOVER

At Dover I found that the aerodrome lay on high ground at the edge of the cliffs above the Castle. There were a number of red flags, which told me of ditches to be avoided, but whether the supply of flags had run short or whether some careless fellow had left a ditch unmarked through negligence, I cannot tell; the main thing was that after landing safely, I ran into an unmarked ditch and broke a longeron. Before I could see what I was going to do about it, I had to attend to the troubles of my passenger, who had contrived to smuggle a bottle of whisky with him. Having emptied its contents en route, he threw it overboard when we reached Dover, but the combined effects of the alcohol and his first flight were such that I found it necessary to place him under arrest. After seeing him shipped off to the guard tent, I had some tea at the Castle.

I then set off for Farnborough in a Rolls-Royce to get a new longeron. I reached Dover again at 2 a.m., and worked till 6 a.m., removing the broken longeron and replacing it by the new one. I was very thankful for the thorough course of instruction in rigging I had received at the C.F.S., as without it I should have been very much later in getting through with the job. I now thought I was ready to start. Having got some breakfast at the Castle, I returned to the aerodrome, where I found that the transport driver had escaped from the guard tent and could not be found. We started to hunt for him, but it was not until 10.30 that the police rounded him up somewhere in Dover, where he was still very much the worse for drink. The official history of the Royal Air Force says that No. 5 Squadron (Major J. F. A. Higgins, D.S.O.) went off to Amiens on August 15th. It naturally says nothing about the fact that one insignificant unit of the aforesaid Squadron, consisting of one Henri Farman, mounted with Lewis gun, one mechanical transport driver, very much the worse for wear and liquor, and one harassed pilot in the shape of myself, did not leave the white cliffs of Old England until the disgracefully late hour of 12 noon on Sunday, August 16th.

BETTER LATE THAN NEVER

At any rate, I was off on the great adventure at last, with Amiens as my immediate destination, and a strong N.E. wind across the Channel. The sea below me was rough, and my crossing to Gris Nez took a long forty-five minutes. I had some worried moments over the water. As the visibility was not more than about half a mile and no shipping was to be seen, I began to wonder whether I was not running up alongside the coast of Belgium. Suddenly the visibility became even worse, and when I eventually sighted the grey cliffs of Gris Nez they were only a few hundred yards away. But a sharp right hand bank took me clear of the cliffs, and then I hugged the coastline down to Boulogne, where I ran into better weather. Although I encountered a couple of hard rainstorms later, I was able to make Amiens comfortably in about two and a half hours flying time. I shall never forget taxying up to the other machines that Sunday afternoon. The thousands of Frenchmen congregated round the aerodrome at Amiens put me in mind of a Hendon pageant, but the illusion vanished when the machine came to a standstill, because, much to my astonishment, my passenger stood up and answered the cheers of the crowd with much gusto and saluted the Entente Cordiale by waving aloft another empty bottle of whisky. At that moment my eye caught sight of Major Higgins, my commanding officer. I thought that the fifty-six days No. 1 Field Punishment subsequently meted out to him rather hard luck under the circumstances, which did much to excuse both his alcoholic excesses and his emotional fervour. All the same I had good reason to curse him heartedly, because his behaviour was the cause of my own welcome to France being, to say the least of it, a mixed one. On the other hand, I was a good deal luckier than **Lieut. Vaughan**, of our No. 5 Squadron, who left England three days after me. He had a forced landing near Boulogne, where some French villagers made up their minds that he was a German airman, and as nothing he could say convinced them to the contrary, they clapped him in the local gaol, where he had to kick his heels for three days before he was released.

Meanwhile the R.F.C. sustained its first losses. Lieut. Skene and Air Mechanic Barlow, of No. 3 Squadron, crashed shortly after taking off for Netheravon en route for France, while on August 17th, Lieut. Copland Perry and Air Mechanic Parfitt crashed in a B.E.8. They were, I suppose, the first casualties that the R.F.C. sustained in France, and I attended their funerals during my three days sojourn at Amiens. I have an old copy of The Aeroplane, which contains Skene's obituary notice. He was a clever pilot, and one of the first Englishmen to loop-the-loop.

MAUBEUGE

Our next move was to a very good aerodrome at Maubeuge. The weather was perfect, if a bit too hot; but as I and several others had to be innoculated against typhoid, we did not take things very

strenuously for a couple of days. We spent our evenings sitting up on the top of an old fort and chatting to French reservists. In the distance we heard rumblings which might have been thunder, although several of us thought it was gunfire, and subsequent news proved them right, for what we heard was the German artillery bombarding the Liège forts. Our excitement rose to fever pitch when a Bleriot of No. 3 Squadron came back with twelve bullet holes in her, while her observer, Sergeant-Major Jillings was wounded in the leg. He was the first British soldier to receive a wound from the enemy in aerial warfare.

As a matter of fact, it was extremely difficult for aeroplanes on opposite sides to do each other much damage in the war at that time, but there were not a few cases of "save me from my friends," because the French and our own artillery had a nasty habit of firing at every aeroplane they saw, without giving themselves any trouble to ascertain its nationality. Other machines had been out and reported great activity, while the main roads in a westerly direction were crowded with troops and transport proceeding towards the front, which was now not so far distant. Just as we were beginning to wonder what we were doing all by ourselves in Maubeuge, the first British troops arrived, and for the whole of that day we watched them march past our aerodrome en route for Mons. I have never before or since felt quite so thrilled as when those grand regiments of the old British army swung along to the marching tunes of their regimental bands. The sight of them made me think that it would not matter if every soldier in the German army was bearing down on us, although our impressions from the air were somewhat different, because the bird's-eye views we gained of the opposing forces made us realize the tremendous odds that the British Expeditionary Force was called upon to tackle. Events, however, showed that we had the finest fighting force that ever took the field in modern warfare. It lived up to the expectations we had formed when we saw it march past, and remained undefeated, even though it was to be nearly annihilated a few days later at Le Cateau, where only magnificent staff work and inspired leadership saved it from destruction by the sheer weight of the opposing hosts….

From: Arbon Strange, Louis. Recollections of an Airman

Saint Omer Aerodrome 1914-1918

RFC Headquarters

As we heard at the RFC Swingate Down stand, at the outbreak of the First World War four RFC squadrons had flown to France to join the General Headquarters (GHQ) and provide reconnaissance for the British Expeditionary Force (BEF) during the critical first few months of the war as the Germans sought to outmanoeuvre the British and French Armies. The fluid military situation meant that HQ RFC and its four squadrons moved repeatedly, closely following the GHQ as the fighting edged north towards the Channel ports. Eventually, on the evening of Monday 8 October 1914, HQ RFC arrived at St Omer and took up residence in a small chateau. The squadrons arrived over the next few days, together with the recently formed HQ Wireless Telegraphy Unit. These aircraft, supplemented by 6 Squadron – newly arrived from England with a mixture of BE2s, Bleriots and BE8s – would comprise the RFC's frontline strength until spring 1915.

HQ RFC was a modest affair, initially comprising some eight staff officers under the command of Brigadier-General Sir David Henderson, GOC RFC. Even so, the accommodation proved extremely cramped, the few rooms having to double as both offices and bedrooms. Maurice Baring's diary provides a vivid picture of the work of the Headquarters during this initial period together with an affectionate account of the personalities involved.

"We arrived at St Omer at 8.30 and took up our residence in a small chateau on the hill between the town and the aerodrome. We didn't expect to stay there long, so no real steps were taken to make ourselves comfortable at the start. The chateau was a modern stucco building, red and white. Downstairs there were two drawing rooms, and one bedroom, and a small sitting room. The small sitting room was Colonel Sykes' office. One of the drawing rooms was made into an anteroom, the other into an office. The bedroom downstairs was Brooke-Popham's. Upstairs General Henderson had one big bedroom and a small office. Salmond, Barrington-Kennett and I shared a second, Murat had a third and the fourth was to be occupied by other members of the staff."

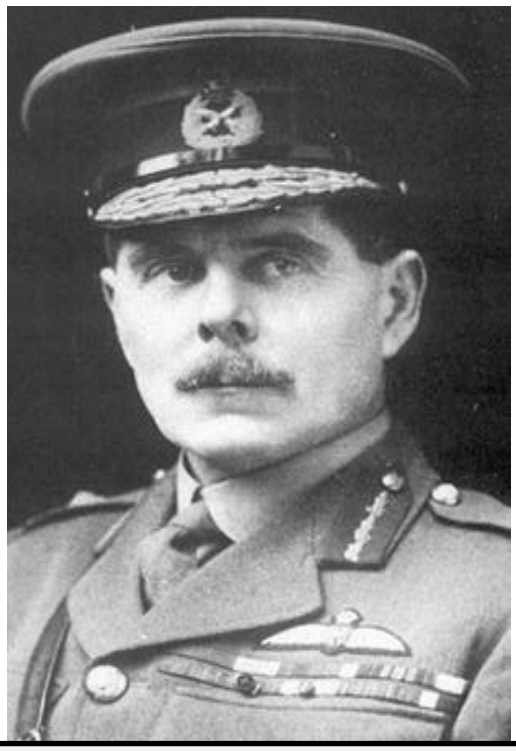
As it transpired, the Headquarters remained at St Omer until 1916 and returned again in 1917, occupying the same small chateau throughout – leased from its owner at a rental of 20 francs per day. St-Omer rapidly became the RFC's airhead in France. It was the destination for the majority of squadrons deploying to the Western Front. This, together with the ferrying of replacement and time-expired aircraft and depot test flying made for a very active airfield.

Over the course of the war many thousands of aircraft were ferried between England and France – a total of 3,226 in 1917 and 6,217 in 1918. Given the vagaries of the weather and the rudimentary navigation of the time, the journey was never without its hazards – the deployment of 29 Squadron from Gosport to St Omer in March 1916, resulting in the loss of 14 DH2s en-route, was probably the most spectacular example of the difficulties that could arise. The direct route lay between Dover / Folkestone and Cap Gris-Nez, some 21 miles. When squadrons deployed it was usual for them to fly their aircraft on a southeasterly heading across the Channel, aiming to reach the French coast between Cap Blanc-Nez and Calais and then follow the canals south to St Omer. Groundcrew – including observers – and transport would travel by sea to Le Havre, Rouen or Boulogne, normally only rejoining their pilots and aircraft at their operational airfield. Individual pilots joining the RFC in France reported to the Pilots' Pool at St Omer pending allocation to a squadron.

The first step for all newly arrived aircrew was to obtain a billeting allocation from HQ RFC – generally in St Omer itself as the messes around the airfield were invariably full. For many RFC personnel this was their first time overseas and thus St Omer came to symbolise all that was new or different whether it was the cooking, the size of the bed covers or the washing arrangements!

The sudden influx of military personnel and the increasing demand for both temporary and permanent accommodation caused serious difficulties in the town and the surrounding villages. Maurice Baring records numerous incidents in the early part of the war relating to billeting problems. On one occasion he mentions how he ended a sharp discussion with the Mayor of Longuenesse by holding up a German ten-pfenning piece he had found on the drawing-room floor – only to be chased after by a gendarme who insisted that the Mayor was not a German spy. Another, more humorous incident involved the arrival of two old ladies at HQ RFC with a complaint about the behaviour of two officers billeted with them. They would only speak to General Trenchard since it was a matter of '*grave indelicatesse*'. Eventually it transpired that the officers concerned had had the temerity to wash their socks in the kitchen sink.

As the RFC's strength grew so did the size of the headquarters. Although it remained sufficiently small to be able to deploy forward as the operational situation demanded, its role grew in importance as the number of squadrons increased, notably between October 1915



Marshal of the Royal Air Force
Hugh Montague Trenchard GCB OM GCVO DSO
Second CO Military Wing RFC 1914
First CO First Wing France - Nov 1914
Commander RFC in France 1915-1917
First CAS 1918

Air Chief Marshal Sir Henry R M Brooke-Popham
GCVO KCB CMG DSO AFC
Dep Asst Adj / QMG HQ RFC 1914

Air Vice Marshal Sir Philip Woolcott Game
GCB GCVO GBE KCMG DSO
GSO1 Operations HQ RFC 1914 after
Brooke-Popham's promotion

and July 1916 when the frontline strength grew from just over 100 to more than 400 aircraft. With the decentralisation of the RFC into brigades and wings, with effect from 30 January 1916, it became necessary to re-organise the headquarters on a higher basis. Up to then responsibility for technical issues had been a subsidiary duty of Lieutenant-Colonel H.R.M. Brooke-Popham, GSO1. The expansion in the front line and increase in operational tempo generated a host of engineering and administrative issues that necessitated a new establishment – organised on the basis of a corps staff – that provided for a Deputy Adjutant and Quarter Master General. Robert Brooke-Popham was appointed to this new post, in the rank of brigadier-general, from 12 March 1916. An experienced staff officer, Lieutenant -Colonel P.W. Game was found to take over the operational side of the HQ.

HQ RFC's day to day activities encompassed responsibility for the management of the units in the field, as well as the higher strategic direction of the RFC in France, including liaison with GHQ and the French Aviation Service. This necessitated, in addition to technical specialists, intelligence, medical, photography, supply and transport staffs as well as dedicated liaison officers. As the intensity of the air war grew, so did the number of forms and the volume of paperwork to be handled, including the production – from the middle of 1915 – of a weekly communiqué describing RFC operations on the Western Front (familiarly known as Comic Cuts).

Sir David Henderson remained in command of the RFC until 19 August 1915 when he returned to the War Office being replaced by Colonel H.M. Trenchard who was promoted to brigadier-general on 25 August 1915 and major-general on 24 March 1916. Hugh Trenchard was to remain GOC until December 1917, commanding the RFC through the great battles of the Somme and Third Ypres. Both of these offensives involved moving the headquarters temporarily from St Omer to bring it closer to the operational area.

In closing this section, it is worth noting that St Omer, as a major garrison and centre of British military activity, attracted numerous visitors throughout the war. This included the Royal Family who first visited HQ RFC and the airfield on 4 December 1914, when King George and the Prince of Wales arrived as part of a tour of the Western Front. Later visits included that by Queen Mary on 5 July 1917 when, in the company of GOC RFC, she reviewed aircraft at the Depôt and witnessed a flying display. A photographer was evidently on hand as a famous series of still photographs has recorded the event for posterity.

The RFC Aircraft Depot

When the RFC was formed in May 1912, with its constituent Military and Naval Wings, it was recognised that squadrons in the field would need dedicated support beyond that provided by the Royal Aircraft Factory at Farnborough. This task was assigned to the Line of Communications Workshop, later to become the Flying Depôt and ultimately the Aircraft Park, under which title it was deployed to France on the outbreak of war, reaching Boulogne on 18 August 1914.

When it arrived in France, the Aircraft Park comprised just 12 officers, 162 other ranks, four motorcycles and four aeroplanes in crates. The Official History records that on disembarkation the port landing officer sent an urgent wire to GHQ, 'An unnumbered unit without any aeroplanes which calls itself an Aircraft Park has arrived. What are we to do with it?' Despite the unpromising start, the Aircraft Park soon proved itself invaluable in the constant struggle to keep the RFC's handful of aircraft available to support the rapidly moving armies. During the confusion of the first months of the war, the Air Park found itself constantly on the move. However, by the end of October 1914, after five changes in location, it arrived at St Omer where it would remain for nearly four years.

As the war grew in scale and intensity, so did the logistic demands. The Aircraft Park came to resemble, in the words of its commander, 'A gigantic factory and emporium', repairing everything from aircraft to wireless equipment and vehicles. The range and quantity of spares to be handled created immense difficulties. The stores section was responsible for requisitions ranging from complete aircraft to horse rakes and lawnmowers for keeping aerodromes trim. By July 1915, the Aircraft Park had become too unwieldy to satisfy the demands placed upon it, a second park being established at Candas to cater for the southern squadrons. Both parks were supplied by rail from port depôts based at Boulogne and Rouen respectively. Even with these changes, it was evident that unless St Omer and Candas were relieved of some of their heavy repair work and the increasingly large range of stores they were now required to hold, there was no possibility that they could sustain a mobile role. In December 1915 it was decided to convert St Omer and Candas into fixed supply and repair depots and to create three new air parks in the army rear areas to provide mobile support to the flying squadrons. St Omer was retitled No 1 Aircraft Depot (AD) and Candas No 2 AD.

At this stage, St Omer comprised some 1 000 technical personnel (including MT workshops in the town itself on the Rue Therounne and a sub-site at Arques, some two miles away, engaged in kite balloon repair and the production of hydrogen) organised into a wide range of repair and stores sections holding three month's stock of aeronautical and transport stores. The depot received, modified and issued direct to the front line

new aircraft, maintained an attrition reserve and overhauled and reconstructed aircraft, balloons and vehicles. In this regard, the importance of salvage cannot be exaggerated. Wastage rates at the beginning of the war were relatively low, about 10% per month, but by June 1916 they had reached 47.7% per month, rising to a staggering 64.6% during the Battle of the Somme. In order to keep 1800 aircraft in the field (the size of the RAF at the Armistice) it was calculated that 1 500 new aircraft would have to be delivered to France each month.

The importance of St Omer and its sister depôt at Candas in maintaining the operational effectiveness of the RFC during the Battles of the Somme and Third Ypres cannot be exaggerated. In the face of rapidly growing attrition, every aircraft that the depôts could repair or rebuild and every component or engine that could be salvaged was crucial. Thus, during September 1917, at the height of the Third Battle of Ypres, St Omer and Candas, working day and night, issued 930 aircraft, reconstructed 116 and erected 113. By the October of that year the volume of new aircraft deliveries (then averaging 400 a month) and the quantity of repair and salvage work had reached a level that necessitated the creation of separate Aeroplane Supply Depôt (ASD)s, alongside the main depôt, responsible solely for aircraft receipt, issues and repairs.

The Pilots' Pool

Attached to the Depôt was the Pilots' Pool that undertook ferry and flight test duties as well as providing refresher and conversion flying. It also served as a holding flight for recently arrived pilots awaiting posting to an operational squadron. Cecil Lewis, who was based St Omer in March 1916 describes the airfield as simply buzzing with activity. Reporting directly to Lieutenant W.F.C. Kennedy-Cochran-Patrick, OC the Pilot's Pool, he flew a variety of aircraft types as well as witnessing comparative trials with a captured Fokker.41 Charles Cochran-Patrick had been based at St Omer since December 1915. His duties were wide and also included instructing and the conduct of experimental trials. However, his most notable achievement was probably the shooting down, on 26 April 1916, of an LVG two-seater of FA5 over Hazebrouck while flying his personal Nieuport 16. This was the first, and only, aerial victory achieved during the war by 1 AD.

Up to this point the depôt had consisted of only temporary sheds ands a number of Bessonneau hangars. However, contracts were now raised through the RE Works Directorate for the construction of workshops and repair sheds, including a dope shop and carpenters', fitters' and sailmakers' shops as well as four small fuselage sheds. Further extensions were provided in 1917, including larger sheds, a Power House and 13 'B' type hangars.

A significant works programme was also put in hand at Arques to cope with the increase in the demand for hydrogen as the number of RFC kite balloon sections deployed on the Western Front rapidly grew from 1916 onwards. Hydrogen supplies had originally been obtained through the French authorities but increasing difficulties were encountered as consumption grew. To provide an assured supply, it was decided to create a local generating capacity at Arques, adjacent to the canal, some four miles from 1 AD.

Early in 1916, Colonel Robert Brooke-Popham had written to the War Office arguing for the provision of two Silicol Plants and compressors capable of producing 50000 cubic ft of hydrogen per week. These plants were to be provided by the Admiralty together with the additional gas cylinders to increase the total number available on the Western Front to 8000. Empty cylinders were delivered to Arques by lorry and full cylinders returned direct to the kite balloon sections. At this stage several large balloon sheds had been erected, but over the next two years numerous additional buildings were constructed to provide for the hydrogen producing plant and the handling of gas cylinders. In addition, fully hutted camps were provided for officers and other ranks, including WRAF.

Although only small quantities of oxygen were required by the RFC in the first years of the war (in general for welding), with the introduction of higher performance aircraft from 1917 onwards an increasing amount of compressed breathing oxygen was required – ultimately reaching 25 000 cubic ft per day. The installation of an electrolytic plant at Arques addressed this need – as well as allowing a further increase in hydrogen production.

By March 1918, the St Omer depôts had grown into an immense enterprise. Over 4 300 technical personnel (nearly 10% of the total strength of the RFC in France and Belgium) were directly employed in maintaining, modifying, repairing and salvaging aircraft and associated equipments. The scale of this operation and the haphazard development since the beginning of the war did not make for a pretty sight. Arthur Gould Lee, who was based in the Pilot's Pool during 1917, described the depôt as an ugly sprawling place with scores of Bessonneau canvas hangars and workshops with rows and rows of Nissen huts.

