

CHAPTER 6

RETURN TO EXPEDITIONARY WARFARE

OPERATION CORPORATE - THE FALKLANDS WAR 1982

In 1982 Argentine forces, in pursuit of a long-held but disputed territorial claim, occupied the British possessions of the Falkland Islands and South Georgia. The RAF formed a significant part of the Joint Task Force which was mounted to re-take the islands should diplomatic attempts at peaceful solution fail. The Falklands campaign, Operation CORPORATE, was a task of considerable complexity which involved conducting joint operations 8,000 miles from the UK against numerically superior Argentine forces, operating much closer to their home bases.



At the hub of all RAF activity in support of the Task Force was Ascension Island (ASI), approximately halfway between the UK and the Falklands. A British possession, it had an American operated airfield, Widewake, which was the closest available land-based one to the operational area. With American co-operation Ascension was built up for use as a major base for naval and air operations. Rapidly it became a main base, staging post, maintenance unit and supply depot rolled into one: Widewake airfield for a time became the busiest in the world.

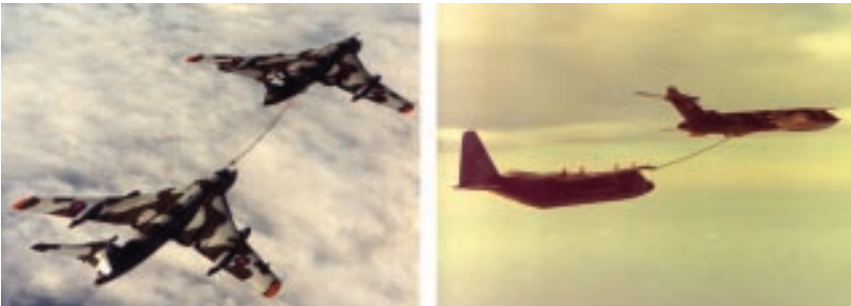
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The pan at Ascension

AIR TO AIR REFUELLING (AAR)

With the vast distances of the South Atlantic to be covered, AAR was essential. At first only the Harrier and the Vulcan were equipped for this (although the Vulcan required the re-instatement of its probes). Within a few weeks, Nimrods and Hercules were also given this capability thus greatly increasing their range and ability to undertake missions in support of the Task Force.



57 Squadron Victor refuels a 55 Squadron Victor, Hercules receiving fuel from a Victor

Initially Victor tankers bore the brunt of the work, providing both AAR and long-range maritime reconnaissance until Nimrods modified for in-flight refuelling arrived. The Victors made over 600 fuel transfers in over 500 sorties and crews had to fly at 5 times their normal rate. However, the long distances between the UK and the Task Force stretched the crucial AAR capability to the full. To meet the increased requirement some

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Hercules and, later, Vulcans were converted into tanker aircraft. Amongst the highly successful AAR operations was the use of 14 Victors to support a single Vulcan to bomb Port Stanley runway on the Falklands. A new technique of a low speed refuel configuration, christened “tobogganing”, was developed to enable the transfer of fuel between aircraft of markedly dissimilar speeds (Victor to Hercules).

The tanker force allowed the deployment of aircraft between the UK and Ascension and from Ascension to the Task Force and made possible the provision of Sea Harrier combat air patrol (CAP) over HMS Fearless. Operation CORPORATE demonstrated conclusively the value of AAR in successful long-range air operations.

AIR TRANSPORT (AT)

The AT force was a critical element for operations. Whilst bulk supplies for the Task Force were carried by merchant ship, the Hercules and VC10s, supplemented by chartered civilian (ex RAF) Belfasts and 707s, established a regular and ceaseless re-supply of men and equipment to Ascension Island. From there Hercules with a new AAR capability dropped supplies to the ships of the Task Force, often in poor weather conditions, on the way to the Falklands. The airdrops to the ships continued after the Task Force arrived and the landings were underway. However, no land drops were made until after the surrender. These later long-range supply-dropping missions covered 8,000 miles non-stop and took an average 25 hours. From 29 May at least one airdrop for each day was planned and by 15 June 40 sorties had been flown.



VC10 at Ascension, First Hercules into Port Stanley

The VC10s, meanwhile, returned to the UK with wounded and other survivors either from Ascension, or from Uruguay under International Red Cross arrangements. In 55 aeromedical flights 237 stretcher cases and 448 walking wounded were carried. The overall air transport effort was second in scale only to the Berlin Airlift in post-1945 air supply operations and the ubiquitous Hercules demonstrated yet again that it was the worthy

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successor to the Dakota as the workhorse of the air. 'Save Support & Supply' is the motto of the Hercules' home base, RAF Lyneham, and sums up the AT contribution to Operation CORPORATE. To this day, the air link with the Falkland Islands is provided by the RAF.

HELICOPTER OPERATIONS

The main helicopter support for operations was provided by the Royal Navy, the RAF contribution was 4 of its new Chinook medium-lift helicopters. These left Ascension for the Falklands aboard the Atlantic Conveyor, a merchant ship. On 25 May an Exocet missile sank the Atlantic Conveyor, only one Chinook survived to support the ground forces in the land battle. With borrowed tools and much ingenuity, this aircraft, Bravo November was kept flying; based at Port San Carlos she logged 109 flying hours before the Argentine surrender. Using to the full the Chinook's ruggedness and heavy lift capability Bravo November took part in assaults, including an SAS night sortie where she carried 3 light guns (2 internal & one external) together with 22 troops. This was in addition to her task of ferrying supplies.



Atlantic Conveyor post attack, The only Chinook left to take the load

MARITIME

The first RAF aircraft to be deployed operationally were the Nimrods. Among their many roles, they provided almost constant maritime surveillance, both above and below water, in the vicinity of the Task Force during its progress towards the Falklands and then, with air-to-air refuelling, extended their coverage to the entire South Atlantic. The complete process to fit the first Nimrod with a refuelling capability took just 3 weeks. This new capability allowed flights of 19 hours, each supported by up to 11 Victor tankers. In addition to their normal anti-submarine weapons, the Nimrods were given weapons for self-defence and for attacking surface ships.

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A Nimrod departs Ascension for the long flight south

No Argentine submarine or warship attacked Ascension or the British forces at sea. The Nimrods had made a significant contribution towards deterring offensive naval action by Argentina.

OPERATION BLACK BUCK

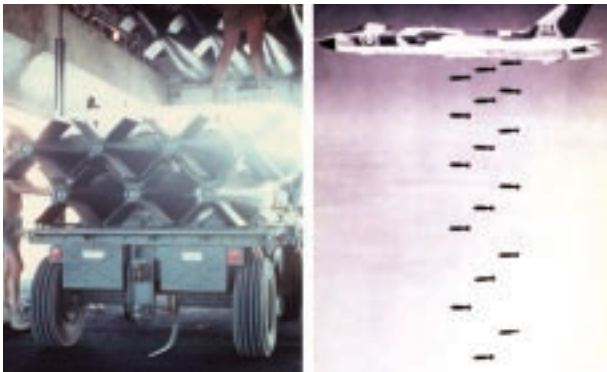
Vulcans, just months from withdrawal from service, made 5 night attacks, code named Operation BLACK BUCK, on the runway and main airfield in the Falklands at Port Stanley and on the airfield radars. Conventional 1,000 lb iron bombs and anti-radar missiles were used. Each mission was an 8,000 mile round trip from Ascension using AAR and took up to 16 hours - at the time, the longest bombing missions in the history of air warfare. On arrival over the target the Vulcan crew had to release the bombs (which were no better than those dropped by Lancasters) onto a narrow target on a defended airfield. Each BLACK BUCK sortie required AAR support from 13 tankers. Outstanding airmanship and professionalism were involved in the planning and mounting of the BLACK BUCK operations.

