



Royal Navy Centenary Celebrations

The highlight of this year's Centenary of Naval aviation will be the visit to London of the UK's Strike Aircraft Carrier, HMS *Illustrious* together with an embarked Air Group for the 100 birthday celebrations and flypast over the ship on Thursday 7 May 2009.

HMS *Illustrious* will be moored at Greenwich and the flypast of Fleet Air Arm Merlin, Sea King and Lynx helicopters and Hawks and Jetstream aircraft will follow the River Thames from east to west passing directly over the ship at midday.

The impressive Balbo formation of aircraft will give spectators the rare opportunity to see a large number of Naval helicopters operating from an Aircraft Carrier against the backdrop of the home of the Royal Navy since Tudor times, the magnificent Old Royal Naval College. HRH Prince Andrew, The Duke of York KG and Commodore-in-Chief of the Fleet Air Arm, will take the salute onboard HMS *Illustrious* as the aircraft pass overhead.

Operating with the Royal Navy, the Joint Helicopter Command and Joint Force Harrier, the Squadrons of the Fleet Air Arm have never been in greater demand.

"Naval aircraft are making a direct and vital contribution to operations in Afghanistan, Iraq, the Arabian Gulf, the Gulf of Oman, the Falklands, the North Atlantic, the Far East and the Caribbean" said Rear Admiral Simon Charlier, Rear Admiral Fleet Air Arm. "Over 80% of our Squadrons are currently deployed fulfilling defence commitments worldwide."

HMS *Illustrious* will be in London for six days as the centrepiece of the Centenary celebrations, hosting a dinner onboard on Thursday 7 May and supporting the Service of Thanksgiving in St Paul's Cathedral on Friday 8 May.



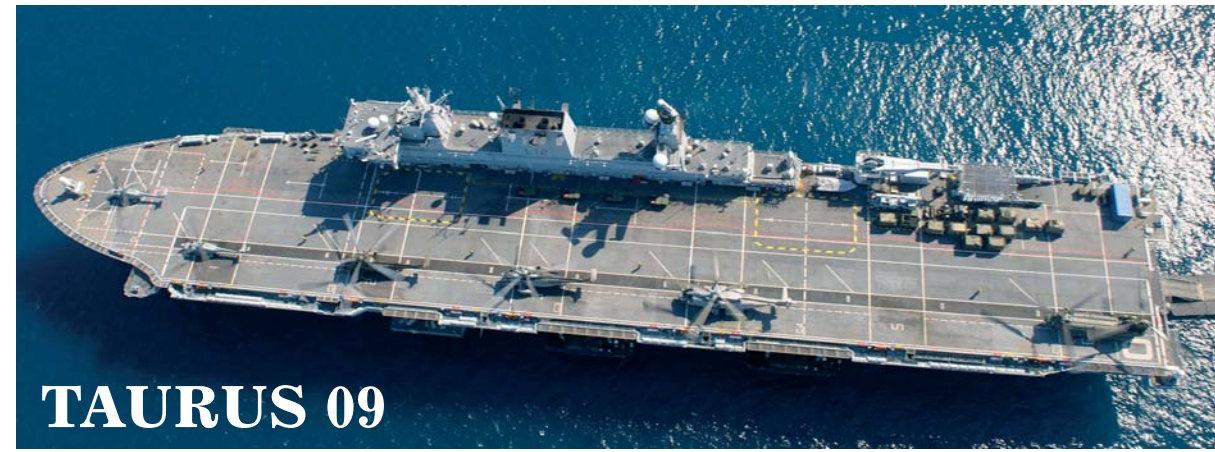
CENTENARY FLY PAST

HMS *ILLUSTRIOUS* – 7 May 2009

Greenwich, London 12 noon



Raising the Game



TAURUS 09

Merlin helicopters from 820 Squadron and Sea King ASaC aircraft from 857 Squadron, both based at Royal Naval Air Station Culdrose and Commando Helicopter Force Sea King Mk 4s from 845 Squadron and Lynx Mk 7 aircraft from 847 Squadron, based at Royal Naval Air Station Yeovilton have deployed as a powerful Air Group with the Royal Navy's Amphibious Task Group on Taurus 09 to the Far East.

