

Britain's Avro Vulcan Bomber Has Landed for the Last Time

The only remaining flying Avro Vulcan bomber landed for the final time last October. The distinctive delta-winged Cold War aircraft, which once carried Britain's nuclear deterrent, took off from Doncaster Robin Hood Airport for a brief, farewell trip on October 28, 2015.

Organizers kept details secret until the last minute over fears that dangerously large crowds would throng the airport for one final chance to see the aircraft. The aircraft was so popular among aviation enthusiasts and the general public that a nationwide tour held earlier that month was nearly cancelled over police concerns an influx of thousands of people turning up at once would effectively shut down the small airport.

Two weeks earlier, hundreds of thousands are believed to have glimpsed Vulcan XH558 as it spent two days doing fly-pasts around the country. Martin Withers, who led the 1982 Vulcan raids on the Falkland Islands, was the pilot.

Supporting companies recently advised the Vulcan to the Sky Trust -- which brought the 55-year-old aircraft back to flight eight years ago -- that, as their engineers retire from the industry, the expertise to keep it airworthy will be lost.

The Vulcan will stay in its Cold War hanger at Robin Hood Airport - once RAF Finningley - where the Trust is planning a visitor center, and also to continue "fast taxiing" the massive bomber around the runways.

In 1998, at the recommendation of what was then British Aerospace, Marshall of Cambridge Aerospace was identified as having the skills, capabilities, quality control

and experience in one-off aircraft projects to satisfy the Civil Aviation Authority (CAA) that the work required on Vulcan would be done properly. Marshall Aerospace agreed to act as the engineering authority for the restoration project in 1999.

From 1998 to 2000, the start-up team confirmed the formal support of all the manufacturers needed to help Vulcan's

restoration, and completed a technical review which showed there were no mitigating factors to keep them from doing so. The real challenge was money. Primary estimates were that over £3.5million (\$4.58 million U.S.) would be required to pay for the restoration. Eventually a successful bid was made to the Heritage Lottery Fund, which, in December 2003, announced a





grant of £2.7million (\$3.53 million U.S.) for Vulcan's restoration.

All the work on the aircraft was supervised on site by Marshall Aerospace technicians under the approvals granted to Marshall by the CAA. In addition, significant amounts of engineering design work were carried out by staff in the Marshall Aerospace Cambridge Aircraft Design Office, including approvals of repairs and replacement materials, safety cases for removal of systems, and the necessary changes to aircraft documentation. They started work on the aircraft in August 2005.

After extensive tests, the Vulcan's Olympus engines were started up in August 2007. A further two months of testing on the

ground followed, to ensure that the aircraft was 100 percent ready for flight. Finally, 14 years after its last operational flight and with over £7 million (\$9.1 million U.S.) spent, the Vulcan XH558 roared into the air again on October 18, 2007.

As the last airworthy Vulcan, she returned to the air show circuit in 2008 and was a significant crowd puller at every event at which she appeared. Some highlights of the aircraft's air show career include flying in formation with the RAF Red Arrows over Farnborough, a formation pass with the Blades Aerobatic Team comprised of former Red Arrows pilots, and the ultimate formation flyover with the only two remaining Avro Lancaster bombers.

Waving goodbye: The crew flying the Vulcan were, from left, Jonathan Lazzari, Bill Ramsey, Martin Withers and Phil Davies. They are pictured waving in front of the Vulcan XH558 following its final flight.