



# Spotlight

## Short Stirling

### *FlyPast*

Scrutinizes the history of...

**SPOT FACT** In 1942, Stirlings attacked warships Scharnhorst, Prinz Eugen and Gneisenau

# The Short Stirling

Dave Willis details the history and service of the four-engined 'heavy'

**T**he Stirling was the first of the RAF's four-engined monoplane heavy bombers used in the campaign against Axis powers during World War Two. It was designed to Specification B.12/36 of July 1936, which called for a four-engined strategic bomber with a maximum speed of 230mph (370km/h) and a range of 3,000 miles (4,828km) carrying 8,000lb (3,630kg) of bombs from grass runways.

Bomb load was to rise to 14,000lb using assisted (catapult) take-off, although this scheme was eventually abandoned. In addition to the crew of six (later seven), 24 troops had to be carried. The Air Ministry stipulated a wingspan of less than 100ft (30.48m), to limit weight rather than fit into existing hangars.

Short drew heavily on the Sunderland for the Stirling, including using a shorter version of its wing. This would become the bomber's 'Achilles' Heel', as it resulted in high wing loadings and a lower service ceiling. The bomb bay was divided into sections, limiting the size of munitions that could be carried.

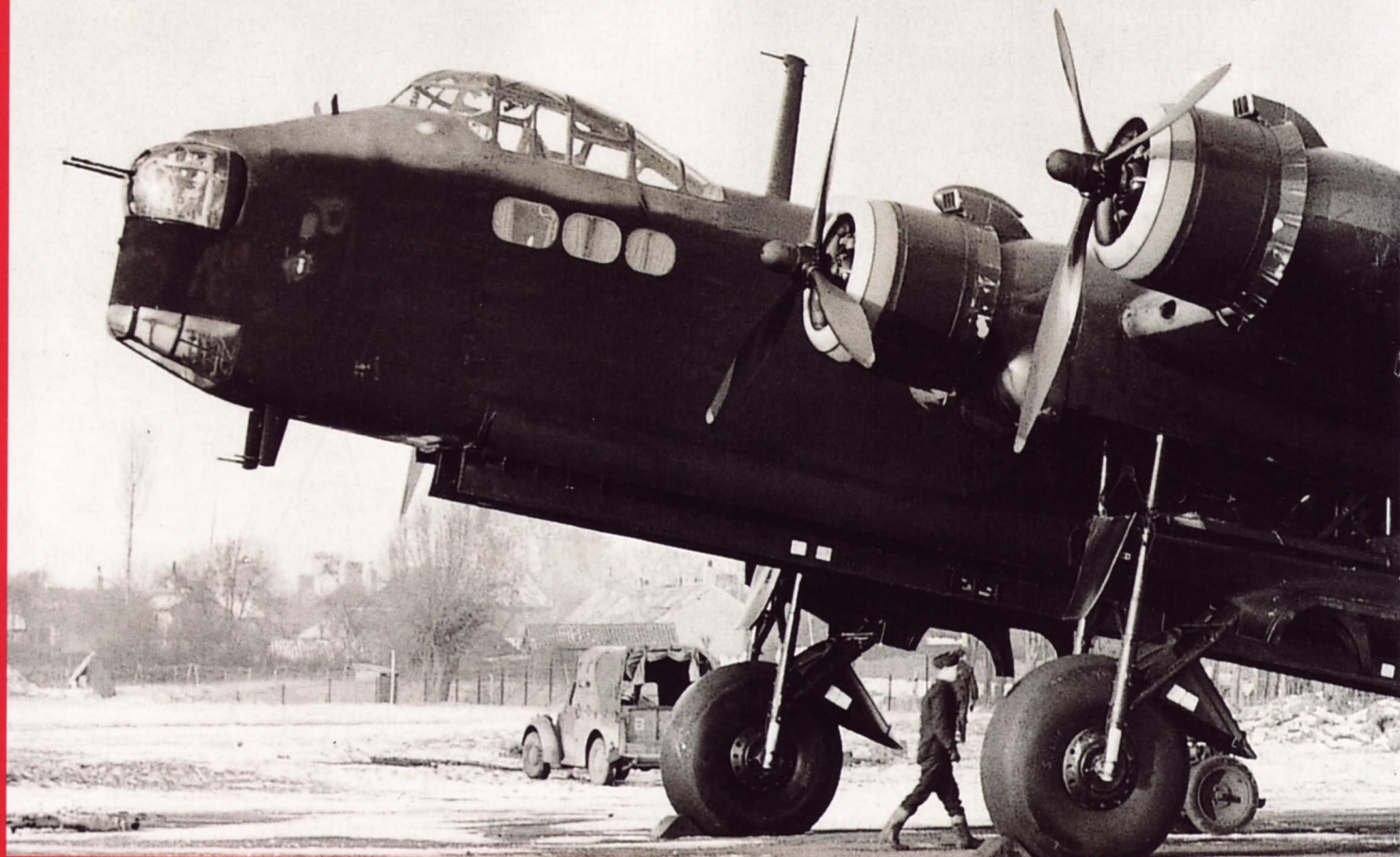
Short and Supermarine were selected to build B.12/36 prototypes and in April 1938 an order for 100 production Stirlings was awarded for assembly in Rochester, Kent, followed by another for 100 to be built at Queen's Island in Belfast, Northern Ireland.

In order to test the aerodynamics of the bomber, Short built the S.31, a half-scale wooden research aircraft, which first flew at Rochester on September 19, 1938. The full size

prototype Stirling made its maiden flight on May 14, 1939, but was written-off after landing when its brakes seized. The second flew on December 3, 1939, powered by 1,375hp (1025kW) Bristol Hercules IIs.

The first Stirling Mk.I built at Rochester flew on May 7, 1940. The first ten (known as Stirling Trainers) were underpowered and deemed unfit for operational service. They required a longer take-off run than anticipated, needing more than 27 minutes to reach 15,000ft (4,572m), and were deficient in range and speed. Output of the Hercules II was boosted to overcome some of the shortcomings before the 1,595hp Hercules X or XI was installed from mid-1941.

Short and Bristol both designed





mountings for the new engines, installed in Stirlings to create Mk.I Series 2 and 3s respectively, while those with the original units became Series 1s. Series 2s and 3s also received upgraded defensive armaments.

Plans to build Stirlings powered by Wright R-2600-A5B Cyclones in Canada as Mk.IIs were drawn up in 1941, but abandoned after three were produced in the UK. The Stirling Mk.III replaced the Mk.I on the production lines in late 1942 after 712 had been built (261 at Rochester and South Marston, 260 at Belfast and 191 by Austin at Longbridge, not counting eleven destroyed by bombing).

The III was powered by 1,635hp Hercules VIs or XVIs, had a Frazer-Nash FN.50 dorsal turret and some internal changes. A total of 1,036 were built (264 Rochester and South Marston, 343 Belfast, and 429 by Austin) by the autumn of 1944. By then the Stirling's inability to reach 20,000ft with a full bomb load or carry heavier bombs prompted its replacement in the main force by other 'heavies'.

## Past its best

From 1944 the Stirling served as a transport and glider-tug. The nose and dorsal turrets were faired over

and glider-towing equipment added for the Stirling Mk.IV, 462 of which were built while others were adapted from Mk.IIIs.

The final variant was the Mk.V unarmed transport, first flown in August 1944. It was fitted with a lengthened, hinged nose and a large door on the starboard rear fuselage to carry 40 troops, 20 paratroopers or two jeeps with trailers. A total of 162 were built at Belfast, the last being delivered in November 1945. The final Stirlings in RAF service were Mk.Vs retired in July 1946 by No.1588 Flight at Bombay, India.

The only overseas military operators were Egypt, Germany and the Soviet Union. Erprobungstelle E2 of the Luftwaffe evaluated Mk.I N3705 at Rechlin after it was recovered from the Netherlands, where it crashed on the night of 15/16 August, 1942. One Mk.III (LK615) was delivered to the

Soviet Union in May 1945. It was flight tested by the LII NKAP at Kratovo, before being handed over to Polar Aviation as CCCP-N415 at Zakharkovo in 1946.

Civilian companies used a handful post-war. Air-Trans of Belgium acquired ten Stirling Mk.Vs from storage at Polebrook, Northamptonshire, using them from May 1947 as passenger and freight aircraft. In October they were sold to Air Transport. One year later most were in service with 8 Bomber Squadron of the Royal Egyptian Air Force, which armed some and used them as bombers during the Israeli War of Independence. ●

**Bottom**  
Stirling Mk.I W7455  
of 149 Squadron.  
ALL KEY COLLECTION

**Below**  
Stirling I N6069 of 1651  
Heavy Conversion Unit  
flying in March 1942.



## Converting to 'Heavies'

With the introduction of large, four-engine bombers, the RAF established several Heavy Conversion Units (HCU) in late 1941 to qualify crews trained on medium bombers to operate the 'heavies'. No.1651, a Stirling conversion unit, was formed from 26 and 106 Conversion Flights at Waterbeach, Cambs, on January 2, 1942, soon absorbing more flights and personnel to become an HCU. With 24 Stirlings on its books by October, it actually flew 49 sorties on Bomber Command raids in 1942 for the loss of five aircraft. It moved to Wratting Common, Cambs, in 1943, and remained a Stirling unit until November 1944 when it moved to Woolfox Lodge, in Rutland, and re-equipped with Avro Lancasters. It was disbanded on July 13, 1945.







# Spotlight

## Short Stirling

# Battle of the Giants

How did the RAF's largest heavy bomber of World War Two compare to rival designs?

**A**s grim and controversial as the subject matter is, the main way aircraft could be used to strike at the heart of the enemy in World War Two was by flying large formations of heavy bombers over long distances, dropping their payload of destruction on agreed targets. As a result, the development of capable machines was crucial to the war effort of all nations.

The Short Stirling has the distinction of being the largest of Britain's four-engined 'heavies'. As good as it was, most now regard the legendary Avro Lancaster as its better, having being produced in greater numbers (a total of 7,377, compared to 2,371 Stirlings) and proving more versatile. The Handley Page Halifax,

outwardly similar to the more celebrated Avro, was also a common sight in wartime skies, a sturdy craft much loved by its crews.

Germany had such success with its trio of medium bombers – the Junkers Ju 88, Heinkel He 111 and Dornier Do 17 – that it rarely saw the need for heavier machines, especially as its existing fleet was initially so numerous and so effective.

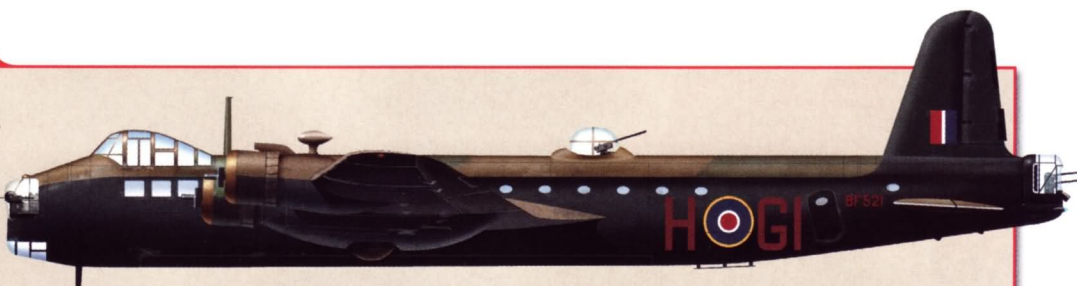
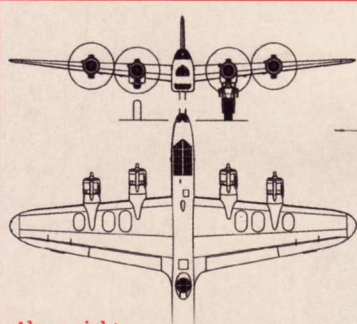
It did have the Focke-Wulf Fw 200 Condor, a development of a peacetime civilian design. Though useful against North Atlantic convoys, it was plagued by structural weakness and only 276 were made. Like the Condor, Italy's Piaggio P.108 was an airliner developed into military guise, but less than 30 were used as bombers.

Every bit as famous as the Lancaster,

the US produced the Boeing B-17 Flying Fortress and the Consolidated B-24 Liberator, both of which were renowned for their range and durability. Despite inevitable losses, the success of their massed daylight raids against Germany in the latter part of the war contributed significantly to the enemy's downfall.

