BLACK BUCK

TO THE FALKLANDS

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When RAF planners began looking at the feasibility of using the elderly Vulcan to support the operation to retake the Falklands, it immediately became clear that this was no easy option. From Wideawake airfield on Ascension Island, to Port Stanley on East Falkland, was 3,380 nautical miles by the most direct route. That is about as far as from London to Karachi in Pakistan. It meant a round trip of at least 6,760 nm, even with no deviations for tactical routing. It would be longest operational bombing mission attempted up to that time.

Earlier in its life the delta-winged bomber had had a flight-refuelling capability, but for more than a decade the system had been out of use. By 1982 no Vulcan pilot was current on the system, and few remained who remembered ever using it. The bomber's air-to-air refuelling system was soon restored to use, although it was clear that getting a single Vulcan to the Falklands and back would entail a huge supporting operation by tankers. No fewer than ten Victor tanker sorties were needed to supply the bomber and the tankers accompanying it. And on the way back, a further tanker would need to rendezvous with the bomber to provide fuel for the final part of the return flight.

One further daunting problem concerned the inadequacy of the Vulcan's navigation system for the proposed mission. The bomber's 1950s-generation ground mapping radar was adequate for operations in areas where there were plenty of land features to provide fixes. But the Vulcan's radar and other navigational systems were quite unsuitable for operations over the featureless wastes of the South Atlantic. There, fixing points were few and far between. The returning bomber, perhaps short of fuel, needed to make a rapid and accurate over-sea rendezvous with the tanker sent out to replenish its tanks for the final part of the return flight. To make up for the deficiency, the Vulcans and the Victor tankers selected for the operation were modified to carry hastily procured 'Carousel' inertial navigation systems.

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The scale of the Argentine fighter, SAM and AAA defences on the Falklands was unknown, but the potential threat had to be recognised. For that reason, the Vulcan would deliver its attack at night. As the various parts of the operation came together, the big question remained: would the damage inflicted by a single Vulcan carrying 21 x 1,000 lb bombs be sufficient to warrant such a huge expense and effort? In fact, the British armed forces were desperately short of weapons they could bring to bear on the Falklands. Unless some unforeseen and insuperable difficulty appeared, *Black Buck* would go ahead. The crews selected for the operation began a phase of intensive training.

With many complex military operations, if time allows it is usual to rehearse the mission beforehand. In the case of the *Black Buck* operation there was time, but there was no attempt to run a rehearsal. As one Victor pilot later explained:

> *'It would have been as much trouble to run a rehearsal as to fly the mission, so it was decided to fly the mission. If the problems had become too great, we would have broken off the mission and called it the rehearsal…'*

Specially prepared Vulcans were loaded with 1,000 lb bombs

As the month of April 1982 drew to a close, there was no sign of a diplomatic solution to the crisis between Great Britain and Argentina. The matter would have to be settled by force of arms. As the British naval task force headed relentlessly south, the Argentine garrison on the islands was greatly strengthened.

Towards the end of the April two specially prepared Vulcans flew into Wideawake Airfield, Ascension Island, each loaded with 21 bombs. Before leaving Waddington their crews had been briefed for their initial target, the runway at Port Stanley airfield. Soon after their arrival on Ascension, they learned that the attack would take place during the small hours of 1 May. One Vulcan was assigned to fly the mission, the other would serve as airborne reserve in case the primary machine went unserviceable.

On the evening of 30 April, commencing at 22.50 hours Ascension time (19.50 hours Falklands Time), the 11 supporting Victor tankers (the 10 plus an airborne reserve) thundered into the air from Wideawake at one-minute intervals. The two Vulcans then followed them into the air. As the planes headed south, anti-collision lights flashing in the darkness, the value of the airborne reserves became clear. The cabin of the primary bombing Vulcan could not be pressurised. Also a Victor tanker had an unserviceable hose unit. Both planes abandoned the mission and returned to Wideawake. The force, now lacking any reserve capacity if there were further failures, continued on its way south.