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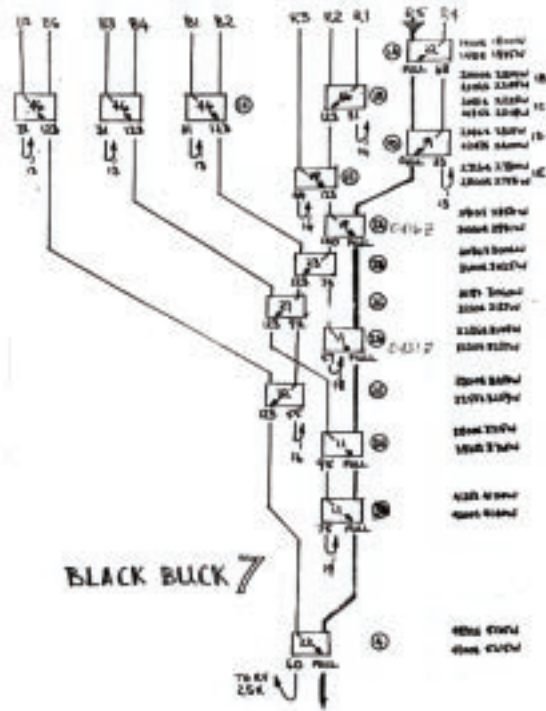
A BLACK BUCK Vulcan viewed through a Victor's periscope

The Vulcans not only reached and bombed their targets but, in doing so showed the Argentinians that the RAF had the potential to hit targets in the Argentine. This forced them to move their Mirage fighters further north. This prevented the Mirages from escorting the Sky Hawk attacks against the British, especially the RN and Merchant Navy ships in San Carlos Water. This stretch of water became known to the Navy as 'Bomb Alley'. The Vulcan raids also impacted on morale, damaging that of the Argentine forces but uplifting that of the British, especially before the landings at San Carlos. Furthermore, BLACK BUCK was a considerable strategic success, forcing Argentina to re-deploy Mirage fighters to protect Buenos Aires.



Bombing up, A Vulcan unleashes its 21 x 1,000 lb bomb payload,

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Refuelling plan for BLACK BUCK 7

HARRIER

Operation CORPORATE proved the worth of the Harrier in both its RN version the Sea Harrier (SHAR) and the RAF's GR3. No other aircraft was capable of operating from ships in the air defence (AD), anti-shipping and offensive air support (OAS) roles or performing these roles at such great distances from land bases.

The major threat to the Task Force came from the air - the Argentine Skyhawks, Mirages and Super Etendards that operated from mainland bases. They suffered heavy losses, particularly at the hands of the RN SHARs, when they concentrated their attacks on the Task Force ships supporting the landings on the Falklands, but they also had some spectacular successes against both RN and merchant ships. In particular the loss of Atlantic Conveyor on 25 May, and the Support Helicopters she was carrying, forced a dramatic change of plan for the landing site and subsequent land campaign with the resultant epic 'yomp' by our troops across the Island.

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RAF GR3s reinforced the SHARs on the 2 aircraft carriers of the Task Force; initially, they helped to provide air defence and later turned to their normal task of providing offensive air support to the troops during the landings and as they advanced inland. Three RAF GR3s were lost, all to ground fire. The first GR3s had to be modified to carry air-to-air missiles, to be transported by sea and to operate from aircraft carriers, while the pilots had to be trained for operations at sea - a remarkable achievement in engineering and training completed in 14 days. Other GR3s later flew not only direct from the UK to Ascension using air-to-air refuelling but also onto the operational area - a 9 hour flight from Ascension Island direct to the carriers in position off the Falklands.



HMS Hermes steams south, Harrier GR3 and Sea Harrier embarked

Without the Harriers operated by the RAF and the RN the Task Force and British ground units would have had to face the very considerable Argentine forces with no on-the-spot fixed wing air support. The consequences of this would have been severe.



Crashed Harrier GR3 on the Falklands

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The intensity of the flying operations of Operation CORPORATE required concentrated and highly specialised engineering support - both Service and civilian - and the speed with which modifications were made and the new weapons introduced was the outstanding backroom achievement of the campaign. In addition to the engineering and logistic support, the RAF contributed ground defence units of the RAF Regiment with Rapier air defence missiles, tactical communications and supply units and a small team of bomb disposal experts. The entire operation was controlled from the Joint Headquarters of the Task Force at Northwood where the AOC No 18 Group, AM Sir John Curtiss was the Air Commander to the Commander Task Force, Admiral Sir John Fieldhouse, C-in-C Fleet.

The Argentine forces invaded the Falklands on 2 April and surrendered on 14 June. The British military victory was thus both swift and complete. It was achieved because the combined Royal Navy, Army, RAF and Merchant Navy Task Force carried out a well-coordinated joint operation and because the skills and courage of the members of all Services were of a very high order. The RAF deployed a considerable part of its front-line strength in support of Operation CORPORATE and showed yet again that air power is essential in any military operation.

Since the end of Operation CORPORATE Britain has maintained a strong deterrent force in the Falkland Islands. The primary role of the air element of BFFI (British Forces Falkland Islands) is AD; for this there are 3 Falkland Island Air Defence Ground Environment (FIADGE) sites, 4 Tornado F3s with a VC10 tanker, a Hercules, a Chinook and 2 Sea King helicopters and an RAF Regiment Rapier Sqn, permanently detached to the Falkland Islands.

POST COLD-WAR POSTURE



The Berlin Wall before its fall - symbol of the Cold war

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In the late 1980s the Cold War came to an end. The Union of Soviet Socialist Republics (USSR) disintegrated into its constituent republics and the Warsaw Pact disbanded. On 9 November 1989 the Berlin Wall, which had divided East and West Germany, was symbolically dismantled and the 2 Germanys reunited. For the first time in over 45 years there was no longer the threat of a possible third World War against the Soviet Bloc.

Since the end of the Cold War, the RAF has been undergoing almost constant change whilst also being in constant demand. The Service has become the UK Government's first choice for power projection into an area without necessarily committing ground or naval forces. Political effect can be achieved rapidly and the force can withdraw equally swiftly once the task is complete. Another factor is that once again the RAF has become the cheap option, this time not so much in terms of money but those of potential casualties. Much of this change has taken place since 1990, and, as in the days of the British Empire, the emphasis now is very much on swift and sustainable forces able to project power over great distance, as and when required. Britain is once again involved in expeditionary wars.

THE RAF IN 1990

In 1990 the RAF frontline squadrons were 9 Tornado strike/attack squadrons, 5 offensive support squadrons (3 Harrier, 2 Jaguar), 5 reconnaissance squadrons and 2 Buccaneer maritime attack squadrons. Of the 11 combat AD squadrons, 7 had Tornado F3s and 4 were still operating Phantom FGR2s. The Nimrod force was predominantly based at RAF Kinloss. The first of 7 E3-D Sentry airborne early warning (AEW) aircraft arrived at RAF Waddington in Lincolnshire in mid-1991. The Sentry is fully compatible with its USAF counterparts and NATO E3-As in service at the former RAF Geilenkirchen in Germany.

The transport force consisted of 6 fixed wing squadrons – 4 Hercules squadrons, one VC10 squadron and one dual roled tanker/transport Tristar squadron. The rotary element consisted of 5 squadrons – 2 with Chinooks, 2 with Pumas and one with Wessex. There were also 2 communications squadrons containing a mixture of small fixed wing transports and light helicopters.

In the AAR role were 2 dedicated Victor tanker squadrons whilst 2 rotary squadrons, one with Wessex and one with Sea Kings fulfilled the Search and Rescue (SAR) role.

In August 1990 Iraq invaded Kuwait and the RAF undertook its largest deployment since Operation CORPORATE.

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IRAQ

OPERATION GRANBY GULF WAR 1 (1990-1)

Iraq had long claimed Kuwait as its 19th Province and Britain had been involved in the region for a considerable time. Indeed, she had played a major part in the division of the Persian Gulf and Mesopotamia into the states that lie in that region today. In 1961 Iraq had made threatening moves towards Kuwait but a swift deployment of a small RAF and land force (by air) to Kuwait acted as a deterrent to Iraqi ambitions.

During the 1980s Iraq and Iran had fought a protracted and bitter 8-year war. This had been costly in terms of money, men and materiel. In 1990 the high cost of this war was exacerbated for Iraq by a slump in oil prices which led to an over production of oil in the Gulf region. Saddam Hussein was angered both by the over-extraction of oil by Kuwait on the Iraq/Kuwait border and the failure of the ruling Kuwaiti family to write off Iraqi debts. He invaded Kuwait in the early hours of 2 August 1990 and within about 4 hours had occupied Kuwait City.

The United Nations (UN) formally condemned the Iraqi invasion and called for their withdrawal from Kuwait. When Iraq failed to comply the UN passed Resolution 678 which authorised a military response to Iraqi aggression.

