

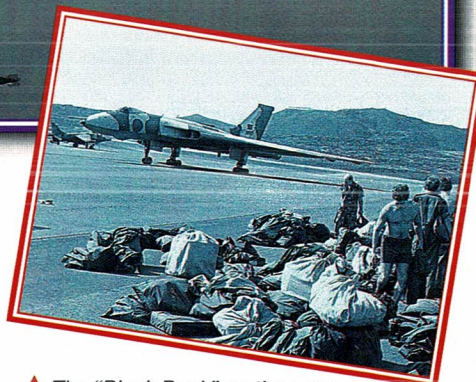
AVRO

VULCAN "BLACK BUCK"

● Record breaking distance ● Airfield attacker ● Anti-radar mission



ADVENTURES
IN FLIGHT

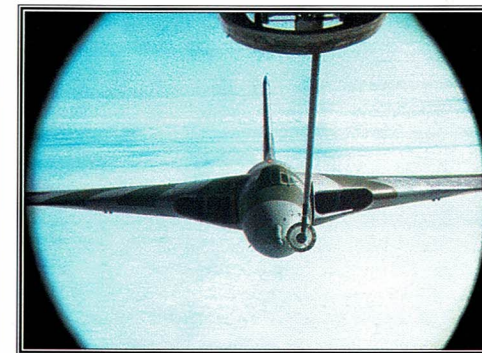


The mighty Vulcan bomber was on the verge of retirement when Argentina invaded the Falklands in 1982. Instead of going to the boneyard, the Vulcan was given one last mission—to fly what was then the longest combat sorties in history. RAF crews endured repeated air refuelings and long hours in the cockpit in order to attack Port Stanley airport. The Vulcan finally dropped bombs in anger in its final months of service.

▲ The "Black Buck" sorties were not militarily significant, but did force the Argentinians to defend their mainland bases, while denying them the use of Port Stanley airfield.

PHOTO FILE

AVRO VULCAN "BLACK BUCK"

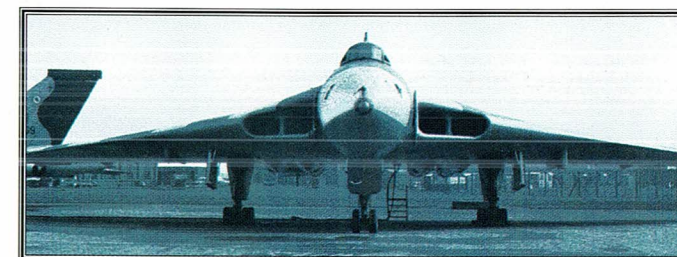


▲ More tanking

One Vulcan had to make a hasty diversion to Brazil after its refueling probe broke during tanking. The crew failed to jettison the Shrike missile.

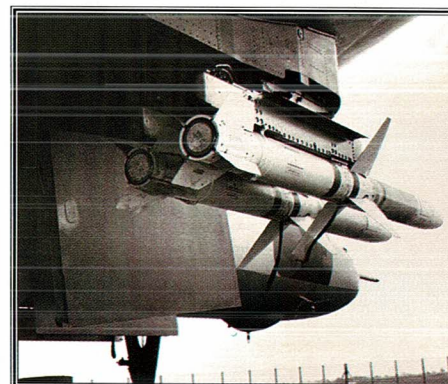
▲ Missile launcher

The Vulcans did not just bomb, but also carried the Shrike anti-radar missile to try to attack Port Stanley's TPS-43 radar.



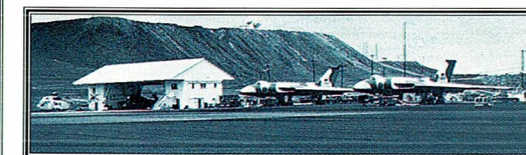
▼ Twin Shrike

Two "Black Buck" missions fired Shrikes; one knocked out a Skyguard fire-control radar.



▲ Big bird

The Vulcan possessed the range to attack Argentina, as well as the Falklands, which was the implied threat behind the raids.



▲ Ascension base

The distant base at Ascension Island was the scene of frantic preparations in 1982.