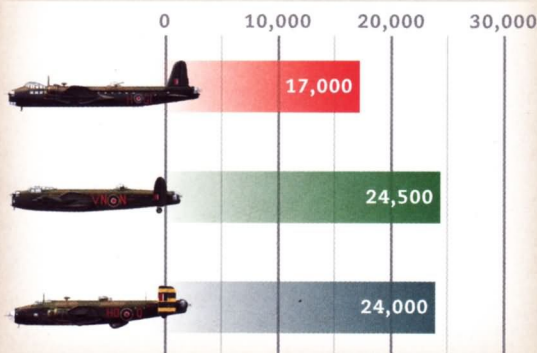
The sole Soviet representative in the heavy bomber category was the Petlyakov Pe-8, although the cumbersome and obsolete pre-war Tupolev TB-3 also lumbered on. First flying in December 1936, Pe-8s were used to attack Berlin in August 1941. Each could carry up to 11,000lb (5,000kg) of ordnance, but manufacture and supply problems meant that less than 100 were ever built.

### Short Stirling III



**Above right**  
Stirling III BF521 of 622 Squadron, which was lost on a raid to Berlin on the night of August 23-24, 1943. PETE WEST 2011

### AT A GLANCE: CEILING (ft)



**Construction:** Built at Short's Rochester, Kent, factor, plus at Short & Harland in Belfast, with some production at Austin Aero at Cofton Hackett, near Birmingham.

**First Flight:** May 14, 1939, by S.29 prototype, but crashed on landing. A half-scale 'proof of concept' S.31 version had flown on September 19, 1938, in the hands of John Lankester Parker.

**Powerplant:** Four 1,650hp (1,230kW) Bristol Hercules XVI radials.

**Dimension:** Span 99ft 1in (30.2m). Length 87ft 3in. Height 22ft 9in. Wing area 1,460ft<sup>2</sup> (135.6m<sup>2</sup>).

**Weight:** Empty 46,900lb (21,274kg). Loaded 70,000lb.

**Performance:** Max speed 270mph (434km/h) at 14,500ft (4,420m). Service ceiling 17,000ft. Range fully loaded 590 miles (950km) or 2,010 miles with 3,500lb load.

**Armament:** Eight 7.7mm machine guns in nose, dorsal and tail turrets; maximum bomb load 14,000lb (6,350kg).

**Crew:** Usually seven – first and second pilot, navigator/bomb aimer, front gunner/radio operator, two air gunners and flight engineer.

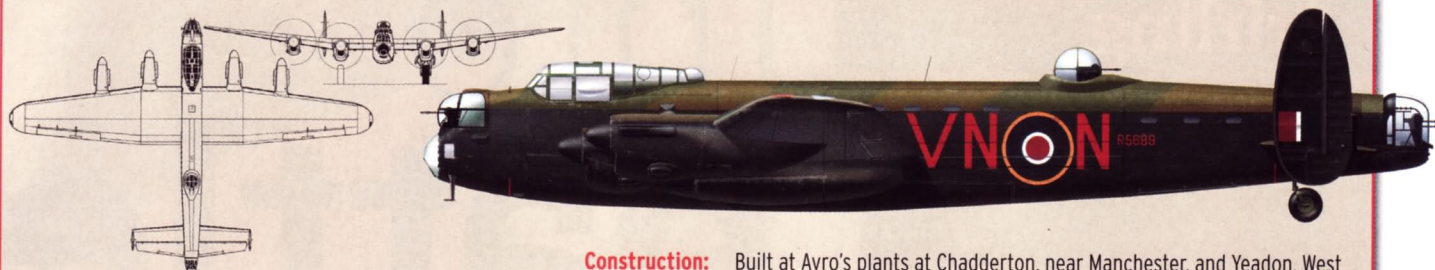
**Note:** performance and weights varied according to role and configuration.



**SPOT FACT** production at Rochester was set back almost a year by enemy raids

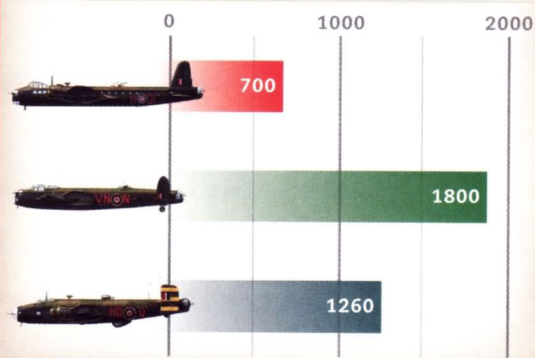
**Contemporaries compared**

**Avro Lancaster I**



**Above right**  
Lancaster I R5689 of 50 Squadron. This machine crashed in Lincolnshire as it returned home to Swinderby after a mine-laying sortie on September 19, 1942. PETE WEST 2011

**AT A GLANCE: RANGE\* (miles)**



\*approx. with 13,000lb bomb load

- Construction:** Built at Avro's plants at Chadderton, near Manchester, and Yeadon, West Yorkshire. To cope with demand, also built by Armstrong Whitworth at Coventry, Austin Morris at Birmingham, Vickers at Manchester, and Vickers-Armstrong at Chester and Castle Bromwich, among others.
- First Flight:** Avro test pilot H A 'Bill' Thorn flew prototype BT308 on January 9, 1941, at Manchester's Ringway airport.
- Powerplant:** Four 1,640hp (1,223kW) Rolls-Royce Merlins.
- Dimension:** Span 102ft 0in (31.1m). Length 68ft 10in. Height 20ft 4in. Wing area 1,297ft<sup>2</sup> (120.5m<sup>2</sup>).
- Weight:** Empty 36,900lb (16,738kg). Maximum take-off weight 70,000lb.
- Performance:** Max speed 287mph (462km/h) at 11,500ft (3,505m). Cruising speed 210mph. Service ceiling 24,500ft. Range 2,530 miles (4,072km) with 7,000lb bomb load.
- Armament:** Eight 7.7mm machine guns (two in nose and dorsal turrets; four in tail turret); maximum bomb load 14,000lb (6,350kg), later modified models, 24,000lb.
- Crew:** Seven - pilot, flight engineer, navigator, bomb aimer, radio operator, mid-upper and rear gunners.

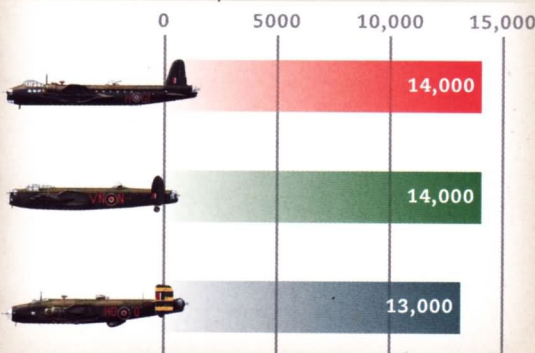
**Note:** performance and weights varied according to role and configuration.

**Handley Page Halifax III**



**Above right**  
Halifax III MZ287 of 466 Squadron, which survived the war and was struck off charge on October 26, 1946. PETE WEST 2011

**AT A GLANCE: BOMB LOAD (lbs)**



Later Lancasters modified to carry 24,000lb bomb load

- Construction:** Began at Handley Page's site at Salmesbury, Lancashire, with further production by Fairey at Stockport, Rootes Securities at Speke and the London Aircraft Production Group.
- First Flight:** The first of two prototypes flew on October 25, 1939 at Benson, Oxfordshire.
- Powerplants:** Four 1,615hp (1204kW) Bristol Hercules XVI radials.
- Dimension:** Span 104ft 2in (31.8m). Length 71ft 7in. Height 20ft 9in. Wing area 1,275ft<sup>2</sup> (118.5m<sup>2</sup>).
- Weight:** Empty 38,240lb (17,345kg). Maximum take-off weight 65,000lb.
- Performance:** Max speed 282mph (454km/h) at 13,500ft (4,115m). Cruising speed 215mph. Service ceiling 24,000ft. Range 1,860 miles (3,000km) with typical bomb load.
- Armament:** Nine 7.7mm machine guns - one on pivoted mount in nose, plus four in both dorsal and tail turrets. Maximum bomb load 13,000lb (5,897kg).
- Crew:** Seven - pilot, flight engineer, nose gunner, dorsal turret gunner, rear gunner, navigator/bomb aimer, radio operator.

**Note:** performance and weights varied according to role and configuration.



# Into battle

**Air Cdre Graham Pitchfork** profiles a pair of airman who represent the many who flew the first of the RAF's four-engined 'heavies' in combat



**A** tour on Armstrong Whitworth Whitleys earned Dennis Witt a DFM. In August 1940, he was posted to 7 Squadron at Leeming, Yorks, destined for the first of the four-engined 'heavies', the Short Stirling. Seasoned pilots were required to conduct proving trials before the type was cleared for operations.

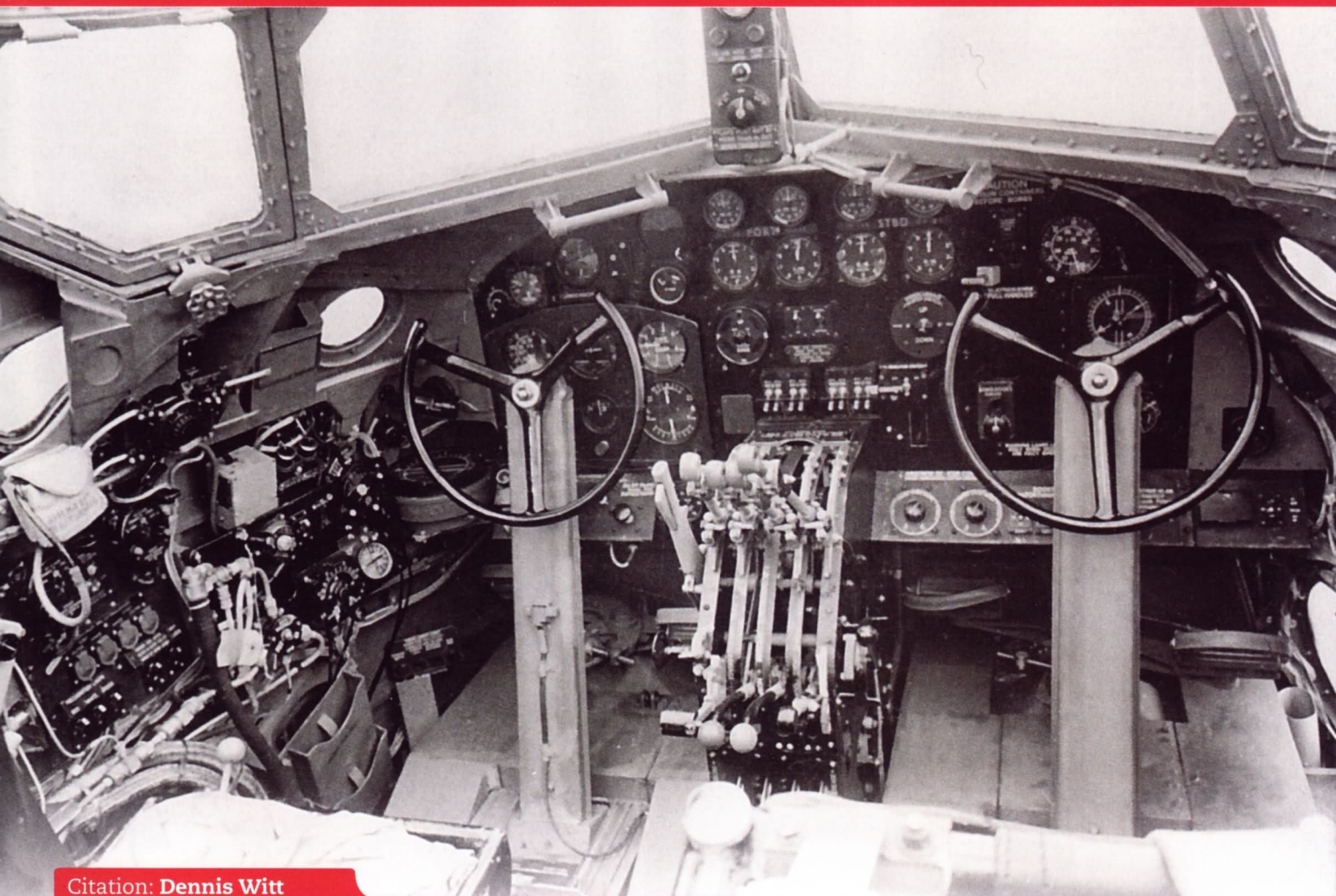
The squadron had six Mk.Is on strength when it moved to the Cambridgeshire airfield of Oakington on November 1 to commence a

programme of development and training. Crews with four-engined flying experience were in short supply and most of the early flights were geared to converting Dennis and his colleagues who had previously flown only twin-engine aircraft. Teething troubles with the new bomber restricted the amount of flying and the ground crews were kept very busy.