OPERATION DESERT SHIELD

The American led coalition of 17 nations began by taking up a defensive posture, predominately in Saudi Arabia, whilst building up the forces required to expel Iraq from Kuwait. This phase of the war was called Operation DESERT SHIELD; Britain's contribution was code-named Operation GRANBY. The Operation GRANBY Joint HQ (JHQ) was at HQ RAF Strike Command, High Wycombe in Buckinghamshire. On 9 August 1990 the British Conservative Government announced that it intended to deploy air assets as a contribution to the multi-national force forming in the Gulf. Within 24 hours a squadron of AD Tornado F3s, which had fortuitously been in Cyprus, arrived in Dhahran in eastern Saudi Arabia. Less than 2 hours after their arrival they were conducting Defensive Counter Air operations (DCA) along the Saudi/Iraq border. Forty-eight hours later a Jaguar fighter-bomber squadron deployed to Oman with tanker support. Within 72 hours a force of offensive, defensive and combat support aircraft had been deployed and brought to full operational status.

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2 Jaguar GR1s and a Tornado GR1, a Tornado F3 crew on combat air patrol

MARITIME

Nimrod MR2s deployed from RAF Kinloss to the Oman to gather intelligence on the maritime surface picture for coalition naval forces operating in the region. Initially, the Nimrods played a key role in maintaining the UN economic embargo of Iraq and Kuwait operating over the Persian Gulf and then the Gulf of Oman. Like many aircraft deployed to the Gulf the Nimrods were soon modified with electronics and turret mounted infrared systems to identify shipping at night together with a suite of self defence systems. The Nimrod MR2 force contributed to the 24-hour surveillance by the Coalition forces in the north of the Gulf region. Between August 1990 and January 1991 6,552 ships were challenged by the Nimrods. Through co-operation with surface forces they also instigated numerous ship searches.

AAR

Once again an essential role was played by AAR both during the initial air deployments and the DCA and combat missions which developed from August 1990 to January 1991. Seven Victor tankers were eventually deployed, these together with dual role VC10s and Tristars formed the RAF's AAR contribution. These aircraft and crews flew at around 4 times the normal peacetime sortie rate to support virtually all the other Air Forces of the Coalition. RAF tankers flew 299 missions during the 42 days of actual fighting delivering about 13,000 tonnes of fuel.

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A Victor tanker streams in brake parachute



A Tristar refuels an American EA-6B Prowler while 2 Tornados await their turn (left),
a Tornado F3 refuels from a VC10 (right)

AT

Almost immediately the RAF's strategic AT assets (Hercules, VC10s and Tristars) began a massive airlift that was one of the keys to the success of the deployment. From the very early stages of Operation GRANBY a small force of Hercules was based at King Khalid International Airport in Saudi Arabia. They provided not only in-theatre resupply and communications but also a Special Forces (SF) asset. By the end the AT force had flown around 13 million miles in support of Operation GRANBY and carried some 31,000 tonnes of freight. At the height of their effort they were carrying approximately 600 tonnes a day more than 6 times the RAF's normal worldwide average. By 8 March 1991 25,000 passengers had been airlifted to the Gulf from the UK and Germany. The RAF AT force was supplemented by civilian contracted flights. These carried a further 21,000 passengers and 15,000 tonnes of equipment.

Pumas and Chinooks supplied the tactical AT contribution. They were involved in troop insertions, resupply, casualty evacuation, SF operations and many other tasks calling for rapid response and high mobility. The Chinooks flew some 500 sorties in

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1,350 flying hours carrying over one million kgs of freight and over 8,000 troops whilst the Pumas flew some 1,200 sorties and 2,200 hours lifting over 68,000 kgs of freight and over 4,000 troops. The Pumas also carried of 161 casualties.



A 7 Squadron Chinook (left) and Puma Flight Line (right)

The efforts made by the RAF's AT force were enormous and unprecedented. During Operation DESERT SHIELD alone the AT force exceeded the effort of the Berlin Airlift.

RAF REGIMENT

RAF Regiment units deployed to Cyprus, Bahrain, and Saudi Arabia to carry out a variety of duties including short range air defence (SHORAD) with the Rapier, NBC monitoring, ground defence and other specialist tasks. In total they comprised 19% of the total RAF deployed force. The rapid arrival of this force, together with those of other Coalition air forces, acted as a strong deterrent to any aggressive Iraqi move against Saudi Arabia.



In the heat of the day, RAF Regiment in full individual Protection Equipment to protect them from the biological and chemical weapon threat (left) and target engaged by a Rapier (right)

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Rapier FSB1M fire control point

Whilst the UN tried to make Saddam withdraw from Kuwait by peaceful means the Coalition built up their forces. In November the UN issued Iraq with an ultimatum, leave Kuwait by 15 January 1991 or be forced to. With authority from the UN, the shield in place, Saudi air space secure and the Coalition build-up of forces sufficient to ensure success, operations now turned to the offensive.

OPERATION DESERT STORM

Operation DESERT STORM the Coalition's offensive campaign to liberate Kuwait, began in the early hours of 17 January 1991. The first wave of attack aircraft crossed the Iraqi border from bases in Saudi Arabia, Bahrain, southern Turkey and from US Navy aircraft carriers. USAF F-117A Stealth bombers attacked key command and control (C2) centres in Baghdad, attack helicopters disabled or destroyed Iraqi early warning radars and a salvo of Tomahawk cruise missiles was fired from US Navy ships in the Red Sea. The second wave which followed immediately, comprised 700 conventional aircraft which attacked targets across Iraq.

The air campaign was planned in 4 phases. Phase 1 was designed to seize air superiority through offensive counter air (OCA) missions while strategic attacks were made on Iraqi capabilities, including her weapons of mass destruction (WMD) capability and SCUD theatre surface to surface missiles. Phase 2 was an assault against Iraqi air defences in the Kuwait theatre of operations. Phase 3 included continued attacks on earlier targets together with air interdiction (AI) on the Iraqi field army in the Kuwait area. Phase 4 involved close air support (CAS) to Coalition ground forces during the land offensive. RAF aircraft were involved in Offensive Counter Air (OCA) and Air Interdiction (AI) missions.

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Tornados in the Gulf

Immediately prior to the start of the war RAF Tornado GR1As (Rece variant) were deployed. This was the first aircraft in the world to be equipped with video recording of sensors and a day/night capability. Some 140 GR1A Tac Recce sorties were flown, usually in pairs, low-level at night and the crews were required to be over enemy territory for extended periods. On 18 January 1991 Iraq fired SCUD missiles at Israel in a move designed to widen the conflict and break Arab support for the Coalition. The 6 RAF GR1As with the infrared linescan equipment were primarily employed on the counter-SCUD campaign, but they were also used against enemy defences and positions, supply routes and bridges for damage assessment.

HOSTILITIES BEGIN

The OCA campaign involved low-level offensive missions at night against massive Iraqi air bases, some 30 of which were twice the size of London Heathrow Airport. Some attacks were made with 1,000lb “dumb” bombs delivered in a ‘stand-off toss’ manoeuvre to avoid the worst of the Iraqi anti aircraft point defence. However, to ensure greater success RAF Tornado GR1 crews used the JP233, airfield denial weapons (each containing 30 runway cratering sub munitions and 215 area denial bomblets) to destroy airfield operating surfaces and make post-attack repair hazardous and slow.

Many Iraqi ground installations, including airfields, were large, complex and with hardened facilities. Therefore, it was impossible for Coalition forces to render airfields completely and permanently unusable. It was however, vital to seize and hold the initiative in the air so the Iraqi airfields had to be suppressed. Rather than spread operations too thinly, the tactic of relentless harassing attacks was adopted to maximise disruption at over a dozen key Iraqi air bases.

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JP233 loaded onto a Tornado GR1, JP233 releasing its bomblets

Only the RAF's Tornado GR1s were capable of delivering effective airfield denial weapons at night and at the ultra low low-level necessary to stay below most Iraqi air defences. The RAF re-attacked the targets time and again and the Coalition relied on this key capability, delivered by highly professional aircrew under the most demanding operational circumstances. The GR1 attacks were supported by coalition COMAO (Composite Air Operations) packages of aircraft: F15 fighters provided escorts, Phantom F4Gs (Wild Weasels) with HARM anti-radiation missiles closed down Iraqi weapons laying radars and EF111A Raven electronic countermeasures (ECM) aircraft suppressed Iraqi early warning radars.

RAF Jaguars, flying by day from Bahrain, were also busy attacking a variety of targets in Kuwait. They undertook Battlefield Air Interdiction (BAI) missions at medium level attacking supply dumps, surface-air missile (SAM) sites, Iraqi artillery positions and Silkworm missile sites. They operated with great success in an anti-shipping role against Iraqi naval vessels, destroying patrol boats and landing craft. Jaguars also undertook some medium level Tac Recce.



