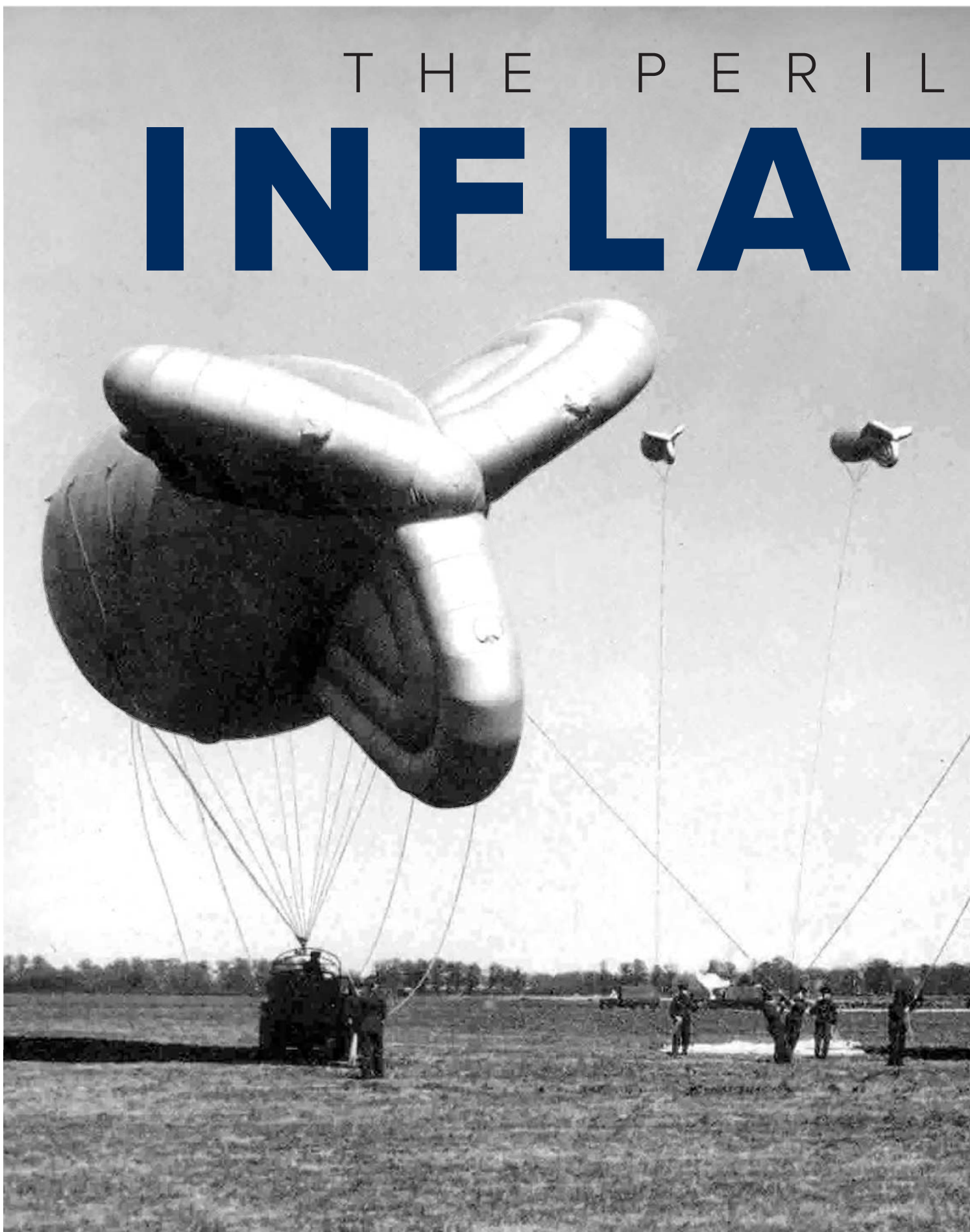