The German Spring offensive led to a major relocation of the fixed repair and supply depôts. Even before the full extent of the German advance was known, thought had been given to placing the aircraft depôts closer to the Channel Ports. In late March 1918, 1AD was directed to find a suitable site adjacent to the St Omer to Calais railway and canal or the Calais to Boulogne railway. As an immediate step, a reserve stock of spares was created to keep the northern squadrons supplied if

a move was deemed necessary (equivalent to some 250 lorry loads). As the military situation deteriorated, Robert Brooke-Popham decided to implement these plans. The advanced section of 1AD was ordered to Guines on 11 April 1918 – an existing site occupied by 4 ASD – while the stores section went to Desvres. Further moves out of St Omer occurred on 15 April, when 1 ASD and its repair section moved to Marquise and the MT Repair Shops were dispatched to join those of 2AD. The War Diary of the St Omer Area Commandant recorded that the evacuation of the heavy units had proceeded very satisfactorily, 1 ASD being cleared in three days. The evacuation of the St Omer site was completed on 10 May 1918 when the residual depôt elements moved to Guines – leaving only the Hydrogen Silicol plant and tent stores at Arques from the original depôt.

Even in the midst of this turbulence, the supply system did not falter such that 208 Squadron, who had burnt their entire compliment of Sopwith Camels when their airfield was overrun in heavy fog on 7 April 1918, was issued by the depôts with 20 new machines within 48 hours.

Operations 1914-1916

Contemporary descriptions of the landing ground at St Omer indicate just how crowded the airfield was in the autumn of 1914. The five RFC squadrons (together with their transport and tents) were deployed along the road (D198E) forming the northern edge of the plateau, with direct access to the large grassed area that formed the town racecourse. The supply column and transportable sheds were placed at the eastern end of the landing ground adjacent to the main St Omer to Abbeville road (D928) while the Aircraft Park set up on the opposite side of the road. Finally, the HQ Wireless Telegraphy Unit (later 9 Squadron) occupied the sandpit at the junction of the two roads. These dispositions provided the basis for the much larger site that would develop over the next four years.

Up to this point the work of the RFC squadrons had largely comprised strategic reconnaissance. However, the role of aircraft in directing artillery fire was becoming increasingly important. For the First Battle of Ypres, all five RFC squadrons were actively involved (2 Squadron arrived at St Omer shortly before the battle opened on 19 October 1914, while 6 Squadron arrived on 21 October 1914) in artillery co-operation and tactical as well as strategic reconnaissance. During the course of the battle, although the bulk of the RFC remained at St Omer, detached flights from all the squadrons were deployed forward to work more closely with the individual BEF Corps. 6 Squadron achieved a notable success on 1 November when a two-seat Fokker of FA41 was forced down near St Omer and recovered to the Air Park for examination.

By the time the German attack had been halted in November it was evident that it would be better if the RFC's squadrons were permanently located closer to the front line. This move to a more decentralised organisation was formalised on 29 November 1914 with the creation of two separate Wings: No 1 Wing (comprising No 2 and 3 Squadron) under Lieutenant-Colonel H.M. Trenchard with its headquarters at Merville; and No 2 Wing (comprising No 5 and 6 Squadron) under Lieutenant C.J. Burke with its headquarters at St Omer. In reality, the squadrons had already moved forward, 6 Squadron to Bailleul (where the bulk of 5 Squadron had been operating since 23 October), 3 Squadron to Gouncham on 24 November and 2 Squadron to Merville on 27 November. This left just 4 Squadron and the Headquarters Wireless Telegraphy Unit at St Omer together with detached flights of No 2 and 5 Squadron.

Although the airfield was now less crowded, the large size of the landing ground and the proximity to GHQ would ensure that it remained a focus for RFC activity for the remainder of the war. Unlike many airfields on the Western Front, St-Omer permitted a relatively long take-off run and unrestricted approaches for landing unless the wind was from the north or south. The site was also well served by the proximity to the town of St Omer with its workshops and billets, while it was only a short distance from the Channel ports from where men and materiel could be readily transported by road, rail or canal.

The increasing importance of wireless telegraphy saw the formation of 9 Squadron from the HQ Wireless Telegraphy Unit on 8 December 1914. However, as is described in the accompanying article, the demand for wireless was such that flights from 9 Squadron were soon allocated to the individual Wings. In the event, 9 Squadron's existence was destined to be brief – it's success in developing wireless co-operation led to the decision to disband it in the field in February 1915. The wireless flights were absorbed by No 2, 5 and 6 Squadron and a new unit, 16 Squadron, created from the aircraft and personnel displaced by the ex-9 Squadron wireless flights. 16 Squadron, together with 4 Squadron, was formed into a new (Third) Wing, based at St Omer, under the command of Lieutenant-Colonel H.R.M. Brooke-Popham who led it until 26 May 1915 when he handed over to Lieutenant-Colonel J.F.A. Higgins, prior to succeeding Lieutenant-Colonel F.H. Sykes as GSO1 at HQ RFC.

Shortly after its formation, Headquarters Third Wing hosted a dinner party at the chateau they occupied in Longuenesse, inviting the owners who were living in the town. Unfortunately, the evening became a gastronomic if not a social disaster when the Mess Sergeant and the other staff, under the excitement of the event, consumed more alcohol than was good for

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them – although the guests of honour seemed quite unperturbed by the events.

The first months of 1915 were spent in a range of activities, including reconnaissance, bombing and photography as well as artillery spotting. Although poor weather limited operations, 4 Squadron was as active as possible attacking targets well behind German lines and losing both aircraft and pilots in the process. This included their CO Major G.H. Raleigh who was killed in a crash at Dunkirk on 20 January 1915 returning from a raid on Ostend.

Although formed on 10 February, 16 Squadron's first operational sortie – an escorted reconnaissance of German lines - did not occur until 26 February once their working-up period had been completed. The squadron's period at St Omer turned out to be brief, moving to La Gorgue on 6 March to join the First Wing. Their place at St Omer was taken by 1 Squadron, equipped with Avro 504s and BE8s, who arrived from England on 7 March 1915.

Spring 1915 saw the beginning of sustained air fighting as a series of offensives was mounted against the German frontline. The RFC was closely involved in supporting the attack against the village of Neuve Chapelle that opened on 10 March 1915 and, although the bulk of the air co-operation fell to the First Wing, the St Omer squadrons played an active role before the offensive ended on 12 March 1915. 1 and 4 Squadrons bombed railway junctions and bridges while 9 Squadron undertook artillery wireless co-operation. During a night bombing operation against Lille on 11 March 4 Squadron lost all three BE2bs involved, Captain R.J.F. Barton crashed on take-off while Lieutenant A.StJ.M. Warrand and Captain G.W. Mapplebeck were shot down over the target. Warrand was killed but Mapplebeck evaded capture and later escaped back to the UK through Holland. 1 Squadron had more luck on 12 March when Captain E. Ludlow-Hewitt led four BE8s in an attack with 20lb bombs against a railway bridge northeast of Douai and a junction at Don, only losing one aircraft. Towards the end of the month, however, the squadron suffered another loss when Second Lieutenant J.C. Joubert de la Ferte and Lieutenant D.M.V. Veitch were forced to land in Holland, both being interned.

In the weeks that followed further squadrons arrived at St Omer to reinforce the RFC. 7 Squadron (RE5s and Vickers Fighters) on 8 April 1915 and 8 Squadron (BE2cs) on 15 April 1915. Both units were incorporated into the Third Wing, and employed on strategic reconnaissance work and special missions for GHQ – taking the places of 1 and 4 Squadrons whom both moved forward to the airfield at Bailleul. Shortly before 4 Squadron's departure they scored a notable success, on 17 April 1915, when Captain R.M. Vaughan and Second Lieutenant J.F. Lascelles in BE2c 1669 forced down a German aircraft in French lines.

The new squadrons had arrived in time to participate in repelling the next German attack against Ypres, beginning on 22 April 1915. In order to interrupt the movement of German reserves, RE5s of 7 Squadron and BE2cs of 8 Squadron left St Omer on the afternoon of 26 April 1915 to bomb stations and trains in the Ypres salient. Similar attacks continued for the next four weeks until the German attacks ceased on 25 May.

Even before the Second Battle of Ypres drew to a conclusion, a new Allied offensive had commenced on 9 May 1915 against Aubers Ridge and Festubert. Although the majority of the air support fell to the First Wing, 7 Squadron provided valuable intelligence throughout the battle. By now the Third Wing comprised No 1, 4 and 7 Squadron – 8 Squadron had joined the Second Wing at Abeele on 1 May 1915 – although only 7 Squadron was actually resident at St Omer (together with the Third Wing Headquarters). In the event the attack made little progress, the advance being impeded by a shortage of artillery ammunition and poor weather that limited the RFC's contribution.

By June 1915, therefore, there was just one resident squadron at St Omer. Although Headquarters Third Wing, following a reorganisation of the Third Army, relocated to Beauquesne on 20 July 1915, 7 Squadron remained behind as the GHQ squadron. This role had originally been undertaken by 4 Squadron until it was replaced by 7 Squadron in April 1915. Indeed, until 30 March 1916 when GHQ moved to Montreuil in anticipation of the Somme offensive, at least one RFC squadron was always based at St Omer for GHQ tasks, including defence against German air attack.

The obvious strategic importance of St Omer meant that it was subject to increasing attacks by day and night as the war progressed. The first recorded incident was on 8 October 1914, the day that HQ RFC first arrived at St Omer. According to Maurice Baring the Germans dropped a bomb on the school shortly to be occupied by GHQ – indicating to some at least the miraculous divination of the German Secret Service! Thereafter, air raid warnings were a regular occurrence albeit that many proved to be false alarms. Particularly heavy raids were experienced in 1917 and 1918 that resulted in significant damage to the town and military installations as well as numerous civilian and military casualties.

July 1915 saw the arrival of No 10 and 11 Squadron but neither was destined to spend more than a few days at St Omer before they flew on to their destination airfields. A further three squadrons would deploy in this fashion during 1915. This rose the next year to 16 before falling back to 11 in 1917 and a further 11 in

1918. In total, therefore, 43 squadrons deployed through St Omer in the course of the war, mostly for a matter of days but some for several weeks.

7 Squadron remained at St Omer until September 1915 and the opening of the Battle of Loos. The Western Front was relatively quiet during the intervening period and the squadron therefore found itself engaged largely in strategic reconnaissance. However, they also faced increasing German opposition to these activities. On 3 July, an RE5 was lost after a reconnaissance of Ghent and the crew interned in Holland, as was the crew of another RE5 on 21 July. Further combats were reported on 26 and 29 July with yet another crew shot down and interned in Holland. On 31 July 1915, an enemy two-seater attacked Captain J.A. Liddell and Second Lieutenant R.H. Peck flying RE5 2457 on a reconnaissance of Ostend. In the exchange of fire Captain Liddell was badly injured but rather than land in enemy territory he managed to fly the aircraft back to a Belgian airfield despite great pain and loss of blood. For his bravery John Liddell was awarded the Victoria Cross but died from his wounds a month later on 31 August 1915.

7 Squadron's tenure at St Omer ended on 11 September 1915 when it was replaced by 12 Squadron, under the command of Major C.L.N. Newall, recently arrived from England and equipped with a mixture of BE2cs, RE5s and RE7s. Although there was still only operational squadron based at St Omer, the airfield remained extremely busy as the work of the depôt continued to expand. However, little if any permanent building had occurred and as one contemporary observer noted, the site was 'a rather untidy jumble of canvas hangars and sheds around the airfield'.

Like its predecessor, 12 Squadron was largely employed on long-range reconnaissance tasks. An excellent account of this period (including the workings of GHQ RFC) is provided by Lieutenant R.R. Money who served as an observer throughout their time at St Omer. Shortly after the squadron's arrival, it found itself heavily involved in the preparations for the Battle of Loos. The opening artillery bombardment commenced on 21 September, including special bombing operations conducted by the Second and Third Wings and 12 Squadron. These attacks were directed at trains on the move, especially in cuttings, and commenced on 23 September – two days before the infantry attack. 12 Squadron undertook three attacks on the opening day and participated in further attacks over the next five days. It was during one of these raids on 26 September that the squadron experienced its first casualty when Captain F.B. Binney in BE2c 1744 was forced to land behind German lines after bombing a train from 500ft. Further organised bombing attacks took place on 30 September and on 13 October to stem German counter-attacks before the fighting ended in the middle of the month.

For the remainder of the year the squadron continued to undertake a mixture of defensive patrols and long-range reconnaissance, the latter against increasing opposition from German fighters. A Be2c was lost over Bruges on 19 December during a reconnaissance of Brussels, while a RE7 was shot down on a reconnaissance of Lille on 12 January 1916. Fortunately, no further aircraft were lost before the squadron left St Omer in February to join the newly formed 3rd Brigade.

Other than 4 Squadron, 12 Squadron's stay at St Omer would prove to be the longest of any flying unit. It was also significant for the events of 3 January 1916 when the bomb store on the aerodrome caught fire. The squadron CO, Major Cyril Newall, broke into the shed with his corporal driver to put out the fire – even though some of the incendiary bombs were already alight. They worked for 10 minutes alone and for an hour afterwards, Newall, a dirty and blackened figure, took the lead in rolling red-hot bombs out of harm's way. For this action both individuals were decorated, Cyril Newall receiving the Albert Medal.

The significant expansion of the RFC in France also saw the arrival of the first dedicated single-seat fighter squadron, 24 Squadron, on 7 February under the command of Major L.G. Hawker. The very next day the squadron undertook defensive patrols in protection of GHQ, even though they were still gaining flying experience on type. Unfortunately, they almost immediately lost one of their DH2 fighters in a flying accident at St Omer, the pilot Lieutenant E.A.C. Archer being killed, before their 12 DH2s left for their operational airfield at Bertangles.

With the departure of 12 Squadron to Vert Galant on 28 February 1916, the GHQ role fell briefly to 25 Squadron and then 29 Squadron both recently arrived from England. As has been mentioned, 29 Squadron's arrival was less than trouble-free and it would not be until 14 April that it could muster its full strength of 12 DH2s. The squadron's first recorded air combat occurred on 2 April 1916 when Lieutenant G.S. Bush attacked a German two-seater over Ypres – but without effect. On 15 April 29 Squadron moved to Abeele and, thereafter, until the return to St Omer of 4 Squadron on 16 April 1918, the airfield did not host any operational squadrons – although it continued to provide a temporary home for squadrons newly arrived from England.

These changes were presaged by HQ RFC's departure for St Andre on 30 March 1916, in anticipation of the Somme offensive. The event was marked by the presentation of a silver cup to the chateau owners to commemorate the 18 months that they had played

Above: Queen Mary , escorted by General Trenchard, inspecting Bristol Fighters during her visit to RFC HQ Saint-Omer, 5 July 1917

Below: No.85 Squadron at Saint-Omer , 1918

host to the Headquarters Staffs.

Over the following months St Omer would become an increasingly active repair and supply depot. Although more than 30 squadrons would pass through the airfield over the next two years most only stayed a few days or weeks en-route to their front line airfields. For the immediate future, therefore, the airfield would be dominated by the activities of No 1 Aircraft Depot.

Operations 1918

With the move of 1AD and 1 ASD in March and April 1918, St Omer once again became an operational airfield. This final phase was initiated by the arrival of 4 Squadron equipped with RE8s on 16 April 1918 followed by the SE5as of 29 Squadron on 22 April, the Camels of 210 Squadron on 27 April and the Dolphins of 23 Squadron on 29 April. The latter left within a fortnight but for the next five months there would always be at least two operational squadrons based at St Omer.

4 Squadron was destined to stay at St Omer for over five months, occupying the hangars at the western end of the airfield. Under the command of Major R.E. Saul, it formed part of the Second (Corps) Wing and was employed in direct support of XV Corps. As such, it played an active role in helping to stem the German Spring offensive and in supporting the subsequent Allied advances. As a corps squadron, its RE8s undertook a wide range of co-operation tasks including artillery observation, photography and contact patrols. A high price was paid for this effort. The day after their arrival at St Omer, an RE8 was caught by German fighters and forced to land, both crew being wounded. A further five casualties were suffered before the end of the month, including three killed. Ground and friendly fire also exacted their own toll on the squadron. For example, on 16 June 1918 Lieutenant P. Bertrand and Lieutenant C. Levick were both killed when their RE8 suffered a direct hit from a British artillery shell. It is a mark of 4 Squadron's dedication, and that of the corps squadrons as a whole, that they continued to perform their role in the face of continuing attrition. On 14 September, just two days before 4 Squadron left St Omer, they lost yet another RE8 to German fighters, the pilot Lieutenant T.O. Henderson being wounded and the observer Second Lieutenant F. Butterworth killed. In all, the squadron suffered at least 40 casualties over the five months at St Omer with more than 10 aircraft shot down.

The other units newly arrived at St Omer were all fighter squadrons. 29 Squadron was still working up having recently replaced its Nieuports with SE5as. After a series of initial accidents owed it appears to unfamiliarity with the new aircraft, the squadron's combat record steadily grew. By the time they left St Omer for Vignacourt on 11 June 1918, some 19 enemy aircraft had been destroyed or driven down for the loss of four pilots. In the event, the squadron's stay at Vignacourt was relatively brief as they returned to St Omer on 22 July 1918. By now, they were enjoying considerable success and on the first evening of their return three two-seaters were destroyed. A further three victories were scored before 29 Squadron left St Omer for the last time on 1 August 1918, joining the 11th (Army) Wing at Hoog Huis.

The Camels of 210 Squadron experienced mixed success during their month at St Omer. Two days after their arrival, they lost a pilot to AA fire while a further two aircraft damaged were damaged on 6 and 8 May 1918 respectively. Although four enemy aircraft had been claimed destroyed by 15 May, the squadron suffered a serious loss when a pair of Camels collided in the air; both pilots being killed. By the time 210 Squadron left St Omer on 30 May 1918, eight more victories (including a hostile kite balloon) had been added for the loss of two further Camels (one pilot killed in action).

The departure of 210 Squadron saw the arrival of 54 Squadron, but only briefly, before being replaced by 85 Squadron, equipped with SE5as, under the command of Major 'Billy' Bishop. Elliot White Springs has recorded how impressed he was at the speed with which the squadron, having received its orders to move from Petit Synthe in the late morning of 11 June 1918, was packed and on the move within a few hours, the aircraft landing at St Omer later in the afternoon.

Notwithstanding later controversy, it is clear that Bishop set an example of aggressive air fighting during his brief tenure at St Omer. Before his departure on 19 June for Home Establishment, he claimed 13 further aircraft destroyed to bring his total score to 72. Five of these victories were scored on his last day in command of the squadron.

Bishop's successor was Major 'Mick' Mannock, an experienced fighter pilot with over 50 aerial victories. Mannock did not arrive at St Omer until 5 July 1918 but it quickly became evident that his leadership style was very different to Bishop's. He spent considerable time in developing more effective combat tactics, building a strong team and, in particular, encouraging the younger and less experienced pilots. Even so, he steadily added to his own total before he was shot down by ground fire and killed on 26 July 1918 on an early morning sortie from St Omer in company with Lieutenant D.C. Inglis – but not before he had scored his 61st victory. The Germans found and buried his body but the site was subsequently lost. He is now commemorated with more than 1,000 other airmen with unknown graves on the memorial at Arras.

The loss of Mick Mannock was a severe blow to the

squadron, although he would be awarded a posthumous VC in 1919 for his 'fearless courage, remarkable skill, devotion to duty and self-sacrifice'. Mannock was undoubtedly an inspirational leader who left the newly formed Royal Air Force an example of professional airmanship and inspirational leadership that would serve it well in the coming years. Command of 85 Squadron passed to Major Cyril Crowe, another successful ace with 14 victories, who would lead the squadron until the end of the war.

A notable success during Mick Mannock's period of command was the fight on 24 July 1918 with six Fokker DVIIs (believed to be Jasta 43). At least four of the enemy aircraft were reported shot down – German records indicate that three were forced to land and others were damaged. 85 Squadron was probably the most successful fighter squadron to operate from St Omer during the course of the war. In addition to Bishop and Mannock, other high scoring aces included Capt M.C. McGregor and A.C. Randall as well as Lt A.S. Cunningham-Reid and J.W. Warner. During its stay at St Omer, the squadron claimed over 58 aerial victories (including one Kite Balloon) for the loss of nine pilots killed, injured or POW.

85 Squadron left St Omer for Bertangles on 13 August 1918, being replaced the next day by 41 Squadron, also equipped with SE5as, under the command of Major G.H. 'Beery' Bowman. The squadron's first successes did not occur until 17 August when Capt F.R. McCall claimed an LVG two-seater out of control and Lt W. Shields destroyed a Pfalz scout. However, the day was one of mixed success as the squadron lost one of their most successful pilots, Lt W.G. Claxton, who was shot down and made a POW, as well as Lt T.M. Alexander who was killed in combat. A further 10 victories (largely Fokkers) were claimed during the remainder of the month for the loss of one pilot, 2Lt A.V.F. Trimble, killed in action. September saw a further six claims, including a balloon destroyed in flames by Capt F.O. Soden on 15 September.

The transfer of 41 Squadron to Droglandt on 20 September, two days after 4 Squadron had also left St Omer, represented the final chapter in the airfield's close association with the British Air Services. With the German Army in retreat the fighting was moving steadily out of effective range of aircraft based at St Omer. Although some personnel and units remained well into 1919, including a handful of aircraft, the departure of 41 Squadron's SE5as effectively marked the end of St Omer as a major airfield and closed an intimate association with the British Air Services that had lasted for almost four years.