Jaguars take off from Muharraq

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By the 21 January 1991 the Coalition counter-air campaign had driven the Iraqi Air Force into hiding, effectively destroyed the Iraqi integrated air defence system and seized the middle and upper air space for Coalition use. The Tornado GR1s had played a key part in this achievement and it allowed them to fly the majority of subsequent sorties in the daytime and at medium level above 12,000 ft. This enabled the GR1s to fly above most of the Iraqi anti-aircraft defences.



Pave Spike Buccaneer, Tornado GR1 with 3 LGBs, The result of an LGB attack against an Iraqi HAS

At first, the GR1 missions at medium level used free fall (dumb) bombs to attack large targets such as airfields and fuel dumps. Toss bombing without laser designation is far from accurate and this limited the Tornado GR1s' effectiveness against precision targets. They were unable to use precision weapons until the arrival of Buccaneers equipped with Pave Spike laser designators which enabled the Tornado GR1s to attack precision targets such as bridges, specific airfield facilities and hardened aircraft shelters (HAS) using laser guided bombs (LGBs).

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Flying together, with the Buccaneer designating the target and the GR1s releasing the LGB, they were able to attack precision targets. The Buccaneers' laser designators could only be used in daylight. However, the arrival in theatre of 2 pods with the new Thermal Imaging Airborne Laser Designator (TIALD), fitted to the GR1s, provided a limited LGB night capability. By the fourth week of hostilities 60% of Tornado sorties were using Paveway LGBs.

OPERATION DESERT SABRE

The land campaign began after 38 days of intensive air attacks on targets in both Kuwait & Iraq. This campaign was a classic one of land/air manoeuvre in which the RAF Chinooks and Pumas supported the first (UK) Armoured Division by rapidly ferrying troops forward and bringing up supplies and weapons. Within a very few days the Iraqi army began a massive withdrawal from Kuwait. To prevent the retreating Iraqis linking up with their Republican Guard north of Kuwait, Coalition air attacks continued, one target being the road to Basra. However, so complete was the Iraqi defeat that the Coalition governments were able to call a halt to the fighting after only 100 hours of ground combat.



Puma deploys troops

GULF WAR LOSSES

Coalition losses were 42 aircraft in combat with another 33 written off in accidents during the air campaign, a combat loss of about 1/13th of 1%. A total of 6 RAF Tornado GR1s and 5 aircrew (7 were captured by the Iraqis) were lost during air operations against Iraq. In each case they were flying in formation with others. Three are known to have been hit by SAMs, one was lost

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because of the premature detonation of the bomb or bombs it was carrying, but it has not been possible to determine the cause of the loss of the other two GR1s. Flying at very low levels en route to the target carried its own inherent risks; adding to this the need to fly over heavily defended air bases, it becomes apparent that the RAF were lucky not to sustain heavier casualties.



Tornado GR1 off the runway

SUMMARY

The RAF deployed 158 aircraft in support of Operation GRANBY, and flew over 6,000 sorties in theatre between the start of hostilities on 17 January 1991 and the cessation on 28 February 1991. Offensive sorties by Tornado GR1s and Jaguars totalled over 2,000. These aircraft delivered more than 3,000 tonnes of ordnance, including some 6,000 x 1,000lb bombs, (over 1,000 of which were laser guided), over 100 anti-radar missiles and nearly 700 air-to-ground rockets. The SH force flew nearly 900 sorties during the period, whilst the tanker force off-loaded some 13,000 tonnes of fuel to RAF and Coalition aircraft.

The AT force carried 25,000 passengers and 31,000 tonnes of freight to the Gulf.

GULF OPERATIONS POST OPERATION GRANBY

OPERATION WARDEN

In April 1991, the Kurds of Northern Iraq, encouraged by the success of the Coalition against President Saddam Hussein, attempted to instigate his overthrow. They failed and the Iraqi Army mounted a retaliatory offensive against them. This caused a mass exodus of Kurds across the border into the neighbouring mountainous regions of southeast Turkey. To encourage the Kurds to return to their homes in Iraq the UN created a secure area in northern Iraq where Kurds could re-establish themselves free from harassment by Saddam's army. Thirteen nations contributed to land and air elements of a force, code named Operation PROVIDE COMFORT, designed to protect the UN secure area and the repatriation of the Kurds began.

The British contribution to Operation PROVIDE COMFORT included RAF helicopters and Royal Marines, supported by AT assets from the UK. This force, together with elements from the other 12 nations, established the safe haven in September 91. The ground forces were then withdrawn and an air task force, based at Incirlik in Turkey, assumed responsibility for enforcing a no-fly zone (NFZ) over the area of Iraq north of the 36th parallel. The Coalition effort was re-named Operation NORTHERN WATCH in 1997. The British contribution was designated Operation WARDEN and consisted of Tornado GR1s, Jaguar, Harriers and Tanker support.

OPERATIONS JURAL & BOLTON

Following the uprising of the Kurds in northern Iraq, the Shia population in southern Iraq known as 'Marsh Arabs' attempted their own rebellion believing the victorious Coalition forces would help them. This help failed to materialise and Saddam's forces brutally quelled the uprising, on some occasions using gas against the Marsh Arabs. The lack of Coalition support for the Marsh Arabs in 1991 coloured their attitude towards the Coalition forces in and around Basra and Southern Iraq during Operation TELIC in 2003. They felt that they had been let down in 1991 and were distrustful of the Coalition's intentions. Thousands of Marsh Arabs fled their homes to avoid Saddam's retribution. To protect these people, in August 1992, the UN imposed a NFZ over the area of southern Iraq south of the 33rd parallel. This area was policed by a Coalition force under the code name Operation SOUTHERN WATCH.

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VC10 refuelling a Tornado GR1, Tornado GR1s depart RAF Bruggen for Ali Al Salem April 1998

The British contribution was a shifting mix of RAF assets called Operation JURAL, subsumed by Operation BOLTON in 1998. By autumn that year the RAF had 24 Tornado GR1s deployed, 6 at Incirlik in Turkey, 6 at Al Kharj in Saudi Arabia and 12 at Ali Al Salem in Kuwait. This large commitment was unsustainable and the GR1s were due a mid-life update. In February 1999 6 Tornado F3s replaced the 6 GR1s at Al Kharj. Tornado GR1s, and later GR4s, carried out continuous recce missions over the NFZs from 1991 to the fall of Saddam in 2003. Tornado F3s provided AD for the southern NFZ. The F3s were well equipped for this task by bringing both Joint Tactical Information Data System (JTIDS) and Towed Radar Decoy (TRD) into theatre. Two VC10 tankers based in Bahrain supported these assets.

OPERATION BOLTON

In an effort to bring peace, security and stability to the region, the UN passed Resolution 687 which attempted to force Saddam Hussein to hand over his Weapons of Mass Destruction (WMD) to be destroyed. A UN Special Commission (UNSCOM) of weapons inspectors together with inspectors from the International Atomic Energy Authority (IAEA) was sent to Iraq tasked to find and destroy the WMD. However, Saddam Hussein became increasingly obstructive in his dealings with the inspectors. In November 1998 Saddam announced the end of all co-operation with UNSCOM until sanctions imposed by the UN against Iraq were lifted.

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HMS Invincible with Harriers and Sea Kings deployed on board

Coalition forces in the Gulf began to be built up as the situation deteriorated. Twelve Tornado GR1s and over 400 personnel deployed to Ali Al Salem in Kuwait as part of Operation BOLTON. These were supported by VC10 Tankers and Hercules AT. In addition 8 Harrier GR7s were embarked on HMS Invincible patrolling the Persian Gulf. All attempts at a peaceful resolution to the situation failed and the Coalition resorted to military force.

OPERATION DESERT FOX – DECEMBER 1998

This action against Iraq was code named Operation DESERT FOX. From 16-19 December 1998 the RAF and USAF attacked 1993 targets in Iraq, mainly around Baghdad, Tikrit in the north and Basra in the south. Of a total of 250 bombing missions 12 Sqn's Tornado GR1s flew 32 medium level sorties and dropped a combination of 61 UK Paveway 2 and Paveway 3 LGBs. One of their targets was a hangar at Tallil containing the so-called "drones of death" remotely piloted vehicle (RPV) aircraft capable of carrying chemical and biological weapons.



A 12 Squadron Tornado GR1 next to a HAS destroyed by the RAF in 1991, VC10 refuelling a US Navy EA-6B Prowler

VC 10s flew 5 AAR missions in support of US Navy Prowler ECM aircraft and there was one Nimrod sortie.