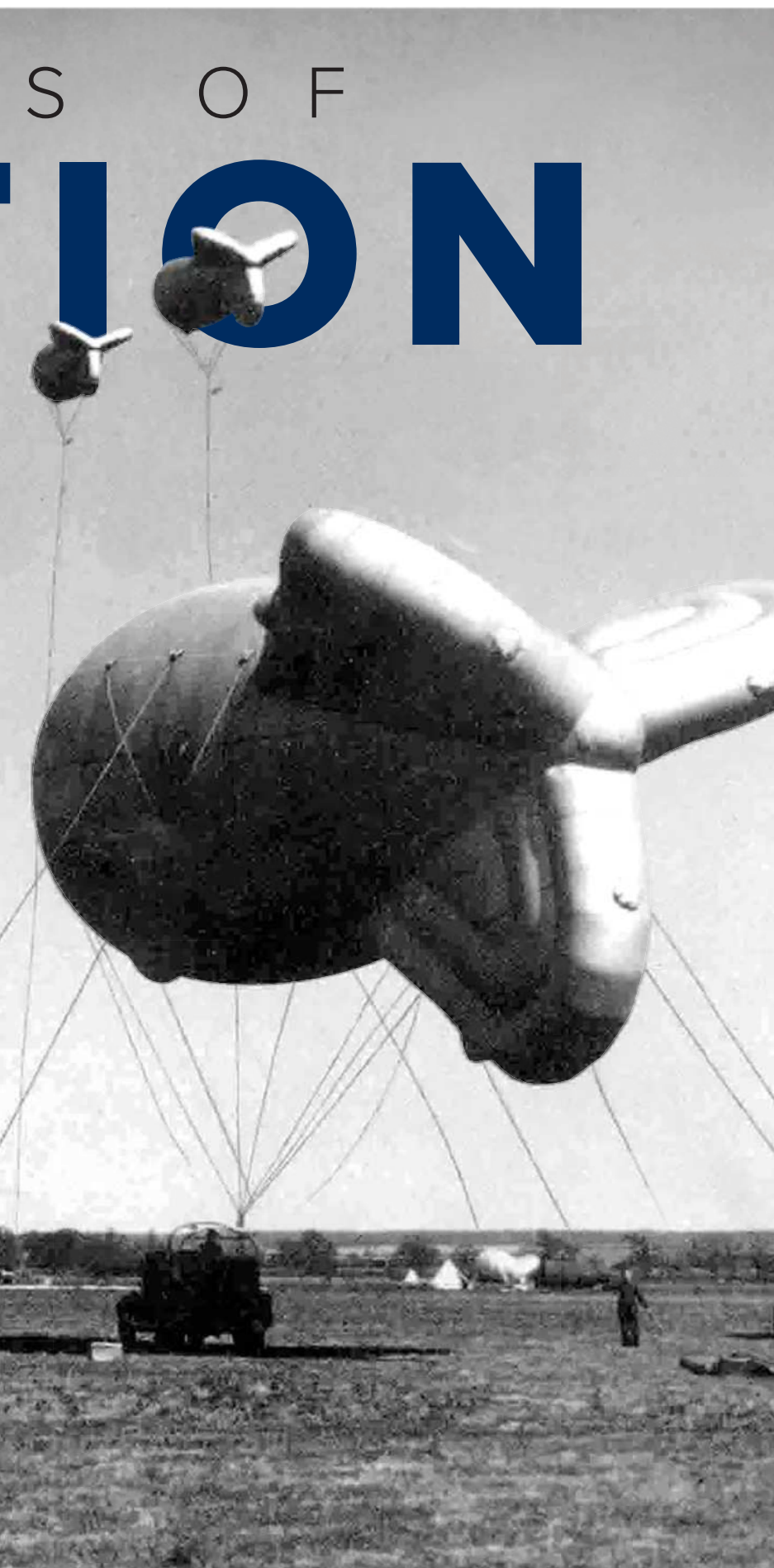