Senior echelons of the RAF became impatient with the delays and, more in desperation than in an acknowledgement that the aircraft







**Citation: Dennis Witt**

After debriefing Dennis Witt's last strike on Bethune, his CO submitted a glowing recommendation for the immediate award of the DFC describing the circumstances of the raid and quoting details of his successful engagement with fighters a few days earlier. He concluded: "The success of this attack is attributed to the tenacity, skill and determination of this pilot. He is an outstanding captain who has gained signal success in operations against the enemy."

was ready, 7 Squadron was ordered to commence operations in February 1941. The Stirling flew on its first sortie of the war to Rotterdam on the 14th. The following day, it was Dennis' turn when he flew as second pilot to Flt Lt Gordon Bennett in N3641 to attack Boulogne docks with a load of 16 general purpose (GP) 500lb (226kg) bombs.

After two further runs as a 2nd 'Dickie', Dennis assumed command of his own crew and took N6012 to Kiel on April 7. Two visits to Brest followed as Bomber Command continued to be pressed against maritime targets. On the second of these, Witt's aircraft was hit by flak and he took violent evasive action before escaping at 2,000ft (609m).

**Daylight raids**

On April 28, the type's first daylight cloud-cover sortie was mounted

when ten were tasked to bomb Emden, Germany. Dennis took off at midday and most of the flight was made with the protection of cloud but he broke into open skies approaching the target. The crew was greeted by a heavy flak barrage as 18 delay-fused 500-pounders were released from just 900ft.

With his two gunners returning fire throughout the run, Dennis regained the safety of the clouds as soon as the 'bombs gone!' call came from his Canadian navigator, Keith Deyell, and he headed for home. On return to Oakington, the crew discovered that they were the only one to have reached the objective.

Dennis' next sortie took him to Berlin for the first time. His was one of only two Stirlings to reach the target, dropping a mixed load of 1,000 and 500lb GPs. More 'ops' followed and by early July, they were

flying with heavy fighter escort on daylight raids in northern France, in addition to night runs into Germany.

Dennis' skill and tenacity were in evidence again on July 1 when he led three aircraft on a daylight hit on the seaplane base at Borkum, Germany. Bombs struck the concrete slipway and the harbour just as a strong force of enemy fighters closed in. Messerschmitt Bf 109Fs shot down one of the Stirlings but Dennis and crew withstood four separate onslaughts by a single '109. His rear gunner was wounded but insisted on remaining in his turret. Eventually, he shot down the German attacker, then damaged a second.

During July, Dennis led a number of daylight attacks. The flak was intense over the coking plants at Bethune, France, as the Stirlings dropped their loads. As they pulled away, Bf 109s appeared and shot down one of the bombers as Witt's gunners damaged another. Supermarine Spitfire escorts descended to drive off the enemy, but a second Stirling was shot down by flak, leaving Dennis to return alone.

**Clockwise from bottom left**  
Aircrew walk past a running Stirling during World War Two. RAF MUSEUM

Dennis Witt (right) and navigator, Keith Deyell.

A Stirling cockpit.



**SPOT FACT** Stirlings were used on D-Day to lay 'chaff', producing radar images of a decoy invasion fleet

A Stirling of 7 Squadron at Oakington.



“His rear gunner was wounded but insisted on remaining in his turret. Eventually, he shot down the German attacker, then damaged a second”



**Above**  
Short Stirling Is  
of 1651 Heavy  
Conversion Unit  
April 29, 1942.  
RAF MUSEUM

**Right**  
Clarence Ince and  
214 Squadron crew.

Soon after, he led another daylight raid on Bethune and saw one of his formation explode after being hit by anti-aircraft fire as they commenced the run in. He pressed on despite the intensity of the barrage and hit the marshalling yards. Reconnaissance photographs highlighted the extensive damage caused by Dennis' strike.

### Baling out

The run of daylight attacks was interrupted in mid-July when the bombers returned to Germany. On the 14th, Dennis hit Hanover with a load of 1,000 and 500-pounders and 420 incendiaries. The stick was seen to burst across large sheds, causing a major fire and explosions.

En route home, the Stirling was engaged by flak over the Dutch

coast and two engines were put out of action with a third causing trouble shortly afterwards. With a ditching in the North Sea a strong possibility; Dennis and his second-pilot, Sgt L Bolton, struggled to keep the stricken bomber airborne.

Almost out of fuel, they eventually staggered over the English coast near Cromer, and Dennis ordered the bale out. Holding the crippled N6022 steady for his lads to make their escape, he finally jumped and landed without injury. His friend and navigator, Keith Deyell, broke a leg and did not fly again on 7 Squadron.

After a few days' rest, Dennis and crew were in the thick of the action on July 23. Although the planning staff at Bomber Command had decided to discontinue daylight raids by Stirlings, reconnaissance had shown that the *Scharnhorst* had slipped her moorings at Brest and moved to the French port of La Pallice. An attack with armour-piercing 2,000-pounders was organised and three Stirlings of 7 were briefed to join the sortie.

Witt took off in W7434 and joined up with his two colleagues as they headed out towards the Bay of Biscay. Each dropped three bombs from 13,000ft, scoring at least one hit. A force of Handley Page Halifaxes struck the following day, ensuring that the warship would have to return to Brest for repairs, thus delaying its deployment for a raiding trip into the Atlantic. As the Stirlings turned away, they were pounced on by six Bf 109s and three turned in on Witt's aircraft. He immediately dived to sea level and the fighters broke off, enabling him to return safely to Oakington. ➔

### Citation: Clarence Ince

Three weeks after his heroic actions to press on to the target in the battle-damaged R9278 on February 14, 1943, it was announced that Clarence Ince had been awarded a bar to his DFC for "his fine example of courage and devotion to duty". He would have been the first to acknowledge the crucial role played by his flight engineer. Two weeks later the crew members were awarded their permanent Pathfinder badge.





Men behind  
the Stirling



**14,500** 'ops' were flown by Bomber Command Stirlings



**Leading the way**

The RAF's Pathfinder Force (PFF) was formed on August 15, 1942, under the command of Gp Capt Donald Bennett, as a specialised target-marking force within Bomber Command. Its headquarters were established at RAF Wyton, Huntingdonshire, and the unit initially acquired one squadron from each group - five in total. It started with four different types of aircraft - Avro Lancasters, HP Halifaxes, Short Stirlings and Vickers Wellingtons, plus a few DH Mosquitos. The Pathfinder Force subsequently acquired group status as No.8 Group, RAF Bomber Command, on January 13, 1943.

Its motto was 'We Guide to Strike' and the elite crews flew their first PFF sorties within hours of its formation with a raid on Flensburg, Germany. Gradually the aircraft fleet was refined down to just two very capable main types - the 'Lanc' and the 'Mossie'. The group served until the war in Europe was won. According to the RAF website, the force flew a total of 50,490 individual sorties against some 3,440 targets. At least 3,727 members were killed on operations.



He was the 'master bomber' on numerous occasions and after completing his 100th operation, he was grounded. Shortly after, he was awarded an immediate DSO.

**Unique partnership**

West Indian-born Clarence Ince enlisted into the RAF in August 1940 and completed his pilot training in Canada. Converting to the Stirling, he

joined 214 Squadron at Stradishall, Suffolk, just after the second of the 'Thousand Bomber Raids' in June 1942.

One of the unit's crews had completed five operations when their pilot was taken ill and had to be withdrawn from flying. Clarence became their new captain, beginning a unique partnership for Ince and his flight engineer, Fred Fray, who were to fly two tours together.

For their first sortie with the new 'skipper,' Emden was selected. Over the target they lost the starboard inner and Clarence and Fred coaxed the aircraft home safely. Throughout the summer months the crew almost always flew Mk.I R9355 as they attacked the Ruhr and the major German ports. Loads were mixed and often included a

2,000-pounder but incendiaries were always carried. The introduction of 'Gee' heralded the start of

improvements in navigation and bombing accuracy and Clarence and his team used the new aid for the first time to Duisburg on July 23.

**Earning a rest**

Coming back from Hanover on August 18, the weather at base had become almost impossible for landing. One had already made an emergency landing at Graveley and the OC had crashed attempting to land at Oakington. With fuel low, Dennis was committed to an approach and carried out a successful crash landing which badly damaged the aircraft, but the crew escaped injury.

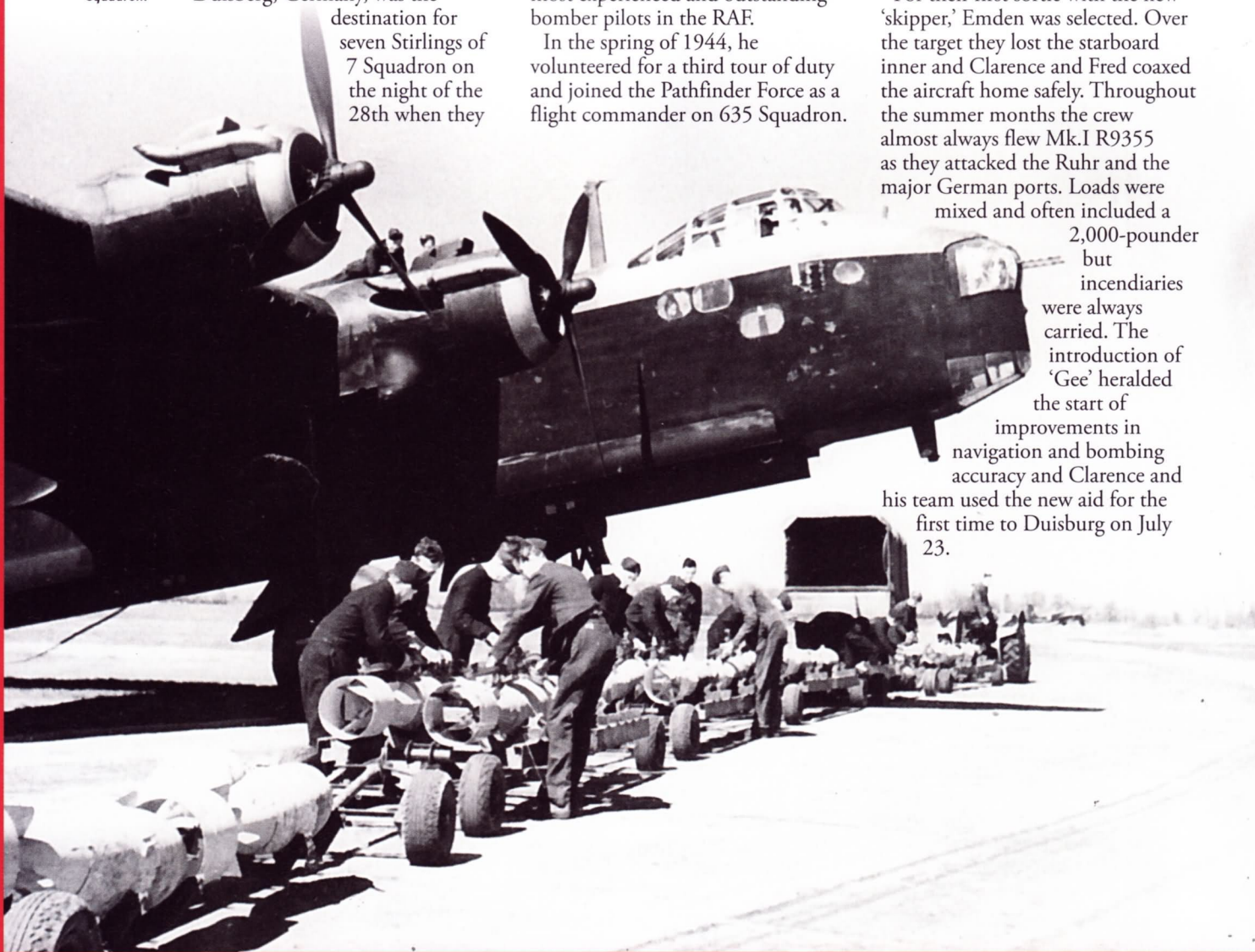
Duisberg, Germany, was the destination for seven Stirlings of 7 Squadron on the night of the 28th when they

joined a mixed force of 118 bombers. Dennis was one of the captains and it was his 64th 'op' and the last of his second tour. Flying veteran Mk.I N3669, he dropped his five 1,000lb and eight 500lb weapons on the target and returned to base after one of the few routine sorties of his highly successful, yet dangerous tour.