FACTS AND FIGURES

- Since the Vulcan did not fly in a straight line on the return flight, total distance per sortie was more than 8,680 miles.
- Five Vulcans were prepared for operation "Black Buck," but only two were used.
- The Vulcans were modified to carry AN/ALQ-101 jamming pods.
- The long-distance record set by Vulcans was exceeded when B-52s flew from Louisiana to Iraq during the Gulf War.
- Olympus engines were specially rated at 103 percent power for "Black Buck."
- One Vulcan raid used enough fuel to fly more than 1,500 Sea Harrier flights.

PROFILE

Vulcan strike on Port Stanley

The delta-wing Avro Vulcan had served with distinction as a strategic bomber during the Cold War, but was far from ready for the 8,680 mile round-trip on the longest combat mission ever flown at the time. The Vulcan's refueling probe had not been used for 15 years; valves and systems had to be replaced, and crews retrained in refueling. Five Vulcans were to be prepared for the raids on Port Stanley code-named "Black Buck." For these far-reaching attacks each bomber

carried an enlarged crew of six: two pilots, an AEO (air electronics officer), two navigators (radar and plotter) and an AARI (air-to-air refueling instructor).

Launching from Wideawake airfield on Ascension Island, which is located more than 1,200 miles off the east coast of Africa, with up to 21 1,000-pound bombs, the first sortie was flown with five refuelings en route, plus one on the return. Supported by more than a dozen Victor tankers, the Vulcan crew flew through the

Above: XH558 was the last flying Vulcan. Four Vulcans remain in flying condition, although all are grounded.

night to reach Port Stanley at 4:30 a.m. Though the bombing technology was not new, precision work by the crew resulted in the Vulcan's bombs cutting the Port Stanley runway—denying the airfield to Argentine jets.

Below: Although an old design, the "Black Buck" missions showed just how capable large strategic bombers are in a conventional role.

SPECIFICATIONS Vulcan B.Mk 2

Type: Five-seat bomber.

Powerplant: Four 19,958-lb.-thrust Rolls-Royce (Bristol) Olympus 301 turbojet engines.

Max speed: 643 m.p.h.

Ceiling: 64,977 ft.

Range: 3,441 mi. unrefueled.

Weights: Empty 110,000 lb.; loaded 199,584 lb.

Weapons: For the 1982 Falklands/Malvinas war, fitted to drop 21 bombs of 1,000 lb. all internal; and AGM-45 Shrike missiles on external pylons.

Dimensions: Span 111 ft.
Length (excluding nose probe) 100 ft.
Height 27 ft.
Wing area 3,963 sq. ft.

VULCAN B.Mk 2

XM607 was one of two Vulcan B.Mk 2s used in the attacks on Port Stanley in 1982. It flew all three of the bombing raids; the first two aimed at Port Stanley airport.

The Vulcan crew used old but sophisticated ESM and ECM gear to detect and jam Argentine radar signals, before firing their missiles and dropping bombs on the runway.

The huge delta wing contained a huge fuel tank, as well as giving good high-altitude performance and handling.

The Vulcan fleet had been equipped with advanced ECM equipment, much of which was housed in the bulged tailcone. It was supplemented by an ALQ-101 jamming pod under the wing.

Shrike missiles were carried on a hastily converted twin launcher pylon, an installation not used before 1982.

The Vulcan dropped its bombs by night using a capable, yet difficult-to-operate radar system mounted in the radome.

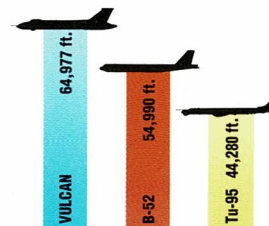
The Vulcan's enormous bomb bay is big enough for a man to stand upright in. In the end, only one of the bombs dropped actually hit the runway, which was repaired within a day.

The Vulcan's tailcone contained a brakechute. The tanker version (K.Mk 1) had a refueling unit installed underneath it.

ACTION DATA

SERVICE CEILING

The Vulcan was originally designed to operate at high level, beyond the reach of Soviet missiles or interceptors. Its huge wing gave the Vulcan superb maneuverability at heights contemporary bombers, such as the B-52 and Tu-95, could not hope to reach.



Long-range missions



Refueling "Black Buck" operations

ROUND TRIP: Having consumed enough fuel for a small air force to operate for a week, the Vulcan bombed and headed for home. More tankers were on standby to assist the Vulcan as it returned, so the amount of fuel consumed was huge.

TANKER RELAY: The massive fuel requirements of the Victor tankers, as well as the Vulcan, needed relays of tanker sorties.