T H E P E R I L
INFLAT





RAF Balloon Command was an integral part of Britain's air defence in World War Two, but these silvery beasts were hard to control and would bite friend and foe alike, as **Steve Richards** explains

Towards the end of 1940, Birmingham was in the thick of the Blitz. Things were relatively quiet on the night of November 8, with just two German Heinkel He 111s belonging to a crack Luftwaffe unit dropping bombs on the city. There was, however, a third aircraft droning overhead.

This was a lumbering RAF Avro Anson.

On board was the normal four-man crew, plus a specialist wireless expert. The aircraft belonged to the Wireless Intelligence Development Unit based at Wyton, Huntingdonshire (this RAF airfield continues to specialise in electronic intelligence-gathering).

On this particular winter's night, their task was to collect information on German radio-beam transmissions then being used by the Luftwaffe to guide bombers to their targets. The dedicated fifth man in the Anson was especially eager to intercept the signals that were being used by the two Heinkels, because they hailed from KGr100, a specialist Luftwaffe unit using *X-Verfahren*, a sophisticated radio-beam system.

Shortly after midnight, while flying over the Stechford area of the city, the Anson's airframe shook violently and turmoil ensued inside the cabin. The machine was plunging earthwards. Within the cramped, dark fuselage there was little hope that any of the men would manage to grab a parachute or locate either the rear door or any emergency exit. The aircraft had struck a barrage balloon cable. It crashed onto the LMS railway track. All of those aboard were killed.

The Anson was not unique in falling foul of the balloons suspended over Birmingham and its outskirts. During the war a dozen friendly aircraft came to grief because of these

LEFT: The balloons were typically flown at up to 5000 feet, and were perilous to both Allied and enemy aircraft. This photograph was taken at a balloon station, possibly RAF Cardington in Bedfordshire PETER ELLIOTT-RAFM

BARRAGE BALLOONS

RIGHT: School children from Bristnall Hall Senior Boys School in the West Midlands pose with their local barrage balloon – it belonged to 911 Squadron
BIRMINGHAM LIVES

balloons, resulting in the deaths of numerous personnel.

The elephantine barrage balloons were suspended in the skies over many British towns and cities from September 1939 until late in the war. They were looked upon with some affection by the civilian population and the crews who operated them, even to the point where 'their' local balloon was christened with names such as *Barry the Barrage Balloon*, or *Matilda, Annie, Susie and Romeo*.

Operating the balloons

The streamlined inflatables were large, 63ft long and 31ft high, and made of specially treated, rubber-proofed cotton fabric. The gas bag had a capacity of 19,150cu ft and weighed 550lbs. The balloon was flown on a flexible steel cable of 0.31-inch diameter and it was this cable, rather than the balloon itself, that deterred aircraft from flying in the vicinity. A collision with the cable almost inevitably meant that the aircraft would not make it back to base.

As barrage balloons were inflated with hydrogen, which is much lighter than air, they were able to rise thousands of feet skywards, tethered by their lethal cables. As the balloon gained altitude, the atmospheric pressure diminished and, as a result, the hydrogen gas expanded. For this reason the balloon was designed to make allowances for this expansion.

A false bottom permitted the



lower cavity to be filled with air which, as the hydrogen gas expanded, was expelled. This false bottom was called the ballonet and the flexible wall which separated it from the upper (gas) chamber was referred to as the diaphragm.

When the balloon was inflated, the upper compartment was not loaded to capacity with the hydrogen. The ballonet was filled

with air through its wind scoop. As the balloon ascended, the atmospheric pressure dropped, the hydrogen expanded pushing down on the diaphragm and so expelled the air. On descending, the ballonet scooped in air as the gas was compressed, the shape of the balloon remaining constant. Three air-inflated stabilisers ensured that the balloon flew on an even keel, and always faced into the wind.

Maintaining and flying a barrage balloon was heavy and demanding work. Normally a balloon site was manned by two corporals and eight men. From 1941, personnel from the Women's Auxiliary Air Force (WAAF) were also actively employed in operating the balloons. At first, the women were formed into mixed crews with the men. Later, exclusively-WAAF crews were used; these numbered 16 to a crew because of the nature of the heavy workload.