The Royal Navy's largest amphibious deployment in ten years, Taurus 09 aims to strengthen the Navy's fighting capability, proving their amphibious skills by means of landing craft and helicopters and enhancing their ability to carry out combined operations with NATO allies and other nations.

The Task Group comprises 12 ships including capital ships HMS Bulwark and HMS Ocean, two Royal Navy frigates, a US Navy destroyer and a French Navy frigate, two nuclear powered submarines and an embarked force of Royal Marines from 40 Commando and 539 Assault Squadron Royal Marines. At its height, 3,300 personnel will take part in the 20,400 mile round-

trip deployment, operating and training with 17 nations.

Merlin helicopters onboard the air assault ship HMS Ocean took part in rigorous preparations earning praise from Rear Admiral Richard Ibbotson, Flag Officer Sea Training. He told the ship's company that, without exception, everyone onboard had raised their game and embraced the challenge of being ready to embrace amphibious operations anywhere in the world. Taurus 09 will be split into two phases, phase one will involve amphibious training in the Mediterranean and phase two will culminate in a multi-national training operation in the jungles of Brunei.

Deploying with a maritime force for prolonged periods, supporting amphibious operations and operating in difficult environments is what the Fleet Air Arm does best. Taurus 09 is a text book example of the projection of sea power over land by means of the air and I know the squadrons deployed will take it in their stride.

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Rear Admiral Simon Charlier



MASU

Rapid Aviation Support

Most people familiar with the Fleet Air Arm will have heard of MASU, Mobile Aircraft Support Unit, or MARTSU, Mobile Aircraft Repair Transport and Salvage Unit as it was previously known. Historically responsible for the recovery and repair of damaged aircraft the remit of the unit has grown exponentially in recent years to meet the exacting demands being made on all UK military aircraft deployed on current operations.

In 2008 MASU joined forces with NAML, the Naval Aircraft Materials Laboratory at Fleetlands, Gosport, to form a formidably capable forward support organisation called Fleet Forward Support (Air) providing the full range of rapid aviation support to helicopters of all three Services anywhere in the world.

Based in new premises in Portsmouth Naval Base, the organisation is responsible for the assessment and repair of damaged helicopters, designing and fitting modifications, providing analysis on

all aspects of airworthiness and advice on the care of aircraft to prevent and manage corrosion, Health Usage Monitoring and Vibration, materials and composite evaluation and chemical sampling of fuels, oils and lubricants. The unit also assists with in depth investigations into failures and accidents. As well as deployable teams able to support air operations anywhere in the world, the unit currently has a permanent detachment in Afghanistan. In the true spirit of joint operations, it is another arena in which the Fleet Air Arm is leading the way.



Centenary Celebrations in London

Welcome to the third of our series of Centenary Newsletters. With the help of a hardworking project team, this month's Centenary celebrations are set to be a defining moment for Naval aviation.

A century after the Admiralty ordered its first aircraft on 7 May 1909 it is quite extraordinary to think that within a few years, air power from the sea would transform naval warfare as radically as the gun and the steam engine.

The celebrations with HMS Illustrious in London could not be more fitting, or better timed, to commemorate a remarkable 100 years. Emerging from adolescence in the First World War and coming to maturity in the Cold War, Naval aviation has developed a core expertise and depth of experience in operating at sea that sees us now, on the brink of a significant step change in capability. Carrier aviation and the Fleet Air Arm are intrinsically intertwined and the combination of the Queen Elizabeth class carriers and the F-35 Joint Strike Fighter herald an exciting future – we are getting back in the big carrier game.

It will be a proud moment watching the fly past over HMS Illustrious, but it is important to remember that 80% of the Fleet Air Arm is currently deployed on operations around the world. The Harrier jets of the Naval Strike Wing and Naval helicopters assigned to the Commando Helicopter Force are heavily committed to joint operations in Afghanistan, 815 and 829 Naval Air Squadrons are very active, parenting small ships flights, Merlin helicopters from 814 Naval Air Squadron are conducting ongoing surveillance missions in the Persian Gulf and the Naval Air Squadrons embarked with Taurus 09 are conducting intensive amphibious exercises in the Far East. While our birthday will be a memorable day for the Service, there can be no clearer message of the versatility, adaptability and utility of Naval aviation.

