

Avro Vulcan: 'The Delta Deterrent' by Guy Bartlett

On Wednesday 11th March, 2026 at the monthly u3a meeting at St. Paul's we had a talk from Guy Bartlett, an aircraft enthusiast, about the Avro Vulcan bombers which played such an important role during the years of the Cold War of the last century.

The story began after the detonation of the first Atomic Bomb in August 1945. It was realised that British bombers used during World War II were incapable of carrying the heavier nuclear bombs and that new planes were needed. The specifications for these new planes were that they could carry a payload of 10,000 lb and fly at an altitude of 50,000 ft. Three separate companies, Vickers, Avro and Handley Page were encouraged to create new planes, known as the V-Bombers. Avro created the Vulcan, Vickers the Valiant and Handley-Page the Victor.

The designer of the Vulcan was Roy Chadwick, who had previously designed the Lancaster bomber. The Vulcan had distinctive delta wings which allowed it to fly further and faster. Initially its role was as a 'high-level' bomber, flying at high altitude. All were painted white to reflect the flash of a nuclear explosion. However, as anti-aircraft missiles became more widely used, the Vulcan's role changed to a low level bomber, flying under the enemy radar to reach a target. Unfortunately in flying at low altitude planes suffered from 'ground effect' turbulence which can cause metal fatigue.

Under the Quick Reaction Alert, crews of the V-Bombers had to be ready to fly within four minutes of the detection of incoming nuclear missiles. They did this in the knowledge that it was a one way trip because during a nuclear war it was unlikely they would have a country to come home to.

During the 1970s it was thought that oil rigs in the North Sea might be attacked and the RAF used Vulcans to patrol the area. They also carried equipment to detect illegal nuclear testing. Because the Vulcan could carry a large payload, it was used as an in-flight refuelling tanker for other aircraft. The Vulcan also had a role in testing the engines of Concorde before it went into service.

In 1982 during the Falklands War sixteen refuelling tankers were required for one Vulcan bomber to fly from Ascension Island to the Falklands, a distance of 3,700 miles. The runway at Port Stanley was being used by Argentina to attack the British Task Force sent to liberate the islands. The Vulcan dropped twenty-one 1000 lb bombs but only one hit the runway. Fortunately (for us) it was enough to make it unusable.

In 1998 the Royal Navy and its Trident submarines took over the role of nuclear deterrence from the RAF. The Vulcans were no longer needed. Most were scrapped but a businessman, David Walton, purchased one for £25,000, persuaded the RAF to let him have all its Vulcan spare parts for nothing and set up an organisation to restore the plane, XH558 to flight. Guy helped with this work, which took 14 years to complete.

Sadly the Vulcans can no longer obtain a 'certificate of airworthiness' and the last flight of Vulcan XH558 was on 28th October 2015. Of 142 planes which were built, only three remain which can move under their own power. Guy finished his talk with a video of a Vulcan performing aerobatics at the Farnborough Air Show.

