

The Cutting Edge



ABOVE A 19-year-old Midshipman John Middleton on gaining his wings at RAF Linton-on-Ouse. John's experiences as a trainee Fleet Air Arm pilot were related in last month's *From Provost to Scimitar* feature.

ONE OF THE Supermarine Scimitar's good design features was blown flaps for boundary-layer control. Surplus air from the engine compressor was bled at high pressure from slots in the wing trailing edges in front of the flaps. This eliminated boundary-layer separation, enabling the flaps to be used at a higher angle of attack and reducing operational landing speed by about 5kt.

In January 1962 John completed his Scimitar course and was posted to 803 Naval Air Squadron (NAS), which had just disembarked to Lossiemouth in Fifeshire for a two-week stay while its carrier, *HMS Victorious*, was storing ship at Portsmouth for its next deployment. The ship duly left for Lyme Bay to receive its squadrons; a Westland Wessex helicopter squadron, a Fairey Gannet Flight of four aircraft, and a de Havilland Sea Vixen squadron, 829 NAS, as well as 803 Sqn, both with ten aircraft.

John was flown to Yeovilton by Hawker Hunter T.8 and then by helicopter to *HMS Victorious* at sea. The Westland Dragonfly pilot had started out with John at Manadon. On landing John was taken straight to the briefing room and then put in a Scimitar on deck, to fly it. Although he had

done dummy landings he had not used an arrester wire, nor had he flown from a carrier. His first task, taxiing to the catapult, entailed manoeuvring the aircraft in a tight space, with its wings over the edge of the deck, which was demanding enough. He noticed the captain, the Commander Air, his CO and the Lieutenant Commander Flying all watching from the bridge. Behind the bridge, the area known as the "goofers gallery" was full of spectators as well.

By this time John had arrived at the steam catapult and had successfully centred the wheels. The Scimitar was pulled into the hold-back position, with its nosewheel off the deck. A man appeared with a large board reading: "Blow on, brakes off, flaps down, airbrake in". John checked all of these; particularly that he had an amber light showing that the boundary-control air was blowing over the flaps. He noticed a young seaman looking at him. They made brief eye contact, each man fervently wishing he was the other. He ran the engines up to 100 per cent. The catapult officer looked at him. He dropped his hand in reply, indicating he was ready to go. He ceased to have any control over his surroundings. The huge push came and he was thrown



Having completed his training as a Royal Navy jet fighter pilot, **JOHN MIDDLETON** faced rapid familiarisation with carrier-borne operation of the Scimitar, the Service's leading front-line fighter. In this concluding part of his account of a Royal Navy pilot's experiences, **BOB GARDNER** records some exciting episodes

back in his seat as the aircraft was fired over the carrier's bows. In two or three seconds he realised that he had control, and climbed away. After a quick circuit he began the first of three touch-and-gos with his hook up, to get used to the glideslope. Here he was confident, back in his element, and the fourth time he landed-on as planned. He was taken away to the Ward Room for a celebratory drink.

The technique of landing a Scimitar on a carrier was to balance the power against the drag, using as much power as possible so that if you missed the arrestor wire instant power was available and you did not have to wait for the engine to spool up. This entailed a high nose-up approach with the airbrake out and the flaps fully down with the blowing on. There was no question of flaring. You flew the aircraft on to the deck and cut the throttles the moment the hook caught. The landing speed at half fuel was 130kt, and the aircraft could be kept to within 1kt of this without difficulty. If you let the speed fall away it was easy to fly into the round-down, and many naval pilots did. If you got the angle of attack wrong the nose pitched up.

John never felt completely at ease with cata-

pult launches, despite doing 267 of them. Early in his time with 803 NAS, when he had become bold rather than nervous, he took to dropping his hand for the catapult as the engines were running up through 80 per cent, knowing that in two seconds, when he needed them, they would be at 100 per cent. This continued for some months, and the catapult officer congratulated him on his deft and speedy handling of the aircraft. Then, on one occasion, having dropped his hand, waiting the milliseconds for the surge forward, he noticed the revs on the port engine running away, way beyond the maximum of 100 per cent, together with the sound of the compressor beginning to disintegrate. It was too late; he had given the "go" signal. The aircraft launched. He was very close to ejecting, but the dying engine contributed just enough power to get the aircraft up to the minimum speed for single-engine flight. Having declared an emergency he joined the circuit and lined up for the approach. He had only one chance. There was insufficient power for a go-around in the high temperatures of the Far East, where this happened. The landing was successful. The engine had destroyed itself, and was sold as scrap.