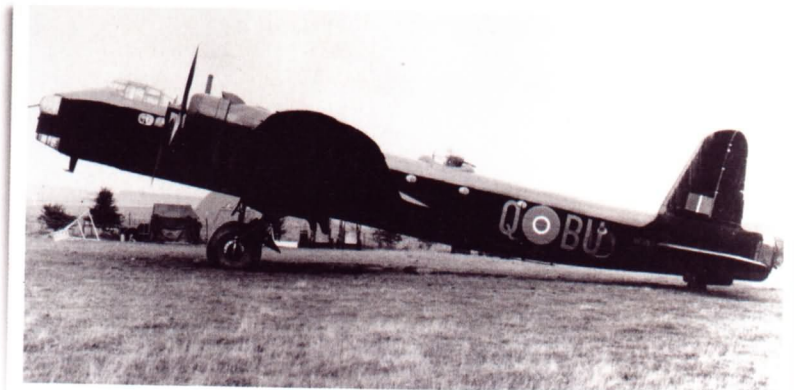
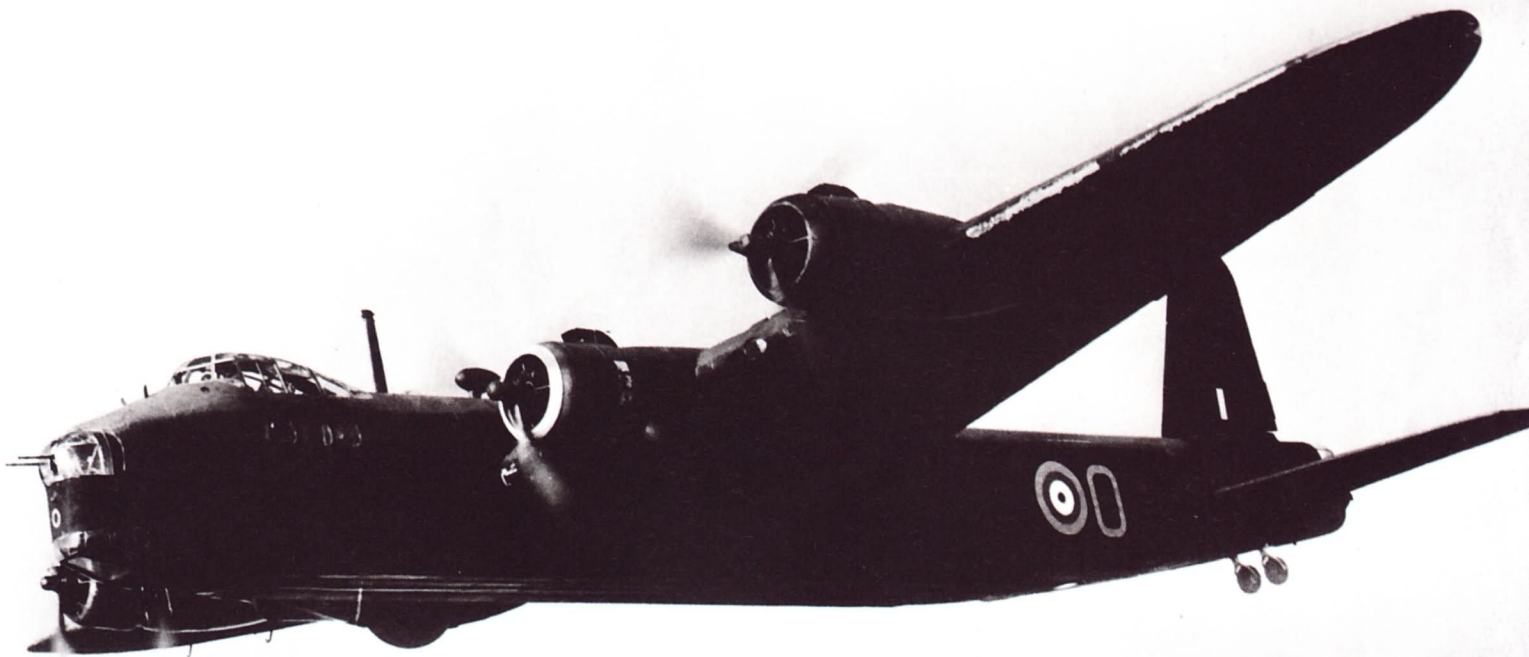
He had deserved his rest. By the middle of 1941, Dennis had established himself as one of the most experienced and outstanding bomber pilots in the RAF.

In the spring of 1944, he volunteered for a third tour of duty and joined the Pathfinder Force as a flight commander on 635 Squadron.

**Below**  
A Stirling of 214 Squadron.







“It needed all Clarence’s piloting skills and Fred’s engineering knowledge to keep the battered bomber airborne”

A few nights later, Ince had to use all his skill to shake off the searchlights as his aircraft was ‘coned’ over Hamburg. More excitement occurred three nights later when his gunners shot down a Bf 109 as they left the ‘lightly defended’ Saarbrücken.

## Pathfinders

On the night of August 11, Clarence and crew hit Mainz, Germany, and they reported that the town was clearly seen in the light of the flares dropped by the leading aircraft. Bomber Command assessed the raid as particularly effective with the centre of the city sustaining considerable damage.

During the summer of 1942, the Vickers Wellingtons and Stirlings of 3 Group had been experimenting with ‘flare aircraft’ and the use of ‘raid leaders’. By mid-August the Target Finding Force had been established working initially through 3 Group’s HQ. It was soon renamed

to become one of the air war’s most famous titles – the Pathfinder Force. A week after the successful Mainz raid, the Pathfinders flew their inaugural sortie when they attacked Flensburg, but success eluded them.

The first successful Pathfinder-led raid was to Kassel on the night of August 27. Of the 306 bombers involved, only five were Stirlings, one flown by Clarence. Before reaching the target, an oil leak in the port inner required the engine to be shut down but the crew pressed on and dropped the load of incendiaries.

## Two turning

At 9 o’clock on the night of September 8, the crew settled in to their familiar positions in their faithful R9355 for a raid on Frankfurt. It was their 21st operation together. Just after dropping their load of incendiaries the Stirling was rocked by a direct hit from flak. The starboard outer

caught fire and other hits were registered in the port wing and the bomb bay.

Ince and Fray soon had the fire under control having shut down the engine as they turned for a direct route home. The starboard inner then started to give problems and R9355 was losing fuel. It needed all Clarence’s piloting skills and Fred’s engineering knowledge to keep the battered bomber airborne.

As they approached the English coast it was obvious that they would have to make an emergency landing as soon as possible and Clarence headed for the crash strip at Manston in Kent. With damaged hydraulics he made an approach but on finals the fire-damaged starboard outer fell away from the wing and the inner finally cut out, but Ince managed to make a crash-landing with just the port engines running.

*O-for-Orange* was a write-off and Clarence was injured, but the rest of the crew escaped. The pilot’s outstanding flying earned him the DFC but he was strong in his praise of the cool and professional work of his flight engineer Fred Fray. ➔

**Above**  
A Stirling of 1651 HCU.

**Left**  
A 214 Squadron Stirling at Stradishall. ALL VIA AUTHOR UNLESS NOTED



**SPOT FACT** The Stirling's 14,000lb bombload was initially almost double that of any other RAF aircraft

**Stern tests**

With their pilot injured, the rest of the crew was declared 'tour-ex' and left to be instructors at Heavy Conversion Units. Normally they would have expected their 'rest' to last for 12 months but Clarence and Fred decided to team up again and volunteer for duties with the Pathfinder Force. On January 2, 1943 they joined 7

A few nights later, on February 4, they embarked on the long haul to Turin with a load of four 1,000-pounders. The starboard inner failed over the target and everyone struggled for the next four hours to get the crippled bomber back to England on three engines.

Their next sortie presented them with an even sterner test.

'managed' these accurately as Clarence struggled to control the crippled aircraft. Eventually a successful emergency landing was made at Oakington after three of the crew had taken it in turns to manually wind down the undercarriage.

**'Ace' Flight engineer**

Clarence was allocated *J-for-Jig*

(R9266) for the remainder of

Squadron based at Oakington and commanded by the legendary Wg Cdr Hamish Mahaddie.

After a short settling-in period the duo became familiar with Pathfinder techniques and the new navigation and bombing aid H2S. Clarence and his new crew hit the French port of Lorient on two successive nights with incendiaries and flares.

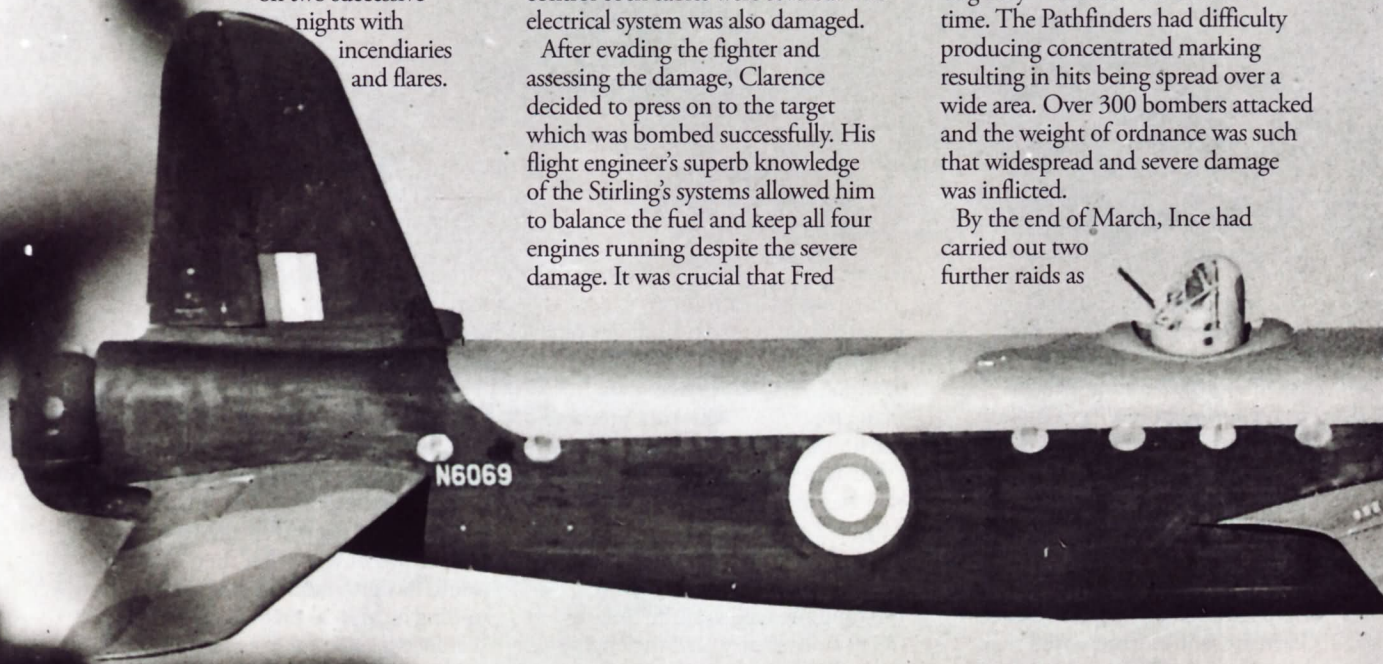
Just after six o'clock in the evening of the 14th, Clarence lifted *E-for-Easy* (R9278) off the runway at Oakington and set course for Cologne. They were about to cross the enemy coast over Holland when a Messerschmitt Bf 110 night-fighter attacked. The port wing and tailplane were damaged while the port fuel tanks were holed and the fuel control cock cables were severed. The electrical system was also damaged.