Flight Lieutenant Martin Withers captained the reserve Vulcan. When the crew heard the news that the primary bomber was aborting the mission, there was a long and pensive silence on the intercom. Then Withers piped up: ‘Looks like we’ve got a job of work, fellers…’ Further discussion was unnecessary, for the reserve crew had briefed for the mission as carefully as their comrades forced to abandon it.

For the next one and three-quarter hours the gaggle of big jets headed south, Then, some 730 nm from Ascension, four Victors passed fuel to four others and turned back. Another Victor passed fuel to the Vulcan.

At this early stage a problem developed which would cause increasing difficulties as the operation progressed. Holding loose formation, the Vulcan and its attendant Victors flew at a compromise cruising speed that was optimum for neither machine. Also, their cruising altitude of 31,000 ft was chosen because it was the highest at which fuel could be transferred, though it was somewhat

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The Vulcan made a big difference to the Falklands campaign

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lower than the altitude for optimum fuel consumption for either type. As a result, both the Victors and the Vulcan aircraft consumed fuel slightly faster than planned. The four Victors that had given up their fuel at the first transfer had had to dip deeply into their reserves to pass the amount required by those continuing south.

Two and a half hours after take-off, about 1,000 nm south of Ascension, the second fuel transfer began. A Victor topped up the Vulcan's fuel tanks, then turned back. Soon afterwards two Victors passed fuel to the three Victors remaining in the formation, then they too turned back.

Four hours into the operation there were tense scenes at Wideawake, as the four Victors from the first refuelling bracket arrived almost simultaneously at the airfield. All were low on fuel. Wideawake's single east-west runway runs between rocky outcrops, and can be entered or left only at its western end. As luck would have, it the wind was from the east. That meant that each Victor's landing run took it to the east end of the runway, the end opposite from the exit. In normal circumstances each plane would have landed, pulled to a halt, turned around on the runway, and taxied to the exit point and cleared the runway before the next aircraft came in. However, now the circumstances were not normal. Had the Victors used that procedure, one or perhaps two planes at the end of the queue might have run out of fuel before they could land.

The alternative was far from ideal, but it was the only course open. The first Victor touched down, ran to the far end of the runway and stopped. The second aircraft landed and pulled up close behind the first. The third tanker landed and pulled up close behind the second. When Squadron Leader Martin Todd made his approach, at the controls of the fourth Victor, the stage was set for the aeronautical equivalent of a motorway pile-up. With any misjudgement by the pilot, or a relatively minor technical failure in his aircraft, the RAF stood to lose one quarter of its precious tanker force in the South Atlantic area. Moreover, a couple of those Victors were earmarked to carry fuel out to aircraft that, in a few hours, would be returning from the distant south. If anything jeopardised that plan, all the Victors and the Vulcan airborne would have to be recalled.

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Victor tankers at Wideawake Airfield, Ascension Island

parachute filled and the aircraft decelerated rapidly. In front of him sat the other three Victors, anti-collision lights blinking in the darkness. Later he commented:

> *'There were the other three at the end of the runway, waiting for us to stop. If our brakes had failed or anything, Christ, I hate to think of it…'*

There was no failure. Todd pulled up well short of the other three aircraft, turned his Victor through a semi-circle and taxied to the runway exit. In relieved procession the other three tankers followed.

Meanwhile, the third transfer of fuel had begun 1,650 nm south of Ascension. Flight Lieutenant Alan Skelton passed all his fuel to two other Victors, then turned back for Ascension. Soon afterwards, however, he discovered that his aircraft had a fuel leak. The quantity lost was not large and in normal circumstances it would not have mattered. He was a long way from Ascension, and he had bitten deeply into his own reserve to the pass the required fuel to the aircraft continuing south. The crew called Ascension and asked for a tanker to meet them on the way back to the island.