A highlight of the celebrations will be a visit by HRH The Duke of York KG, our Commodore-in-Chief, and The Right Honourable John Hutton MP, Secretary of State for Defence. In addition to our birthday flypast, there will be a spectacular firework display over HMS Illustrious on 7 May at 2200 and flying displays over the Thames in front of the Old Royal Naval College on Saturday 9 and Sunday 10 May at 1400 each day.

Rear Admiral Simon Charlier

Fleet Air Arm Memorial

A ceremony to dedicate a new memorial to remember and celebrate the service of the many men and women who have served in the Fleet Air Arm will be held at the National Memorial Arboretum near Lichfield in Staffordshire on Friday 11 September 2009.

Over 6,000 men and women have given their lives in the service of Naval aviation over the past 100 years and it is particularly fitting during this Centenary year that their sacrifice should be honoured in the peaceful setting of the National Arboretum. The new memorial, a sculptured plinth of Portland stone supporting a granite aircraft carrier, will be set amidst 'hearts of oak' in an avenue of fine old English oak trees, close to the National Armed Forces Memorial.

testament to the enduring importance of carrier aviation, which in a relatively short space of history has had such a significant impact but it holds memories of loved ones for so many people throughout the country."

The dedication service will be open to all and will include an unveiling ceremony, flypast and a Royal Marines Beat Retreat.

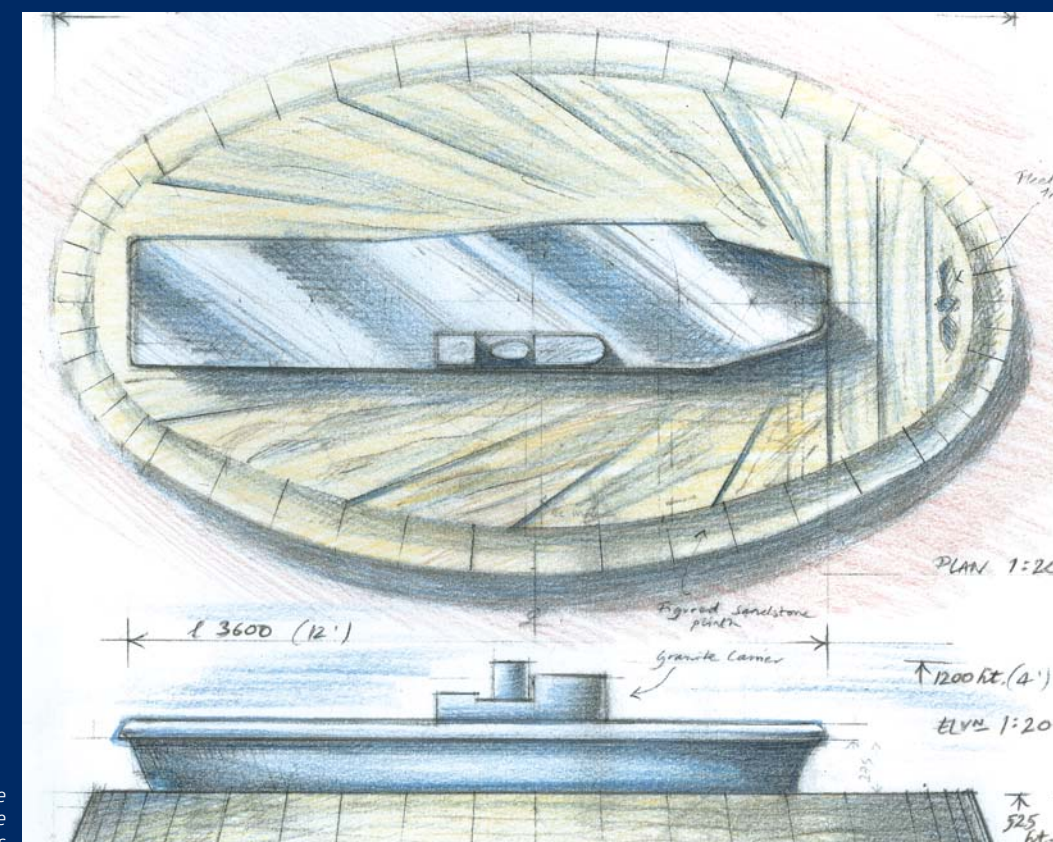
In the meantime, funds are still being sought to finalise the project and ensure that the dedication service is a fittingly memorable occasion. Donations from individuals or organisations would be very welcome and should be sent to the Fleet Air Arm Officers Association, 4 St James Square, London, SW1Y 4JU. Please make cheques payable to FAAOA and marked on the reverse 'Memorial'.