The Memorials

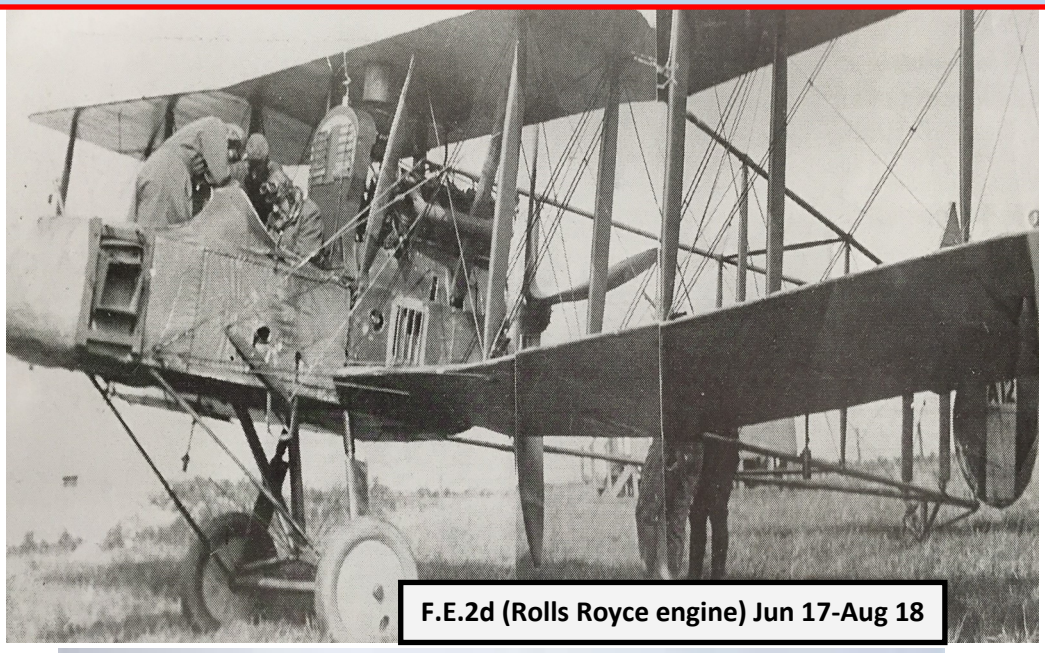
Although all formal links between the Royal Air Force and St Omer ceased after the Armistice there has been a continuing relationship, notably between the town and those flying squadrons with strong ties to the site. Both No 9 and 16 Squadron celebrate St Omer as their birthplace while 41 Squadron proudly incorporates the double-armed cross of St Omer in its badge.

There is, of course, an enduring connection. Close to the location of the chateau that housed HQ RFC is the Longuenesse Souvenir Cemetery maintained by the Commonwealth War Graves Commission. It contains 2 364 British, 156 Australian, 148 Canadian, 52 New Zealand, 24 South African, 12 British West Indies, 5 Indian, 2 Guernsey, 1 Newfoundland, 64 Chinese, 180 German and five unknown burials. More than 100 personnel from the Royal Flying Corps, Royal Naval Air Service and Royal Air Force are interred here – the largest group to be found on the Western Front. It is to their memory that this article is dedicated.

It is also fitting that the largest and most important British airfield on the Western Front should be the site for the British Air Services Memorial and a permanent record to those early aviation pioneers whose efforts and sacrifice enabled the creation of the world's first independent air arm and laid the foundation for the air power we now take for granted.

https://www.crossandcockade.com/StOmer

Types of aircraft flown by 33 Squadron during World War One



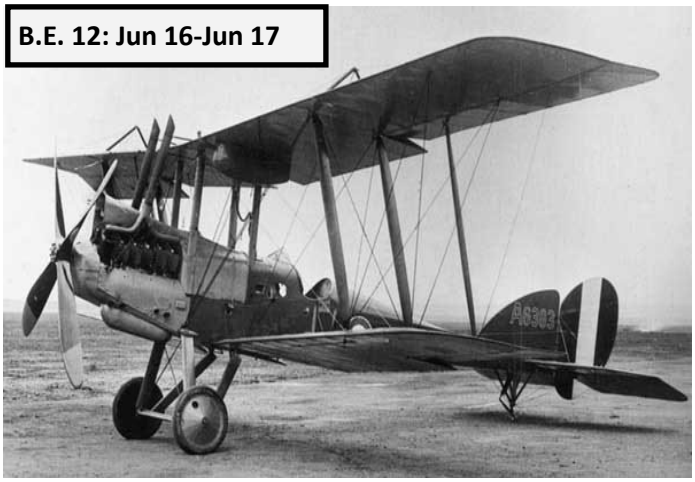
F.E.2d (Rolls Royce engine) Jun 17-Aug 18

Bristol Fighter F.2b Jun 18-Aug 18.

AVRO 504K. The first Cierva autogyro, the Cierva C.6, used an Avro 504 fuselage.
(Shuttleworth Collection. Photo by Andy Fogg.)

B.E. 2c : Jan 16-Jun 17

B.E. 12: Jun 16-Jun 17



Bristol Scout: Jul 16 - Nov 16

B.E. 2e : Jan 17-Sep 17

B.E. 12a: Jun 17-Sep 17

F.E.2b (Beardmore engine) Jun 17-Aug 18

No. 33 (Bomber) Squadron at Eastchurch

by Major F.A. de V. Robertson, V.D.

In the 27 June 1930 edition of FLIGHT, Major Frederick Arthur DeVere Robertson, formerly Lieutenant RFC and author of 'Aircraft of the World', offered the readers a long article regarding the role of the RAF at the start of the new decade. The trigger for the article may have been a question that had been raised in the House of Commons on 7 May 1930 by a Miss Lee, who asked the Under-Secretary of State for Air whether it was intended to hold the aerial pageant at Hendon that year as on previous occasions; whether any other pageants besides that at Hendon had been projected; if he would state the purpose of the aerial pageants and their approximate cost to the nation; and whether he would consider confining the display to civil aviation and excluding all war aircraft from participation in them? Mr Montague said that the answer would be of some length, and chose to circulate the answer circulated the answer in the official report. This was the response in the Hansard: *The answer to the first part of the question is affirmative. As regards the second part, no other display of a similar nature to that at Hendon is organised at home by the Royal Air Force, but some Royal Air Force aircraft will be taking part in the civil flying meetings referred to in the reply given to my hon. friend the Member for Southwark, Central on 19th March. As regards the third part, the purposes for which the display at Hendon is held are to provide an annual inspection and review, corresponding in some degree to the reviews of the Navy and Army at Spithead and Aldershot, as a means of ascertaining the degree of efficiency that is being maintained in the Air Force and as a test of individual and collective skill, to enable the public to see something of the work of the Royal Air Force, and incidentally to raise funds for Air Force charities. No extra cost over and above that of ordinary training, of which the display forms a part, is thrown upon public funds; the costs of all special arrangements and facilities for spectators is met out of the receipts. As regards the last part, my Noble Friend sees no reason for this altering the character of an annual event in which it is evident, from the attendance, that the general public take a very great interest.*

Major Robertson went on, in somewhat jingoistic terms, to explain the *raison d'etre* of the RAF. The benefit for us is that he went and visited 33 Squadron at Eastchurch:

"Reconnaissance, bombing, spotting for the guns, transport, and fighting - these are the main functions of the Royal Air Force. At the Hendon Display the public sees examples of how these tasks are carried out. It sees the supreme skill of the pilots; it sees something of the capabilities of the aircraft and engines, it sees in particular the pitch of precision to which training and discipline can bring the squadrons and flights of the Royal Air Force. The spectacle is so beautiful that in all probability a great many of the onlookers are content to regard it as a mere thing of beauty, a tournament, or, in the former inept title, a 'pageant'.

That, we may feel sure, is not the frame of mind of the foreign attachés as they watch the Display. "A small Air Force," they may remark to themselves, "like the Contemptible Little Army of 1914; but as good as were those Old Contemptibles." Where in the world beside could we see such machines, such pilots, such training ? And we must not forget that wonderful British power of expansion from a tiny perfect jewel to a thundering machine which can crush the mightiest Powers. It is well to be friends with Great Britain.

In the first place, why have we got a Royal Air Force? It came into existence mainly through the British genius for opportunism, for doing the right thing in an emergency without a very clear perception of whither our steps were leading us. Suffice it to say that when Great Britain declared war on Germany in August, 1914, our army possessed a Royal Flying Corps, and our navy had a Royal Naval Air Service. The primary function of both was reconnaissance. During the war other functions were developed. Bombing is also a primary function, and this general term includes dropping torpedoes. Fighting is a secondary function, undertaken to prevent the enemy aircraft from doing their work, and likewise to protect one's own bombers and reconnaissance aircraft from the attacks of hostile fighters. Transport is a later development and is also one of the secondary functions.

The term secondary function may not be approved by everyone. There is in particular, a glamour about the fighter squadrons. Their machines fly faster and climb quicker than any others. They are the most beautiful class of aeroplane in the world. They call for handling by pilots with a higher degree of skill than is needed by the slower and heavier machines. When war comes, the fighter pilot deliberately seeks for combat while the bombers and reconnaissance aeroplanes avoid it when

they can. If the fighters do not seriously hamper the work of the enemy's bombers and reconnaissance machines, their work is largely in vain. The pilots and observers of reconnaissance and bomber aeroplanes must perforce play for their side, for their individual scores are never kept. They never are credited with marks for bombs dropped plum in the centre of the target, or with destruction of an enemy battery by ranging their own guns directly on to it.

The Home Commands Of The Royal Air Force

Here it may be useful to give a list of the squadrons and flights in the three Home Commands: Air Defence of Great Britain, Inland Area and Coastal Area. The full establishment of a squadron with single-engined aircraft is 12 first-line machines, though work is usually carried out with only nine aeroplanes. The three which usually remain aground are not reserve machines. They are in reality reserve pilots. Reserve machines are kept in store to make up the establishment of 12 in case of an accident. The establishment of squadrons using twin- engined landplanes is 10. The establishment of a flight of the Fleet Air Arm is six first-line machines. The establishment of flying-boat squadrons has not yet been finally settled. It should also be noted that the term 'aeroplane' includes both landplanes and seaplanes."

Major Robertson then went on to cover the specific roles of the three Commands, 33 Squadron being part of the Air Defence of Great Britain (ADGB) in a Bomber role.

The ADGB

The ADGB had been created as a command in 1925 as a result of the 1923 recommendation of the Steel-Bartholomew Committee, including their recommendation to transfer responsibility for homeland air defence from the War Office to the Air Ministry. The primary elements were:

- The RAF's Metropolitan Air Force, initially comprising 25 squadrons (9 fighter), soon expanding to 52 squadrons (17 fighter).
- 264 heavy AA guns (Royal Artillery) and 672 searchlights (Royal Engineers).
- The newly formed part-time volunteer Observer Corps.

The ADGB was organised into three defensive zones:

- Inner Artillery Zone (IAZ), over London.
- Air Fighter Zone (AFZ), divided into two areas controlling regular squadrons, the Wessex Bombing Area and the Fighting Area.
- Outer Artillery Zone (OAZ), a narrow belt along the coast from Suffolk to Sussex.

In 1936, ADGB was abolished as a command, with the Bombing Area becoming Bomber Command and the Fighting Area becoming Fighter Command and remaining responsible for the ADGB function. The OAZ was abolished and the AFZ expanded. The guns from the OAZ were used for port and base defence and were added to the London defences. However, the changing threat meant that AA defences were needed for many more potential targets in the British Isles, notably industries important for war production.

ADGB was resurrected as a formal command in 1943 for the rump of Fighter Command defending the United Kingdom after the formation of the RAF Second Tactical Air Force in 1943. It was Fighter Command in all but name, and this was finally reflected in 1944 with a return to the previous name. This was the Command that 33 Squadron would join for a few months in 1944 when it returned to Britain after nine year in the Middle East—as a Fighter squadron. This is Robertson's piece on 33 Squadron at Eastchurch:

BOMBING - No. 33 (Bomber) Squadron

"The best form of defence, we are often told, is attack. Like many other general statements, it is open to misuse, and it is not generally conceded that Germany's invasion of Belgium and France in 1914 was a purely defensive measure. But when a country finds itself involved in war against its will, it is usually well advised to assume a strategic and tactical offensive. There is plenty of justification for the somewhat irreverent old doggerel jingle :—

" *Thrice is he blest who hath his quarrel just,*
But four times he who gets his shell in fust."

There are two schools of thought about the best tactics for day bombers. One school says that they should fly very low, and the other that they should fly very high. The advantages of low flying are that they will not be seen from far off or heard from far off. They are likely to arrive ahead of the reports of their progress. Anti-aircraft guns will not be able to get a bead on them before they are out of sight. If it is dusk, the searchlights will not be able to find them If fighters happen to see them, they will find it hard to harm then so long as they are close to the ground. The fighter needs room for manoeuvre in all directions. The low-flying bombers will be immune from all attack except that of machine guns. But in the event of an engine failing or being hit by bullets, the bomber would have no chance of escaping a disastrous crash. On the whole, service opinion prefers that the bombers should fly high. The machines, therefore, must have a good ceiling and high speed at great height, while carrying their full loads of bombs.

To produce a day-bomber aeroplane which our own fighters will find it really difficult to catch, and which,

therefore, can expect to outstrip all hostile fighters, has for long past been the aim of many of our aircraft firms. The very latest word in day-bombing machines is the Hart, designed and built by the H. G. Hawker Engineering Co., Ltd., which is driven by the Rolls Royce 'F' type engine of 490 h.p. This aeroplane has a truly remarkable performance. Its top speed is in the neighbourhood of 180 m.p.h., but when about to land it can fly as slowly as 55 m.p.h. without danger of 'stalling', a word which means losing flying speed.

At present, only one squadron has been equipped with Harts, namely, No. 33 (Bomber) Squadron, which is stationed at Eastchurch aerodrome in the Isle of Sheppey, Kent. During the war, No. 33 was what was then known as a Home Defence Squadron. It was raised at Filton, Bristol, in January, 1916, the nucleus being provided from No. 20 Squadron. The first CO. was Major (now Air Commodore) P. B. Joubert de la Ferté. The squadron was stationed on the north-east coast, in order to protect Leeds, Sheffield, and other important manufacturing towns from raiding German aircraft. It was equipped with B.E.2.C. aeroplanes which were becoming obsolescent at that time. They were slow, and they could not climb high enough to have much chance of catching a Zeppelin. The squadron practised night flying, and pilots grew expert at that hazardous operation. Many fine flights were made made, serious risks were run, and some lives were lost, in repeated attempts to catch Zeppelins when they crossed the coast to raid the northern towns. No. 33 was not fortunate enough to register a 'bag' but it had the satisfaction of knowing that when the Zeppelin captains knew that aeroplanes were up looking for them, the knowledge usually upset their plans. The Zeppelins knew that if an aeroplane, armed with incendiary bullets, got within range of them, their fate was sealed. They would usually climb high, turn and twist about, and often drop their bombs hurriedly, where they did little harm.

After the Armistice the Squadron was disbanded. It commenced to reform at Netheravon, on March 1, 1929, as a bomber squadron. Its first CO. in its new incarnation was Squadron Leader F. P. Don. Its equipment was the Horsley bomber with 650 h.p. 'Condor' engine - another combination of the efforts of the Hawker and Rolls Royce firms. In due course the squadron was moved to Eastchurch, the very first aerodrome to be established in Great Britain. It was originally the property of that fine pioneer, Francis (now Sir Francis) McClean, who presented it to the Government. It was at Eastchurch that Moore-Brabazon made a flight for the first time on a machine built in England—by Messrs. Short Bros., Ltd.—and it was at Eastchurch that the first four naval officers were taught to fly as part of their official duties.

Last February, the Air Ministry commenced to re-equip this squadron with Harts, and the operation was completed by the end of April. This is an instance of quick action which is equally creditable to the Air Ministry and to the constructing firms. It is also extremely creditable to No. 33 (Bomber) Squadron that when representatives of FLIGHT recently visited Eastchurch, they were able to parade the full complement of 12 machines before our photographer. A photograph of this parade appeared in our issue of June 13. The present issue shows the squadron flying in formation. Two different formations are shown. 'Squadron Formation' is when each flight forms a broad arrow of three machines, while the whole squadron forms a broad arrow of three flights. 'Squadron V' shows the flight formations broken up, and the whole squadron forming a ' V' of nine machines. These photographs illustrate the beautiful accuracy which No. 33 B.S. has attained in formation flying. Under the command of Squadron-Leader J. J. Breen, it is evidently a squadron worthy of the splendid aeroplane and engine with which they are equipped."

Squadron Leader F.P. Don

Above: As the wingman sees them: a formation of Hawker 'Harts', photographed from the extreme left-hand machine of a vee formation. (FLIGHT Photo.)

Air Defence of Great Britain

Wessex Bombing Area

Unit	Aeroplane	Station
No.12 (Bomber) Sqn (Day)	Fox	Andover
No.101 (Bomber) Sqn (Day)	Sidestrand	Andover
No.100 (Bomber) Sqn (Day)	Horsley	Bicester
No.35 (Bomber) Sqn (Day)	Fairey IIIF	Bircham Newton
No.207 (Bomber) Sqn (Day)	Fairey IIIF	Bircham Newton
No.33 (Bomber) Sqn (Day)	**Hart**	**Eastchurch**
9 (Bomber) Sqn (Night)	Virginia	Manston
10 (Bomber) Sqn (Night)	Hyderabad	Upper Heyford
99 (Bomber) Sqn (Night)	Hinaidi	Upper Heyford
7 (Bomber) Sqn (Night)	Virginia	Worthy Down
58 (Bomber) Sqn (Night)	Virginia	Worthy Down

Fighting Area

No. 19 (Fighter) Sqn	Siskin	Duxford
No. 25 (Fighter) Sqn	Siskin	Hawkinge
No. 54 (Fighter) Sqn	Bulldog	Hornchurch
No. 111 (Fighter) Sqn	Siskin	Hornchurch
No. 23 (Fighter) Sqn	Gamecock	Kenley
No. 32 (Fighter) Sqn	Siskin	Kenley
No. 24 (Comms) Sqn	Avro, Bristol Fighter	Northolt
No. 41 (Fighter) Sqn	Siskin	Northolt
No. 29 (Fighter) Sqn	Siskin	North Weald
No. 56 (Fighter) Sqn	Siskin	North Weald
No. 1 (Fighter) Sqn	Siskin	Tangmere
No.43 (Fighter) Sqn	Siskin	Tangmere
No.3 (Fighter) Sqn	Bulldog	Upavon
No. 17 (Fighter) Sqn	Bulldog	Upavon

Hawker Horsley

33 Squadron Commanding Officers in the Battle of Britain

Hector Douglas McGregor DSO

Born: 15 Feb 1910
Retired: 27 Sep 1964
Died: 11 Apr 1973

Born and educated in New Zealand, he joined the RAF in 1928. He is reputed to have claimed six enemy aircraft destroyed, but confirmation can only be found for two destroyed and two damaged.

3 Sep 1938— Dec 1939: Officer Commanding, No 33 Squadron.

23 May 1940: Attended No 5 OTU.

Jun 1940: Officer Commanding, No 213 Squadron.

1941: SASO, No 82 (Fighter) Group

May 1942: Special Planning Staff, HQ Fighter Command.

1942: Officer Commanding, Tangmere Sector

5 May 1943: Deputy Director - Operations, Intelligence and Plans, HQ Mediterranean Air Command

10 Dec 1943: Deputy Director - Operations, Intelligence and Plans, HQ M.A.A.F.

30 Jul 1959: AOC in C, Fighter Command.

1 May 1962: Commander, UK Air Defence Region.

31 May 1962: C in C, Far East Air Force.

Derrick Leslie Gould (41173) DFC

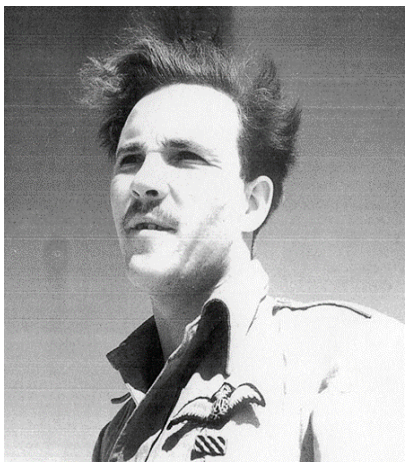
Derrick Gould was born in Exmouth, Devon in 1919 and later lived in Madras, India. He returned to England, to be educated at Bristol Grammar School.

He joined the RAF on a short service commission and began his ab initio pilot course on 25 July 1938. After completing his Air Navigation training at Manston he was posted to 98 Squadron on 14 August 1939 to fly Fairey Battles. Having deployed with 98 Squadron to France on 16 April 1940 he was posted to 226 Squadron, also in France flying Battles, on 19 May 40. On 16 Jun 40 226 Sqn was posted back to Thirsk.

Gould volunteered for Fighter Command and he was posted to 32 Squadron at Acklington on 3 September 1940. He moved to 607 Squadron at Tangmere on 22 September and to 601 Squadron at Exeter on 5 October 1940. By 6 November he was back at Tangmere with 213 Squadron, and claimed a Bf109 destroyed on 15 Nov ember 1940.