After evading the fighter and assessing the damage, Clarence decided to press on to the target which was bombed successfully. His flight engineer's superb knowledge of the Stirling's systems allowed him to balance the fuel and keep all four engines running despite the severe damage. It was crucial that Fred

his tour. In this time they attacked some of the most heavily-defended targets in Germany including Bremen, Wilhelmshaven, Nuremberg, Stuttgart and Hamburg. On the night of February 21/22, Ince did his first operation as a 'blind' marker dropping red target indicators through tenths cloud on Bremen.

On March 1, the crew flew to the 'Big City' – Berlin – for the first time. The Pathfinders had difficulty producing concentrated marking resulting in hits being spread over a wide area. Over 300 bombers attacked and the weight of ordnance was such that widespread and severe damage was inflicted.

By the end of March, Ince had carried out two further raids as



**Remembering the Stirling**

In 1997, the Stirling Project was founded by a group of individuals who were determined to keep the memory of Short's heavy bomber alive. Its immediate aim was to preserve any Stirling parts that could be found, along with documents relating to the type.

Its long-term goal is to recreate a fuselage forward section, using original components or pieces re-manufactured using factory or RAF drawings. Members of the Project team have restored a very rare Frazer-Nash FN5 nose-gun turret, making use of workshop space generously provided by the RAF at Wyton, Cambridgeshire. The turret is now on display in base's Pathfinder Museum. [www.stirlingproject.co.uk](http://www.stirlingproject.co.uk)



a marker over Berlin. Returning on the 29th *Jig* was severely damaged by predicted heavy flak: the ground crew counted 52 holes.

By April, Clarence's crew had become one of the most experienced on the squadron and regularly operated in the marker role. The raid on Stettin on the 20th proved to be the most successful beyond the range of the marking aid 'Oboe' and reports claimed that the Pathfinder marking was "carried out perfectly".

On the long haul home the recently-repaired *Jig* was hit by light flak over Denmark and fuel was lost from the No.7 starboard tank. Once again Fred displayed all his knowledge to allow his captain to nurse R2966 home.

A few days later it was announced that Fray had been awarded the DFM in recognition of his remarkable performance as a flight engineer. Seven times he had returned from the target on three engines. Twice his *Stirling* had been severely damaged by fighters and by anti-aircraft fire resulting in the loss of an engine and fuel. Flight engineers earned their gallantry awards the hard way.

## Disastrous night

An attack on Dortmund on May 23 was the heaviest during the Battle of the Ruhr and was the first time that over 100,000 tons of bombs had been dropped on a single location. The contribution from Ince and his crew was three 2,000-pounders in addition to their five target indicators.

A few nights later they were back-up markers over Wuppertal and the 'op' was claimed to be the outstanding success of the Battle of the Ruhr. The compiler of the squadron operations record book remarked that it was "an absolutely wizard show!" On June 11, the main force struck at Dusseldorf with a diversionary raid of 72 bombers going for Munster. No.8 Group provided all the aircraft for the feat and it was designed as a mass trial for H2S. The Station Commander, Gp Capt Fresson, flew with Clarence on this unique strike that was assessed as a complete success.

On the

night of the 21st, Ince took off for Krefeld on his 45th operation. Just after midnight R9266 was hit by anti-aircraft fire over the target. A fire broke out between the port engines and Clarence dived to try to extinguish it.

Flt Lt Clarence Ince DFC\* ordered the crew to bale out. They exited successfully but the 22-year-old was still at the controls when the *Stirling* crashed and exploded near Neuss. He had given his life to save his crew. Clarence has no known grave and is remembered on Panel 119 of the Runnymede Memorial.

The unit operations record book notes that the raid on Krefeld was: "a disastrous night for the squadron with four of the most experienced crews missing, including the Flight Commander, Sqn Ldr CA Hughes DSO DFM, Flt Lt JS Watt DSO DFC and Flt Lt C Ince DFC\*."

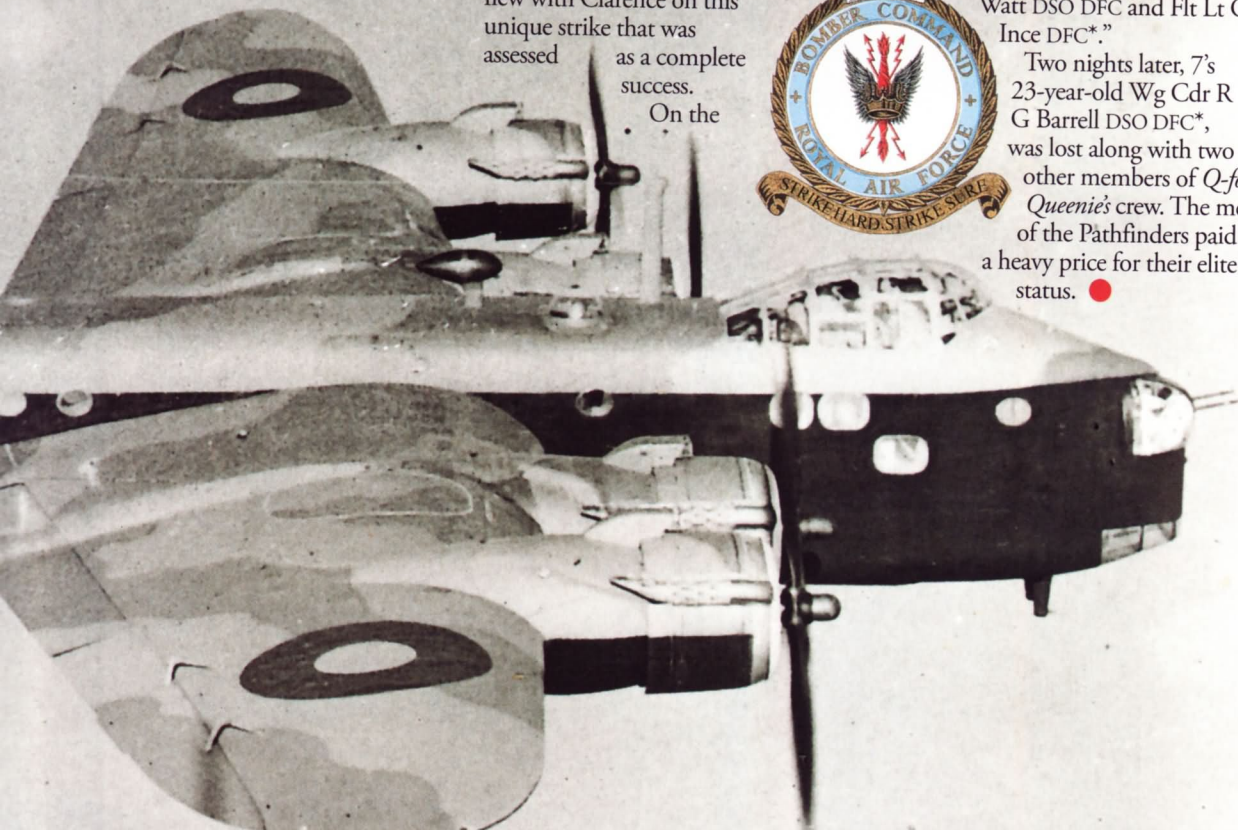
Two nights later, 7's 23-year-old Wg Cdr R G Barrell DSO DFC\*, was lost along with two other members of *Q-for-Queenie's* crew. The men of the Pathfinders paid a heavy price for their elite status. ●



Left, top to bottom No.7 Squadron badge.

The 214 Squadron badge.

The Bomber Command badge. ALL BADGES: MARY DENTON-MADE UNDER LICENCES FROM THE SECRETARY OF STATE FOR DEFENCE







# Spotlight

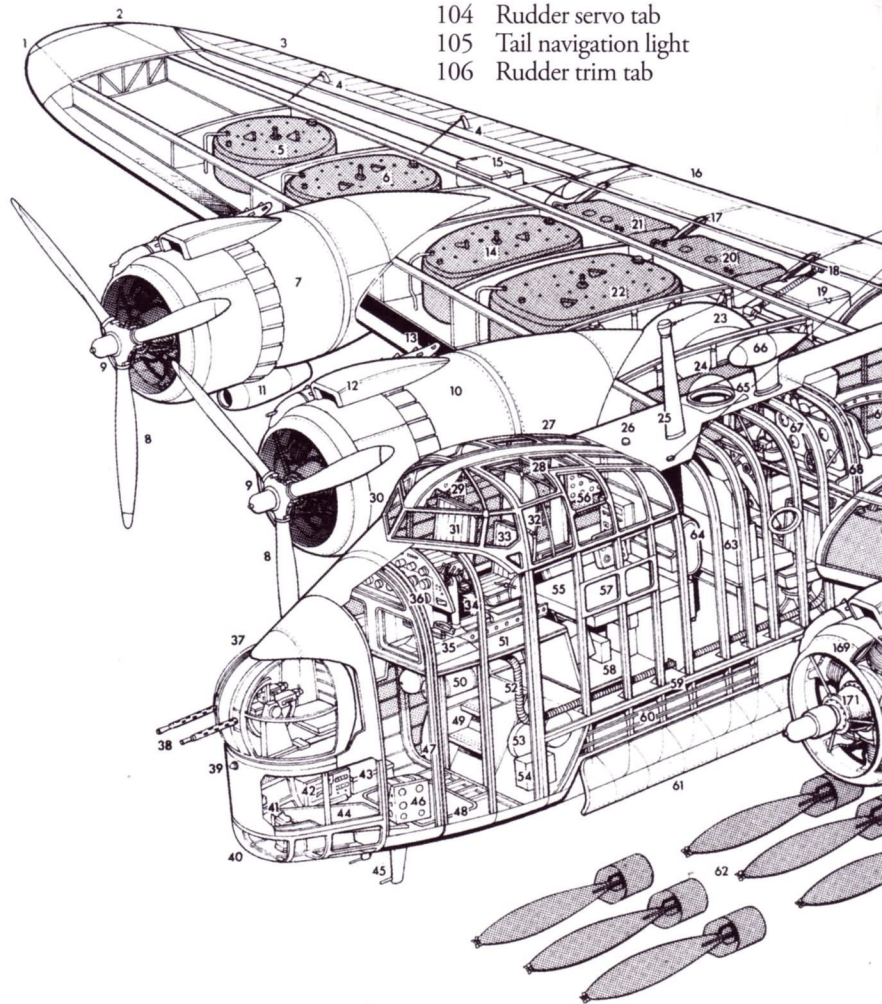
## Short Stirling

### Short Stirling III Cutaway

- 1 Starboard wing tip navigation light
- 2 Formation light
- 3 Starboard aileron
- 4 Aileron control horns
- 5 Outboard No.6 fuel tank, capacity 81 Imp gal (368 litres)
- 6 Outboard No.5 fuel tank, capacity 164 Imp gal
- 7 Starboard outer engine nacelle
- 8 de Havilland three-bladed propellers
- 9 Propeller hub pitch-change mechanism
- 10 Starboard inner engine nacelle
- 11 Oil cooler
- 12 Carburettor air intake
- 13 Flame suppressor exhaust pipe
- 14 Inboard No.4 fuel tank, capacity 254 Imp gal
- 15 Dinghy stowage
- 16 Starboard gouge type trailing edge flap
- 17 Flap guide rails
- 18 Flap screw jack
- 19 Inboard dinghy stowage
- 20 Trailing edge No.1 fuel tank, capacity 80 Imp gal
- 21 Trailing edge No.2 fuel tank, capacity 63 Imp gal
- 22 Inboard No.2 fuel tank, capacity 331 Imp gal
- 23 Main undercarriage wheel bay
- 24 Inner wing auxiliary fuel tanks, capacity 219 Imp gal
- 25 Aerial mast
- 26 Identification beacon
- 27 Cockpit canopy construction
- 28 Pilot's escape hatch
- 29 Cockpit roof control panel
- 30 Windscreen panels
- 31 Co-pilot's seat
- 32 Seat back armour plate
- 33 Pilot's seat
- 34 Control column
- 35 Rudder pedals
- 36 Instrument panel
- 37 FN5 nose gun turret
- 38 Two 0.303in (7.7mm) Browning machine-guns
- 39 Forward identification light
- 40 Bomb aimer's window
- 41 Bomb sight
- 42 Bomb aimer's control panel
- 43 Ballast weight stowage box
- 44 Prone position couch
- 45 Pitot tubes
- 46 Parachute stowage
- 47 Nose section joint frame
- 48 Ventral escape hatch
- 49 Access steps
- 50 Brake system air bottles