When in flight, balloons were vulnerable to lightning strikes, as the steel cable acted as a conductor and the hydrogen gas

BELOW: Shortly after midnight (therefore on November 9, 1940), an Avro Anson, like the one illustrated, crashed onto the LMS railway at Stechford having struck a balloon cable
ALL STEVE RICHARDS COLLECTION UNLESS NOTED





was particularly inflammable; this combination generally meant it was impressively destroyed by fire. During autumn 1939, lightning strikes on balloons in the London area saw an astonishing 80 examples destroyed in a single afternoon.

Snow and ice were also a problem, making the balloon heavy, but wind was the biggest challenge, especially when trying to bed the inflatable down.

As the war progressed, new equipment and techniques ensured a more efficient operation. Gusty conditions could cause a balloon to break loose from its mooring site and float off trailing its steel cable – this wrought havoc upon chimney pots, roof tiles, tram wires, lamp posts and more. Balloons were also vulnerable to attacks by enemy aircraft and shrapnel

damage from exploding anti-aircraft shells.

Heinkel down

In another incident over Birmingham, soon after midnight on April 10, 1941, a Heinkel He 111P was critically damaged by an RAF night-fighter from 151 Squadron. As it lost height over the suburb of Quinton, to the west of the city centre, it struck a balloon. The bomber crashed on to houses in nearby Warley, killing all seven occupants of the buildings. The incident was, however, a morale boost for the 915 Squadron balloon crew – although the reality was that the aircraft was doomed before it hit the inflatable. Each member of the barrage balloon crew was issued with a commemorative medallion made from metal

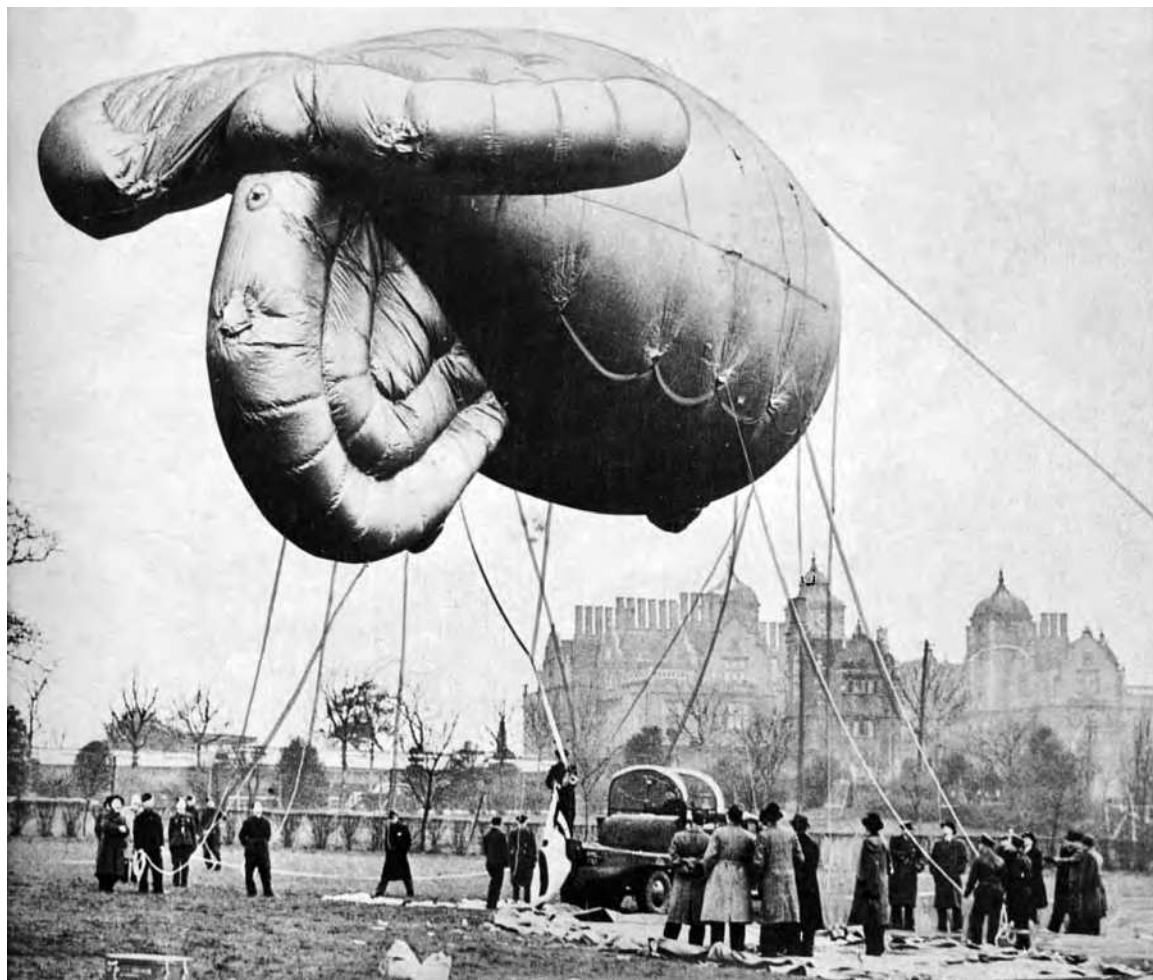
taken from the wrecked Heinkel.

