

## **Number 617 Squadron after the Dams Raid by Robert Owen**

In May 1943 Number 617 Squadron of Bomber Command, the Royal Air Force, succeeded in breaching two of Germany's great dams. A few months after this success the Squadron moved from its airfield at Scampton in Lincolnshire to a new base: Coningsby, in the same county. The Squadron had a new commander, Sqn Ldr George Holden, and was re-equipped with Lancasters that had been adapted to carry the latest and heaviest weapon in Bomber Command's arsenal, a 12,000 lb blast bomb that looked rather like three large dustbins bolted together. On the night of 15/16 September 1943, 8 aircraft carrying this weapon were despatched to make a low level attack against an embanked section of the Dortmund – Ems Canal. The canal was an important link in Germany's internal transport network. A combination of bad weather and heavy defences took their toll. Five of the eight aircraft, including that of the Squadron Commander, failed to return. The canal was undamaged.

Sir Arthur Harris, Commander in Chief of Bomber Command, was faced with the choice of what to do with the depleted Squadron. He decided to re-build it for special duties. Harris knew that Barnes Wallis, inventor of the bouncing mine that had broken the dams back in May, was developing a new bomb. Wallis's latest weapon was designed to penetrate deep into the ground before exploding, and so to cause an earthquake effect that would destroy the most substantial of structures. Although this was not yet ready, it would need to be dropped from high level with great accuracy. The Squadron was accordingly equipped with the Stabilised Automatic Bomb Sight - a specialised instrument that was capable of such precision.

The Squadron would need to practise with this sight and then try it under operational conditions. 617 Squadron was now under the command of a highly experienced pilot, Wing Commander

Leonard Cheshire. Under his leadership they set about the new task. By December 1943 they were achieving consistent results averaging 95 yards. Some crews were coming as close as 36 yards.

Meanwhile, intelligence was monitoring the development of mysterious construction sites in Northern France. Available evidence suggested that these were to be launch sites for a new German secret weapon, a pilotless flying bomb, targeted against London. The sites were small and well camouflaged. To destroy them, precision attack would be needed.

The flying bomb sites were lightly defended; they seemed the perfect target for the Squadron's new capability. To bomb accurately at night the bomb aimers needed a good aiming point. This was to be provided by Pathfinder Mosquitos that used a radar system to drop brightly burning markers to start the attack. After a few attempts it became clear that although the Squadron was hitting the markers, the markers themselves were not close enough for the purpose.

Frustrated, Cheshire decided that it would be better if the Squadron carried out its own marking. He started to experiment, diving his Lancaster to low level to place the markers.

In January 1944 the Squadron moved again, this time to Woodhall Spa, a few miles from Coningsby. Having shown that it was possible to mark and bomb with extreme accuracy at night, they were detailed to attack a series of French factories. For the time being their weapon would continue to be the 12,000lb blast bomb, which was ideal for destroying buildings and damaging the machine tools inside them. The factories were surrounded by workers' housing, and as further incentive the Squadron was instructed to avoid damage to civilian property.

The results were remarkable. Attacking the Michelin tyre plant at Clermont Ferrand, they destroyed the workshops, but left the adjacent workers' canteen intact. A small factory at St Etienne measuring only 170 metres by 90 was flattened, with minimum damage to surrounding property.

The technique worked well against these lightly defended targets, but diving a heavy Lancaster to fifty or a hundred feet off the ground to place markers was not going to be practical over a well-defended target. A smaller and faster aircraft was called for. The machine selected was the twin engine de Havilland Mosquito. Using four of these aircraft Cheshire and three other selected pilots continued to mark French targets, not only for 617 Squadron, but also now for other Lancaster squadrons, so enabling heavy, concentrated and accurate attacks.

The next question was whether this technique could be used against heavily defended city targets in Germany. There was only one way to find out. After an initial attack against Brunswick in April 1944 there came the ultimate test - a target deep inside Germany. The place selected was Munich. Despite heavy defences, and an arduous flight testing the Mosquito's endurance, Cheshire and his team marked the target effectively for a large force of Lancasters. The result was the greatest damage yet inflicted on the city.

The low-level marking technique was then handed to a dedicated Mosquito squadron which used and developed it until the end of the war.

617 Squadron's next duty was critical to the success of D-Day. The plan was to deceive German radar into believing that an Allied invasion fleet was heading towards northern France, and so distract attention from Normandy. The method was to drop clouds of metal foil strips in a pattern that would resemble such a fleet. The technique required precise navigation to fly an exact course, maintaining speed and timing almost to the second. The Squadron practised for a month. It worked.

Barnes Wallis' 12,000lb deep penetration bomb was now ready. It was called Tallboy, and on the night of 8 June 1944 it was used for the first time to block a railway tunnel at Saumur and so prevent German reinforcements from reaching Normandy. One bomb drilled down to explode inside the tunnel; others cut the tracks and blocked the approaches.