MAIN PICTURE, BELOW A pair of Scimitar F.1s of 803 Naval Air Squadron (NAS). The first Supermarine Type 544 prototype, WT854, first flew on January 19, 1956, from which the Scimitar was developed, production examples entering service with 803 NAS in June 1958. **BELOW** The badge of 803 NAS with its hornet motif and the unit's motto; *Cave punctum* — "Beware of the sting".





ABOVE Scimitars of 803 NAS without underwing fuel tanks and wearing their "V" tail codes, denoting their operational base aboard HMS Victorious. John Middleton joined the unit on February 2, 1962, a few days before 803's final tour aboard Victorious, during which the squadron participated in Exercise Dawn Breeze.

BELOW A busy scene aboard Victorious as the Scimitars of 803 NAS prepare for a sortie while the carrier steams into the wind. The first Scimitar unit to join an operational aircraft carrier, 803 NAS undertook some 2,604 sorties while aboard Victorious, making a total of 2,038 deck landings on the carrier between June 1958 and March 1962.



Thereafter John always waited for 100 per cent power to stabilise before going.

There was a strict discipline in arriving on and departing from a carrier at sea, derived from the carrier having to steam at maximum speed in a straight line into wind, which made it vulnerable to submarine attack. And it took time to get the ship into wind and up to its maximum speed. It was usual for Scimitars to arrive back at the carrier with sufficient fuel for only two or three circuits. After all, there was no question of diverting anywhere in the middle of the ocean. Consequently a pilot would be given an exact time for both take-off and landing, to the minute. Getting it wrong could cause problems for other pilots low on fuel and endanger the ship in wartime. Arriving back late was a cardinal sin.

Once, when *Victorious* was in the Mediterranean, John was flying as wingman to his leader. They were tasked with a ground-attack sortie on the Libyan coast in support of the Scots Greys, firing rockets into targets. It was such fun that they forgot about timings. When realisation dawned, the choice lay between a slow return with one engine closed down to conserve fuel, and arriving late for their slot, or a fast return with marginal fuel on arrival. Marginal meant enough fuel for one circuit and landing. Such was the horror of missing their slot that the safer option was not considered. They arrived back over the ship on time, to discover it turning out

of wind. There was an offshore wind, and the Navigating Officer had let the ship get too close to the coast. The aircraft declared an emergency and the ship swung laboriously back into wind.

The leader landed first, as he had least fuel. John gave himself a modicum of room in case the leader's aircraft had insufficient fuel to taxi to Fly One, the parking area, and had to be man-handled. Now it was his turn. As he rolled out on the downwind leg he saw one of the fuel pressure lights flicker, and turned on to short finals as quickly as possible. A quick glance at the fuel gauges by his knee showed them at zero, but he landed and was able to taxi the few yards off the landing deck. They then had to explain themselves. Glancing as nonchalantly as possible at the bridge, they saw the captain mockingly pretending to hit the Navigating Officer with his telescope. All on board assumed that the navigator's error in coming out of wind when their slot was due was responsible for their shortage of fuel. They were safe.

John joined *Victorious* when it was coming to the end of its commission, and a few months later the squadron embarked in *HMS Hermes* for the Far East. In the tropics there were times when there was no wind at all to steam into, and this and the high temperatures meant that at times the Scimitar had to drop its nose on take-off to gather the last knot or two of airspeed. By contrast, in the North Atlantic the aircraft operated with snow and ice on the deck, or with spray coming over the bow.

At the end of John's tour the ship returned to England. At this time Scimitars were beginning to be used as refuelling buddies for other Scimitars and for Blackburn Buccaneers. This enabled aircraft to take off laden with underwing stores at maximum all-up weight and then top up with fuel. The squadron had disembarked to RNAS Yeovilton, and John was tasked with a practice refuelling sortie. He took off with three full underwing tanks and a refuelling pod on the fourth pylon. On take-off he experienced a hydraulic failure after the undercarriage had retracted. There was no immediate problem, he could blow the undercarriage down using the emergency air bottle, but he was overweight. He flew around Somerset with his airbrake out and the engines on a high power setting to burn off fuel.