Although some German aircraft fell victim to balloons, the apparatus' primary purpose was to discourage the enemy from low-flying. This relatively passive role meant that the operating crews had little to encourage them, despite putting in much hard work.

RAF Balloon Command

While anti-aircraft guns and searchlights were the responsibility of the army, barrage balloons fell under the remit of the RAF. Following their deployment over London during 1936 to 1938, the Air Staff became convinced of the value of such barrages as a means of keeping enemy aircraft at reasonably high altitudes. It was therefore decided that key provincial towns and cities would have their own

“The elephantine balloons were suspended in the skies over many British towns and cities from September 1939”



LEFT: Balloon squadrons were formed in the Birmingham area at the start of 1939. Here a barrage balloon is demonstrated at Aston Park in March of that year

RIGHT: A medallion, made from a piece of the Heinkel's wreckage, was given to each of the Quinton balloon crew as a memento



Birmingham had more barrage balloons than any other defended area in the country, with the exception of London. The Midlands city had a total of 168 balloons, flown by four squadrons – 911, 913, 914 and 915. The first two of these came under the leadership of 5 Balloon Centre at RAF Sutton Coldfield, and the last two under 6 Balloon Centre at RAF Wythall. All were a part of 31 Barrage Balloon Group.

Multi-tasking

RAF barrage balloon personnel often shared in the civil defence role during and immediately after air raids. As the threat of invasion grew, a number of industrial cities and towns were divided up into various defensive sectors, and in some of these it was the balloon squadrons that took on command and control.

Personnel were given regular weapons training and, together with the Home Guard, had specific

barrages, and so was born RAF Balloon Command.

The new command was divided into five groups (numbered 30 to 34), subdivided into Balloon Centres. These governed the squadrons in the field, providing supply, maintenance and administration, including sick quarters. Units were initially established on a 'skeleton' basis manned by a small force of regular personnel, supplemented by local part-time auxiliaries.