The remaining force heading south was now down to just two Victors and the Vulcan. Five and a half hours and 2,340 nm after take-off, there was a further transfer of fuel. This time there was a new problem as Squadron Leader Bob Tuxford, captain of one of the Victors, explained:

> *'There is an unwritten rule in air-to-air refuelling, a variation of Sod's law, which says If you're going to find any really bumpy weather, it will be right at the point where you have to do your tanking. Now that proved to be the case and the really bumpy weather duly appeared as a violent tropical storm at exactly the point where the final transfer of fuel between the Victors was planned to take place.'*

From his Vulcan, Martin Withers observed the shadowy outlines of the two Victors a few hundred yards to his left, trying to transfer fuel:

> *'It was dreadfully turbulent, we were in and out of the cloud tops, there was a lot of electrical activity with St Elmo's fire dancing around the cockpit. The Victor was trying to refuel in that, it was having enormous problems. We could see the two aircraft bucking around, with the refuelling hose and basket going up and down about 20 feet.'*

Eventually, after some superb flying, Flight Lieutenant Steve Biglands succeeded in pushing his refuelling probe into the basket streamed behind Tuxford's aircraft. The fuel transfer began but the crews' triumph was short lived. Suddenly Biglands gave a terse radio call to say that his refuelling probe had broken off. That threw the entire operation in jeopardy once more, for it meant that particular tanker could not receive any more fuel. It was to have accompanied the Vulcan to the far south, but now there was no question of that. The only alternative was for the two remaining Victors to exchange roles, with Biglands

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giving up his fuel to Tuxford so that the latter could continue south with the Vulcan.

After the transfer, as Biglands pulled his Victor round and headed north, there remained a possibility that the broken probe that might still threaten the continuation of the mission. What if the broken refuelling probe was jammed in Tuxford's hose basket? That would prevent the Vulcan from drawing fuel from that Victor. To find the answer, Withers closed to within six feet of the basket. Then Flight Lieutenant Dick Russell, the refuelling expert attached to the Vulcan crew as sixth member, now sitting in the co-pilot's seat, flashed a hand torch over it. In the half light the basket seemed to be all right. To make certain, Withers advanced on the basket and inserted his probe to see if it would take a little fuel. The system functioned perfectly.

By the end of the transfer the final pair of aircraft were more than 2,600 nm south of Ascension and the Vulcan was just over an hour away from its target. In the Victor there was an earnest discussion whether it was possible to continue the mission. Bob Tuxford remembered:

> *"We were considerably lower on fuel than we should have been. Now we had a decision to make: either to go on, give the Vulcan the fuel it needed to make its attack, and prejudice our own position. If we didn't pick up some more fuel on the way back, we would have to ditch. Or turn back at that stage, while we both had sufficient fuel to get back to Ascension. I was the captain of the aircraft and I had to make the decision, but I asked my crew what they thought. One by one they came back and said, `We have to go on with the mission."*

Because of the need to maintain radio silence except in dire emergency, so far south, the Vulcan crew had no inkling of the tanker crew's worries. The two aircraft linked up for the final transfer of fuel before the target, at a point about 350 nm northeast of Port Stanley. That transfer went ahead normally until, with the Vulcan's tanks 6,000 lb short of full, Martin Withers was disconcerted to see the red indicator lights on the underside of the Victor flash on. That meant that the fuel transfer was complete. Withers broke radio silence with a brief request for more fuel. Tuxford told him curtly that there could be no more. Later the refuelling captain commented:

> *'Not being familiar with the tanking game, not knowing how far I had stretched myself to put him where he was, all he knew was that he wanted a certain amount of fuel. If only he had realised how much discussion had already taken place in my aeroplane, about how far we could afford to stretch ourselves to get him there…'*

Having agreed to bite so deeply into their own supply of fuel, the Victor crew had to live with the stark terms of their decision. Unless they were successful in summoning and rendezvousing with another tanker on the way, they were destined to come down in the sea about 350 nm south of Ascension. The success of the entire operation depended on the Argentine forces on the Falklands gaining no inkling of what was afoot. That meant the Victor crew could not use their high frequency radio inform base of their predicament, until the Vulcan had completed its attack.