In 1941 Gould was posted to the Middle East. He was attached to 274 Squadron at Gerwala in August and moved to 33 Squadron, also at Gerwala in October 1941 as a flight commander. In December 1941 he took over command of 33 from Squadron Leader Marsden who was sent back to England with stress. Gould was the senior Flight Lieutenant/ Flight Commander at the time. Gould led 33 until May 1942, and was then posted to HQ Middle East. He was awarded a DFC on 18 September 1942 (Supplement to the London Gazette, page 4061 – same page as DFM award to 779045 Sergeant Glanvil Owen REYNISH, No. 33 Squadron).

Gould commanded 274 Squadron from July to October 1943. He was released from the RAF, as a Squadron Leader in 1946.



John Ernest PROCTOR (44131) DFC & Bar

John Ernest Proctor was born on 15 July 1913 and joined the RAF in September 1929 as an Aircraft Apprentice. He passed out in August 1932 but later applied for pilot training and was selected. Proctor went as a Sergeant Pilot to France with 501 Squadron on 10 May 1940. He claimed a Me110 and a Do17 destroyed on the 12th, two He111's on the 14th, a Me110 on the 15th, a Me110 on 5th June and a Do17 on the 6th. The squadron was withdrawn from France on 19 June and re-assembled at Croydon on the 21 May.

Proctor was commissioned from Sergeant in early July 1940 and joined 32 Squadron at Biggin Hill on 8 May. He claimed a Me110 destroyed and shared another on 20 July and claimed Me109's on 12 and 24 August. He was awarded the DFC (gazetted 18 March 1941), being then credited with at least eleven enemy aircraft destroyed, seven of them in the fighting in France. His award details are on the same Gazette page as 'Pat' Pattle's Bar to his DFC (The London Gazette 18 March 1941 page 1601). By this time Proctor was a flight commander.

After a rest from ops, Proctor was posted to the Middle East. On 18 May 1942 Proctor took command of 33 Squadron in the Western Desert; three days later he made a forced-landing after being hit by flak. He remained with the Squadron until July 1942. There is no mention in the ORB of a change of command, or of the arrival of Squadron Leader Finnis.

He commanded 352 (Yugoslav) Squadron from its formation at Benina on 22 April 1944 until September 1944.

Proctor stayed in the RAF postwar. He was awarded a Bar to the DFC (gazetted 17 April 1951) for services in the Korean War with 205 Squadron.

He retired on 15 October 1957 as a Wing Commander and settled in South Africa where he died in 1991.

John Frederick Fortescue FINNIS (80035) DFC RAFVR

John Finnis was serving in the Southern Rhodesian Air Force (SRAF) as an elementary flying instructor at the start of the war. He sailed to Britain 6 July 1940, transferred to the RAFVR and received a commission for the duration of hostilities. He was gazetted as a 'Pilot Officer/ Temporary Flight Lieutenant' on 1 August 1940, seniority from 1 January 1940.

Finnis joined 1 Squadron at Northolt 31 August 1940, and damaged a Do17 on 7 September 1940. He was posted to 229 Squadron at Northolt 17 October 1940, attached to 302 Squadron on 17 November and returned to 229 Squadron on 13 December 1940.

On 13 February 1941 Finnis was airborne from Speke in Hurricane P3588 over Manchester. The engine began misfiring and then failed completely. Descending for a forced landing, he stalled while trying to avoid high tension cables and the aircraft dived into a railway embankment near Little Hulton. Finniss was badly injured. He was promoted to Squadron Leader 1 March 1941.

229 Squadron embarked on the carrier HMS Furious on 10 May 1941 for the Middle East. Finnis was posted on 9 June 1941 to 127 Squadron in the Western Desert as a Flight Commander, but given command of 33 Squadron at LG 154 on 20 July 1942, an appointment he held until 31 October 1942.

Finnis returned to the SRAF on 8 September 1945. He subsequently served as a civilian air traffic controller. He died in 1954.

Stanley Charles Norris was born in Tooting, London in 1919 and joined the RAF on a short service commission in 1937. He began his initial training at 8 E&RFTS Woodley on 29 November 1937. Norris moved on 5 March 1938 to 9 FTS Hullavington. He was awarded his wings on 1 June 1938. With his training completed, Norris joined 29 Squadron at Debden on 17 September 1938.

He was detached to 4 E&RFTS Brough from 9 October 1938 to 10 January 1939 for a navigation course. Norris joined 66 Squadron at Duxford on 19 September 1939 and then moved on to 610 Squadron at Wittering on 23 October. Over Dunkirk on 29 May 1940 Norris claimed a Me109 destroyed. He probably destroyed a Me109 on 24 July, destroyed two more on the 25th, damaged a Do17 on the 29th, and destroyed two Ju87's and damaged another on 14th August. Norris was appointed 'B' Flight Commander on 17 August and promoted to Acting Flight Lieutenant. He destroyed a Me109 on the 24 and probably destroyed an Me110 on the 29th. Norris was awarded the DFC (gazetted 24 September 1940).

He took part in the squadron's first sweep on 9 January 1941, shared in destroying a Ju88 on 3 April and then next day he was posted to 55 OTU at Debden as an instructor.

In August 1941 Norris joined 485 Squadron at Redhill as a Flight Commander. He destroyed a Me109 on the 29th. In mid-December 1941 he went to Malta to command 126 Squadron at Ta Kali. Norris destroyed a Ju88 on the 19th and damaged others on 9 January 1942 and 10 March.

Norris was posted to Abadan, Persia on 4 April 1942 for a staff job, concerned with building up defences in the oilfields. In October he was made Squadron Leader Flying 243 Wing but took command of 33 Squadron in the Western Desert on 20 November 1942.

Norris was rested in February 1943 and went to West Africa, returning to the Middle East in June. He was posted to India in August and in September took command of 11 Squadron. It had just returned to the fighter role, exchanging its Blenheim bombers for Hurricane 11cs. The squadron became operational in December 1943 and took part in operations at Imphal.

In March 1944 Norris was promoted to Wing Commander Flying of a Fighter Wing there. He was awarded a Bar to the DFC (gazetted 23 May 1944) and returned to the UK in early 1945.

In May Norris took command of RAF Aston Down. He was released from the RAF in September 1947 as a Wing Commander. He became a Kings, and later a Queens, Messenger, serving as such until 1976. He died in 1991

Richard Ronald MITCHELL (45093) DFC

Photo: Sgt RR Mitchell - 229 Sqn, standing fourth from the left

Richard Mitchell was born at Perranporth, Cornwall on 24 April 1914 and joined the RAF on 9 September 1930 as an Aircraft Apprentice at Halton. He passed out in September 1933 as a Metal Rigger and was posted to 10 Squadron at Boscombe Down. While serving with the squadron Mitchell qualified as an air gunner, firstly on Virginias and then Heyfords.

In 1936 he served with 31 (Army Co-operation) Squadron on the North-West Frontier as a Metal Rigger and as an air gunner in Wapitis. Mitchell applied for pilot training and in late 1938 he returned to the UK and was posted to 2 E&RFTS Filton for an initial training course.

He chose to train on twin-engined aircraft and continued his training at 11 FTS Shawbury on Oxfords. Mitchell was promoted to Corporal and then to Sergeant in October 1939, when he joined 229 Squadron, then reforming at Digby with Blenheims. 229 Squadron re-equipped with Hurricanes in February 1940 and took part in operations over France and Dunkirk in May/June. Mitchell commissioned in November 1940 and went with 229 Squadron to the Middle East in May 1941 (with John Finnis?)

They embarked on HMS Furious on 10 May 1941 and arrived in Gibraltar during the night of the 18/19th.There was a delay while the Navy dealt with the Bismarck and it was not until 6 June 1941 that 229 flew off to Malta. After refuelling they flew on to Mersa Matruh the next day and began operations in the Western Desert, attached to 73 and 274 Squadrons. Mitchell destroyed a Ju87 on 17 June 1941. The ground crews arrived in late August and 229 began operating as a unit on 1 September; Mitchell was made a Flight Commander. In March 1942 he was posted to 71 OTU in Khartoum as a Flight Commander. He was given command of 250 Squadron in January 1943 but fell sick and was sent to hospital in Cairo. He was appointed Chief Test Pilot at 107 MU Kasfereet in April. He was posted to 80 Squadron at Idku in June 1943, to command a special flight of stripped-down Spitfire IXs set up to combat high-flying enemy reconnaissance aircraft.

In September 1943 Mitchell took command of 33 Squadron at Bersis. He led the squadron back to the UK in April 1944 and it took part in operations over France, before and after D-Day. He left 33 Squadron at Tangmere on 24 August 1943, the ORB stating that he was posted to HQ ADGB. He was awarded the DFC (gazetted 19 September 1944) and given a staff job at HQ 12 Group, becoming SPSO in 1945.

Mitchell was made an MBE (gazetted 1 January 1946) and retired from the RAF on 24 April 1961 as a Wing Commander. He died in 1994.

Supplement to the London Gazette
19 September 1944
Acting Squadron Leader Richard Ronald Mitchell
(45093),
R.A.F. , 33 Sqn.

This officer has displayed the highest standard of devotion to duty in air operations. He has taken part in a large number of sorties and has invariably displayed notable skill and courage. He has commanded the squadron for very many months and his skill, keenness and fine fighting spirit have contributed materially to the operational efficiency of the squadron. Squadron Leader Mitchell has destroyed 3 enemy aircraft.

RAF Fighter Command Headquarters was located at RAF Bentley Priory, near Stanmore in North London. The commanding officer was Air Chief Marshal Hugh C.T. Dowding. He had six fighter groups under command: 9, 10, 11, 12, 13, 14 .

10 Group

Middle Wallop	238 Sqn	Hurricane	VK	RAF Middle Wallop	Sqn Ldr Harold Arthur Fenton
Middle Wallop	609 Sqn	Spitfire PR	SORBO	RAF Warmwell	Sqn Ldr Horace Stanley Darley
Middle Wallop	604 (NF) Sqn	Blenheim/ Beaufighter	NG	RAF Middle Wallop	Sqn Ldr Michael Frederick Anderson
Middle Wallop	23 Sqn (part)	Blenheim	YP	RAF Middle Wallop	Sqn Ldr George F. Wheaton Heycock
Middle Wallop	152 Sqn	Spitfire	UM MAIDA	RAF Warmwell	Sqn Ldr Peter K Devitt
Middle Wallop	56 Sqn	Hurricane	US BAFFIN	RAF Boscombe Down	Sqn Ldr Herbert Moreton Pinfold
Filton	79 Sqn	Hurricane	NV PANSY	RAF Pembrey	Sqn Ldr J Hervey Heyworth
Filton	87 Sqn	Hurricane	LK SUNCUP	RAF Exeter and Bibury	Flt Lt R S Mills
Filton	**601 Sqn**	Hurricane	UF WEAPON	RAF Filton	Flt Lt Sir Archibald Philip Hope (A/ CO)
Filton	234 Sqn	Spitfire	AZ CRESSY	RAF St Eval	Sqn Ldr Minden Vaughan Blake
Filton	236 (Coast Cmd) Sqn	Blenheim	FA	RAF St Eval	Sqn Ldr G W Montagu
Filton	247 Sqn	Gladiator	HP	RNAS Roborough	Flight Lieutenant Hugh Addison Chater

11 Group

Biggin Hill	72 Sqn	Spitfire	RN TENNIS	RAF Biggin Hill	Sqn Ldr A R Collins
Biggin Hill	92 Sqn	Spitfire	QJ GANNIC	RAF Biggin Hill	Sqn Ldr P J Sanders
Biggin Hill	141 Sqn (half)	Defiant	TW	RAF Biggin Hill	Sqn Ldr W A Richardson
Biggin Hill	**66 Sqn**	Spitfire	LZ FIBUS	RAF Gravesend	Sqn Ldr Rupert Leigh
North Weald	249 Sqn	Hurricane	GN GANER	RAF Middle Wallop	Sqn Ldr John Grandy
North Weald	23 Sqn (part)	Blenheim	YP	RAF North Weald	Sqn Ldr G.F. Wheaton Heycock
North Weald	46 Sqn	Hurricane	PO ANGEL	RAF Stapleford	Sqn Ldr J R MacLachlan
Kenley	253 Sqn	Hurricane	SW	RAF Kenley	Sqn Ldr E R Bitmead
Kenley	**501 Sqn**	Hurricane	SD VICEROY	RAF Kenley	Sqn Ldr Harry A V Hogan
Kenley	605 Sqn	Hurricane	UP TURKEY	RAF Croydon	Sqn Ldr Walter A Churchill
Hornchurch	603 Sqn	Spitfire	XT VIKEN	RAF Hornchurch	Sqn Ldr George Lovell Denholm
Hornchurch	600(NF) Sqn	Blenheim/Beaufighter	BQ	RAF Hornchurch	Sqn Ldr H L Maxwell
Hornchurch	41 Sqn	Spitfire	EB MITOR	RAF Hornchurch	Sqn Ldr Donald O. Finlay
Hornchurch	222 Sqn	Spitfire	ZD KOTEL	RAF Hornchurch	Sqn Ldr John H Hill
Tangmere	**213 Sqn**	Hurricane	AK BEARSKIN	RAF Tangmere	Flt Lt D S Wilson-Macdonald
Tangmere	**607 Sqn**	Hurricane	AF	RAF Tangmere	Sqn Ldr James A Vick
Tangmere	602 Sqn	Spitfire	LO VILLA	RAF Westhampnett	Sqn Ldr AVR "Sandy" Johnstone DFC
Tangmere	23 Sqn (part)	Blenheim/Beaufighter	YP	RAF Ford	Sqn Ldr GF Wheaton Heycock
Debden	17 Sqn	Hurricane	YB EDEY	RAF Debden	Sqn Ldr A G Miller
Debden	73 Sqn	Hurricane	TP	RAF Debden	Sqn Ldr Mike L Beytagh
Debden	257 Sqn	Hurricane	DT ALERT	RAF Martlesham Heath	Sqn Ldr Robert Stanford Tuck DFC
Debden	25 Sqn (part)	Blenheim	ZK	RAF Martlesham Heath	Sqn Ldr Wilfred William Loxton
Northolt	1 Sqn RCAF	Hurricane	YO CARIBOU	RAF Northolt	Sqn Ldr Ernest A McNab

Northolt	**229 Sqn**	Hurricane	RE KETA	RAF Northolt	Sqn Ldr Harry J Maguire
Northolt	303 (Polish) Sqn	Hurricane	RF APANY	RAF Northolt	Sqn Ldr Ronald Kellett DSO DFC
Northolt	264 Sqn (part)	Defiant	PS	RAF Northolt	Sqn Ldr George Desmond Garvin
Northolt	504 Sqn	Hurricane	TM	RAF Hendon	Sqn Ldr John Sample

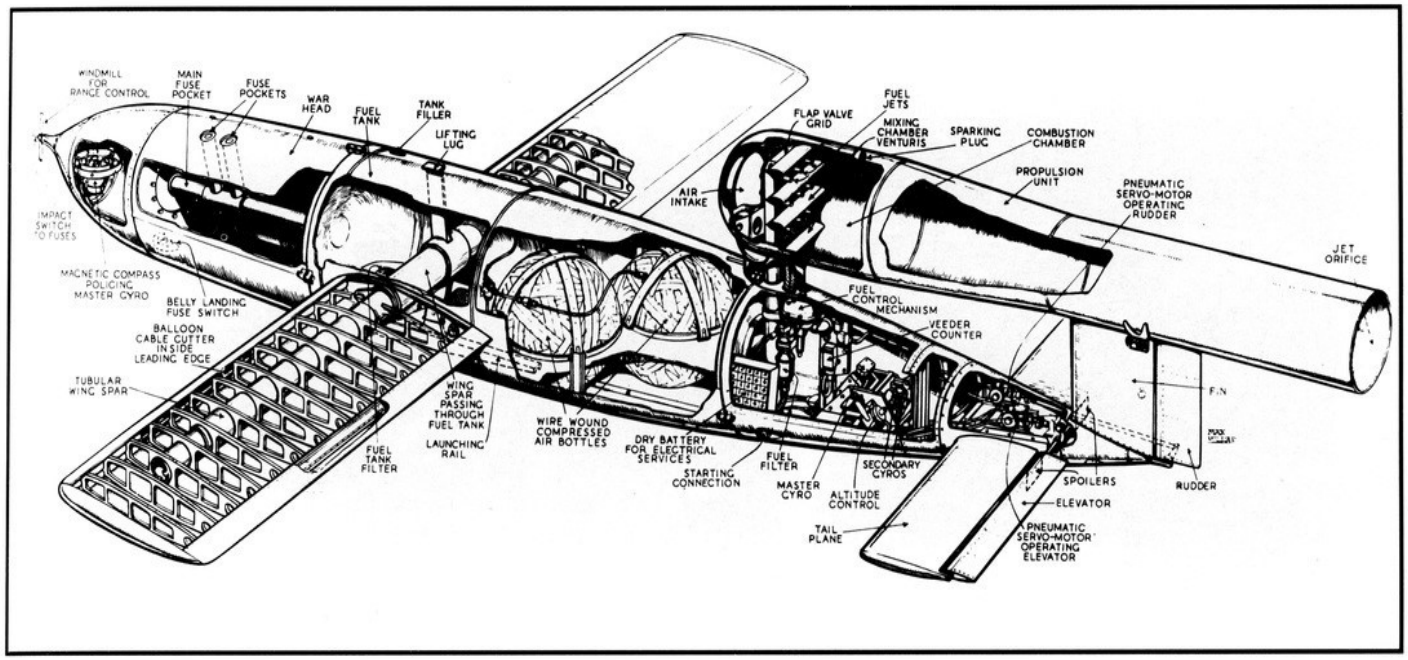
12 Group

Duxford	242 Sqn	Hurricane	LE LORAG	RAF Duxford	Sqn Ldr Douglas Bader
Duxford	302 (Polish) Sqn	Hurricane	WX CALEB	RAF Duxford	Sqn Ldrs WA Jack Satchell / MVM Mumler
Duxford	310 (Czech) Sqn	Hurricane,	NN CALLA	RAF Duxford	Flt Lt G Douglas M Blackwood / Sqn Ldr A Sasha Hess
Duxford	19 Sqn	Spitfire	QV LUTON	RAF Fowlmere	Sqn Ldr Brian John Edward Lane DFC
Coltishall	74 Sqn	Spitfire	ZP DYSOE	RAF Wittering	Sqn Ldr Adolph G "Sailor" Malan
Kirton-in-Lindsey	No. 616 Sqn	Spitfire	QJ RADPOE	RAF Kirton-in-Lindsey	Flt Lt H F "Billy" Burton
Kirton-in-Lindsey	264 Sqn (part)	Defiant	PS	RAF Kirton-in-Lindsey	Sqn Ldr George Desmond Garvin
Digby	151 Sqn	Hurricane	DZ	RAF Digby	
Digby	611 Sqn	Spitfire	FY CHARLIE	RAF Digby	Sqn Ldr Jim E McComb
Digby	29(NF)Sqn	Blenheim/Beaufighter	RO	RAF Digby	Sqn Ldr Stan C Widdows
Wittering	**1 Sqn**	Hurricane	JX	RAF Wittering	Sqn Ldr David A Pemberton DFC
Wittering	266 Sqn	Spitfire	UO	RAF Wittering	Flt Lt Patrick Geraint Jameson DFC
Church Fenton	85 Sqn	Hurricane	VY HYDRO	RAF Church Fenton	Sqn Ldr Peter W Townsend DFC
Church Fenton	306 (Polish) Sqn (part)	Hurricane	UZ	RAF Church Fenton	Sqn Ldr D R Scott
Church Fenton	64 Sqn	Spitfire	SH FREEMA	RAF Leconfield / RAF Ringway	Sqn Ldr Don McDonell

13 Group

Usworth	54 Sqn	Spitfire	KL RABBIT	RAF Catterick	Flt Lt F P R Dunworth
Usworth	219 (NF) Sqn (part)	Blenheim/ Beaufighter	FK	RAF Catterick	Sqn Ldr J H Little
Usworth	43 Sqn	Hurricane	FT	RAF Usworth	Sqn Ldr Tom F Dalton Morgan DFC
Acklington	**32 Sqn**	Hurricane	GZ JACKO	RAF Acklington	Flt Lt Mike N Crossley
Acklington	219 (NF) Sqn (part)	Blenheim	FK	RAF Acklington	Sqn Ldr J H Little
Turnhouse	3 Sqn	Hurricane	QO	RAF Turnhouse	Sqn Ldr S F Gooden
Turnhouse	65 Sqn	Spitfire	YT	RAF Turnhouse	Sqn Ldr A L Holland
Turnhouse	141 Sqn	Defiant	TW	RAF Turnhouse	Sqn Ldr W A Richardson
Turnhouse	111 Sqn	Hurricane	JU WAGON	RAF Drem	Sqn Ldr John M Thompson DFC
Turnhouse	263 Sqn	Hurricane/Whirlwind	HE	RAF Drem	Fg Off T P Pugh
Dyce	145 Sqn	Hurricane	SO PATIN	RAF Roborough	Sqn Ldr John R A Peel
Wick	232 Sqn	Hurricane	EF	RAF Roborough	Fg Off M M Stephens DFC & Bar
Aldergrove	245 Sqn	Hurricane	DX	RAF Roborough	Sqn Ldr E W Whitley DFC
Biggin Hill	**610 Sqn**	Spitfire	DW		Sqn Ldr J Ellis DFC & Bar

THE GERMAN V-WEAPON THREAT



The Germans developed two types of retaliation weapon: the V-1 flying bomb, actually a small aircraft, but without a pilot; and the V-2 rocket. They were both ballistic missiles, mostly launched from the ground although a small proportion, much less accurate, were delivered from the air. The development of these rockets was a choice borne of the post-World War One Treaty of Versailles, which stipulated that the Germans could not possess heavy artillery, making no mention of rockets.