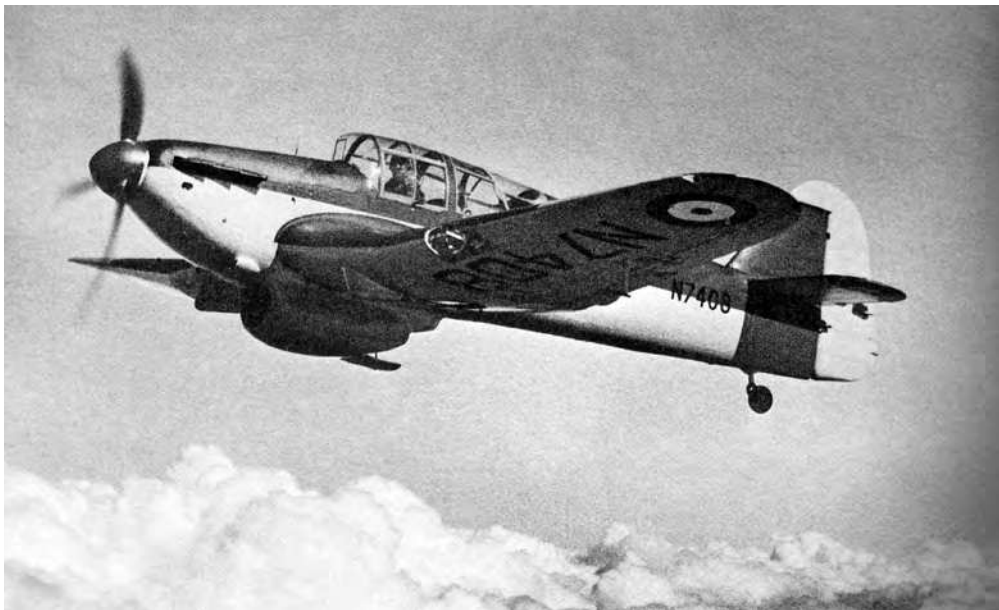
Recruiting for the Auxiliary Air Force barrage balloon squadrons began in the first weeks of 1939. Typically, they were sourced from Territorial Association volunteers, generally aged between 25 and 50. They trained during the evenings

and at weekends throughout the summer months, receiving coaching from regular serving RAF instructors.

Mobilisation took place in August 1939, and in April 1940 a number of balloon squadrons were obliged to provide mobile units for service with the British forces in France. These units were sent to RAF Cardington, Bedfordshire, and were then dispatched to their port of embarkation. Just weeks later, their equipment was abandoned in the face of the German onslaught, but personnel were evacuated safely in late May. After disembarkation leave, they re-mustered at RAF Cardington for training and re-equipment.

By the summer of 1940,

BELOW: Miles Master I N7408 hit a balloon cable and crashed on to the roof of W & T Avery in Smethwick on August 28, 1940
PHILLIPS & POWIS
AIRCRAFT LTD



AIRCRAFT BROUGHT DOWN BY BIRMINGHAM'S BALLOONS

August 28, 1940 At 1130hrs Miles Master I N7408, en route from Sealand to Brize Norton, struck a balloon cable (site 22 of 911 Squadron) at West Bromwich. The aircraft crashed on to the roof of W & T Avery's factory,

Smethwick. The pilot was killed but there were no serious civilian casualties.

October 28, 1940 Bristol Blenheim IV R3840 struck a balloon cable (site 24 of 911 Squadron) at 1530hrs, severing a wing. The aircraft crashed near the Warley Odeon cinema. The machine was being ferried by the Aircraft Transport Auxiliary, which was based at White Waltham, Berkshire. The pilot was killed.

November 9, 1940 Avro Anson I N9945 of the Wireless Intelligence Development Unit, based at Wyton, Huntingdonshire, hit a balloon cable (site 3 of 913 Squadron) at Stechford and crashed onto the LMS railway track. The accident occurred at 0015hrs. The crew of five were killed.

December 12, 1940 Hawker Audax I K7445 of 9 FTS crashed at 1630hrs, after hitting a balloon cable (site 61 of 915 Squadron)

at Longbridge. The pilot was killed.

February 12, 1941 Handley Page Hampden I AD734 of 83 Squadron, based at Scampton, Lincolnshire, returning from an operational mission to Bremen, hit a balloon cable (site 67 of 914 Squadron) at 0206hrs. The crew baled out safely.

March 21/22, 1941 Bristol Blenheim IV T1892 of 105 Squadron, based at

Swanton Morley, Norfolk, while returning from an operational mission, hit a balloon cable (site 61 of 915 Squadron) shortly before midnight. It crashed soon afterwards at Cofton Hackett. All of the crew were killed.