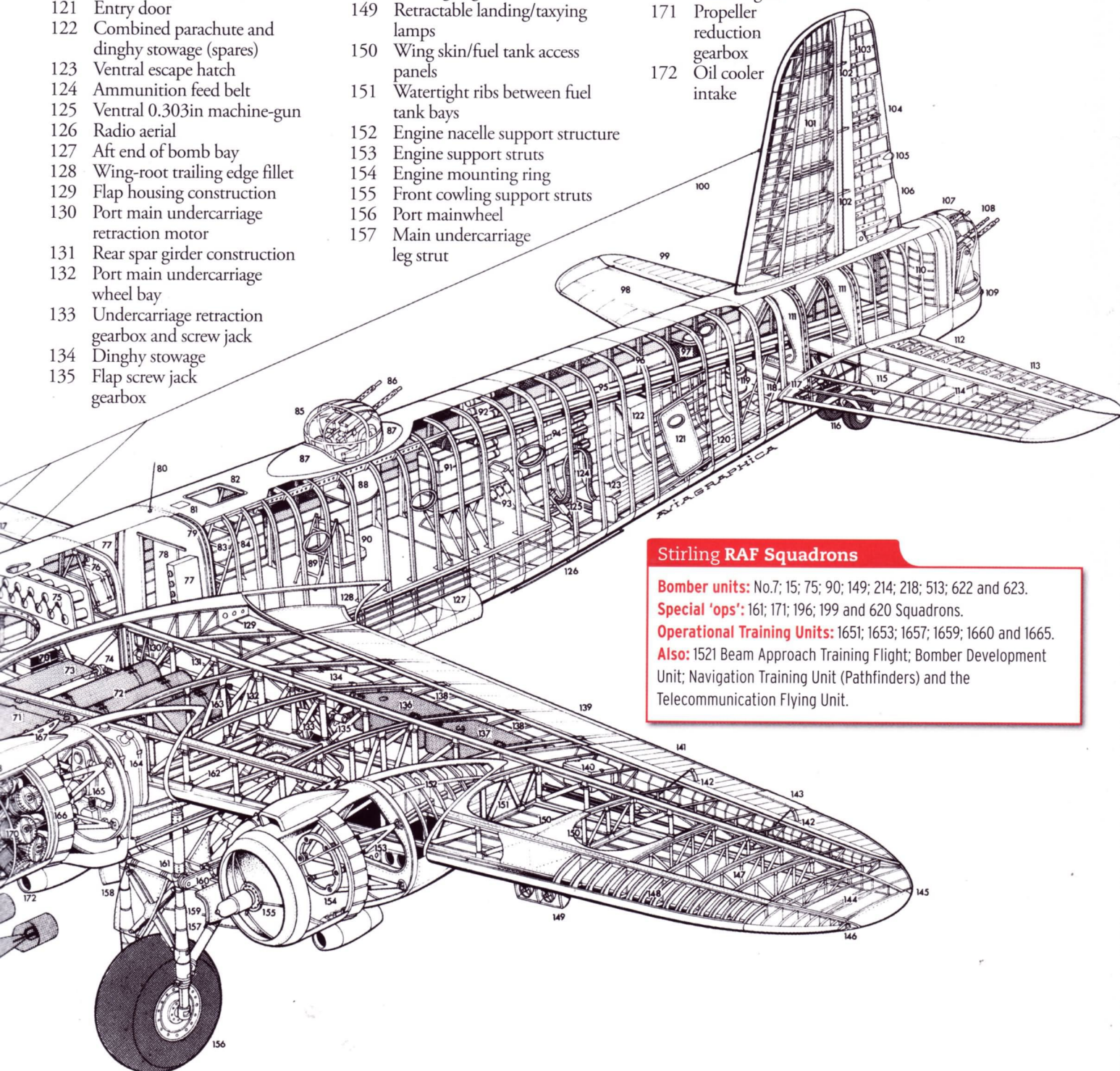
- 51 Flight deck floor level
- 52 Cockpit heater pipe
- 53 Autopilot controls
- 54 Dinghy stowage
- 55 Navigator's chart table
- 56 Engineer's control panel
- 57 Cabin side windows
- 58 Dinghy and parachute pack stowage
- 59 Main floor/bomb bay longeron
- 60 Forward end of bomb bay
- 61 Bomb doors
- 62 Total bomb load, 14,000lb (6,350kg)
- 63 Radio operator's station
- 64 Water tank
- 65 Astrodome observation hatch
- 66 D/F loop aerial fairing
- 67 Oxygen bottles
- 68 Fuselage/wing spar frame
- 69 Centre section access panel
- 70 Batteries
- 71 Leading edge No.7 fuel tank, capacity 154 Imp gal
- 72 Port wing bomb bay auxiliary fuel tanks, capacity 219 Imp gal
- 73 Crew rest bunk
- 74 Flap drive motor
- 75 Oxygen bottles
- 76 De-icing fluid tank

- 77 Electrical system junction boxes
- 78 Sliding door to rear fuselage
- 79 Rear fuselage joint frame
- 80 Whip aerial
- 81 Kite aerial stowage
- 82 Cabin roof escape hatch
- 83 Ladder
- 84 Upper turret ammunition boxes
- 85 FN50 mid-upper gun turret
- 86 Two 0.303in Browning machine-guns
- 87 Turret fairings
- 88 Gun turret mechanism
- 89 Gunner access ladder
- 90 Gunner's seat
- 91 Tail gun turret ammunition boxes
- 92 Flame floats
- 93 Flame launcher chutes
- 94 Reconnaissance flares
- 95 Ammunition tracks to rear turret
- 96 Rear fuselage frame construction
- 97 Master compass
- 98 Starboard tailplane
- 99 Starboard elevator
- 100 Aerial cable
- 101 Fin construction
- 102 Rudder hinges
- 103 Fabric-covered rudder construction
- 104 Rudder servo tab
- 105 Tail navigation light
- 106 Rudder trim tab





- 107 FN20A tail gun turret
- 108 Four 0.303in Browning guns
- 109 Rear formation light
- 110 Tail turret access doors
- 111 Tailplane double frames
- 112 Elevator trim tab
- 113 Fabric-covered elevator construction
- 114 Port tailplane construction
- 115 Tail undercarriage doors
- 116 Twin tailwheels
- 117 Retraction mechanism
- 118 Tail gunner's access ladder
- 119 Toilet
- 120 Rear fuselage walkway
- 121 Entry door
- 122 Combined parachute and dinghy stowage (spares)
- 123 Ventral escape hatch
- 124 Ammunition feed belt
- 125 Ventral 0.303in machine-gun
- 126 Radio aerial
- 127 Aft end of bomb bay
- 128 Wing-root trailing edge fillet
- 129 Flap housing construction
- 130 Port main undercarriage retraction motor
- 131 Rear spar girder construction
- 132 Port main undercarriage wheel bay
- 133 Undercarriage retraction gearbox and screw jack
- 134 Dinghy stowage
- 135 Flap screw jack gearbox
- 136 Port No.1 fuel tank, capacity 80 Imp gal
- 137 Port No.3 fuel tank, capacity 63 Imp gal
- 138 Flap guide rails
- 139 Port gouge type flap
- 140 Outboard dinghy stowage
- 141 Fabric covered aileron
- 142 Aileron control horns
- 143 Aileron trim tab
- 144 Wing tip construction
- 145 Formation light
- 146 Port navigation light
- 147 Outer wing ribs
- 148 Leading edge nose ribs
- 149 Retractable landing/taxying lamps
- 150 Wing skin/fuel tank access panels
- 151 Watertight ribs between fuel tank bays
- 152 Engine nacelle support structure
- 153 Engine support struts
- 154 Engine mounting ring
- 155 Front cowling support struts
- 156 Port mainwheel
- 157 Main undercarriage leg strut
- 158 Main undercarriage doors
- 159 Mudguard
- 160 Undercarriage tie-beam
- 161 Undercarriage leg knee joint pivot
- 162 Front spar girder construction
- 163 Wing rib construction
- 164 Oil tank, capacity, 33 Imp gal
- 165 Engine accessories
- 166 Cooling air exit flaps
- 167 Flame suppressor exhaust pipe
- 168 Carburettor air intake
- 169 Exhaust pipe collector ring
- 170 Bristol Hercules XVI radial engine
- 171 Propeller reduction gearbox
- 172 Oil cooler intake



**Stirling RAF Squadrons**

**Bomber units:** No.7; 15; 75; 90; 149; 214; 218; 513; 622 and 623.  
**Special 'ops':** 161; 171; 196; 199 and 620 Squadrons.  
**Operational Training Units:** 1651; 1653; 1657; 1659; 1660 and 1665.  
**Also:** 1521 Beam Approach Training Flight; Bomber Development Unit; Navigation Training Unit (Pathfinders) and the Telecommunication Flying Unit.





# Spotlight

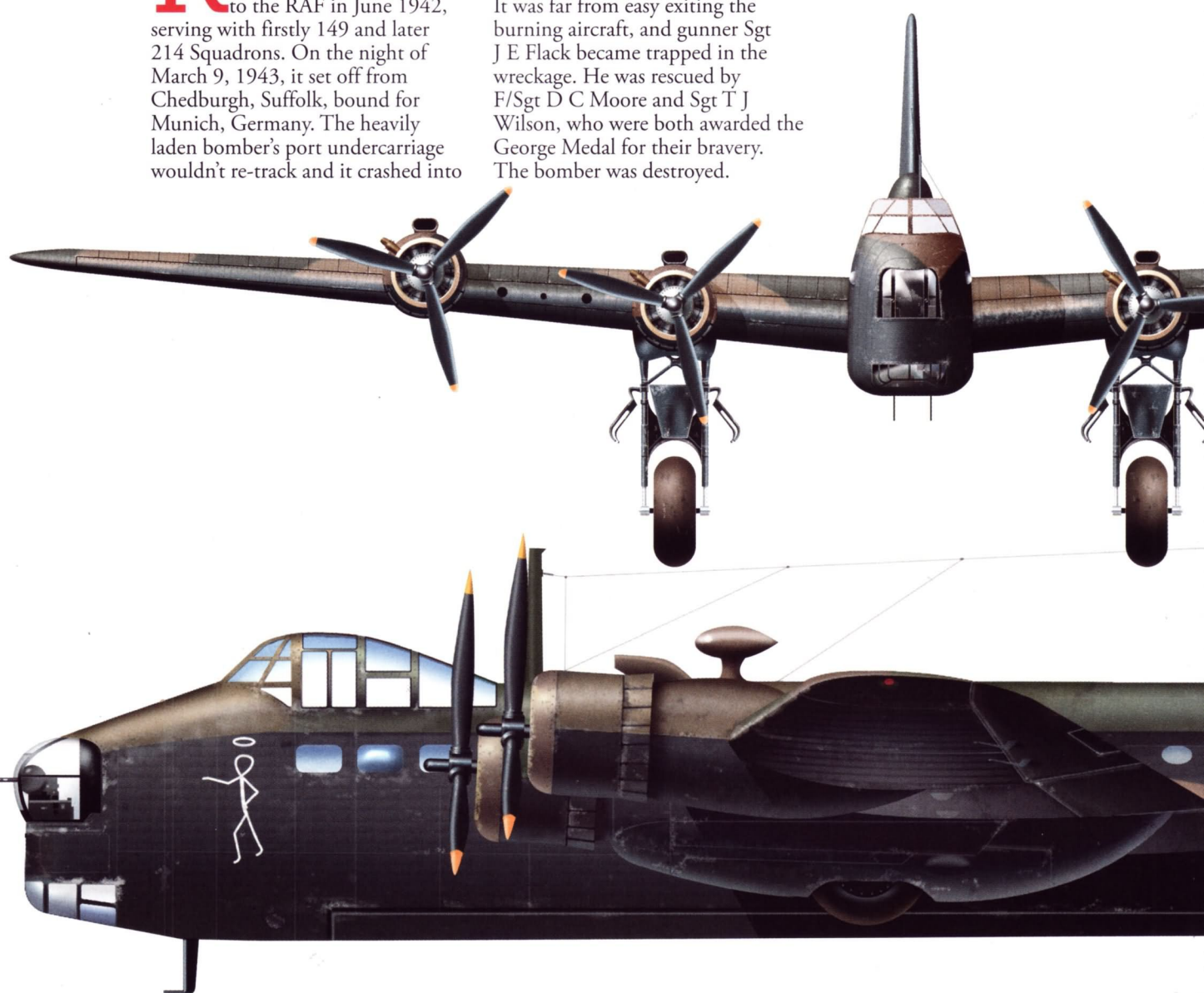
## Short Stirling

# Saintly Stirling

Pete West profiles a Stirling that was destroyed on a raid to Germany in 1943

**R**9358 'BU-A' was built by Short & Harland in Belfast and was delivered to the RAF in June 1942, serving with firstly 149 and later 214 Squadrons. On the night of March 9, 1943, it set off from Chedburgh, Suffolk, bound for Munich, Germany. The heavily laden bomber's port undercarriage wouldn't re-track and it crashed into