Once the Scimitar was below the maximum weight for landing John joined the circuit and blew the emergency air to lower the under-

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carriage. Only two greens. A flypast over the control tower showed that the port leg had not come down. He still had three full drop tanks and a refuelling pod on his pylons, and without hydraulics he could not pump fuel out of them. There was considerable time for debate. He tried pulling g to get the leg down. Nothing happened. He suggested bumping the aircraft on its remaining main leg on the runway to jolt the other leg out, but his CO disagreed. It was too dangerous with three drop tanks close to the runway. John then suggested landing on the starboard leg on a foam carpet, but this was vetoed. The aircraft had a high landing speed and would probably dig a wing in, causing it to cartwheel. There was no thought that they should jettison three tanks of fuel over some Somerset farmer's land. He was ordered to fly to the coast near Weymouth, trim the Scimitar into a nose-down attitude, point it at France and eject while still overland, leaving the aircraft to fly into the sea.

The Scimitar had the Martin-Baker Mk 4c lightweight ejection seat, which could operate successfully at ground level above 90kt. The seat was ejected by an explosive charge that gave a momentary instantaneous force of 100g, the maximum the human body could withstand. For this reason it was superseded by the rocket-powered version that gave a more gentle acceleration for a longer period. There were two handles, the lower one to be used if you



ABOVE In April 1962, the Scimitars of 803 NAS embarked in *HMS Hermes*, the tails of the aircraft being painted with black and yellow chequerboard markings with a small white “H” on the bottom black panel. Here, an 803 NAS Scimitar roars past while performing a “bolter”.
LEFT Scimitar XD215/“150” is prepared for launch from *HMS Victorious*. The Scimitar's tail was held down to increase the aircraft's angle of attack during catapult launches.

could not get to the top one, in high g for example.

John trimmed the aircraft, withdrew his feet from the rudder pedals, reached up and pulled the handle above his head. The handle came down below his face, bringing the shield that protected the face from airstream blast. The action initiated the canopy release. He waited. His world moved into slow motion. He continued to wait. Then the 1sec interval was over and the seat fired, a huge kick in the backside.

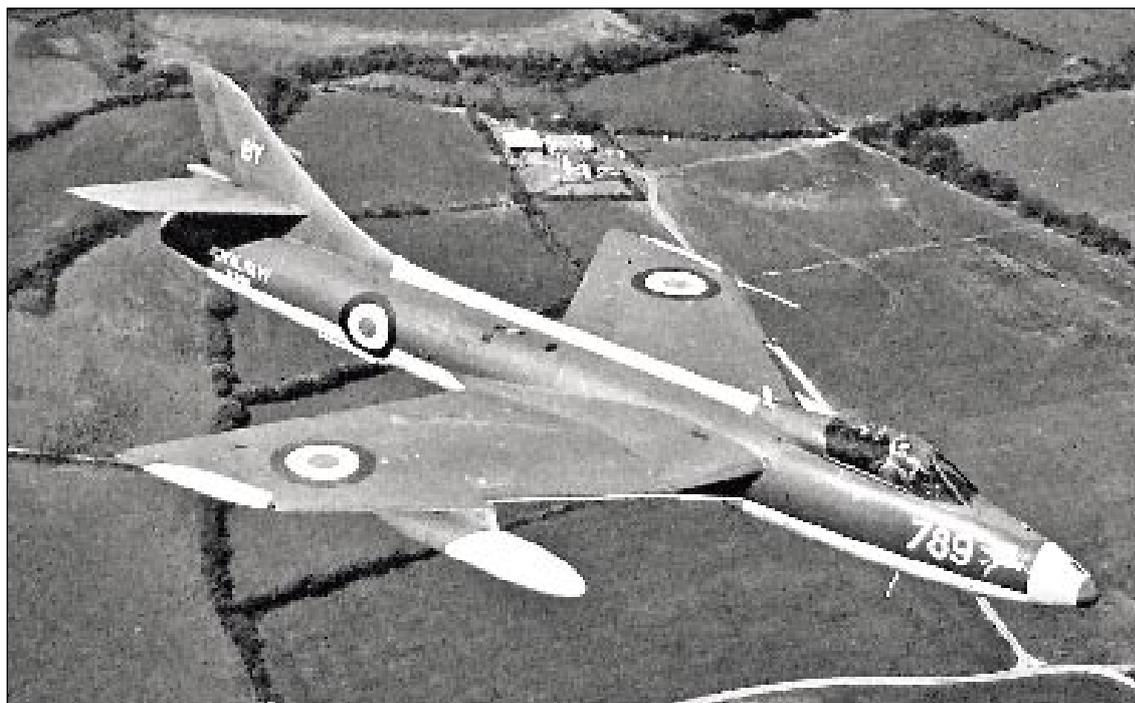
He ejected at 10,000ft, and the automatic seat separation was immediate. He and his PSP (personal survival pack) floated free, and his main 'chute deployed. The PSP fell below him, dangling on its quick-release straps.