The Oslo Report of 1939 had alerted London to the development of these weapons, but the report had not been taken seriously. The author of the report remained anonymous until 1989, when he was identified as German physicist Hans Mayer in the book 'Reflections on Intelligence', by former MI6 scientist RV Jones.

In 1943, Churchill was aware that a ballistic missile programme was progressing in Germany. By June, intelligence had located the centre of production and in August, Bomber Command attacked Peenemünde, setting back German operations but not halting them.

The German military knew the flying bomb as Vergeltungswaffe Eins (Retaliation Weapon No.1) or 'V-1'. To the German scientists it was the Fieseler Fi 103 or FZG 76. The rocket's cover name was *Flakzeilgerät 76* (Anti Aircraft Aiming Device 76) and its codename was *Kirschkern* (Cherrystone).

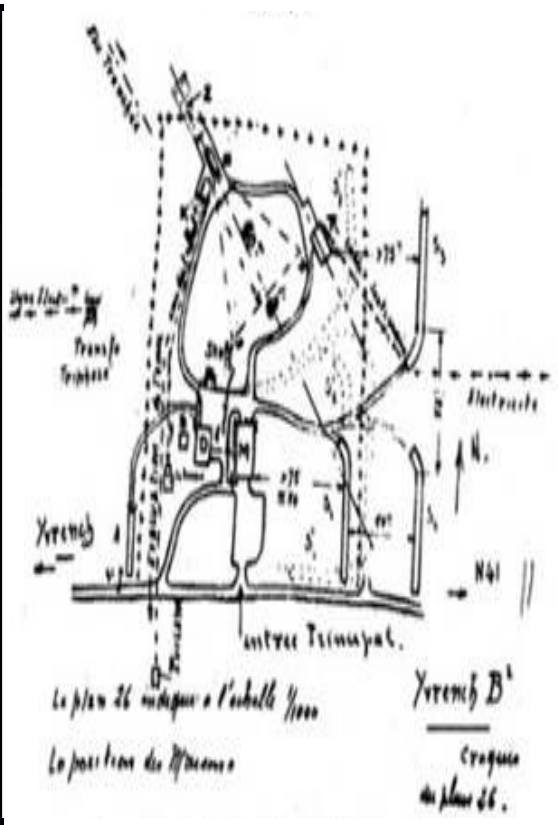
V-1 Launch Sites

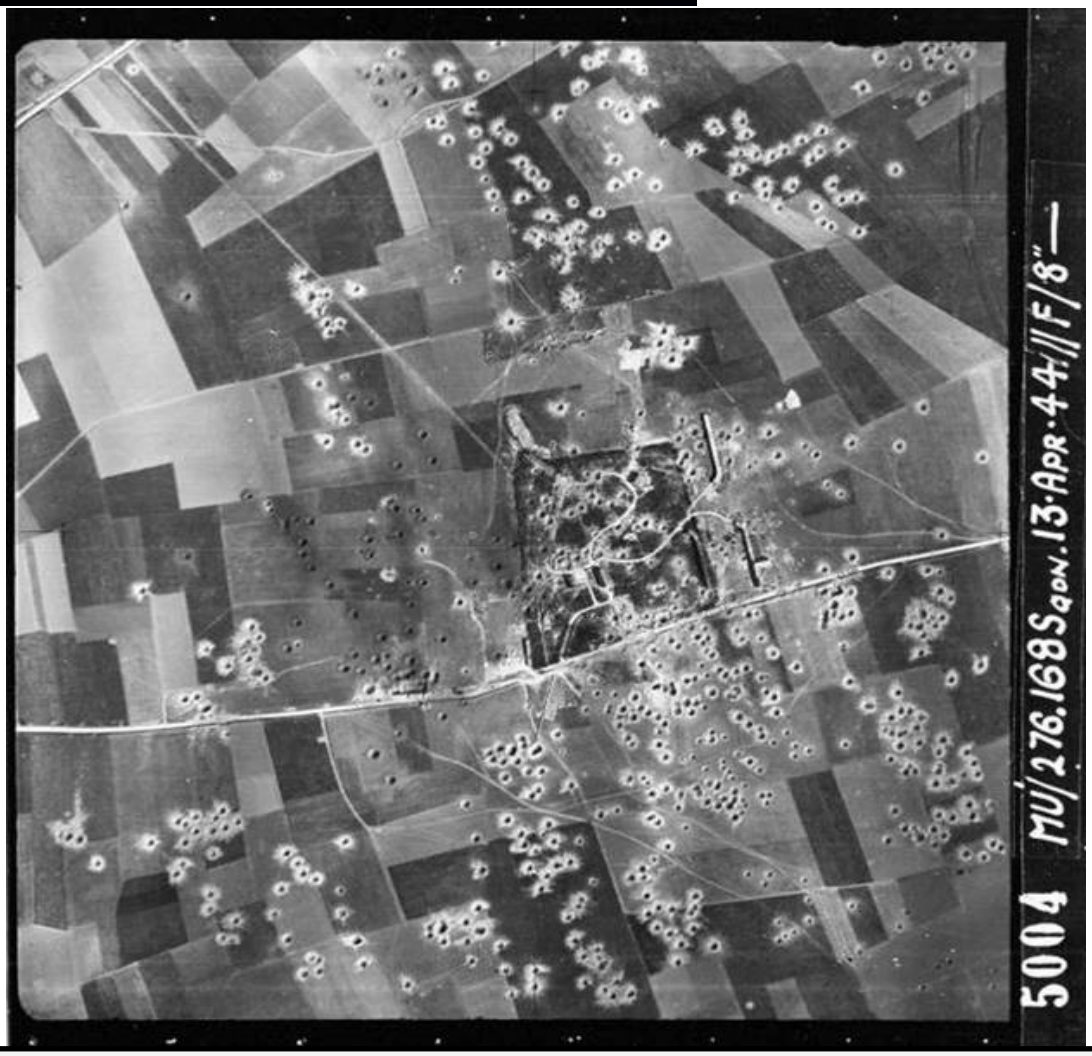
The early PRU photographs showing a launching site for V-1 flying bombs led to them being called 'Ski Sites'. The sketch shown overleaf was done by a French labourer working for the Germans at the site. It shows how accurate the drawing was when compared to the RAF photograph on the left. The drawing clearly shows the location as 'Yvrench B2'. This was a clever way of deceiving the Germans as Yvrench was the nearest village to the site and 'B' stood for 'Bois' (Wood); the '2' for square route in French is 'Carre'.

There was a standard layout for an operational 'Ski Site'. Each one was originally built to the same exact plan. 30 missiles could be stored at each site enough for an intense 24 hours of launchings by a competent crew. The Germans planned to location many launching sites in Northern France. Fortunately not all were built but had the offensive been successful some 10,000 missiles could have been fired at England in any 24hr period.

After being catapulted off the ground the missile accelerated to its cruising speed of about 350 mph to 400 mph (570kmh) at an average height of around 3000 ft (900m). Though some missiles flew as low as just a few hundred feet and some were recorded traveling as high as 8000ft (2400m). However, above 6000ft (1800m) the air density was generally too thin for the engine to function properly.

On average they flew too high for the smaller calibre AA guns to shoot down and too low for the bigger large calibre AA guns to engage; a deliberate design plan of the German inventors. However Allied ingenuity was put into play during the assault with the invention of the American made proximity fuse which caused a standard anti aircraft shell to explode when a large metal object was detected close by it. This led to some spectacular one shot kills that amazed even the Germans!





Yvrench—before and after the air raids, with the French labourer's remarkably accurate sketch map in the top right hand corner. The photo was taken on 13 April 1944.

The Ski launch sites

The control centre was based at Creil near Paris but moving it to the Citadel at Doullens, where the telephone exchange was already based, had been considered.

The German military hierarchy had differing ideas as to how to launch their new weapon. Huge bunkers (which would draw attention to themselves) or smaller, less obvious sites. In the end Göring made the decision to build 4 large bunkers (*Wasserwerken* — waterworks) and 96 smaller bases. 64 of these bases were to be constructed by October 1943 whilst the remainder would be held in reserve.

The Tödt Organisation used 40,000 workers in northern France to build the bases. Nobody was allowed to work in their own village, so although a base was built at for example Ligescourt near the Crécy battlefield of 1346, drafted workers from the village would have been sent elsewhere.

Even though they were adapted to the local situation the bases followed a very similar design allowing missiles to be brought in, stocked, prepared and launched on a conveyor belt system.

The base needed to be on flat land and small woods were considered to be the ideal location.

The linking roadways between the bunkers were created using concrete slabs and the buildings for the most part were constructed with breeze blocks, which dispensed with the need to provide a casing for poured concrete

Bois Carre

Following intelligence reports concerning a new construction at Bois Carré near Yvrench (Just outside Crécy) No 170 Squadron RAF flew a reconnaissance sortie E/463 on 3rd November 1943. The observers noted a number of bunkers which they described as : ski-shaped buildings 240-270 feet long (80-90 metres).

There are usually three such buildings and at 80 metres long by over 4 metres high and wide they have a curved end for blast protection. From the air they look like skis lying on their sides.

The design is so distinctive that the RAF very quickly identified over 70 other such sites and Operation Crossbow was commenced in order to bomb them.

These missions were named No-Ball Missions, and the very first was launched against the installations at Ligescourt by B-26 bombers of the USAF on 5 December 1943.

In effect then, none of these heavily fortified bases ever got to be used because they were just too obvious and ended up drawing the RAF and allied bombers onto them. This eventually became an advantage to the Germans who ensured that the French workers were occupied in repairing the sites.

Observation and spies concluded that continual bombardment was necessary and the ski sites became bomber bait.

Light Ramp Launch Sites

To get round the problem of the high visibility of the larger complexes the German command ordered the creation of lighter launch sites with fewer bunkers and a basic ramp. These were quicker to build and much more easily repaired. The Germans only used slave labour and German engineers to carry out the work which allowed for greater secrecy.

These modified sites were much more discreet in their construction and were only identified for what they were days before the V-1 blitz on London began on 13 June 1944.

There were certain similarities between the bases through necessity of preparation. There were bunkers to store the chemicals for the catapult (hydrogen peroxide and potassium permanganate) and an anti-magnetic building constructed without any iron in it at all.

This was the last building that the rocket passed through before launch and it was here that the magnetic compass would be set. The entire flight depended on the compass working properly and so any possible interference had to be avoided at this stage.

The one building that seems to have been augmented was the firing bunker which now offered the firing crew a better field of vision and better protection.

The ski shaped storage bunkers and the launch ramp blast walls though had gone. The launch ramp itself was prepared elsewhere and was now simply bolted to a pre-prepared platform.

The missiles would be delivered to the site and pass through the preliminary construction building. This contained offices along one side of its length and a long workshop along the other. In this workshop the nose cone was fitted and the engine tested. The wings would not be fitted until later in order to conserve space in the Ski bunkers which were used to stock the missiles prior to launch.

Each base had three of these 80 metre bunkers which were destined to hold the compliment of 27 missiles - a day's launching. It was these oddly shaped buildings at Yvrench that gave the sites their nickname.

Launching the V-1

Remembering that the Ski Bases were never actually used, the following is an indication of what was supposed to have happened. The lighter V-1 bases followed a very similar routine. The photos have been put together from two sites, Huit Rues itself and Ligescourt, as the buildings there are in a better state of repair.

Preliminary assembly building at Ligescourt

The missiles would be delivered to the site and pass through the preliminary construction building. This contained offices along one side of its length and a long workshop along the other. In this workshop the nose cone was fitted and the engine tested. The wings would not be fitted until later in order to conserve space in the Ski bunkers which were used to stock the missiles prior to launch.

Each base had three of these 80 metre bunkers which were destined to hold the compliment of 27 missiles (A day's launching). It was these oddly shaped buildings at Yvrench that gave the sites their nickname.

Catapult cleaning building at Bois des Huit Rues

Immediately next door to this building was a soft water pumping station. Washing the equipment down was such an essential part of the launch process that it was all important to use distilled water — the natural water in the north tends to be extremely hard due to the chalk.

Storage bunker at Ligescourt

Underground bunkers stocked the two chemicals used to power the catapult. One (Z-Stoff) contained the potassium permanganate and the other (T-Stoff) the hydrogen peroxide. It was realised that under no circumstances should the two chemicals come into contact with each other prior to the launch.

The anti-magnetic building at Ligescourt, the building at Bois des Huits Rues was badly damaged by bombing

In the anti-magnetic building or __Richthaus__the V-1 had its wings and detonators fitted and the guidance system calibrated. It was essential for the calibration that there was no ferrous metal nearby (the door hinges

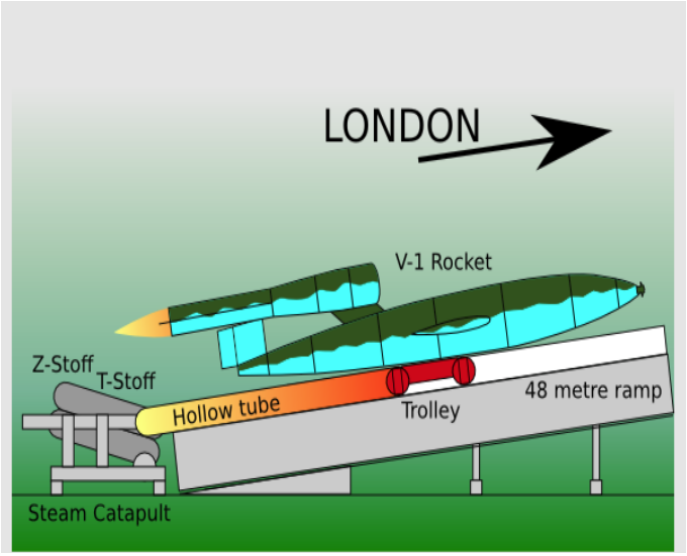
were sometimes made of wood) and that the building was exactly aligned with the launch ramp situated about 50 metres away. The launch pads were extremely well anchored to ensure that the ramp didn't move on launching the missile. I have read that the vibration at launch was so violent that the firing party in their bunker had to wear protective equipment to stop them being shaken to death.

The launch base protection walls at Bois des Huit Rues

One of the big differences between the Bois des Huit Rues site and a modified light base was the fact that at the original sites the launch ramp was protected by two huge walls almost a metre thick. These walls mimicked the angle of the ramp and opened out at the base into a funnel shape.

Launch control bunker at Ligescourt

A small bunker was placed in the left-hand sector of this funnel and it was from here that the launch would be effected. In the original bases there is only the one observation porthole, but later versions used on the lighter sites were given better observation and were thus the only part of the set up that was ameliorated.

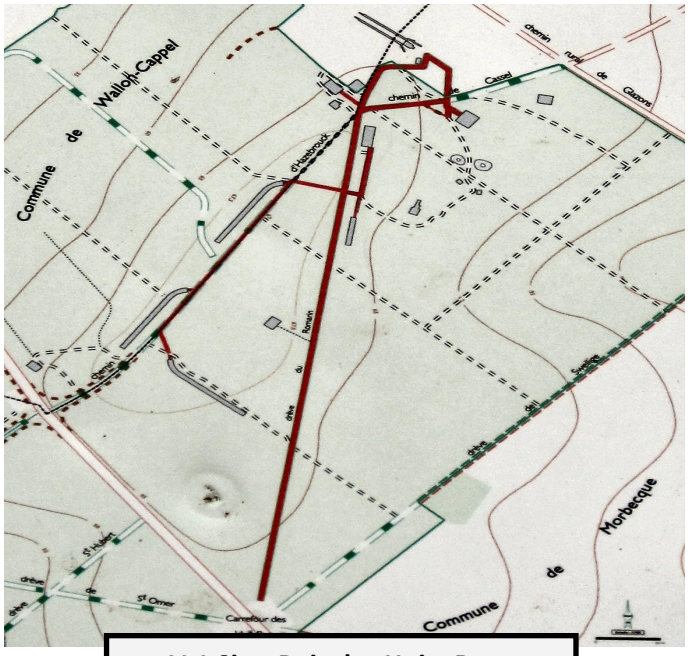


In general the angle of launch was about six degrees and it would be true to say, in the vast majority of cases, that if you follow the walls' direction you are looking towards London, about 200 kilometres away !

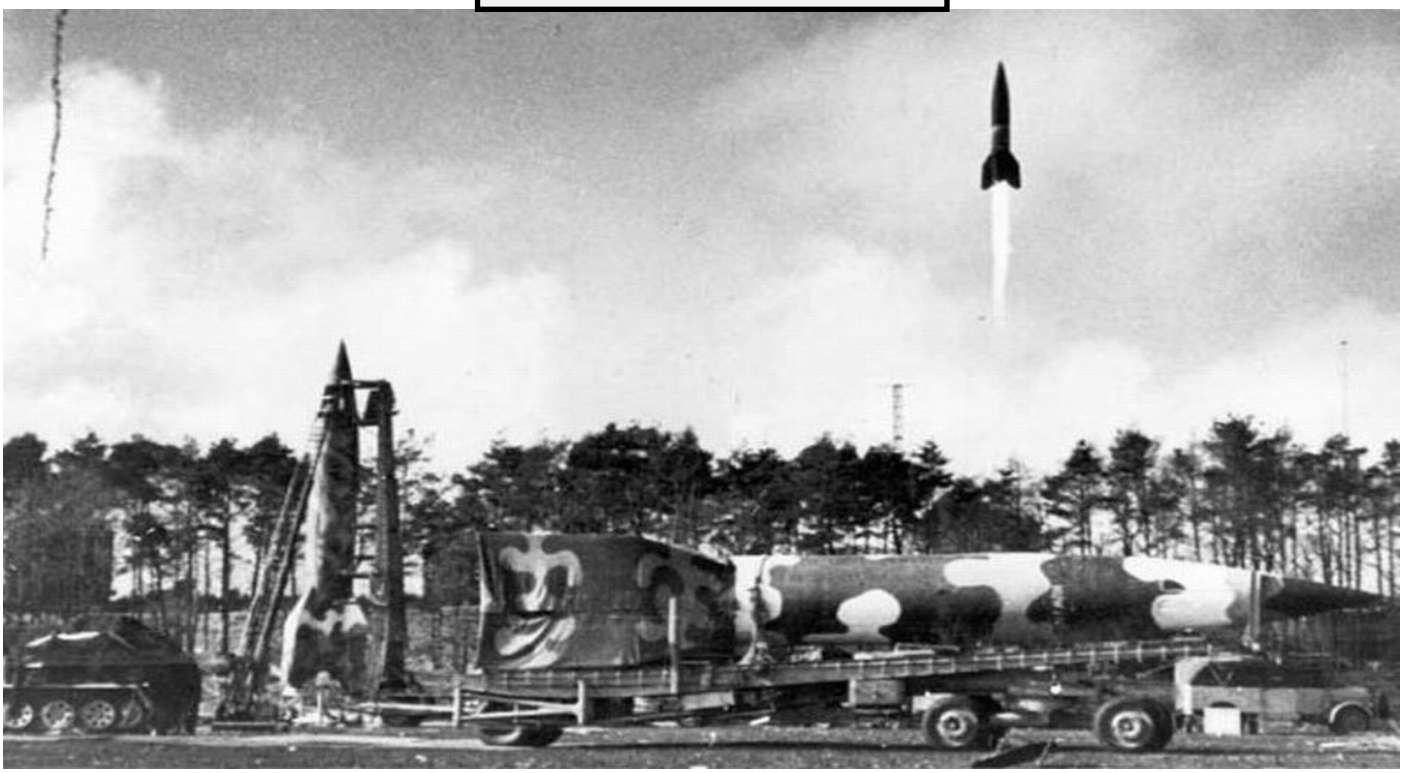
The V-1 was placed on a launch trolley which connected to a piston inside a tube running the length of the 48 metre ramp. The steam catapult was then fitted to the base of this tube. The firing sequence combined the two reactive chemicals within the catapult which instantly produced great quantities of steam at about 600° C.

The piston was retained by a simple pin and as soon as the pressure was great enough it broke the pin and the trolley was propelled up the ramp at 400 kph catapulting the V-1 into the air. From there on the on-board motor would keep the missile in flight all the way to its destination.

The firing crew would collect the trolley and clean up the launch ramp. As potassium permanganate is exceedingly corrosive everybody had to wear protective clothing.