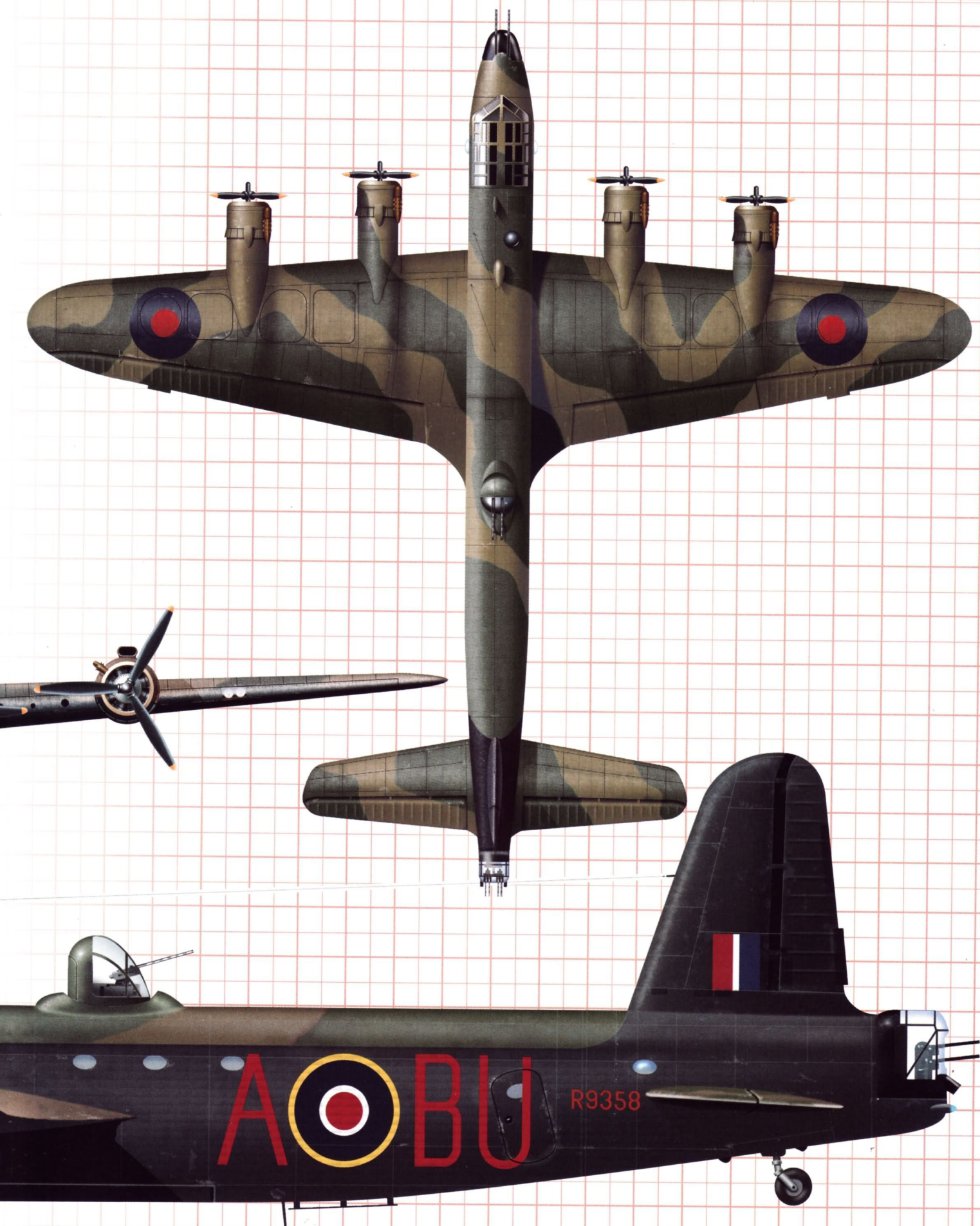
a tree and then a house. Thankfully, there were no casualties on the ground and all the crew survived. It was far from easy exiting the burning aircraft, and gunner Sgt J E Flack became trapped in the wreckage. He was rescued by F/Sgt D C Moore and Sgt T J Wilson, who were both awarded the George Medal for their bravery. The bomber was destroyed.





**SPOT FACT** Its three-bladed metal propeller measured 13ft 6in in diameter

Stirling in profile



ARTWORK: PETE WEST 2011

**7** fuel tanks were fitted in each wing





**Spotlight**

**Short  
Stirling**

Into the

# Cauldron

Stirlings suffered heavy losses in the desperate attempts to re-supply the airborne forces trapped at Arnhem, as **Tom Spencer** recounts





As the Allies continued their push eastwards following the successful landings in Normandy, Field Marshal Bernard Law Montgomery formulated plans that could accelerate the defeat of Germany. By mid-August 1944 he was proposing to drop the First Allied Airborne Army to capture key bridges across Holland's major waterways. This was Operation MARKET-GARDEN, a highly ambitious and risky scheme.

The flying element was coincident with an advance by XXX Corps from the Belgian border, penetrating the

German defences of the Siegfried Line. (This was a line of fortifications from the French border to the east of Eindhoven, known to the Germans as the Siegfriedstellung or Westwall.) The most distant objective – and the target for the British 1st Airborne Division – was the bridge across the Lower Rhine at Arnhem. Sixty miles (96km) behind enemy lines, this objective was key to the whole strategy.

The delivery of this huge force would stretch the capability of the RAF and USAAF transport fleet. It required three lifts in daylight, which would greatly increase the vulnerability of

the aerial armada and, of course, was dependent on fair weather.

To cater for the large numbers of assault gliders a sizeable landing zone (LZ) was required and an area north west of Arnhem near Oosterbeek was selected. Concentrations of enemy flak positions were to be neutralized by fighter-bombers of the 2nd Tactical Air Force.

### New life for the Stirling

Primary airlifters employed by RAF Transport Command were the Douglas Dakotas, concentrated in

*Below*  
Paratroopers from the pathfinders of 21 Independent Parachute Company preparing to board Stirlings of 620 Squadron at Fairford on the morning of September 17. R S G MACKAY



#### MARKET-GARDEN Stirling IVs

Unit	Base	Example serial and code
190 Sqn	Fairford, Gloucestershire	LJ818 'L9-X'
196 Sqn	Keevil, Wiltshire	LK428 'Z0-B'
295 Sqn	Harwell, Berkshire	LJ652 '8E-X'
		LK439 '8Z-S'
299 Sqn	Keevil, Wiltshire	LJ891 '5G-D'
570 Sqn	Harwell, Berkshire	LJ991 'E7-W'
		LJ667 'V8-U'
620 Sqn	Fairford, Gloucestershire	LJ970 '0S-S'

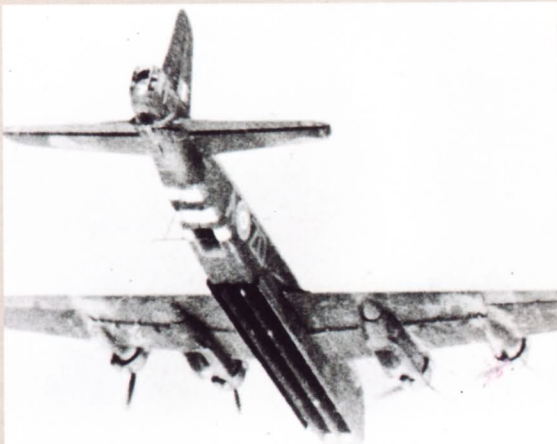


**SPOT FACT** Stirling Mk.I N3705 was captured and test flown in German colours

**Right**  
Led by the CO, Wg Cdr Lee, in 'OS-X', Stirlings of 620 Squadron returning from Arnhem on the first day.  
FORDYCE COLLECTION



**Multi-role Stirling IVs**



Paratrooper's view of a Stirling IV of 196 Squadron, showing the exit hatch in the rear fuselage and the lengthy bomb bay which could accommodate 18 supply canisters. J HIBBS

In 1942, a Stirling was evaluated by the Airborne Forces Experimental Establishment (AFEE) at Sherburn-in-Elmet, Yorks, and found to be suited to as both a glider tug and a parachute platform. Its large, but segmented, bomb bay and six wing cells could readily accommodate supply canisters. This gave the aircraft a role beyond releasing its glider.

Thanks to Specification B12/36 that brought the Stirling into being, it had a capacious fuselage, beyond the needs of a bomber. This is because of the requirement to carry a reserve crew of six *and* rest stations for them *or* room for 24 fully-equipped troops!

A modification plan for the Mk.III was produced by Short Brothers and also a lightened redesign eliminating the nose and mid-upper turrets gave rise to the Mk.IV. With increased deliveries of Avro Lancasters and Handley Page Halifaxes to satisfy Bomber Command requirements, in the autumn of 1943 production of the Stirling was switched to the Mk.IV, the first of which arrived at the AFEE in October 1943.

The glider tug had the front and dorsal turrets removed, and *occasionally* the rear one. The towing attachment took the form of a large horseshoe-shaped attachment under the rear turret position.

In its initial form, the paratrooper version had all turrets removed, but again the rear turret often stayed for self-protection. A large drop hatch was installed in the rear fuselage.

**Right**  
Rare colour showing Mount Farm shortly before Arnhem, LK203 '8E-B' of 295 Squadron. H D CHERRINGTON

46 Group, and the Short Stirling IVs, of which 38 Group had six squadrons. At first, the Stirling might seem an odd choice for such work, but trials proved it had all the right qualities.

The Airspeed Horsa and General Aircraft Hamilcar gliders required a more potent tug than the Dakota. In 1942, a Stirling underwent evaluation with the Airborne Forces Experimental Establishment at Sherburn-in-Elmet, Yorks. Increasingly outmoded as a bomber, the Stirling found a new role in the form of the Mk.IV specifically conceived for tugging and paratropping – see the panel.

The first Mk.IV was delivered to 299 Squadron at Stoney Cross,

Hampshire, in January 1944 followed by 190 at Leicester East and then 196 and 620, the latter two transferred from Bomber Command. These units were 'blooded' on Special Operations Executive covert duties and during

D-Day. In July this quartet was joined by 295 and 570 that had converted from Armstrong Whitworth Albermarles and in mid-September all were ordered to prepare for the next big adventure.





## First lifts

MARKET-GARDEN was a dual codename; MARKET related to the aerial armada, GARDEN being the ground offensive. In the days prior to the launch, three airfields were secured and the gliders and tugs prepared at



Fairford (190 and 620 Squadrons), Harwell (295 and 570) and Keevil (196 and 299) – see the panel. Between them these bases held 210 aircraft.

This figure was well above the predicted establishment due to lower than anticipated losses during D-Day. Arnhem was to brutally change all that.

The order to mobilise came on Sunday September 17 with 295 and 570 setting off from Harwell delivering pathfinders and elements of the Divisional HQ. Flying in 570's lead aircraft with the CO, Wg Cdr Bangay, was the Air Officer Commanding, AVM Leslie Hollinghurst. The Stirlings took off at one minute intervals pulling the heavily-laden gliders off before forming up and heading east at 2,500ft (762m) towards Aldeburgh on the Suffolk coast, being joined by formations from Keevil and Fairford.

In all 129 Stirling-Horsa combinations were planned.

The procession proceeded almost without incident other than several tows casting off and over the Dutch coast it met up with fighter escort for the run in to the drop zones (DZs).