The force of the ejection caused the Scimitar to enter a gentle turn to the left. John watched until



LEFT *HMS Hermes* became home to 803 NAS between May 1962 and February 1964, John Middleton serving with the squadron until October 22, 1963. During his time aboard *Hermes* John participated in numerous exercises all over the world, from Europe to the Far East, many in conjunction with American forces. On September 20, 1963, while up from Yeovilton, John was forced to eject from Scimitar XD213/“152” after a hydraulic failure during a practice refuelling sortie.

RIGHT Hawker Hunter GA.11 XE680 operated with 738 NAS at Brawdy in Wales from August 1964. The unit's distinctive Pegasus emblem is prominently displayed on the nose. The squadron was tasked with low-level navigation exercises, as well as ground-attack and air-to-air weapons training, before it was disbanded in May 1970. This Hunter was lost in a crash near Rhayader on May 27, 1968.



■ IN A FORTHCOMING ISSUE — In January 1964 John Middleton was on a night sortie with two colleagues in a Fairey Gannet AS.6 when one half of the aircraft's Double Mamba engine failed, shortly followed by the other half. Bob Gardner describes one of the most hair-raising experiences of John's Fleet Air Arm career

BELOW Marking something of a change of pace from the fast jet fighters of his service career, John flew the swift, but much more sedate, Vickers VC10 for the British Overseas Airways Corporation after his retirement from the navy. See next month's Database feature for the full story of the VC10.



it entered cloud at 3,000ft. Once he was below the cloud he scanned the surrounding countryside. Apart from a distant car, Dorset seemed devoid of life. He studied the fields below him, preparing to land, then the ground-rush took him by surprise and he landed among an astonished herd of cows. Yeovilton radar had seen him eject, and was vectoring a Wessex towards him. He heard the blades before he caught sight of it. His spine escaped injury, but he was reluctant to sit down for three days. His Scimitar crashed in a field opposite a pub, *The Sailor's Return*. As the airframe disintegrated, the engines ricocheted upwards and described a graceful parabola over the pub, landing behind it. When he went down to the pub early that evening they were all smiles, and plied him with free beer.

Six weeks later John was posted to a then-secret electronic countermeasures squadron, 831 NAS, at RAF Watton in Norfolk. From there he was posted as an Air Warfare (AW) Instructor with 738 (Advanced Training) Sqn, part of the Air Warfare School at RNAS Brawdy in Wales. But first he had to complete the AW Instructors' course at Lossiemouth. There were four senior lieutenants on the course, all multi-tourists, including Lt Jonathan Tod and an Indian Naval officer, Lt Sham Varma. The course was great

fun, flying in Hunter GA.11s and occasionally a T.8, with masses of flying, always to the limit.

On one occasion they were practising air combat at 15,000ft in two sections of two. They flew to the exercise area in battle formation then split into their sections and divided. Game on. A free-for-all dogfight beckoned. John was successful and got on the six of Tod and Sham, 300yd astern of them. They saw him and broke, but Sham's wing sliced into Jonathan Tod's fuselage and the whole tail came away as Sham's wing broke off at the root. Both pilots ejected. This took less than 3sec, and John pulled up and hard left to avoid the debris, then throttled back and turned to circle the descending pair. Tod waved, but Sham did not. Tod went on to become Vice-Admiral Sir Jonathan Tod, Deputy C-in-C Fleet. Sham never flew again because of back injuries.

The time with 738 NAS was John's last tour. He wanted to transfer to the General List and stay in the navy as a career officer, but a Labour government had been elected. Denis Healy cancelled TSR.2 and numerous other projects, and there was talk of scrapping the carriers. The navy's first large modern carrier, CV-01, had already been cancelled at the design stage. John realised that the market would soon be awash with unemployed military pilots, and the British Overseas Airways Corporation (BOAC) said it would have him, providing he gained the necessary commercial licences. He spent the next 26 years with the airline. It was not all boredom. Approaches to Kai Tak, Hong Kong, in a BOAC Vickers VC10 at night in a crosswind were fun. A 90° bank in front of the mountain on to very short finals was rather like landing on a carrier.

In retrospect, his eight years in the navy were glorious. There was unlimited flying, very often to the limits, and the invisible warmth of care-free comradeship. There were few restrictions. On occasions pilots would borrow an aircraft for private reasons, and John did it to go to a friend's wedding. The navy regarded it as worthwhile extra flying. It was the golden age of naval aviation. But he was lucky to be alive. **A**