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OPERATION RESINATE

Prior to Operation TELIC all Gulf operations of the 3 British Services were amalgamated under the title of Operation RESINATE and then sub-divided NORTH and SOUTH. RAF and allied aircraft continued to be engaged by Iraqi forces on a regular basis. These hostile actions built up towards the start of Operation TELIC. Although the bulk of the Iraqi Air Force never returned from Iran where it had fled in 1991, Iraq still possessed capable aircraft and continued to use these to intrude into the NFZs. When this happened their aircraft were intercepted. The Coalition responded to Iraqi attacks and provocation with air attacks, usually on communication and air defence sites. By hitting these targets the Coalition sought to reduce the threat to its aircraft operating in the NFZs.

OPERATION TELIC – GULF WAR II (2003)

Following the removal in 1991 of Iraqi forces from Kuwait by UN Coalition forces the UN, through a series of resolutions, tried to reduce the threat that Saddam Hussein posed to the Gulf region. Included in this stratagem was the need to remove Iraq's WMD. Teams of weapons inspectors with UNSCOM and IAEA worked in Iraq to detect and destroy WMD facilities. In 1998 because of the lack of co-operation and the obstructive attitude displayed by Saddam Hussein the inspection teams were withdrawn. In 1999 UNSCOM was replaced by the UN Monitoring Verification and Inspection Commission (UNMOVIC) but again the Iraqis refused to co-operate.

In November 2002 matters came to a head regarding WMD. The UN passed a Security Council resolution (UNSCR1441) declaring that Iraq was in breach of previous resolutions, setting out new procedures for conducting inspections and threatening serious consequences for non-compliance by Iraq. UNMOVIC inspectors were allowed to return to Iraq but Saddam's people still failed to offer active co-operation.

Iraq failed to comply with the will of the UN and, based on the authority provided by a series of UN resolutions the British Government joined a US led coalition that was prepared to use military force to ensure Saddam Hussein complied. The political objective was to disarm Saddam of his WMD which threatened his people and his neighbours.

On 24 February 2003 the UK, US and Spain tabled a draft resolution at the UN making it clear that Iraq had failed to take the opportunity provided in UNSCR1441 to comply and avoid military consequences. However, despite much diplomatic activity, it became apparent that it would be impossible to secure the required agreement on the Security Council to pass the resolution. With Iraq still refusing to co-operate the Coalition forces commenced military operations against Saddam Hussein on 20 March 2003. Operation TELIC was under way.

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THE AIR CAMPAIGN

TARGETING

The UK Government had emphasised that if military force had to be used, it would be employed in such a way as to minimise civilian casualties and damage to Iraq's essential services and economic infrastructure. Plans for the air campaign included a list of possible targets, some 900, which were deemed to contribute to the overall military objectives. During the Operation TELIC campaign Air Marshal Burridge, The British National Contingent Commander (BNCC), and other commanders who were making targeting decisions, always had legal advice available to them. This was to help them ensure that the core principles of the laws of armed conflict were upheld. These principles hold that only military objectives may be attacked. Moreover, no attack should be carried out if any expected incidental civilian loss (deaths, injuries, or damage) would be excessive in relation to the direct military advantage expected from the attack. All the targets for UK aircraft and for coalition aircraft using UK facilities were cleared through detailed political, legal and military processes. The BNCC and his team also influenced the selection and approval of other Coalition targets.

DEPLOYMENT OF RAF ASSETS

Due to the need, since 1991, to enforce the NFZs over Iraq the RAF already had some 25 aircraft and 1,000 personnel in the Gulf. During Operation TELIC a further 100 aircraft were deployed together with a further 7,000 personnel. This deployment included Tornado GR4s and Harrier GR7s in the offensive role, Tornado F3s for AD, VC10s and Tristars for AAR, Nimrods and Canberras in the recce role, E3-D Sentries for AEW and control and Hercules and the new C17s for AT. Support Helicopters were also provided, 20 Chinooks and 7 Pumas.



Officer Commanding 9 Squadron and pilot prepare for the first Storm Shadow mission

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The Tornado GR4s were fitted with the new Storm Shadow stand-off missile. Storm Shadow has a range of over 230 kilometres and can be used day or night in all weathers. It is designed to achieve exceptional precision against high value targets and minimise collateral damage.



Chinook and Puma Operation TELIC

In addition to the airborne assets 6 RAF Regiment Squadrons deployed together with 2 TAC STOs. The Regiment Squadrons provided ground based air defence, force protection, Joint NBC protection and Joint Helicopter Force protection. Some 15 specialist RAF ground support units also deployed.



RAF Regiment on street patrol

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AIR CAMPAIGN OBJECTIVES

The air campaign's main tasks were:

1. To remove the threat from the Iraqi Air Force and Integrated Air Defence system (Gain and maintain Air Superiority).
2. Mount strategic attacks against specific targets (Strategic Air Ops).
3. Provide air support to Coalition ground forces (CAS and AI)
4. To deter and counter the threat from theatre ballistic missiles.
5. To destroy the Republican Guard divisions (CAS and AI).

THE RAF'S CONTRIBUTION



Paveway 2 LGB ready to be loaded on-to a Tornado

Although the first bombs were dropped on 20 March 2003 the air campaign proper began on the 21 March. Precision attacks by both aircraft and cruise missiles were made against several hundred military targets in Iraq. These precision attacks continued for several weeks. As the land battle developed, an increasing number of CAS sorties were flown. Up to 700 sorties a day were flown against Iraqi ground forces and the RAF played a significant part in this effort. RAF aircraft flew 2,519 sorties, 1,353 of which were offensive strike, and released 919 weapons, approximately 85% of these were precision-guided. Operation TELIC also saw the first use of the Stormshadow stand-off precision air-to-ground missile.

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AAR

The AAR capability contributed by the RAF was highly valued, particularly by the Americans. VC10s and Tristars flew 355 sorties dispensing nearly 19 million lbs of fuel. Over 40% of this was given to US Navy and Marine Corps aircraft.

RECCE

The RAF made a significant contribution to the coalition reconnaissance capability. RAF aircraft flew 274 recce missions.



Two 51 Squadron Nimrod R1s

AT

In addition to the airlift of personnel, equipment etc into the Gulf region by the AT force, 263 airlift sorties were flown in theatre. The C-17s also had the sad task of bringing home the bodies of service personnel lost during Operation TELIC. These included the bodies of the 2 Tornado GR4 aircrew whose aircraft was lost to friendly fire. The C-17s and other aircraft also flew 18 Aero-medical sorties.



C-17 arrives in theatre, Repatriation of a Tornado GR4 crew lost to friendly fire

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AD AND AEW

Tornado F3s contributed 169 sorties to the air defence of Coalition forces whilst Sentry aircraft flew 87 sorties.

SH

Chinooks and Pumas deployed as part of the Joint Helicopter Force and were used to ferry troops and equipment in theatre.



18 Squadron Chinook self-defence flares, Nimrod with Palm Tree surveillance mission tally

MARITIME SURVEILLANCE

RAF Kinloss supplied 7 Nimrod MR2 reconnaissance aircraft for maritime surveillance and Search and Rescue (SAR) duties.



Nimrod MR2, route and tactical navigators (now called weapon systems officers) Nimrod MR2

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THE BALKANS

With the collapse of communism in 1989-90, the Federation of Yugoslavia made up of Croatia, Bosnia-Herzegovina, Slovenia, Serbia-Montenegro, Macedonia and Kosovo, began to disintegrate under a tide of nationalism. Yugoslavia was a conglomeration that contained several ethnic groups who were old enemies. Since the end of the Second World War, until his death in 1980, this potentially explosive mix had been controlled by the iron hand of President Tito. Now these old enmities began to bubble to the surface. Croatia and Slovenia broke away from the Yugoslav Federation in 1991 and the Croat and Muslim population of Bosnia-Herzegovina supported a referendum calling for an independent, multinational republic. However, the Serb population in Bosnia refused to secede from the Federation and in 1992-93 Bosnia-Herzegovina was torn apart by a bloody and bitter civil war in which entire populations suffered 'ethnic cleansing' in areas taken over by each ethnic group.

OPERATION CHESHIRE

The UN organized a relief effort to provide food and medicine to besieged towns and cities, including the capital, Sarajevo. The Sarajevo airlift began in July 1992 and became the longest running airlift in history, ending in January 1996. The UK played a leading role in setting up the airlift and participated throughout the duration. The RAF's contribution, under the name Operation CHESHIRE, was Hercules operating initially from Zagreb in Croatia and then from Ancona in Italy. Experienced RAF AT liaison officers worked alongside representatives of other participating nations and civilians at the airlift centre in the UN HQ in Geneva to organise the flights and cargos. By the end of Operation CHESHIRE the RAF had delivered 26,577 tonnes of supplies in 1,977 sorties.