Withers had less fuel than he had planned, but there was sufficient to continue with the next part of the operation. Also, he knew that a Victor tanker plus a reserve were scheduled to meet him during the return journey to top up his tanks.

At a point about 250 nm from the Port Stanley, Withers eased back the throttles and the Vulcan began a slow descent to remain below the horizon of the enemy early warning radar on the Falklands. At 2,000 ft he levelled off and continued towards the target. Flight Lieutenant Bob Wright, the radar operator, switched on his radar for a few sweeps and observed returns from the top of Mount Usborne, the highest point on East Falkland. That brought welcome confirmation that during the long over-water flight, the Carousel inertial navigation equipment had worked as advertised. The bomber was right on its planned track.

An attack down the length of the runway might have produced several hits if everything went perfectly, but a slight error in line would have caused all of the bombs to fall clear

Shortly after 04.00 hours (local time), at a point 40 nm from the target, Withers pushed forward the throttles to bring the Vulcan's four big Olympus engines to maximum thrust. As speed built up he eased the bomber into a steep climb to bring it to its briefed attack altitude of 10,000 ft. Once there, the pilot levelled out and let his speed build up to the 350 knots indicated, the maximum permitted, before easing back on the throttles to hold that speed. Meanwhile the radar operator again turned on his transmitter and the crew settled into the bombing run. The aiming point was the mid-point of the runway, with the aircraft closing in at an angle of 30 degrees off the alignment of the runway. With the Vulcan's 1950s vintage aiming system, that gave the greatest chance of scoring at least one hit on the runway. An attack down the length of the runway might have produced several hits if everything went perfectly, but a slight error in line would have caused all of the bombs to fall clear.

During the bombing run Withers saw nothing of the target in the darkness below him. His job was to follow as accurately and as smoothly as possible the left-right steering signals generated by the aircraft's attack computer. Later he recalled:

> *'It was a smooth night, everything was steady, the steering signals were steady, and the range was coming down nicely. All of the switching had been made and 10 miles from the target we opened the bomb doors. I was expecting flak and perhaps missiles to come up but nothing happened. The AEO [Air Electronics Officer] didn't say anything about the defences and I didn't ask – I left that side of things entirely to him. I was concentrating entirely on flying the aircraft.'*

In fact some Argentine defenders were preparing to engage the plane bearing down on the airfield. Flight Lieutenant Hugh Prior, the Air Electronics Officer, picked up signals from gun-control radar. It tried to lock-on to the bomber, but Prior switched on the ALQ-101 radar jamming pod under the starboard wing and the signals ceased.

At the bomb release point, the attack computer triggered the bomb release mechanism. The plane automatically released its 21 bombs at 1/4 -second intervals. As the last bomb left the aircraft, Withers ordered the bomb doors closed then he pushed open his throttles. He hauled the bomber into a steep turn, to leave the defended area as rapidly as possible. Twenty seconds after release, the bombs began exploding in a row across the airfield.

Nobody who was in Port Stanley that night will ever forget the sound of those detonations… To the Falklanders, that opening attack provided an enormous fillip to morale

From the right hand seat of the Vulcan, co-pilot Flying Officer Pete Taylor could see the street lights in Port Stanley town away to his right. Then, much closer, he saw a series of flashes in quick succession below the thin layer of cloud covering the airfield. It looked as if someone had turned on a bright but flickering light behind a translucent window. As the last bomb exploded, the darkness returned. The other crew members felt rather than heard the 'crumps' of the distant explosions.