V-1 Site: Bois des Huits Rues



33 Squadron and the Bomber Command Diary June-August 1944

The full entries for the Bomber Command Diary for June, July and August, which stretch to many pages, can be found online using the links on page XX. They give the reader a good picture of the amount of resources, men and materiel, that were being used day after day to meet the Allies' Strategic Plan of defeating Germany. Each day shows a summary of sorties and aircraft loss, they make sobering reading. For brevity here I have removed the days when 33 Squadron was not escorting Bomber Command aircraft and have cut out most of the other raids that Bomber Command were involved in that day.

14 June 1944

221 Lancasters and 13 Mosquitos of No 1, 3, 5 and 8 Groups carried out Bomber Command's first daylight raid since the departure of No 2 Group at the end of May 1943. The objectives were the fast German motor-torpedo boats (E-boats) and other light naval forces harboured at **Le Havre** which were threatening Allied shipping off the Normandy beaches only 30 miles away. The raid took place in 2 waves, one during the evening and the second at dusk. Most of the aircraft in the first wave were from No 1 Group and in the second wave from No 3 Group. Pathfinder aircraft provided marking by their normal methods for both raids. No unexpected difficulties were encountered; the naval port area was accurately bombed by both waves with 1,230 tons of bombs and few E-boats remained undamaged. No 617 Squadron sent 22 Lancasters, each loaded with a 12,000lb Tallboy bomb, and 3 Mosquito marker aircraft to attack the concrete covered E-boat pens just before the first wave bombed. Several hits were scored on the pens and one bomb penetrated the roof.

This raid was regarded as an experiment by Sir Arthur Harris, who was still reluctant to risk his squadrons to the dangers of daylight operations but both waves of the attack were escorted by Spitfires of 1No 1 Group and only 1 Lancaster was lost.

15 June 1944

297 aircraft - 155 Lancasters, 130 Halifaxes, 12 Mosquitos - of Nos 1, 4, 5, 6 and 8 Groups carried out attacks on German light naval vessels now gathering in **Boulogne** harbour. The tactics employed and the bombing results were similar to those at Le Havre the previous evening, although the visibility was not so clear. 1 Halifax lost. The only details from France are in a short civil report which describes this as the worst raid of the war on Boulogne, with great destruction in the port and the surrounding areas.

18/19 June 1944

In a period of bad flying weather, only 10 Mosquitos could be sent to attack a large concrete flying-bomb storage building in the woods at **Watten, near St Omer**. 9 aircraft bombed but no details of the results are available. No aircraft lost.

19 June 1944

After standing by for 3 days waiting for cloud over the Pas de Calais to clear, 19 Lancasters and 2 Mosquitos of No 617 Squadron, with 9 Mosquitos of No 8 Group providing preliminary marking, attacked the flying-bomb store (**WATTEN**) , but the conditions were too difficult for accurate marking and the nearest Tallboy bomb was 50 yards from the concrete store.

21 June 1944

322 aircraft - 165 Halifaxes, 142 Lancasters, 15 Mosquitos - 3, 6 and 8 Groups attacked 3 flying bomb sites. Because of cloud, 2 of the raids were abandoned after only 17 aircraft had bombed; the third target, at St Martin l'Hortier, was bombed through 10/10ths cloud. No aircraft lost.

22 June 1944

234 aircraft - 119 Lancasters, 102 Halifaxes, 13 Mosquitos - of Nos 1, 4, 5 and 8 Groups to special V-weapon sites and stores. The sites at **Mimoyecques** and **Siracourt** were accurately bombed by 1 and No 4 Group forces with Pathfinder marking but the No 617 Squadron force attacking **Wizernes** failed to find its target because of cloud and

returned without dropping its bombs. 1 Halifax lost from the Siracourt raid.

24 June 1944

321 aircraft - 200 Halifaxes, 106 Lancasters, 15 Mosquitos - of Nos 1, 4, 6 and 8 Groups attacked **3 flying bomb sites** in clear weather conditions. All targets were accurately bombed; no aircraft lost.

16 Lancasters and 2 Mosquitos of No 617 Squadron bombed the **Wizernes** site and scored several hits with their Tallboy bombs. 1 Lancaster was shot down by flak, the first loss by the squadron for exactly 2 months.

24/25 June 1944

739 aircraft - 535 Lancasters, 165 Halifaxes, 39 Mosquitos - from all groups attacked **7 flying bomb sites**, causing fresh damage at most of the targets. (The flying-bomb sites were now becoming so cratered by RAF, 8th Air Force and 2nd Tactical Air Force bombing that results for individual raids were becoming difficult to determine.) 22 Lancasters were lost from these raids; it was a clear, moonlit night and most of the bomber casualties were caused by German night fighters, often operating with the help of searchlights. It is not known why all of the casualties were Lancasters.

25 June 1944

323 aircraft - 202 Halifaxes, 106 Lancasters, 15 Mosquitos - of Nos 1, 4, 6 and No 8 Group attacked **3 flying bomb sites.** The weather was clear and it was believed that all 3 raids were accurate. 2 Halifaxes of No 4 Group were lost from the raid on **the Montorgueil** site. No 617 Squadron sent 17 Lancasters, 2 Mosquitos and 1 Mustang to bomb the **Siracourt** flying-bomb store. The Mustang was flown by Wing Commander Cheshire and used as a low-level marker aircraft. The Mustang had only arrived at Woodhall Spa that afternoon, by courtesy of the Eighth Air Force, and this was Cheshire's first flight in it. The Lancasters scored 3 direct hits on the concrete store with Tallboy bombs and no aircraft were lost. Cheshire had to make his first landing in the unfamiliar Mustang when he returned to his home airfield after dark.

27 June 1944

104 Halifaxes of No 4 Group with 5 Mosquitos and 2 Lancasters of the Pathfinders attacked the V-weapon site at **Mimoyecques** without loss. Bombing conditions were good and two large explosions were seen on the ground.

29 June 1944

286 Lancasters and 19 Mosquitos of Nos 1, 5 and 8 Groups attacked **2 flying-bomb launching sites and a store**. There was partial cloud cover over all the targets; some bombing was accurate but some was scattered. 5 aircraft - 3 Lancasters and 2 Mosquitos - lost, including the aircraft of the Master Bomber on the raid to the **Siracourt** site, Flight Lieutenant SEC Clarke of No 7 Squadron, but Clarke survived.

30 June 1944

266 aircraft - 151 Lancasters, 105 Halifaxes, 10 Mosquitos - of Nos 3, 4 and 8 Groups to bomb a road junction at **Villers Bocage** through which the tanks of two German Panzer divisions, the 2nd and 9th, would have to pass in order to carry out a planned attack on the junction of the British and American armies in Normandy that night. The raid was controlled with great care by the Master Bomber, who ordered the bombing force to come down to 4,000ft in order to be sure of seeing the markers in the smoke and dust of the exploding bombs. 1,100 tons of bombs were dropped with great accuracy and the planned German attack did not take place. 1 Halifax and 1 Lancaster lost.

102 Lancasters and 5 Mosquitos of Nos 1 and 8 Groups bombed a flying-bomb launching site at **Oisemont.** The attack took place through 10/10ths cloud and results were not observed. No aircraft were lost.

2 July 1944

374 Lancasters and 10 Mosquitos of Nos 1, 3 and 8 Groups attacked **3 V-weapons sites**. Cloud affected all of the raids but good concentrations of bombs were believed to have been dropped at all targets. No aircraft lost.

6 July 1944

551 aircraft - 314 Halifaxes, 210 Lancasters, 26 Mosquitos, 1 Mustang - attacked **5 V-weapon targets**. Only 1 aircraft was lost, a No 6 Group Halifax from a raid on **Siracourt** flying-bomb store. Four of the targets were clear of cloud and were believed to have been bombed accurately but no results were seen at the **Forêt de Croc** launching site.

On his return from leading 617 Squadron's attack on the **Mimoyecques** site, Wing Commander Leonard Cheshire was ordered by the commander of No 5 Group to leave the squadron and rest. Cheshire had completed 4 tours and flown 100 operations. Squadron Leaders JC McCarthy, KL Munro and DJ Shannon, the three No 617 Squadron flight commanders - all survivors of the Dams Raid - were also ordered to rest. 2 months later, Cheshire was awarded the Victoria Cross for his 4 tours and for his courage and skill in developing low-level marking. He did not fly on operations again.

9 July 1944

347 aircraft - 197 Halifaxes, 120 Lancasters, 30 Mosquitos - of Nos 3,4,6 and 8 Groups bombed **6 V-weapon launching sites** but most of the targets were cloud-covered and some of the bombing was scattered. 1 Halifax and 1 Lancaster lost.

10 July 1944

213 Lancasters and 10 Mosquitos of Nos 1, 3 and 8 Groups attacked a flying-bomb storage dump at **Nucort** but the target was covered by cloud and the bombing was not concentrated. No aircraft lost.

11 July 1944

26 Lancasters and 6 Mosquitos of No 8 Group made two separate raids on a flying-bomb site at **Gapennes** (**Arrondissement = Abbeville) .** The Lancasters made the first 'heavy Oboe' attack of the war. A Lancaster of No 582 Squadron had been fitted with Oboe equipment and Wing Commander GF Grant, from No 109 Squadron, one of the Oboe Mosquito squadrons, flew in the Lancaster and directed the bombing. When Grant released his bombs, other Lancasters flying in formation did the same. This method allowed a greater tonnage of bombs to be dropped directly on the Oboe signals and it became one of Bomber Command's most accurate bombing methods and enabled small targets like the flying-bomb sites to be bombed accurately in cloudy conditions. No aircraft were lost on this raid.

12 July 1944

153 Lancasters and 6 Mosquitos of Nos 1, 3 and 8 Groups to attack the important **railway yards at Vaires** on the outskirts of Paris; the target area was covered by cloud and the Master Bomber ordered the attack to be abandoned after 2 Mosquitos had marked and 12 Lancasters had bombed. No aircraft lost.

15 July 1944

47 Lancasters and 6 Mosquitos carried out an 'Oboe leader' attack on the flying-bomb supply dump at **Nucort.** No bombing results were seen, because of poor weather conditions. No aircraft lost.

18 July 1944

942 aircraft - 667 Lancasters, 260 Halifaxes, 15 Mosquitos - to bomb **5 fortified villages in the area east of Caen** through which British Second Army troops were about to make an armoured attack, **Operation Goodwood**. The raids took place at dawn in clear conditions. 4 of the targets were satisfactorily marked by Oboe and, at the target where Oboe failed, the Master Bomber, Squadron Leader EK Creswell, and other Pathfinder crews used visual methods. American bombers also attacked these targets and a total of 6,800 tons of bombs were dropped, of which Bomber Command dropped more than 5,000 tons. Elements of two German divisions, the 16th Luftwaffe Field Division and the 21st Panzer Division, were badly affected by the bombing, the Luftwaffe Division particularly so. Operation Goodwood made a good start. This raid was either the most useful or one of the most useful of the operations carried out by Bomber Command in direct support of the Allied armies. The aircraft bombed from medium heights, 5,000-9,000ft, but army artillery and naval gunfire subdued many of the flak batteries and only 6 aircraft - 5 Halifaxes and 1 Lancaster - were shot down. No German fighters appeared. Allied air superiority over the battlefield by day was complete.

110 aircraft - 99 Halifaxes, 6 Lancasters, 5 Mosquitos - of 4,6 and 8 Groups attacked the **railway yards at Vaires** but no report on the bombing results was filed. 2 Halifaxes lost.

19 July 1944

132 Lancasters and 12 Mosquitos of 5 and 8 Groups attacked **two launching sites and a supply dump.** All target areas were partially cloud-covered but the targets were believed to have been hit. No aircraft lost.

20 July 1944

369 aircraft - 174 Lancasters, 165 Halifaxes, 30 Mosquitos - attacked **6 flying-bomb launching sites** and the

V-weapon site at Wizemes. All raids were successful except the small raid by 20 aircraft on the **Forêt de Croc** site where the Oboe leader Lancaster was shot down on the bombing run and the bombs of this force all missed the target. This was the only aircraft lost.

The unsuccessful attempt on Hitler's life at his headquarters in East Prussia took place on this day.

22 July 1944

48 Lancasters and 12 Mosquitos of No 8 Group carried out 'Oboe leader' bombing of **4 V-weapon sites** through 10/ l0ths cloud. No aircraft lost.

24 July 1944

28 Lancasters and 8 Mosquitos of 3 and 8 Groups bombed **flying bomb sites at Acquet and Prouville** without loss.

25 July 1944

94 Lancasters and 6 Mosquitos of No 5 Group attacked an **airfield and signals depot at St Cyr.** Bombing was accurate. 1 Lancaster lost.

93 aircraft - 81 Lancasters, 11 Mosquitos, 1 Mustang - of 5 and 8 Groups attacked **2 launching sites** and the **Watten storage site.** All raids were successful and no aircraft were lost.

27 July 1944

72 aircraft - 36 Lancasters, 24 Stirlings, 12 Mosquitos - of Nos 3 and 8 Groups attacked **5 V-weapon sites** without loss. All targets were cloud-covered and most of the bombing was 'confused and scattered'. Some of the Stirlings on this raid, from No 218 Squadron, were fitted with the G-H blind-bombing device and they used this in the attack on one of the sites; this was the first use of the 'G-H leader' technique.

28 July 1944

199 aircraft - 159 Halifaxes, 20 Mosquitos, 20 Stirlings - of Nos 3, 4 and 8 Groups attacked **two launching sites** and made two further separate raids on the **Forêt de Nieppe storage site.** All bombing was through cloud but the various methods used were believed to have led to accurate results. 1 Halifax lost from one of the Forêt de Nieppe raids.

30 July 1944

692 aircraft - 462 Lancasters, 200 Halifaxes, 30 Mosquitos - were sent to bomb **6 German positions** in front of a mainly American ground attack in the **Villers Bocage Caumont** area. The presence of cloud caused many difficulties and only 377 aircraft were able to bomb, on to Oboe markers, and only 2 of the 6 targets were effectively hit. 4 Lancasters lost.

31 July 1944

127 Lancasters and 4 Mosquitos of Nos 1 and 5 Groups carried out an accurate raid on the **railway yards at Joigny La Roche** in clear conditions. 1 Lancaster lost.

97 Lancasters and 6 Mosquitos of Nos 5 and 8 Groups attacked the ends of a **railway tunnel at Rilly La Montage being used as a flying-bomb store.** No 617 Squadron caved in both ends of the tunnel with their Tallboy bombs and the other part of the bombing force cratered all the approach areas. 2 Lancasters were lost, including the No 617 Squadron aircraft of Flight Lieutenant William Reid, who had won a Victoria Cross in 1943 in a raid on Düsseldorf while flying with No 61 Squadron. Flight Lieutenant Reid survived.

2 August 1944

394 aircraft - 234 Lancasters, 99 Halifaxes, 40 Mosquitos, 20 Stirlings, 1 Lightning - attacked **1 flying bomb launch site and 3 supply sites.** Visibility was clear at all targets and good bombing results were claimed. 2 Lancasters of No 5 Group lost from the raid on the **Bois de Cassan supply site**.

3 August 1944

1,114 aircraft - 601 Lancasters, 492 Halifaxes, 21 Mosquitos - carried out major raids on the **Bois de Cassan, Forêt de Nieppe and Trossy St Maxim flying-bomb stores**. The weather was clear and all raids were successful. 6 Lancasters lost, 5 from the Trossy St Maxim raid and 1 from the Bois de Cassan raid. 1 Lightning and 1 RCM aircraft accompanied the raids.

4 August 1944

291 aircraft - 169 Halifaxes, 112 Lancasters, 10 Mosquitos - of Nos 6 and 8 Groups attacked the **Bois de Cassan and Trossy St Maxim flying bomb sites** in clear visibility. 2 Halifaxes of No 6 Group were lost on the Bois de Cassan raid and 2 Lancasters on the Trossy St Maxim raid.

A posthumous Victoria Cross was later awarded to Squadron Leader IW Bazalgette of No 635 Squadron, captain of one of the aircraft lost on the all-No 8 Group raid on Trossy St Maxim. Bazalgette's Lancaster was hit by flak and set on fire while approaching the target but the pilot carried on to release his markers and bombs on the target. (The statement in the VC citation that Bazalgette was Master Bomber for this raid is not correct, although he had acted as Master Bomber on earlier raids.) On leaving the target, the Lancaster dived steeply, almost out of control, but the pilot was able to recover from this and 4 members of his crew were able to bale out. Bazalgette then made a good crash-landing in an attempt to save his wounded bomb aimer and the mid-upper gunner who was overcome by fumes or smoke, but the Lancaster exploded and all 3 men still inside were killed. Squadron Leader Bazalgette and his 2 comrades are buried at the small village of Senantes.

27 Lancasters, 2 Mosquitos and 1 Mustang of No 617 Squadron attacked a railway bridge at Étaples. Some hits were scored but the 1,000-lb bombs used failed to destroy the bridge. No aircraft lost.

3 Mosquitos attacked the **Forêt de Nieppe storage site** without loss.

5 August 1944

742 aircraft - 469 Halifaxes, 257 Lancasters, 16 Mosquitos - of Nos 4, 5, 6 and 8 Groups attacked the **Forêt de Nieppe and St Leu d'Esserent storage sites.** Bombing conditions were good. 1 Halifax lost from the St Leu d'Esserent raid.

31 Lancasters and 8 Mosquitos of No 8 Group attempted to carry out small 'Oboe leader' raids on 4 launching sites but only 9 aircraft succeeded in bombing. None lost.

Total effort for the day: 1,148 sorties, 3 aircraft (0.3 per cent) lost.

9 August 1944

172 aircraft - 114 Halifaxes, 35 Mosquitos, 23 Lancasters - of 4 and 8 Groups attacked **7 launching sites**. Visibility was clear and all raids were successful. 3 Halifaxes lost.

27 August 1944

243 aircraft - 216 Halifaxes of No 4 Group and 14 Mosquitos and 13 Lancasters of No 8 Group - were dispatched on a historic raid to **Homberg, the first major raid by Bomber Command to Germany in daylight since 12 August 1941**, when 54 Blenheims had attacked power-stations near Cologne for the loss of 10 aircraft. This raid was escorted by 9 squadrons of Spitfires on the outward flight and 7 squadrons on the withdrawal. 1 Me110 was seen; the Spitfires drove it off. There was intense flak over the target but no bombers were lost. The target was the Rheinpreussen synthetic-oil refinery at Meerbeck. The bombing was based on Oboe marking but 5-8/10ths cloud produced difficult conditions, though some accurate bombing was claimed through gaps in the clouds.

226 aircraft - 176 Halifaxes, 40 Lancasters, 10 Mosquitos - of 6 and 8 Groups carried out an accurate attack on a **flying-bomb site at Mimoyecques** without loss.

28 August 1944

150 aircraft - 77 Halifaxes, 48 Lancasters, 25 Mosquitos - carried out small 'Oboe leader' raids on **12 flying bomb sites**. Most of the targets were satisfactorily hit. This was the **last of the long series of raids on the German flying-bomb launching and storage sites in the Pas de Calais area**, which was captured by Allied ground troops a few days later. There was 1 aircraft casualty. A No 550 Squadron Lancaster, which had just bombed the **Wemars/Cappel launching site near Amiens**, received a direct hit from a flak battery near Dunkirk. The Lancaster went down in flames and exploded. The pilot, Pilot Officer SC Beeson, and 3 other members of the crew escaped by parachute, but the wireless operator and the 2 gunners were killed. Sergeants JK Norgate, HS Picton and JA Trayhorn were thus the last fatal casualties in Bomber Command's campaign against the V-1 flying bombs.

102 Lancasters and 5 Mosquitos of Nos 1 and 8 Groups bombed a **flying-bomb launching site at Oisemont**. The attack took place through 10/10ths cloud and results were not observed. No aircraft were lost.