A Hercules transits through Italy during Operation CHESHIRE

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The airlift came to symbolise the commitment of the international community to the survival of Sarajevo and its people. The mission was not without its hazards and there were more than 260 security incidents. A RAF Hercules was hit by enemy ground fire and an Italian Air Force aircraft was shot down in September 1992.

BOSNIA-HERZEGOVINA

OPERATION DENY FLIGHT

The ethnic Serbs in Bosnia, supported clandestinely by the Federal Yugoslav Army, then openly by the government of President Milosevic, stepped up their attacks on the Muslim Slavs in Bosnia with the purpose of cleansing the Muslims from areas claimed by the Serbs. In an effort to stop the genocide, the UN ordered a general economic blockade of Serbia-Montenegro (then calling itself Yugoslavia), deployed a Protection Force (UNPROFOR) and established a no-fly zone (NFZ) over Bosnia-Herzegovina.

In April 1993 the RAF deployed 6 Tornado F3s to Gioia del Colle in Italy as part of Operation DENY FLIGHT, primarily an aerial monitoring task to enforce compliance with UNSCR816. Successive detachments of F3s deployed and, by the time they were withdrawn in February 1996, had flown nearly 3,000 sorties. A Sentry E3-D based at Aviano, also in Italy and 2 VC10 tankers based at Palermo in Sicily also support the operation while RAF Chinooks and Pumas deployed to Split in Croatia. Nimrod and Canberra aircraft in the maritime surveillance and reconnaissance roles patrolled over Former Yugoslavia and the Adriatic.



Canberra PR9 takes off

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OPERATION DELIBERATE FORCE (1995)

In May 1993 the Vance-Owen peace plan was rejected by Bosnian Serbs in a referendum. The Serbs stepped up their actions against Bosnia-Herzegovina. The UN created 6 'safe areas' to provide shelter for Muslims fleeing Serbian aggression. However, the UN peacekeepers could do little to prevent Serb attacks and NATO was asked to intervene. NATO sent strike attack aircraft to the region and in July 1993 the RAF deployed 9 Jaguars to Gioia del Colle to undertake both reconnaissance missions and air strikes against targets threatening the security of UN safe areas. Over the following 2 years a number of ceasefires were negotiated but in each case hostilities soon resumed.

In June 1995 the Serbs seized the 'safe area' of Gorazde and took several hundred UN peacekeepers hostage. In July Serb forces overran the safe areas of Srebrenica and Zepa. Reports emerged of the massacre of 4,000 Muslim men at Srebrenica and, following the highly publicised mortaring of Sarajevo's market place on 29 August killing 38 civilians, NATO decided to act.

RAF Harrier GR7s based in Gioia delle Colle accompanied by Jaguar GR1s with TIALD conducted bombing missions against Serb targets. This was the first use of offensive air power in Europe since 1945. From 30 August -14 September 1995 Harrier GR7s of 4 Squadron flew 144 operational sorties including AI, CAS and Tac Recce. They dropped 48 LGBs (guided by Jaguar TIALD), and 32 x 1,000 lb bombs. Other RAF aircraft involved in the operation were Tornado F3s, Tristars and E3D Sentrys. Altogether, the aircraft of the 8 NATO countries contributing to the air component flew 3,515 sorties dropping 708 precision bombs and 318 freefall bombs. The RAF flew 326 sorties, 9.3% of all the operational missions.

Operation DELIBERATE FORCE was unusual; it was designed to contain aggression and save lives rather than to defeat an enemy. The warring factions were forced, through the cogent use of air power, to accept the UN brokered framework agreement. Judicious use of airpower had succeeded where intense diplomatic pressure had failed.

OPERATION DECISIVE EDGE

The Bosnian Serbs had been forced to the negotiating table by Operation DELIBERATE FORCE and a cease-fire was agreed in October 95. This was followed by US sponsored talks in Nov/December 1995 which resulted in the Dayton Peace Accord. This Accord agreed the partition of Bosnia-Herzegovina between the Bosnian Serbs and the Muslim/Croat Federation. A NATO Implementation Force (IFOR) of 60,000 troops was put in place to enforce the Accord. The air element of this was Operation DECISIVE EDGE, which policed the NFZ. The RAF contributed 6 Harrier GR7s to this operation.

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Loading IFOR equipment at RAF Bruggen, Germany December 1995

OPERATION DELIBERATE GUARD

In December 1996 IFOR became SFOR (Stabilisation Force) and Operation DECISIVE EDGE became Operation DELIBERATE GUARD. In February 1997 Jaguars replaced the Harrier GR7s. The RAF Regiment field force first deployed in April 1992 as part of UNPROFOR, and became part of the British Army roulement until January 98. They provided security for the divisional HQ of NATO's Multi-National Division (South West) and performed a wide range of tasks including inspecting weapon storage sites, monitoring Bosnian Serb military activities, supervising elections and community aid projects.



RAF Regiment in Bosnia, SFOR Chinook in Bosnia

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By April 1998 the situation in Bosnia-Herzegovina was sufficiently stable to allow a reduction of forces in the region. The RAF Jaguars and their supporting Tristar tankers returned to the UK but the RAF E-3D Sentrys remained in theatre until 2000.



216 Squadron Tristar tanking Jaguars

KOSOVO

Whilst the Dayton Accord brought an uneasy peace to the Balkans it did not resolve the fundamental problem of the explosive nature of the region's ethnic mix. In Kosovo ethnic Albanians formed the overwhelming majority of the population. President Milosevic (Serbian) attempted to alter the ethnic balance in Kosovo by encouraging ethnic Serbs to settle and 'persuading' the ethnic Albanians to leave. An ethnic Albanian guerrilla movement, the Kosovo Liberation Army (KLA) sprang up to counter the Serbians' incursions and, by the summer of 1998, Milosevic faced armed insurrection in Kosovo. Determined to crush this, he deployed Serbian Army and police special units into Kosovo and reports began to emerge of the brutal violence against Kosovan Albanians. NATO was determined that there should be no repeat of the genocide in Bosnia and diplomatic efforts to solve the crisis were backed by threats of air strikes.

In June 1998 NATO mounted Exercise Determined Falcon designed as a show of strength. In this 68 fast jets (including 4 RAF Jaguars) and 17 support aircraft overflew Albania and Macedonia.

OPERATION ALLIED FORCE /OPERATION ENGADINE (99)

A ceasefire was agreed in October 1998 and an Organisation for Security & Co-Operation in Europe (OSCE) verification team, including some RAF personnel, deployed in the region. Despite this the violence continued and in January 1999 the situation rapidly deteriorated. Diplomatic efforts intensified and culminated in peace talks in Paris in February/March 1999. The Kosovan Albanians accepted and signed the Agreement unconditionally, thereby putting pressure on the Serbs to accept the key

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condition of a NATO peacekeeping force on the ground in Kosovo. Milosevic refused to sign and the attacks against the Albanians intensified. The OSCE team was withdrawn and, on 24 March 1999 NATO launched air strikes against Yugoslavia. Operation ALLIED FORCE was underway. It was designed to end violence and repression of the Kosovars by the Serbs and force Milosevic to withdraw the Serbian Army, paramilitary and police from Kosovo.

NATO hoped that, as with Operation DELIBERATE FORCE in Bosnia in 1995, an air campaign alone would be sufficient to bring Milosevic back to the negotiating table. However, Kosovo had historical and emotional connotations for the Serbs dating back 500 years to their defeat at the Battle of the Crows. This attachment strengthened Milosevic's resistance to negotiation. Thus Operation ALLIED FORCE developed into an air campaign; Operation ENGADINE was the UK national air contribution.

During the campaign the Serbs once again showed their ability to conduct effective deception operations, particularly a highly active propaganda campaign designed to undermine the coalition. The NATO campaign was made up of 3 overlapping phases: Phase 1 intended to establish air superiority by attacking Serb airfields, air defence sites and command and control centres; Phase 2 to isolate the Serb forces in Kosovo by destroying their communications, re-supply routes fuel and ammunition supplies; Phase 3 to mount an assault on the Serbian field force, including special police units, in Kosovo itself.