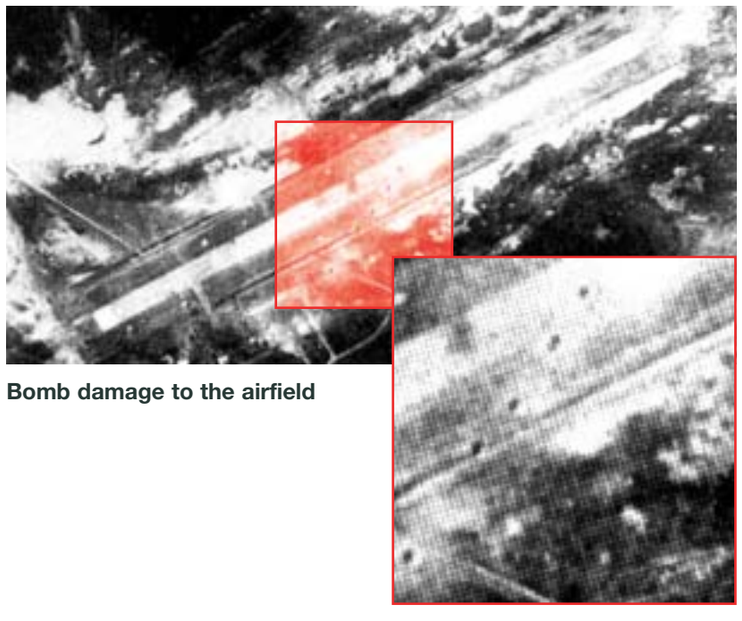
Nobody who was in Port Stanley that night will ever forget the sound of those detonations. Shopkeeper and artist Tony Chater and his wife Ann were in bed at their home in the centre of town. He recalled:

> *'I was half awake at the time and the whole house shook. It was as though there had been an earthquake, then we heard the 'boomboomboomboom' of the bombs going off, very muffled. Shortly afterwards I just made out the sound of an aircraft in the distance.'*

To the Falklanders, that opening attack provided an enormous fillip to morale. After the depressing events of the previous four weeks, they knew that relief was at last on its way. Chater continued:

> *'There was terrific jubilation in Stanley. From then on we really felt very confident that the British forces were going to come to our rescue.'*

When the gun positions around Port Stanley airfield finally came to life, the Vulcan was well out of range and climbing to altitude. The gunners' noisy but ineffectual tracer fire continued for several minutes, then one by one the weapons fell silent.



Bomb damage to the airfield

The bombs fell in a long stick across the middle of the airfield. The first one hit the runway close to its mid-point, penetrated the surface and detonated to cause a large hole with considerable 'heave' around the lip

In the cabin of the bomber there were no feelings of jubilation to match those of the citizens of Port Stanley. The nervous exertions of the previous eight hours had drained the crew's emotional energy. Later, Martin Withers summed up the mood:

> *'After the attack the crew were very quiet, rather sad. We had just started a shooting war. It had all been rather cold-blooded, creeping in there at 4.30 in the morning to drop bombs on the place. But we had a job to do and we thought that job worth doing.'*

The bombs fell in a long stick across the middle of the airfield. The first one hit the runway close to its mid-point,

penetrated the surface and detonated to cause a large hole with considerable ‘heave’ around the lip. The second bomb clipped the southern edge of the runway. One bomb detonated between the airfield’s sole repair hangar and a Pucara attack plane parked nearby, causing damage to both. Yet another bomb blew out the windows of the control tower and gave the building a severe shaking. The attack killed three Argentine military personnel and injured several. Considering the age and the known limitations of the Vulcan’s nuclear attack system, the result was as good as might have reasonably been expected.

Once clear of the Falklands, Hugh Prior broadcast the code-word ‘Superfuse’ to announce that the attack was completed and appeared to have been successful. That was the cue for Bob Tuxford’s Victor to break radio silence, to inform base that he had insufficient fuel to reach Ascension. He urgently requested that a tanker be scrambled to meet him on the way back. Otherwise, the crew’s prospects were grim. Tuxford later commented:

> *‘It was a long, dry journey back. We discussed a lot of things, including the practical aspects of baling out of a Victor into the sea – you would not try to ditch it, the aircraft was the wrong shape. We had our radar on to see if there were any ships in the area, but in fact there was none in the right place.’*

In the event, Tuxford made a successful rendezvous with the tanker scrambled to meet him. So did Alan Skelton who, it will be remembered, had suffered a fuel leak early in the operation.