April 10, 1941 Heinkel He 111P (w/n 1555) 1G+KM of 4/KG 27 was attacked by a Defiant and then collided with a balloon cable (site 17 of 915 Squadron). The aircraft crashed on



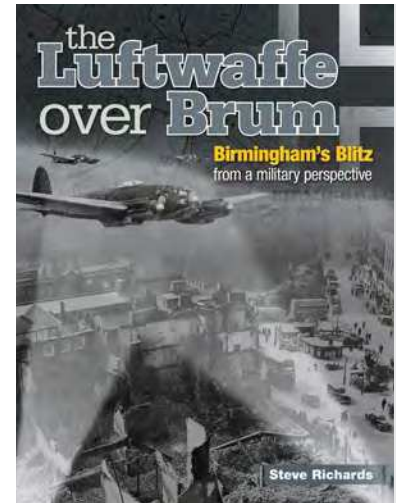
responsibilities for defence in the face of enemy infiltrations on the ground. This meant close liaison not only with the garrison commander, but also commanders of the Home Guard, both field force and factory units.

Another role bestowed on the RAF balloon squadrons was that of organising and operating decoy fires. Carefully laid out trench

systems containing petrol could be ignited to simulate a town ablaze when viewed from the air. These special fires were first tried in late 1940. Subsequently they were known by the codename 'Starfish'. In January 1941, all Starfish sites became the responsibility of Balloon Command.

As the war progressed and the threat of air raids over the Midlands diminished, the Birmingham balloon squadrons were firstly merged and then disbanded; so their hard-working personnel played no part in the victory parades of May 1945. **FP**

BELOW: This wreck is an RAF Blenheim that crashed at Bearwood in February 1942. It collided with a balloon cable which was tethered at Avery's sports ground in Edgbaston
BIRMINGHAM LIVES



ABOUT THE AUTHOR

Steve Richards became interested in aviation at the age of 11 when he started building plastic kits of aircraft. During the 1970s and '80s he contributed large numbers of photographs and some articles to aviation magazines and books.

In 2012, he began his most ambitious effort to date, *The Luftwaffe over Brum – Birmingham's Blitz from a Military Perspective*. What is most remarkable about the project is that, by this time, Steve had no useful sight and all the work was done using the eyes of friends and family to read material for him, much of which had to be recorded on to audio. "Thank goodness for voice recognition/speech software on my computer!" he said.

Steve is married and has two grown-up daughters. The book costs £19.95 and is available from www.birminghamair-raids.co.uk

“Personnel were given regular weapons training and specific responsibilities for defence”



to adjacent houses in Smethwick at 0140hrs, killing seven civilians. Two of the crew were killed and two were taken prisoner.

July 7, 1941 Armstrong Whitworth Whitley V Z6476 of 10 OTU, based at Abingdon, Oxfordshire, hit a balloon cable (site 51 of 915 Squadron) at Quinton at 0155hrs. The aircraft was taking part in a cross-country exercise. The Polish crew of six were killed when the aircraft

crashed on open ground at Quinton.

October 10, 1941 De Havilland Tiger Moth DH.82A T8199 of 19 EFTS, based at Sealand, Flintshire, hit a balloon cable, stalled and then crashed near Bartley Green at 1240hrs. The pilot was injured.

October 12, 1941 Westland Lysander IIIA V9612 of 7 AACU hit a balloon cable (site 5 of

913 Squadron) at 1213hrs. It crashed at Erdington.

November 8, 1941 De Havilland Tiger Moth II N9156 of 14 EFTS hit a balloon cable (site 29 of 913 Squadron) at Castle Bromwich at 1544hrs. The aircraft broke in two and crashed a few hundred yards from the balloon site, both of the airmen having baled out successfully.

February 20, 1942 At 1038hrs, Bristol

Blenheim IV Z5899 of 17 OTU, based at Upwood, Cambridgeshire, hit one of 911 Squadron's balloon cables, which was tethered at Avery's sports ground in Edgbaston. It fell on to houses in Bearwood. There were no civilian casualties but the crew of three were killed.

August 7, 1942 Vickers Wellington IC R1075 of 16 OTU, based at Upper Heyford, Oxfordshire, hit two

balloon cables in succession, site 12 at 0137hrs and site 38 at 0141hrs (both 911 Squadron). The aircraft crashed at Erdington. Four of the crew were killed and two baled out safely.

The author wishes to thank Delwyn Griffith and Mark Evans who supplied much of the information for this listing: www.aviationarchaeology.org.uk/marg/crashes.htm