The RAF contribution comprised 8 Harrier GR7s and one Canberra PR9 at Gioia del Colle, 2 Tristar tankers at Ancona, 3 E3-D Sentry aircraft at Aviano and one Nimrod R1 at Practica di Mare, all in Italy. On the first night of operations over 40 targets were attacked. Cruise missiles were launched from US warships in the Adriatic and the RN submarine HMS Splendid (the first use of this strategic weapon by the UK), while USAF B52s flying from RAF Fairford in Gloucestershire launched ALCMs. US F15s and 16s, supported by US EA-6B Prowler electronic warfare aircraft, flew combat sorties. During the following 10 days, operations were severely hampered by bad weather which prevented the use of laser guided bombs, and only a handful of Harrier GR7 sorties were flown against ammunition dumps.



Tristar at Ancona

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1,000 lb Paveway 2 loaded on a Harrier GR7, Kosovo mission complete -
a Harrier GR7 pilot at Gioia

Milosevic stepped up the process of ethnic cleansing of the Kosovo Albanians and thousands of refugees streamed into neighbouring Albania and Macedonia. NATO responded by increasing the number of aircraft available for operations and the RAF despatched a further 4 Harrier GR7s to Gioia and another Tristar to Ancona. Tornado GR1s were put on standby at RAF Bruggen in Germany and were supported by 3 VC10 tankers. To help relieve the growing humanitarian crisis. RAF Hercules began airlifting tents, blankets and medical supplies to Tirana in Albania and Skopje in Macedonia. With the arrival of better weather in April, operations intensified. On the 5 April, 6 Tornado GR1s from Bruggen flew their first sorties against bridges and tunnels on the main supply route between Serbia and Kosovo. On 7 April, Harrier GR7s used medium level RBL755 cluster bombs for the first time in daylight missions against Serb forces in Kosovo, and on 12 April they dropped the first 1,000lb free fall bombs through cloud.

By the beginning of May NATO had flown over 12,000 sorties against both strategic and tactical targets in Serbia, including 4,000 attack missions. The RAF flew 9.3% of these. Air superiority was attained; interference from the Yugoslav Air Force was negligible and many radar and SAM sites had been degraded. NATO aircraft undertook over 400 sorties every 24 hours. The AI effort had destroyed 20 road and rail bridges; oil producing and storage depots had been damaged enough to interrupt the supply of fuel to the Serbian armed forces and 1/5th of Serbian army barracks and ammunition dumps had been destroyed. Despite NATO's best intentions there were several instances of collateral damage including an attack on a refugee convoy on 14 April which killed 64 people, a stray HARM missile which hit a house in the Bulgarian capital of Sofia on 28 April and, on 8 May, the inadvertent bombing of the Chinese Embassy in Belgrade – all by US aircraft.

Milosevic still refused to capitulate and the Albanian refugee numbers rose to almost 1/2 million. Again NATO's response was to step up the air campaign. The UK increased the number of Harriers to 16, Tornados to 12 and tankers to 7. HMS Invincible arrived in the Adriatic and her 7 Sea Harrier FA2s began flying CAPs in support of NATO forces. Throughout May NATO increased the number of missions day by day, reaching a peak

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on 27 May when over 741 sorties were flown, of which 308 were attack sorties. At the end of May, 12 Bruggen based Tornados deployed to the hurriedly established Deployed Operating Base (DOB) at Solenzara in Corsica to allow for surge operations that could not be undertaken from RAF Bruggen. By the end of the month, after 68 days of operations, NATO had flown over 30,000 sorties, including 9,000 attack missions.



RAF Police vehicle check point Pristina, Hercules takes off from Gioia

On 3 June there was a diplomatic breakthrough: a joint EU/Russian delegation announced that Milosevic had agreed to their proposals to end the conflict. During the next 4 days air attacks were scaled down as negotiations continued, only to be stepped up again on 8 June when it appeared that talks had broken down. For 3 days NATO forces pounded Serb forces in Kosovo. Finally, on 10 June, Milosevic accepted all NATO's conditions and the bombing was suspended. Following talks between Lt Gen Sir Mike Jackson, Commander NATO forces in the region, and Yugoslav military officials, plans for the withdrawal of Serb forces from Kosovo and the deployment of NATO's Kosovo Force (KFOR) were agreed. Diplomacy backed by force had won.

SUMMARY

The RAF contributed almost 50 aircraft from a variety of squadrons to Operation ENGADINE some of which have since been awarded Battle Honours for their part in the campaign. The UK aircraft included OAS, AT, AAR, TAC Recce and AEW assets. The Harriers of 1 Squadron alone undertook 870 bombing missions, 77 of which were at night, dropping some 900 weapons during AI and CAS missions. Targets included Serbian fuel depots, ammunition stores, bridges, airfields, command bunkers, SAM sites, and Serbian field force artillery, armour and armoured personnel carriers.

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Jaguar with TIALD pod, E-3D Sentry

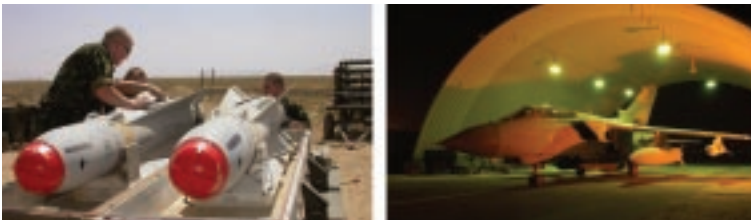
The Tornado wing comprising 9 and 31 Squadrons, together with 14 Squadron TIALD equipped Jaguars, undertook 129 strike/attack missions against military storage facilities, airfields, fuel and engineering depots, barracks and bridges.

SUPPORT ASSETS

The Sentry aircraft of 8 and 23 Squadrons flew 113 missions in the battle management role whilst the tankers conducted 296 AAR taskings. The AT Hercules not only resupplied the Operation but also were involved in SF and humanitarian operations. Support Helicopters were also extensively used in the campaign, often flying in bad weather or at night in mountainous terrain and at low-level. They supported the land forces and Nimrods supplied a surveillance and recce capability.

The RAF only lost one aircraft, a Hercules which was supporting the SF. On 11 June it crashed shortly after take-off at Kukes airstrip in Albania.

After the event there was some criticism of the RAF's bombing performance, which had been affected by bad weather, and it was clear that the RAF's precision attack capability needed to be improved. Following the operations in Kosovo this capability was enhanced with the procurement of Maverick anti-armour missiles and enhanced Paveway bombs which are guided onto target using GPS. The number of Harriers and Tornados capable of carrying such weapons was increased. These measures, together with Stormshadow, ensured that during Operation TELIC in 2003, about 85% of air-launched weapons used by UK forces were precision guided compared to about 25% in Kosovo during 1999.



Armourers prepare Mavericks for a Harrier sortie Operation TELIC,
Night - the Tornados' preferred environment - with Storm Shadow

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OPERATION ENDURING FREEDOM – AFGHANISTAN (2002)

Following the terrorist attack on the Twin Towers in New York on 11 September 2001 domestic security in the UK was raised and the AD element of the RAF went onto very high alert. On the world stage, Operation ENDURING FREEDOM began in October 2001 against Al Qaida forces in Afghanistan. Canberra PR9s undertook photographic reconnaissance and monitored refugee movement. Nimrod MR2s patrolled the Gulf and surrounding area to provide protection to naval shipping in the area. The E3-D Sentry took part in joint UK/US AWACS coverage in theatre, performing both surveillance and airborne C2 functions. The British inputs to Operation ENDURING FREEDOM were known as Operations VERITAS and FINGAL.



Afghanistan ops, Chinooks in Afghanistan C-17 taking off from Bagram

The new Boeing C-17s of 99 Sqn, which had only been delivered on 23 May 2001, deployed almost immediately together with Hercules to provide airlift capability. Once again RAF VC10s and Tristar tankers provided the vital AAR support to both UK and US aircraft. An RAF AT officer was also deployed to the Regional Air Movement Control Centre (RAMCC) in Qatar which, with the total lack of any air traffic

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infrastructure in Afghanistan, controlled the flow of all aircraft, military and civilian, in and out of Afghanistan.

The AT contribution of the RAF element of the Joint Helicopter Force to operations in Afghanistan was crucial. Once again they not only supported regular troops and marines but also SF elements, flying through difficult, high altitude mountainous terrain with the constant threat of SAMs and other anti-aircraft fire. Elements of the RAF Regiment deployed to provide a significant and vital ground defence capability.

PEACE SUPPORT & HUMANITARIAN OPERATIONS

Speed is of the essence to international relief efforts; the airlift of medical supplies to victims of earthquakes or floods was given to RAF C-130 units because no other British agency could respond as quickly. The most publicised disaster relief operation of all started in early November 1984 when 6 C-130s arrived in Addis Ababa to help counter the terrible famine in Ethiopia. Operation BUSHEL consisted of airlifting grain to rough strips often high above sea level in the drought stricken areas. By the time the mission ended a year later, the RAF had delivered 32,158 tons of supplies in 2,152 sorties.