33 Squadron_Escort to NOBALL / Bombing Missions (Noball in Bold Caps)_ May to August 1944

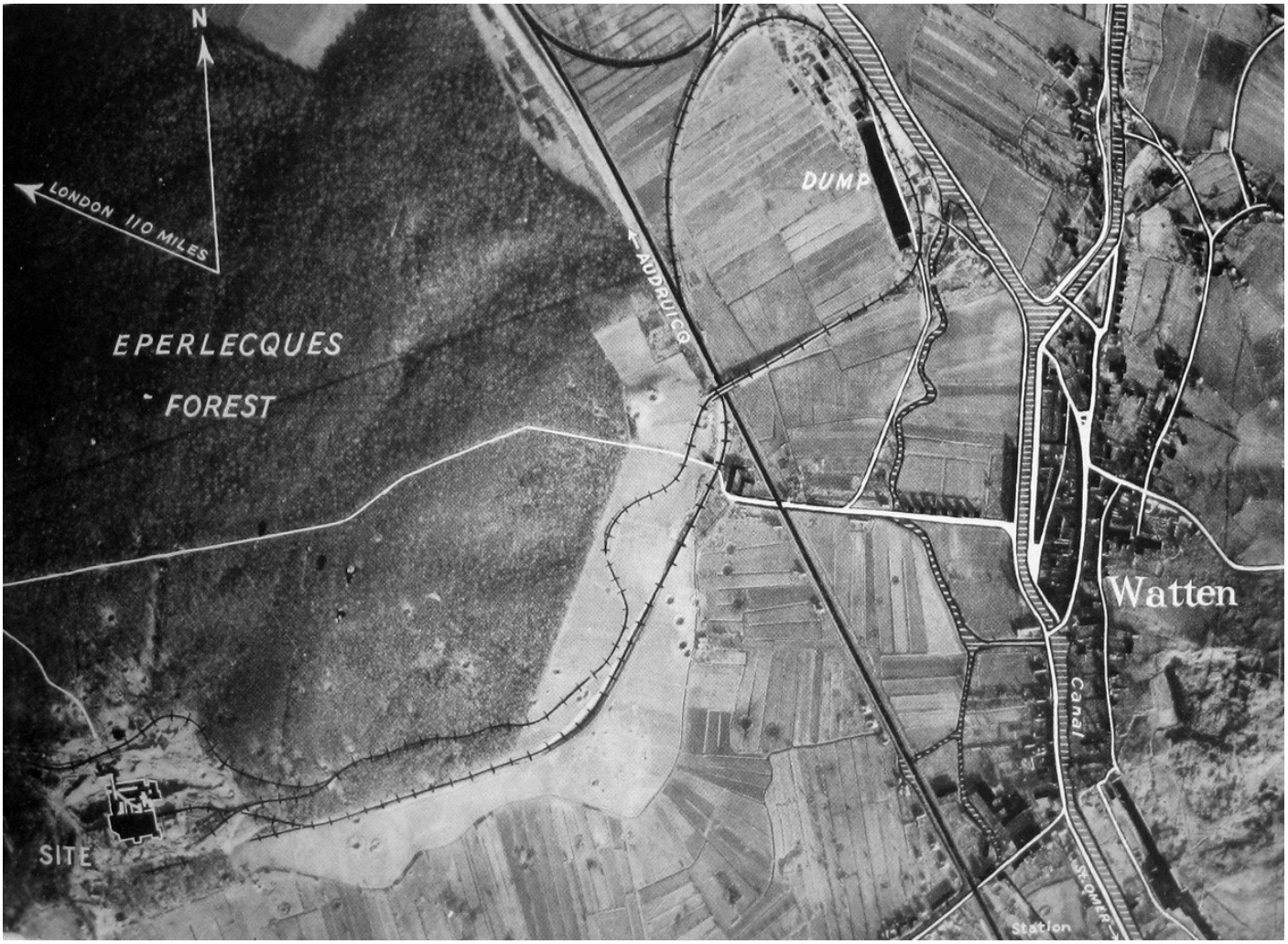
Date	Aircraft Escorted	Target	Remarks
MAY			
22	Mitchells	Douai marshalling yards	
28	Marauders	Mantes Gassicourt bridges	(photos 30 May 44 –Marauderman)
30 pm	Mitchells	Courselles sur Seine	
JUNE			
1	Mitchell		
8	Stirlings	Normandy beach-head	
12 pm	Mitchells	Foret Grimbusq	
14 pm	Lancasters (300)	Le Havre harbour	
15 pm	Lancasters/ Halifaxes (300+)	Boulogne harbour	
19 pm	Lancasters (18)	**WATTEN**	
20	Mitchells (36)	**BOIS COQUEREL/ MOYENVILLE** (MOYENNEVILLE?)	
21	Halifaxes(100)/ PF Mosquitos	**OISEMONT**	
22 pm	Halifaxes (100)	**SIRACOURT**	
23	Stirlings (18)	Para resupply NE Caen	
24	Lancasters(100)/Halifaxes(100)	**LES HAYONS / BONNETOT**	
24	Bostons (24)	**NOIALLES (NOAILLES?)**	
25	Lancasters (16)	**SIRACOURT**	
27	Halifaxes (100)	**MIMOYECQUES**	
29	Lancasters (100)	**DOMLEGER**	
30	Lancasters (150)/Halifaxes (100)	Villers Bocage enemy concn	
JULY			
2	Lancasters (125)	**DOMLEGER**	
6	Halifaxes (125)	**CAP GRIS NEZ**	(Ramrod 1062)
6 pm	Halifaxes (100)	**BURES**(en Bray)	(Ramrod 1065) (La Val Ygot, Eawy Forest V1 site)
9	Lancasters (52)	**PUILLEZ**	(Ramrod 1047)
10	Lancasters (200)	**NUCOURT**	(Ramrod 1072)
11	Lancasters (21)	**ABBEVILLE** (Gapennes)	(Ramrod 1081)
12	Lancasters (157)	Vaire sur Marne marshalling yards	
15	Lancasters (48)	**NUCOURT**	(Ramrod 1091)
16	Mitchells (36)	Chartres	
18	Lancasters/Halifaxes (100)	Vaire sur Marne marshalling yards	
19	Lancasters (16)	**FRUGES**	(Ramrod 1170) (Photo 31 Dec 43 Marauderman)
20 pm	Lancasters(100)/PF Mosquitos	**WIZERNES**	(Von Stauffenberg plot vs Hitler fails)
22	Lancasters (8)	?	(Ramrod?)
24	Lancasters (8)/PF Mosquitos	**VACQUERIETTE**	(BC Diary: Arquet & Prouville, photo of Prouville)
25 am	Lancasters(16)	**St OMER**	
25 pm	Lancasters/Halifaxes(100)	St Cyr airfield, Paris	

Date	Aircraft Escorted	Target	Remarks
JULY			
26	Mitchells(36)/Bostons(24)	Alencon POL dump	(Photo 25 Jun 44 Marauderman)
27	Lancasters(12)/PF Mosquitos	**CHATEAU BERKAIRE(?)**	(Ramrod 1134)
28	Lancasters (80)	**FORET de NIEPPE**	
28 pm	Stirlings (14)	**St OMER**	(Ramrod 1137)
30	Lancasters (100)	Mil targets @ Cahagnes	(Ramrod 1141) (W of Villers Bocage)
31	Lancasters (110)	Marshalling yards S of Paris (Joigny La Roche)	(463 Sqn RAAF filmed this raid – IWM Archive OPX 186)
AUGUST			
2	Lancasters (100)	N of Paris	(Ramrod ?) (Bois de Cassan Ammo / /Eqpt/V1 dump)
3	Lancasters (100)	N of Paris	(Ramrod ?) (Bois de Cassan – good French website with photos)
4	Lancasters (90)	N of Paris	(Ramrod ?) (Bois de Cassan)
5	Halifaxes (100)	25 m N of Paris	(Ramrod ?) (St Leu d'Esserent – good website)
9	Halifaxes (60)	**LAUCHING RAMPS**	No location given
25	? (161 Bomber Cmd ac)	? (Pas de Calais)	(Ramrod 1230)(5 x V-1 launch and storage sites)
26 am	?	?	(Ramrod 1321)
26 pm	?	?	(Ramrod ?)
27	Lancasters(200)	Homberg	(Ramrod ?) (1st RAF BC daylight raid vs Germany since 12 Aug 41)
28	?	Doullens Oil Dump	(Ramrod 1241)

<u>33 Squadron/ 135 Wing _NOBALL /Bombing Raids</u>

MAY			
24	12 ac	Hoden (Hodenc?) woods	500 lb MC bombs
27	11 ac	Le Petit Bois (Rouen)	500 lb MC bombs
29 am	11 ac	?	
29 pm	12 ac	**BOIS COQUEREL**	P/O Clinch shot down – POW
30 am	12 ac	**VACQUERIETTE**	
JUNE			
2	12 ac	Bapume sweep / Arras-Boullons road	MT convoy bombed
3	12 ac	Faulx Vraucourt railway station	
4	12 ac	Gravelines radar stations	
17	10 ac	Regneauville (Regneville sur Mer?)	
20	10 ac	**BOIS COQUEREL / MOYENVILLE** (Moyenneville?)	Follow up from escort mission am

Operation CROSSBOW and the 'Heavy Crossbow' Sites: Watten, Wizernes, Mimoyecques and Siracourt



On the drive down from Saint-Inglevert to Wizernes today you may notice '*Blockhaus d'Eperlecques'* marked on your map, which was another V-2 launch site built near the town of Watten between March 1943 and July 1944. The German codename for what many Allied planners called the Watten bunker, or just Watten, was *Kraftwerk Nord West* (Powerplant Northwest).

Watten

The sites at Watten, Wizernes, Mimoyecques and Siracourt were collectively known to the Allies as the 'Heavy Crossbow' sites; consequently, as part of Operation CROSSBOW, the Allied Air Forces carried out a number of raids against Watten, some 23 in all, between 27 August 1943 and 25 August 1944. The majority of the raids were carried out by the USAAF, with 6 falling to the RAF's Bomber Command. On 19 June 1944 33 Squadron escorted 19 Lancasters of 617 Sqn in to the target, but the weather was too bad for accurate bombing and the nearest Tallboy missed the target by 50 yards. On 6 July some 550 Bomber aircraft were back in the Pas de Calais attacking five V-weapon sites, including Watten and Mimoyecques. At Watten a Tallboy penetrated and severely damaged the bunker, bringing down part of the roof, while at Mimoyecques 617 Sqn hit one of the shafts with a Tallboy that bored into the earth and exploded underground, leaving an enormous crater.

Oberkommando West had given permission to stop construction work at Watten three days earlier, and had begun moving liquid oxygen generators and machinery back to Germany. The site was captured on 4 September 1944 by Canadian forces. The Germans had evacuated it a few days earlier and removed the pumps which kept the cavernous basement free from water; not long afterwards it began to flood. This made a substantial amount of the bunker inaccessible.

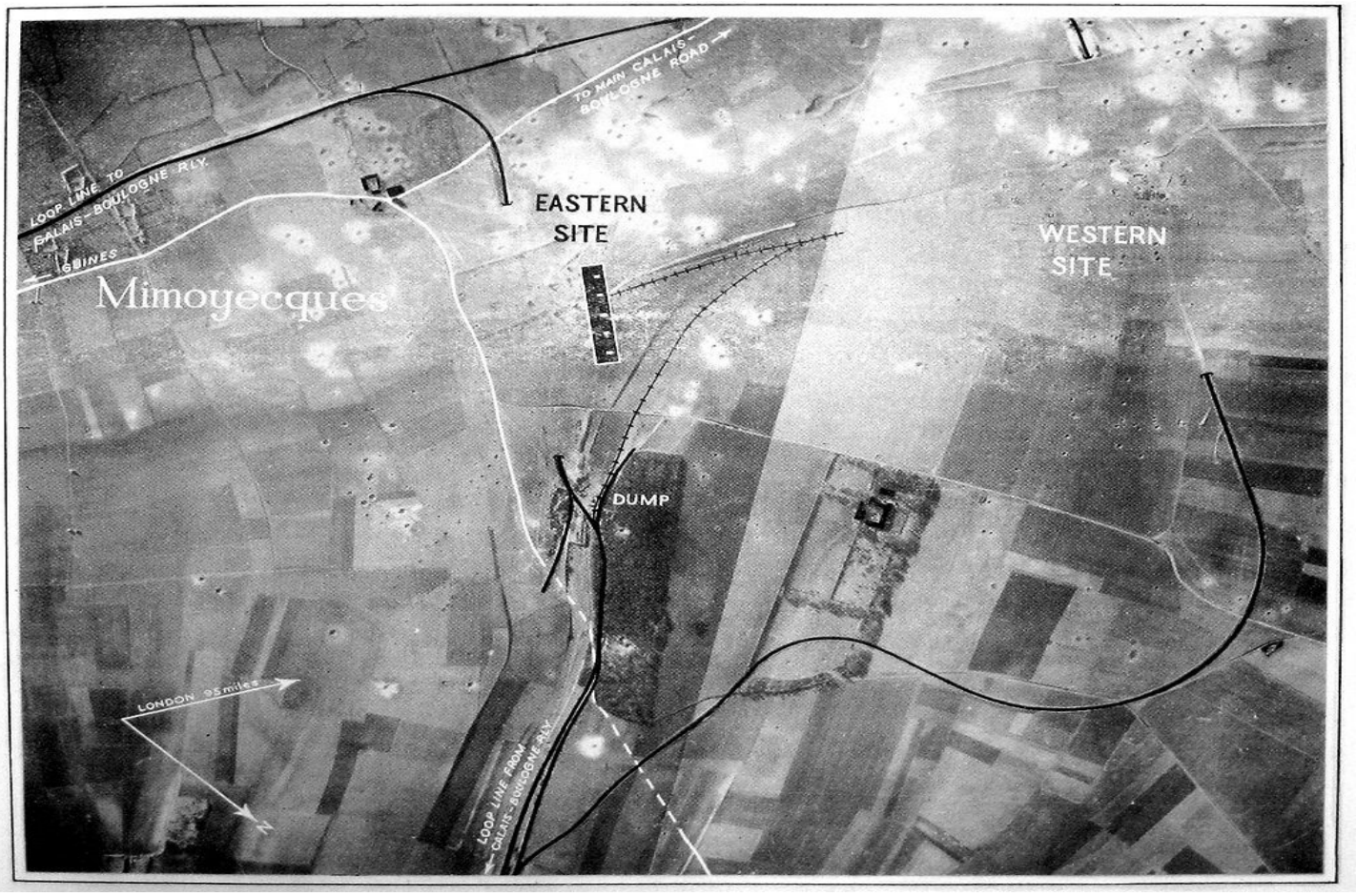
The Watten bunker site was left abandoned for many years before the owners decided to redevelop the site. In 1973, the bunker was opened to the public for the first time under the name of 'Le Blockhaus d'Éperlecques' and on 3 September 1986 the French state declared it an historic monument. The area around the bunker has been re-forested, though it is

still heavily scarred by bomb craters.

Mimoyecques

The Mimoyecques complex near the Canadian War Cemetery at Saint-Inglevert consisted of a network of tunnels dug under a chalk hill, linked to five inclined shafts in which 25 V-3 guns would have been installed, all targeted on London. The guns would have been able to fire ten dart-like explosive projectiles a minute – 600 rounds every hour – at London, which Winston Churchill later commented would have constituted "...the most devastating attack of all". The Allies knew nothing about the V-3 but identified the Mimoyecques site as a possible launching base for V-2 ballistic missiles, based on reconnaissance photographs and fragmentary intelligence from French sources.

After the devastating raid of 6 July, the Germans held a high-level meeting on the site's future at which Hitler ordered major changes to the site's development. On 12 July 1944 Hitler signed an order instructing that only five HDP guns were to be installed in a single drift. The two others were to be reused to house a pair of Krupp K5 artillery pieces, reamed out to a smooth bore with a diameter of 310 millimetres (12 in), which were to use a new type of long-range rocket-propelled shell. A pair of Rheinbote missile launchers were to be installed at the tunnel entrances. These plans were soon abandoned as Allied ground forces advanced towards Mimoyecques, and on 30 July the Organisation Todt engineers were ordered to end construction work.



It fell to the Canadian 3rd Infantry Division on 5 September 1944 without resistance, a few days after the Germans withdrew from the area. The complex was partly demolished just after the war on Churchill's direct orders, to the great annoyance of the French, who who were not consulted, as it was still seen as a threat to the United Kingdom. It was later reopened by private owners, first in 1969 to serve as a mushroom farm and subsequently as a museum in 1984. A nature conservation organisation acquired the Fortress of Mimoyecques in 2010 and the company running the La Coupole museum took over its management. It continues to be open to the public as a vast underground museum complex.

Siracourt

The small village of Siracourt is situated just off the Arras-Montreuil road D 939 near to St Pol sur Ternois and is the most complete of the four huge bunkers were supposed to have been built to launch the V-1 bombs. Whilst it may have been intended to use the 'Heavy Crossbow' sites, their size made them all too identifiable and the end of their days were probably used as a decoy for other developments.

In June 1943 the Allies were hampering German construction efforts and Siracourt was commenced a month later using a new method of construction. Rather than trying to build the chambers and then strengthening the roof the new idea was to create the walls by digging the necessary trenches and pouring in the concrete. Once that had been done the roof (which was about five metres thick) was poured directly onto the walls and the field in between.

Once the outer casing had been finished teams were then sent in to hollow out the interior. A panel at Siracourt tells us that Soviet prisoners of war were used at the site.

The interior would be about 5 metres high, 14 metres wide and almost 200 metres long. Whilst the exterior measurements show the thickness of the walls — 10 metres high, 36 metres wide and 212 metres long. The construction was noted by the RAF in October 1943 and the first bombing raids were made against it on the 24th February 1944. Even if these Wasserwerk buildings had been completed they were flawed from the design board. The company that had been directed to draw up the plans for the bunkers had never been told what they were going to be used for. They therefore used the standard material of reinforced concrete. It is quite evident looking at Siracourt that it is riddled with iron rods and it would therefore have been impossible to set the guidance system on the rocket.

The original idea was to prepare the rockets inside the base and then wheel them out onto the launch pad situated on the northern side of the bunker. Even today you can still see the slight slope going down into the bunker, despite the damage caused by the Tallboy bombs. However, to align the compass the firing team would have needed to bring the rocket outside of the base as far away as necessary to stop the building affecting the compass. Only then could they finish the calibrations for the V-1 which would take about 30 minutes.

The missile would then need to be used within the immediate future as the sheer weight of iron in the main bunker would soon affect it again if left for too long in storage.

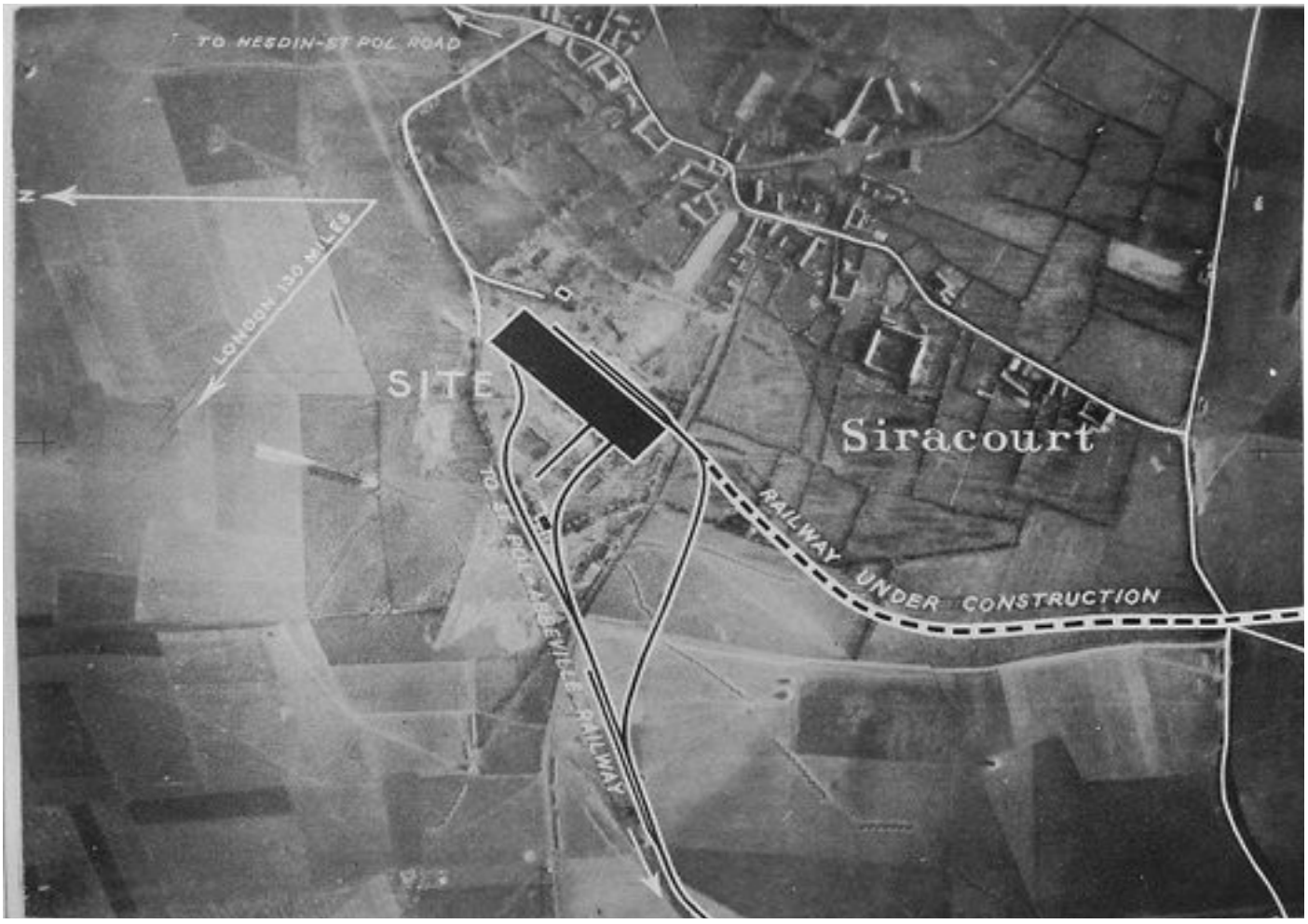
Another problem with this massive bunker was the fact that they could not store the chemicals used in the launch catapult. They were far too dangerous and an explosion inside the bunker would have been disastrous. Designed to hold hundreds of V-1 rockets (and their accompanying tons of explosives) any explosion would have caused a chain reaction.