Loads varied – 190's 25 aircraft for example had six carrying almost 100 paratroops and 19 towing Horsas holding 130 men, 17 Jeeps and trailers, motorcycles and seven anti-tank guns.

Having released their gliders, the Stirlings climbed out and headed home. To the amazement of the crews, generally used to night 'ops', there was little sign of enemy fire, much of which had been neutralized by 2nd TAF fighters.

In Flt Lt John Unwin's 295 Squadron crew was Fg Off Norman Fendal who said of the day: "This was the first daylight operation that we had experienced. We were off at 11:35 hours and

made our return nearly five hours later after having delivered our glider successfully."

## Re-tracing steps

Back at the transport bases, aircraft were prepared for the next lift and some 300 more gliders were made ready. However, the 18th dawned wreathed in early autumn fog causing a five-hour delay in take-off and even then, the large formations encountered hazy conditions. More significantly, the enemy had reacted swiftly and positioned mobile flak units along the likely routes and the, now known, target areas.

Loads varied – 196's had 17 aircraft each with 24 supply containers to be dropped near Nijmegen and three more towing Horsas to the LZ at Groesbeek, near Arnhem. No.190's 21 Stirlings each towed a Horsa as did all of 299 and ten of 570's whilst 620 delivered 21 gliders.

Near Overflakee, F/Sgt Culling's aircraft from 570 was hit by

Left

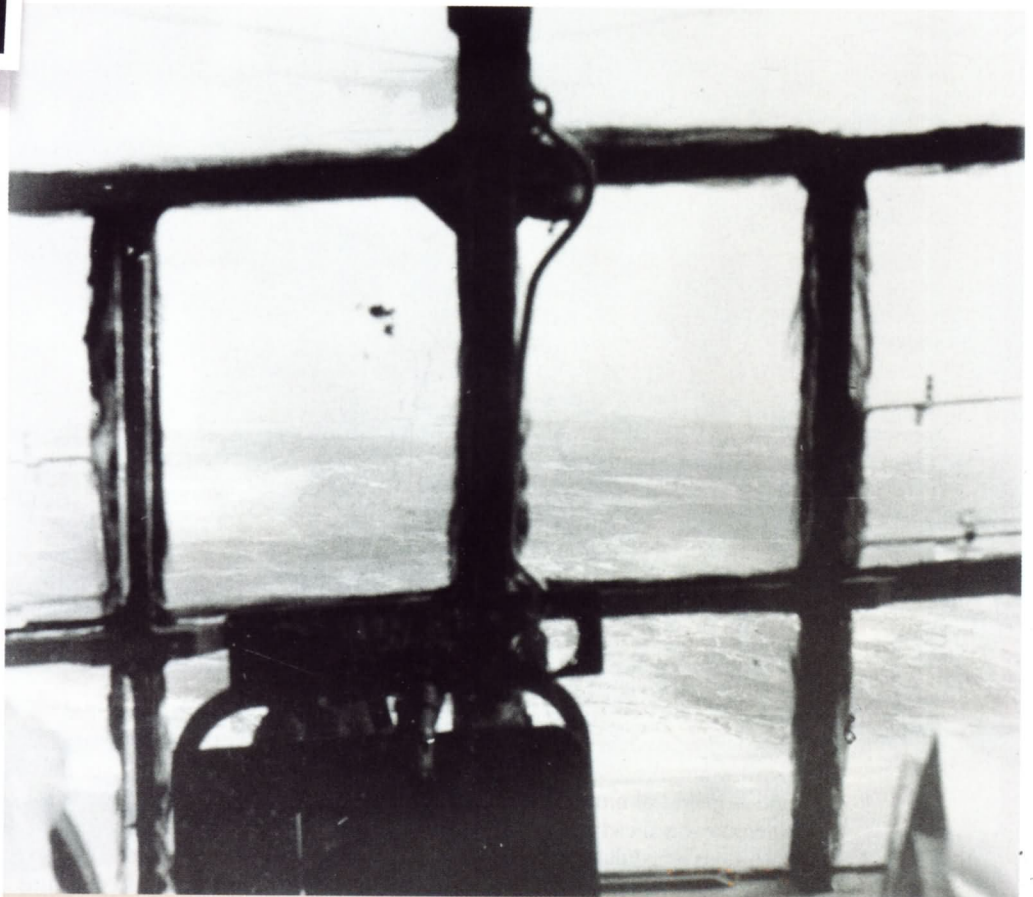
Many Stirling IVs wore nose-art including 570 Squadron's LJ994 'ET-L' called 'L's A Comin'. It was painted on by Sgt 'Cherry' Cherrington.

H D CHERRINGTON

Below

A Horsa plot's view of a Stirling tug over Holland en route to the landing zones near Arnhem.

M HODGSON



"The Stirlings took off at one minute intervals pulling the heavily-laden gliders off before forming up and heading east towards Aldeburgh..."

**27,000** tons of bombs were dropped by Stirlings



## SPOT FACT From 1944 Stirlings were used for deploying mines, electronic countermeasures and dropping spies

### Initialed 'kills'



The Commanding Officer of Harwell, Berkshire, was Gp Capt William 'Bill' E Surplice. Although on the strength of 295 Squadron, Mk.IV LK171 carried Bill's initials 'WES' in place of the more usual unit codes '8E-' and '8Z-'. On the nose was his rank pennant and the decorative name *Shooting Stars* and the names of the crew in gold. It is thought to have been unique for a heavy bomber to wear its pilot's initials - a concept common on fighter units.

**Above**  
Gp Capt Bill Surplice and crew with 'Shooting Stars' - note his rank pennant on the extreme nose. KEC

**Right**  
Parked at Harwell Mk.IV LK140 'V8-E' of 570 Squadron was flown during Arnhem and was the usual aircraft of Fg Off Spafford. H D CHERRINGTON

**Right**  
Named 'The Saint', EF267 '5G-C' of 299 Squadron was Fg Off Hardwick's machine which was lost over Arnhem on September 19. D HARDWICK

flak and crashed, though its Horsa landed safely; another tug was shot down and crashed near Breda.

The squadron's 15 supply carriers went through the DZ at just 700ft and lost another aircraft to the increasingly effective flak. Enemy fire was not the only hazard for the gliders as slipstream effects caused others to cast off early.

### Intense opposition

Although the airborne assault had achieved surprise, it was the 19th



before the bridge at Grave was captured while there was heavy fighting around those at Nijmegen and Arnhem. Ominously, the ground offensive was already behind the ambitious schedule in the face of stiff resistance.

Two SS Panzer Divisions had been refitting around Arnhem and were quickly into the fray. Already the 1st Airborne Division was out of contact. Elements had fought their way to the bridge and held one end while others fought to reach them and also to defend the vital DZs.

Poor weather again delayed the third lift and re-supply drops planned for early on the 19th until around midday. Although Allied fighters prevented any significant interference from the Luftwaffe the inbound heavily-laden transports had to run the gauntlet of intense ground fire along their route.

Twenty Stirlings pulled Horsas carrying equipment, but most carried supply containers or wicker panniers that could be free-dropped. Many aircraft were hit and 570 lost two more. One of these was LJ647, flown by Fg Off Hincks, which was hit over the DZ and managed to crash-land near Grave.

No.299 suffered two down while 190 and 295 each lost one; the latter, LK170 flown by F/Sgt Hall's crew, was shot down in flames near Bruges.



Once more this was achieved with heavy losses due to ground fire. The aircrews were suffering alongside their airborne brethren in what had now been christened 'The Cauldron'. Flying 295 Squadron's '8E-B' was Plt Off Neil Couper whose wireless operator, Fg Off Ken Nolan recalled:

"As we approached Arnhem we ran into intense and accurate 88mm cannon fire. It sounded like being inside a tin shed and being bombarded with small stones and gravel. Large holes were appearing in the side of the aircraft.

"By the time we approached the dropping zone the aircraft had suffered considerable damage and was full of blackish, acrid smoke and cordite fumes. We released the containers in the bomb bay to the troops below. We were at about 500ft and received

several direct hits which set the aircraft on fire."

His drop completed, Neil ordered his crew to bale out of the stricken Stirling. Most did so but their New Zealand skipper died in the blazing *B-for-Baker*.

### Worse to follow

Worse was to follow the next day, when widespread fog and mist covered the departure bases. Sqn Ldr Cleaver led 570 Squadron, followed by 299, and running in on the new dropping point ran into deadly 88mm flak. They saw most of their supplies land on enemy positions, so tight had the Para's perimeter become.

Many aircraft were hit to varying degrees and Flt Lt Turner had to crash-land near Noorclyke. As well as many of his own crew, he found himself with around 30-men and they fought their own, private battle against enemy troops until they were relieved by British armour. Turner received the Military Cross while part of his aircraft, LK545 *T-for-Tare*, was

Most others came back damaged, including LK171 flown by Harwell's Station Commander, Gp Capt Bill Surplice - see the panel, above, left.

Another hazard was congestion over the DZs, compounded by crews understandably making second runs to improve the accuracy of their drops.

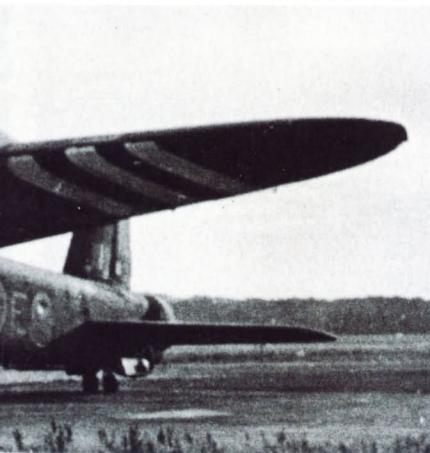
On day four - September 20 - 38 Group sent 101 supply-dropping Stirlings, 34 each from Harwell and Fairford and 33 from Keevil of which 87 dropped over 2,000 containers and 300 panniers.



salvaged and used for many years by a Dutch farmer as a pig shed!

Then came 295 and 620 and to their horror as they ran in, the crews saw some Focke-Wulf Fw 190s had broken through and two Stirlings quickly fell. It was the last, unescorted, formation that really suffered. Around a dozen Fw 190s attacked and 190 Squadron suffered particularly badly, losing seven aircraft in all, including that of the CO, Wg Cdr G E Harrison, and his crew.

Flak struck Fg Off Frank Pascoe's LJ498 *F-for-Fox* as it crossed the DZ, severing the control cables and setting the port wing on fire. Nonetheless, Frank managed to maintain a semblance of control to stagger away before he was attacked by fighters, which started another fire. Frank managed to ditch his crippled aircraft



“...we ran into intense and accurate 88mm cannon fire. It sounded like being inside a tin shed and being bombarded with small stones and gravel”

in the River Maas but despite his gallant efforts, only two of the crew managed to extricate themselves.

That day 38 Group's loss rate was an unsustainable 14-percent. This took total Stirling losses since the 17th to 29.

## Desperate final days

The situation on the ground for the 1st Airborne Division was now desperate and it was forced back to a perimeter around Oosterbeek with one edge along the river. Continued bad weather precluded much flying on the 22nd but on the following day it cleared and the Stirling units

contributed 73 aircraft to the effort.

This time they had the benefit of heavy fighter escort but the flak still had to be faced in what was now a kind of airborne 'Charge of the Light Brigade'. Several aircraft were badly hit and limped home to crash landings while LJ873 *H-for-How* of 620's CO, Wg Cdr D H Lee, was shot down.

Once again it was 570 that suffered most. Fg Off Murphy staggered away to crash-land near Ghent. Fg Off Baker and Plt Off Kirkham and their crews were shot down near Arnhem and Sqd Ldr Cleaver also came down behind enemy lines in

Holland with another crashing at Nijmegen. The 22 glider tug and 58 re-supply sorties cost 570 eleven aircraft.

By then all efforts were focused on evacuating the beleaguered 1st Airborne back across the Rhine. An airdrop was attempted on the 24th in the face of enemy fire, though the poor weather mercifully blanketed the vulnerable transports.

It was all to no avail. In spite of unparalleled courage, Arnhem had been a bloody defeat during which the six Stirling units had suffered heavily, losing 150 aircrew and 35 aircraft. ●

**Below**  
One of the many losses on the bloody 21st was LJ829/ 'G5-B' of 190 Squadron. V OSTERZEE