Mozambique 2002, Operation BUSHEL Loading supplies onto a Hercules, supply drop

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While operations in the Gulf and Balkans dominated the RAF's taskings in the 1990s, it also took part in numerous peace support and humanitarian relief operations. In 1994, following civil war in Rwanda and in Angola in 1995 the RAF deployed Hercules and Puma aircraft to support British Army units engaged in UN humanitarian missions.

In 1996 a RAF Canberra PR9 flew reconnaissance missions over Zaire to monitor the humanitarian crisis and in 2003 a Hercules deployed to the neighbouring Congo. British AT assets evacuated British nationals from trouble spots such as: Yemen 1994, Albania 1997, Central Africa 1997-98, Eritrea 1998, and Sierra Leone 1998.

The RAF was also called on to fly mercy missions to areas struck by natural disasters: mud slides in Chile 1991, earthquake in Turkey 1992, hurricanes in the Caribbean 1992, famine in Somalia 1993, floods in the Netherlands 1995, and UK 1998, volcanic eruptions in Montserrat 1995, forest fires Cyprus 1995 and 1998 and floods in Mozambique 2002.



Loading a Puma Operation BARWOOD

Individual RAF officers and airmen have been deployed as members of UN observer forces in the hottest trouble spots of the world. Occasionally these hotspots have flared up and British forces have become engaged at a higher level of intensity.

SIERRA LEONE (2000)

One such flashpoint occurred in Sierra Leone in West Africa. The Lome Agreement of July 1999 between the Sierra Leonean government and the rebel Revolutionary United Front (RUF) sought to end the 8-year civil war in Sierra Leone. It is estimate that over

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50,000 people had been killed and over half the population displaced. The UN was to oversee the disarmament of the RUF and a force of some 11,000 peacekeepers was allocated to assist UN Mission in Sierra Leone (UNAMSIL). About 8,000 of these were present in the country by Spring 2000.



Last lift of the day. A Chinook lifts a 29 Commando, Royal Artillery. 105mm gun and a one ton Landrover from the deck of HMS Ocean enroute Sierra Leone

In the first week in May RUF forces captured around 300 UN personnel, including one British officer. Britain sent a force of 600 Paras from 1 Para together with their support forces to help evacuate British and other entitled civilians. An RN amphibious group was also deployed with 600 marines from 42 Commando on board the brand new HMS Ocean. An aircraft carrier with Harriers of the Joint Harrier Force (JHF) on board was also sent to the region. These Harriers achieved a significant effect when they announced the arrival of the carrier group with a surprise low-level sortie over the capital, Freetown.

During the disarmament process further British hostages, this time Paras, were taken by a group calling themselves the West Side Boys. The UK Government decided to conduct an operation named Operation BARRAS to release the hostages from the depths of Sierra Leone's jungle. RAF Chinooks and a Hercules were involved in the daring dawn raid that released the hostages. The Chinooks operated from HMS Ocean and forward deployed bases. They supported the raid by not only deploying troops almost directly onto their objective, but also by providing suppressive fire from their mini-guns and by evacuating casualties swiftly.

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BELIZE

The 1990s saw the end of British commitments in Belize. This former British colony (then called British Honduras) lies on the north east coast of Central America and has had a long-standing border dispute with its neighbour, Guatemala. Guatemalan claims became progressively more threatening and RAF assets were sent to reinforce Belize in 1971. The heightened tension led to the deployment of 6 Harrier GR3s, via Goose Bay and Bermuda, and supported by Victor tankers. Three Puma helicopters and an RAF Regiment squadron also deployed. In 1976 Guatemala suffered an earthquake, this was felt to have reduced their military capability and the Harriers were withdrawn. However, they were redeployed again in July 1977.



Aviation fuel pillow tanks beside a Puma

The RAF presence in Belize continued for a further 16 years until the threat from Guatemala was finally considered to have ended. In July 1993 the Harriers of 1417 Flt were withdrawn, followed 12 months later by the Pumas of 1563 Flt.

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CYPRUS SEARCH AND RESCUE



An 84 Squadron Wessex replenish its "Rain Maker" fire bucket with water from a local reservoir while assisting civilian helicopters to tackle a large scrub fire 10 miles outside of Limassol.

In 2003 the Wessex long service as the RAF's search and rescue platform ended with its replacement by the Griffin in Cyprus.

OPERATION BANNER - NORTHERN IRELAND



Wessex - The Northern Ireland workhorse for many years,
72 Squadron Wessex over Northern Ireland

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The RAF has been involved in operations in Northern Ireland since Support Helicopters deployed to RAF Ballykelly in July 1969 and Hercules airlifted the first troops into the Province in August 1969. Since then Hercules, VC10s and Tristars have supplied an airlift capability for the Army roulement (troop rotation), shuttling backwards and forwards between Britain, Germany and Northern Ireland.

In-theatre helicopters have been constantly in use. The first to arrive were the Wessex of 72 Sqn. In December 1972 the Pumas of 33 Squadron joined the Wessex to form the RAF Helicopter Detachment, Northern Ireland. The Pumas of 33 Squadron were replaced with those of 230 Squadron in May 1992. From the late 1980s Chinooks deployed to Northern Ireland when required. On 1 October 1999 the Joint Helicopter Force Northern Ireland (JHFNI) was formed from RAF, Army Air Corps and RN Fleet Air Arm assets. On 31 March 2002, 72 Squadron disbanded as a helicopter squadron having completed the longest period of sustained support in one operational theatre, namely 38 years.



Puma over Northern Ireland

The role of the SH forces has been to support the Army, Royal Ulster Constabulary (RUC) now called the Police Service of Northern Ireland (PSNI), and the civil community in Northern Ireland. They have done this by providing tactical transport for the security forces. This has been particularly important in areas such as South Armagh, on the border with the Republic of Ireland, known to the Army as 'bandit country'. The helicopters have also undertaken reconnaissance and monitoring tasks, the re-supply of

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small Army posts and the movement of heavy supplies, casualty evacuation, SAR, collected ballot boxes from out lying areas and acted as secure VIP transports for members of the Royal Family, senior politicians and Service officers. They have also been called on for assistance in the wake of notorious acts of terrorism. On 15 August 1998 RAF helicopter crews played a vital role in the aftermath of the Omagh bombing, ferrying the injured to hospitals. Today the role of the JHFNI is to support the on-going process of 'normalisation'.

The SH in Northern Ireland operated in a difficult and dangerous environment. They often came under attack with small arms fire and sometimes from rocket-propelled grenades (RPG). In July 1991 2 Wessex from 72 Squadron were attacked with a shoulder-launched SAM 7 surface to air missile. Luckily the SAM 7 passed between the 2 aircraft.



72 Squadron - end of an era

The RAF Regiment has also been involved, primarily in guarding RAF assets but also, on occasion, undertaking street patrols within the Aldergrove area of Northern Ireland.

In July 2003 RAF force levels engaged in Operation BANNER were 960 personnel including 3 Squadron RAF Regiment and 230 Squadron flying 15 Pumas.

RETURN TO EXPEDITIONARY WARFARE

THE HOME FRONT: SUPPORT TO OTHER GOVERNMENT DEPARTMENTS

The RAF, in common with the RN and Army, has been often called upon to provide support for Government Departments other than the MOD. Taskings range from disaster relief to assisting the Customs and Excise and Home Office in their efforts to control drug trafficking and import of illegal weapons.

The Services have also been involved when civil authorities have been unable to manage, an example of this being the Foot and Mouth epidemic of 2000-01. They have also been called upon to mitigate the effects of workers' strikes, most recently the Firemen's strike of 2002-03. The RAF's contribution to Operation FRESCO, as the Services' fire fighting effort was called, included specialist breathing apparatus teams as well as crews for the 'Green Goddess' fire engines.



RAF firefighters Operation FRESCO

RETURN TO EXPEDITIONARY WARFARE



Search and Rescue Sea King

The RAF also supports the efforts of HM Coastguard and The Royal National Lifeboat Institute in rescues at sea by making available search and rescue (SAR) Sea King helicopters. The primary role of these aircraft is the rescue of downed aircrew but they are well known for their civilian rescue work both on land and at sea. RAF Mountain Rescue Teams and SAR helicopters are also called in to assist with rescues of lost and injured walkers and climbers. Another role of the Mountain Rescue Teams is to provide crash guards at the sites of military aircraft accidents