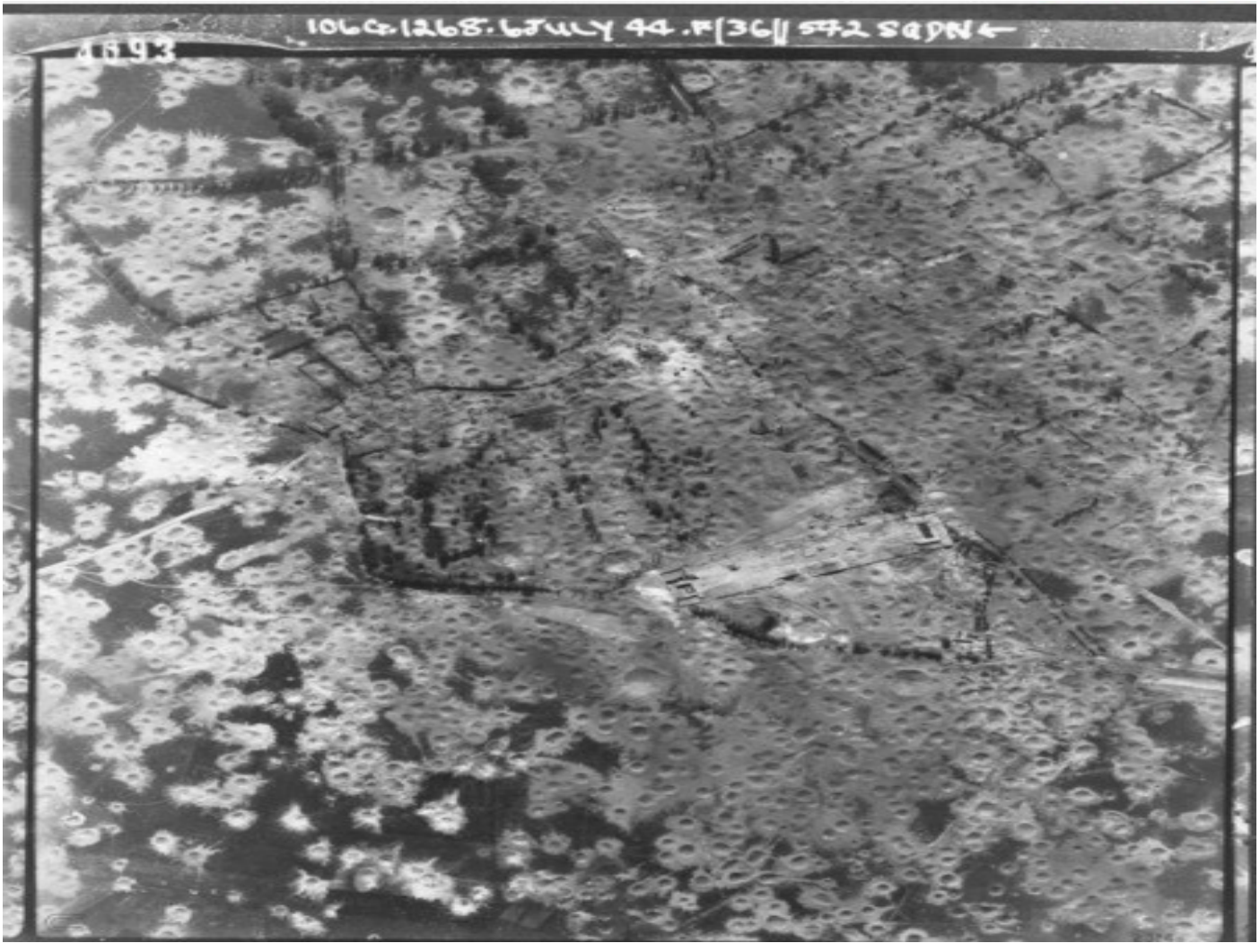
It was thus obvious to the Luftwaffe that they had been given a huge but utterly useless bunker. The only thing that it did, was draw Allied bombers like moths to a lamp. And there was its only attraction.

Whilst the modified V-1 launch sites fired their missiles at London, Siracourt was taking a pounding, despite having been abandoned in June 1944. Over 5000 tons of bombs were dropped on Siracourt, destroying it completely. The bunker though remained pretty much intact.

The final raid on 25 June 1944 saw seventeen of the 6- ton Tallboy bombs dropped on the bunker, but even these had very little effect, as can be seen by photos of the bunker today.

In trying to destroy this worthless building the Allies lost over 150 aircraft and more than 700 airmen.


TO HESDIN-ST POL ROAD
N
LONDON 130 MILES
SITE
Siracourt
RAILWAY UNDER CONSTRUCTION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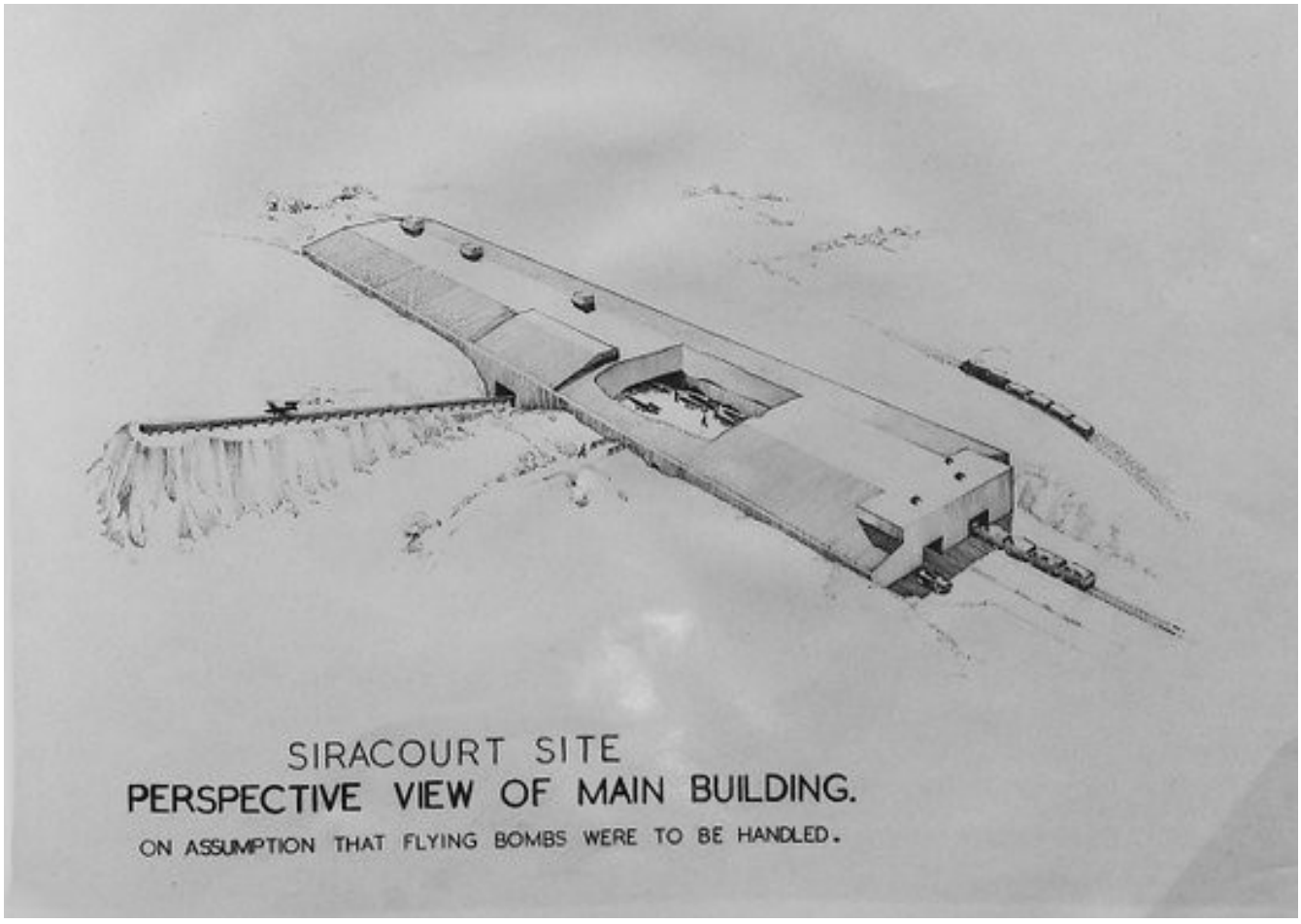
SIRACOURT SITE
PERSPECTIVE VIEW OF MAIN BUILDING.
ON ASSUMPTION THAT FLYING BOMBS WERE TO BE HANDLED.

The Tallboy bomb was aimed at the target during an operation and proved capable of penetrating deep into hardened reinforced concrete when it hit. This, however, was not the primary intention of Barnes Wallis's design. The bomb was designed to make impact close to the target, penetrate the soil or rock beneath or around the target, and then detonate, transferring all of its energy into the structure, or creating a cavern or crater into which the target would fall.

This 'earthquake' effect caused more damage than even a direct hit that penetrated the armour of a target, since even a burst inside a bunker would only damage the immediate surroundings, with the blast dissipating rapidly through the air. An earthquake impact shook the whole target, and caused major structural damage to all parts of it, making repair uneconomic. The attack reports below should be considered with this in mind.

An alternative technique was to arrange detonation depth so that the crater broke the surface—useful for attacking railway marshalling yards and similar targets. The Tallboy produced an 80 ft crater with depths up to 100 ft, unlike conventional bombs which would produce many shallow craters across a target—each one of which could later be filled in rapidly with earth-moving equipment. Such a huge hole was time-consuming to fill; multiple trucks and bulldozers could not be fitted around the periphery of the hole to speed the process.

The construction of each Tallboy was labour intensive because each was largely hand-made, requiring much manual labour during each separate manufacturing stage. The materials used were costly, with very precise engineering requirements with regard to casting and machining. For example, to increase penetrative power, a large and specially hardened steel plug had to be precisely machined and mated to a recess in the nose of the bomb. The ogive had to be machined into a perfectly symmetrical shape to ensure optimum aerodynamic performance. This was no easy task when manipulating a bomb casing with the size and weight of a Tallboy.

The Torpex filling was poured by hand into the base of the upturned casing after melting it in "kettles". The final stage of explosive filling required that a one-inch layer of pure TNT be poured over the Torpex filling, followed by sealing the base with a 4-inch (100 mm) layer of woodmeal-wax composite with three cylindrical recesses fitted with the explosive boosters and into which three chemical time-fuses were inserted when the bomb was finally armed.

Tallboys were not considered expendable, and if not used on a raid were to be brought back to base rather than safely jettisoned into the sea. The value of the weapon offset the additional risk to the aircrew.

Given their high unit cost, Tallboys were used exclusively against high-value strategic targets that could not be destroyed by other means. When it was found that the Lancaster could be modified to carry a bomb larger than the Tallboy, Wallis produced the even larger Grand Slam bomb.

Operation Crossbow sorties

Operation Crossbow was a set of offensive and defensive measures that were carried out to deal with the threat of the German V-1 flying bomb ("buzz bomb" or "doodlebug") and V-2 rocket weaponry. As part of the operation, Tallboys were deployed on a number of sorties by the British to destroy several missile sites.

19 June 1944 – Watten
The nearest Tallboy dropped by 617 Squadron landed 50 yd (46 m) from the target, a heavily fortified V-2 launch site under construction. The bunker was rendered useless.

24 June 1944 – Wizernes
The target was a V-2 assembly and launch site linked with the Watten site. Several Tallboy hits undermined the foundations but did not penetrate the dome. The bunker was abandoned.

25 June 1944 – Siracourt V-1 bunker
Lancasters of 617 Squadron scored three direct hits with Tallboys without loss.

4 July 1944 – Saint-Leu-d'Esserent
617 Squadron used seventeen Lancasters with Tallboys, supported by one Mosquito and one Mustang, in an attempt to collapse the limestone roof of the caves used as storage depots. Aircraft from No 5 Group followed up with 1,000 lb (450 kg) bombs.

6 July 1944 – Mimoyecques
Attack on V-weapon targets.[6][8] Damage was unknown at the time, and efforts continued. In September, allied ground forces found galleries blocked with earth and debris where Tallboys had hit one of the shafts. The V-weapon was revealed to be the V-3 cannon.

17 July 1944 – Wizernes
Sixteen Lancasters, led by a Mosquito and a Mustang, bombed *Wizernes* – three Lancasters managed to drop Tallboys (one caused the dome to shift out of alignment, two others blocked the entrance).

27 July 1944 – Watten
One Tallboy hit the target but did not penetrate the structure.

31 July 1944 – Rilly La Montagne
Both ends of the railway tunnel were collapsed by Tallboys dropped by 617 Squadron. William Reid's Lancaster at 3,700 m (12,000 ft) was hit by a 'friendly' Tallboy dropped from 5,500 m (18,000 ft)

Operation DYNAMO: Evacuation from Dunkirk
27 May – 4 June 1940

We started the 2019 Battlefield Tour from Swingate Downs near Dover Castle, from where the RFC deployed its Squadrons in support of the BEF in France in August 1914. We have driven around the area of Europe that has seen countless battles fought over the centuries. A little over two decades after the end of the war to end all wars, Europe was at war again and the British deployed another BEF into France and Belgium, on ground that their fathers would have marched across in 1914-1918.

In World War One Marshal Foch, commanding the 9th French Army, based his HQ atop Mont Cassel in the plains of Flanders. Foch was there from October 1914, the First Battle of the Marne, to June 1915. From the ramparts he would have had a superb view across the flat Flanders landscape, while the town of Cassel offered a key strongpoint at the junction of five roads. The Army that held Cassel could view the terrain and the movement of the opposing forces .

In 1940 Cassel was a key defensive point for the British and French forces attempting to prevent the German Army from cutting off the BEF and its French allies as they made their way to the coast and towns like Dunkirk, Zuydcoote, La Panne and Brays Dunes.

The evacuation plans from Dunkirk and the French and Belgian coast were masterminded by the Commander in Chief, Dover from the underground tunnels beneath Dover Castle. He is my second favourite naval officer behind Admiral Lord Nelson—Vice Admiral Bertram Ramsay. While the popular myth built up by the film industry is that the armada of small ships evacuated the BEF from the jaws of death, the Mole at Dunkirk was used far more effectively than popular history gives credit. In July 1943 Ramsay was in command of the Task Force involved in the amphibious landings supporting Operation HUSKY - the Allied invasion of Sicily—and then executed Operation NEPTUNE, the landing operations supporting Operation OVERLORD on 6 June 1944. For D-Day he coordinated and commanded almost 7 000 vessels, delivering 160 000 men on the first day alone. By the end of June over 875 000 had disembarked. It was Ramsay who argued with Eisenhower that Operation MARKET GARDEN was the wrong option and that the prime objective should be the port of Antwerp.

The BEF In France

On 1 September Germany invaded Poland. Two days later Britain was at war. It tok little more than five weeks for for the first four divisions of the BEF under General Gort to concentrate in France. The British Lines of Communications ran from Cherbourg, Nantes and St Nazaire through Rennes, Le Mans and Rouen, to Arras and on to the Belgian frontier. With the French 1st Army to its right, and the French 7th Army to its left, the BEF was deployed facing neutral Belgium, not Germany, expecting a repeat of the 1914 German flanking movement around the Maginot Line. Defensive positions were dug and the waiting game began. Offensive operations were out of the question. "*In September 1939, the British Army was totally unfit to fight a first-class war on the Continent of Europe*." said Major General Bernard Montgomery, commander 3rd Division.

The Germans launched Operation SICHELSCHNITT on 10 May 1940. Within a few weeks the offensive would

Month	From the Mole	From the beaches	Month	From the Mole	From the beaches
May			**June**		
27	7699	2 500	1	47 072	7 348
28	118 74	5 930	2	19 561	6 695
29	33 558	13 752	3	24 876	1 870
30	24 311	29 512	4	25 553	622
31	45 072	22 942			
Total	122 514	74 636		117 062	19 535
Mole Evacuees	**239 576**	**Beach Evacuees**	**94 171**	**Total Evacuees**	**333 747**

eliminate France, Belgium and Holland from the war and drive the British Army from the Continent for nearly four years. The campaign was a German victory of a speed and completeness which caught even the victors unprepared. To the defeated it was a catastrophe. Facing the BEF, the German right flank was strong, with some 28 Divisions in Army Group B, while on the southern left flank Army Group C had 17 Divisions directed towards the Maginot Line. Army Group A, under General von Rundstedt, sat in the centre, with 44 Divisions and seven of the ten Panzer Divisions.

The German Blitzkrieg broke through the Allied defences all along the line. On 13 May Guderian was across the Meuse river, the Dutch capitulated on 14 May after Rotterdam was destroyed by the Luftwaffe, and as early as 15 May the French premier, Reynaud, was calling Churchill to tell him that the battle was lost. On 19 May, with Army Group A reaching Peronne on the Somme, the BEF fell back behind the Scheldt and Churchill ruled that no more squadrons of fighters would leave Britain whatever the need in France. The following day, 20 May, Guderian reached Noyelles on the coast, cutting the Allied armies in half. The remaining fighters of the Air Component returned to Britain, and Gort ordered the evcaution of non-fighting troops, saving 27 936 troops in the process. By 21 May the RAF only had three squadrons left in France: 1, 73 and 501.

To the north, the BEF had withdrawn from Arras and Escaut, taking up a line Maulde-Halluin, with the Belgian Army deployed along the River Lys. The French First Army, the BEF and the Belgian Army now recognized that disengagement, withdrawal and evacuation was their best option, and looked at establishing a bridgehead to protect Dunkirk.

Having captured Boulogne on 25 May, the Germans pushed on and took Calais on 26 May. That day the British Government ordered Operation DYNAMO to begin and Gort was ordered to save as much of the BEF as possible. The Luftwaffe commenced air attacks on Dunkirk on 27 May, the Belgian Army capitulated on the 28th and Coastal Command, No.2 Group and Bomber Command commenced continuous day and night patrols, attacking German troops around Dunkirk in daylight and road approaches and rear communication centres at night. On 31 May, with the bulk of the BEF safe, Lord Gort was ordered to embark, leaving command of the rearguard force - 1, 46 and 50 Division - to General Alexander. At 1130 on 2 June, the Senior Naval Officer Dunkirk sent the following signal: 'BEF evacuated.' Two days later, at 0340, the British destroyer *Shikari* pulled away from Dunkirk. At 0900 Dunkirk surrendered. There were 140 000 British troops still in France.

On 11 June Rommel's 7th Panzer Division broke through the Allies western defences and seized the high ground overlooking the town and harbour of St Valery en Caux. The following day the 5ist (Highland) Division surrendered. The following day Lt-Gen Sir Alan Brooke arrived in Cherbourg, with orders to make contact with the French and take command of what was to be a new BEF, but when he met with the Supreme Commander Allied Forces in France, General Wygand, he was told that the French Army had ceased to offer any organised resistance.

On 16 June Churchill's offer of an Anglo-French political union was rejected, and Marshal Pétain asked for an armistice on 17 June. That day the SS *Lancastria* was sunk off Nantes, with 5 800 troops onboard. The second evacuation from the French Atlantic ports was completed on 18 June, with 191 870 people evacuated, including 144 171 British troops and airmen. That day in the House of Commons, Winston Churchill made a speech and said:

"*What General Weygand called the Battle of France is over. I expect the Battle of Britain is about to begin."*

The Franco-German Armistice Agreement was signed near Compiègne on 22 June 1940, in the same rail carriage and at the same site that Germany had signed the 1918 Armistice to end the Great War. Adolf Hitler sat in the same chair that Marshal Foch had sat in when he faced the representatives of the defeated German Empire. The Armistice site was demolished on Hitler's orders three days later and the carriage taken to Berlin as a trophy of war, along with pieces of a large stone tablet which bore the French inscription: *'Here on the eleventh of November 1918 succumbed the criminal pride of the German Reich, vanquished by the free people which it tried to enslave'*. In 1945 the carriage was taken to Crawinkel in Thuringia, where it was destroyed by SS troops and the remains buried.

As we learned at Hawkinge and Capel-le-Ferne, the Battle of Britain started on 10 July and went on until 31 October 1941. British casualties were 1 542 aircrew killed, 422 aircrew wounded and 1 744 aircraft destroyed. Civilian losses were 14 286 killed and 20 325 injured. German losses were 2 585 aircrew killed and missing, 925 captured, 735 wounded, with 1 977 aircraft destroyed. War in the air had moved on considerably from those early days of 1914, when the RFC sent out 63 aircraft to support the BEF.

33 Squadron Association Battlefield Tour 2019 Reader

Acknowledgements

The 2019 Tour Guide and this Reader have drawn upon information and photographs that I have found on the internet and from my own, and Chris Perkin's, knowledge and sources. Hence I am partly author and partly editor. I acknowledge the contribution that many internet sources have made to this book. I believe that in so doing I have drawn upon material that is in the public domain. Should any material be under copyright I will rectify when notified. The book is produced for private use and for study, particularly by those of the younger generation who may wish to research the history of 33 Squadron in the future.

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