The next use of Tallboy came just a few days later. Allied shipping supplying the invasion forces was being harried nightly by German E-boats: fast motor torpedo vessels that operated at night and took shelter by day in vast concrete pens with roofs up to three metres thick. On 14 and 15 June the Squadron mounted decisive attacks on such bases at Le Havre and Boulogne. Although Tallboy was not designed to penetrate reinforced concrete the attacks shattered the pens and created tidal waves that drove boats onto the quayside or swamped them at their moorings.

The Germans were developing further secret weapons - the V-2 rocket and V-3, a multi-barrelled long range gun - and were constructing vast concrete emplacements from which to fire them. Although such targets were impervious to ordinary bombs they were ideal for Tallboy. Attacks on them were made throughout June and July. Wing Commander Cheshire was now using a North American Mustang, a single seat long-range fighter, to mark them. The Mustang's agility and speed enabled even greater precision. Tallboy approached the speed of sound during its fall. Striking the ground on or close to its target, the weapon damaged foundations and collapsed underground workings, ensuring that they could never be brought into operation.

By mid-July 1944 Wing Commander Cheshire had completed one hundred sorties since the start of the war. He was taken off operations. For his pioneering of low level marking and contribution to the Bomber Offensive, he was awarded the Victoria Cross. Wing Commander Willie Tait now took command. The Squadron's next targets were submarine pens along the French Atlantic coast. The Tallboys damaged them, causing the U-boats to withdraw to Norwegian ports. At Brest they sank old French battleships before they could be used as blockships. Further attacks were made against E-boat pens at IJmuiden.

The Royal Navy remained troubled by the threat of the German battleship Tirpitz. In later 1944 Tirpitz was harboured in Altenfjord in northern Norway. Despite courageous attempts by sea and air

to sink her, by her very presence she remained a significant threat. It was thought that Tallboy might put her out of action. The problem was that Altenfjord was beyond the range of Tallboy-carrying Lancasters. To overcome this it was arranged that the Squadron, accompanied by 9 Squadron, also now Tallboy-equipped, would fly to a Russian airfield near Archangel and launch an attack from there.

The first attack was made on 15 September. It appeared unsuccessful, although we now know that it hit Tirpitz on her starboard bow and that a propeller shaft distorted. Since the battleship was now unseaworthy the Germans moved her slowly south to Tromso, where she was to be moored as a floating gun battery.

At the beginning of October the Squadron was despatched to breach another dam, this time using Tallboy. If they could destroy the Kembs Barrage on the upper reaches of the Rhine this would prevent the Germans releasing the water as the American Army crossed the river. Part of the Squadron acted as a diversionary force at high level, while six aircraft swept in at low level to plant their Tallboys with delay action fuzes against the sluice gates. The defences were intense and two of the low level force were shot down with the loss of their crews.

Back in Norway the move of the Tirpitz south brought her within range of Lancasters operating from northern Scotland. Fitted with extra fuel tanks in the fuselage and more powerful engines to cope with the additional weight the two Squadrons set off again; this time a layer of cloud beat them at the final moment. On 12 November 1944 it was third time lucky: there were three direct hits and several near misses; Tirpitz capsized.

The last weeks of 1944 saw 617 Squadron attacking U-boat pens and shipping. The outstanding success of Tallboy enabled Barnes Wallis, its inventor, to realize his ambition of building a yet-bigger weapon. Twenty-five feet long and weighing ten tons, known as Grand Slam, this was the largest

conventional bomb used during the Second World War. Grand Slam was so big that it could only be carried by Lancasters that had been modified by the removal of most of their armament and their bomb doors. Grand Slam was first used against the Bielefeld railway Viaduct on 14 March 1945, when a near miss destroyed two spans. Other attacks on railway bridges and viaducts followed. Grand Slam and Tallboy were used to seal off the Ruhr industrial area as the Allied forces advanced into Germany.

The war's closing weeks saw further attacks against U-boat pens and the pocket battleship, Lutzow. 617 Squadron's final operation, appropriately, was to destroy Hitler's mountain redoubt at Berchtesgaden in Bavaria.

Many have asked what the Dams Raid achieved. A large part of the answer is this extraordinary succession of achievements. The success of the Dams Raid gave Barnes Wallis the opportunity to bring his large bomb theory to fruition. But Tallboy and Grand Slam would have been nothing without the ability to put them precisely in the right places. It was that requirement that created the need for accurate marking, developed by the Squadron and then made available to others to reduce what today we would call "collateral damage".

617's Squadron's reputation for being the first to use innovative weapons, and strike with the utmost precision has been maintained to the present day. In 1963 617 Squadron was the first Royal Air Force Unit to become operational with the Blue Steel stand-off nuclear missile. During the First Gulf War they introduced the Thermal Imaging and Laser Designator pod, enabling precision strikes with laser guided Paveway bombs. On 21 March 2003, the sixtieth anniversary of the Squadron's formation, 617 fired the first operational "Storm Shadow" during the opening "Shock and Awe" assault on Iraq.