Just over four hours after the attack, the Vulcan reached its planned refuelling point off the coast of Brazil. By now it was daylight and the sun was high in the sky. The crew made radio contact with the approaching Victor tanker and suddenly Martin Withers caught sight of its white underbelly as it swung into position in front of him. As the tanker levelled out, he could see the refuelling hose trailing invitingly behind it. As the Vulcan captain later commented, ‘It was the most beautiful sight in the world’.

Yet fate had one more drama in store for the Vulcan crew. With Dick Russell once more in the co-pilot’s seat, Withers advanced slowly on the Victor. He pushed his refuelling probe into the basket and initially the precious fuel flowed smoothly into the bomber’s tanks. But then, as the pressure built up, fuel began to spill from the connection. The translucent liquid gushed over the plane’s windscreen, so that even with the wipers running at high speed the pilots could make out only the blurred outline of the aircraft in front. The visibility forwards was rather like that from a vehicle in a car wash.

Had this been a normal training sortie Dick Russell would have throttled back, broken contact, then moved forward again to insert the probe properly into the refuelling basket. But the Vulcan was very low on fuel. There was a chance that either the refuelling probe or the basket had suffered damage. If the Vulcan broke contact, Withers could not be certain that he could regain it. Although some fuel was being lost, most of it was flowing into the bomber’s tanks. For each minute that Withers could maintain the precarious contact, his bomber collected another ton of fuel.

Then help arrived from an unexpected quarter. Bob Wright, the Vulcan’s navigator, had been standing on the ladder between the pilots’ seats watching the operation. As the fuel gushed over the canopy he noticed that almost level with his eyes, at the

base of the centre windscreen, the airflow kept a narrow strip of glass clear of fuel. Through that strip he could see the tanker clearly, allowing him to give the pilots a running commentary on relative positions of the two aircraft.

It took about 10 minutes for the Vulcan to collect the fuel it needed. Then Russell throttled back to break contact with the tanker. As the Vulcan's probe withdrew from the basket, a valve shut off the supply of fuel to the hose. In an instant the airflow cleared the fuel from the Vulcan's windscreen. Suddenly all was sunshine and light around the bomber's cockpit. Withers felt as if a huge burden had been lifted from his shoulders:

> *'After that fuel was on board, the other four hours back to Ascension were a bit of a bore. Only then was the tension off and we knew we were going to make it. Those four hours seemed to last for ever.'*

The Vulcan landed at Wideawake just over 16 hours after it had taken off. Later Martin Withers received the Distinguished Flying Cross for the leadership he displayed during the attack, while Bob Tuxford received the Air Force Cross for the selfless manner in which he and his crew supported it.

So ended the first *Black Buck* mission by a Vulcan to the Falklands. The operation stretched the capabilities of the bomber, the Victor tankers and all of the crews involved to the very limit. In retrospect, the effort expended to mount the operation was quite out of proportion to the physical damage inflicted on Port Stanley airfield.

Yet, as is often the case in aerial warfare, that raid on Port Stanley airfield had a psychological effect on the enemy that was also out of proportion to the physical damage caused. The attack demonstrated to the Argentine Air Force High Command that the RAF had the capability to strike at targets on the Argentine mainland, if it decided to do so. On the following day that service's only dedicated fighter interceptor squadron, Gruppo 8 equipped with Mirage III fighters, withdrew from Rio Gallegos in the south of the country where it was to have supported operations over the Falklands. To meet the new potential threat the unit redeployed to Comodoro Rivadavia much further north. Apart from a single skirmish near the end of the conflict, Gruppo 8 would play no further part in the fighting.

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Dassault Mirage

Thus, at a stroke, the Argentine Air Force conceded defeat in the battle for air superiority over the Falklands. It meant that for the remainder of the conflict Royal Navy Sea Harriers had free rein to hunt down enemy fighter-bombers and attack planes, without interference from dedicated enemy fighters. That was the bottom-line result of that first *Black Buck* mission, and *that* certainly justified the effort expended.


GT BRITAIN
USA
Spain
Africa
Mexico
Brazil
Ascension Island
('Wideawake')
ARGENTINA
Falkland Islands