Their names will live for evermore . . .

The Fleet Air Arm has a 'battle honours' memorial on the Victoria Embankment in London. The new memorial, however, has been especially designed to enable squadrons, ships and associations to place plaques or wreaths around the base of the aircraft carrier allowing the memorial to become the spiritual property of everyone who has served in the Fleet Air Arm.

Speaking of the new memorial, Chief of Staff Aviation and Carriers, Rear Admiral Simon Charlier said, "We are very grateful to the Fleet Air Arm Associations for their considerable contribution in raising the funds to commission this project. The design of an aircraft carrier is not only



Designed by architect and sculptor, Steve Field, the memorial is being built on a plinth of Portland stone, the traditional material for Naval memorials



Callsign GB100FAA

The Royal Naval Amateur Radio Society will be operating a special event station during May 2009 to broadcast the Centenary celebrations around the world. Using the callsign GB100FAA the station based at HMS Collingwood initially and then at RNAS Yeovilton will be operated by members of the Society. "We expect to contact Fleet Air Arm veterans all over the world" said RNARS Chairman, former Chief Radio Supervisor Mick Puttick. "All Naval aviators use wireless communications and the pioneering work of the early Naval aviators helped develop the communications that we know today." The Royal Naval Amateur Radio Society was formed in 1960 to promote Amateur Radio within the Service and as an aid to technical training.

Operation will be on SSB and CW on the usual RNARS frequencies, band conditions permitting, and +/- QRM: SSB – 3740, 7055, 14294/14335, 18150, 21360, 28940. CW – 3520, 7020, 10118, 14052, 18087, 21052, 24897, 28052.

www.rnars.org.uk



1909 - 2009

The Armourers Association



After attending Nobby's 'going outside run', Shiner's 50th birthday party and Bungy's 'promotion do' and seeing the same people travel from miles around to attend, it was the general feeling that the same lot would probably support a Bombheads Reunion. So in 1989 with the aid of a few Christmas card lists and seventeen quids' worth of postage stamps, the Armourers Association was born.

The inaugural meeting was in Coventry in 1990. They came from Penzance, they came from Lissiemouth, and all stations in between. They were old, they were very old, and they were 'Gordon Bennett! Who'd have thought he'd still be alive.' Amongst them were Police, Prison and Fire Officers of all ranks, a Foreign Legionnaire, a Mayor, a town crier, a bloke who breeds racing tadpoles and a part time Lancashire sausage knotter but we all had one thing in common – once a bomb'ead, always a bomb'ead!

The aim of our Association is to preserve the values and comradeship we all enjoyed in the Fleet Air Arm. You may have no desire to travel to a reunion but wish to be in contact with your old oppos. We are currently in touch with over 900 ex armourers. The annual membership is £5 payable to the Armourers Association by standing order. Please contact Mike Holdsworth on bombheads@btinternet.com or tel 01227 832826 for our current newsletter, nominal roll and registration form.



Musical Tribute

'Hands to Flying Stations'

An inspiring and moving musical tribute to the Fleet Air Arm, composed especially to celebrate 100 years of Naval aviation and incorporating the much loved bugle call 'Hands to Flying Stations' was performed for the first time by The Massed Bands of Her Majesty's Royal Marines at the Mountbatten Festival of Music at the Royal Albert Hall, London in February.

The new piece of music, composed by former Warrant Officer Royal Marines Michael McDermott, is called 'Daedalus', a name long associated with the Fleet Air Arm, after the great Athenian inventor, Daedalus, who built artificial wings for himself and his son Icarus and HMS Daedalus, the Royal Naval Air Station at Lee on Solent, the spiritual home of the Fleet Air Arm.

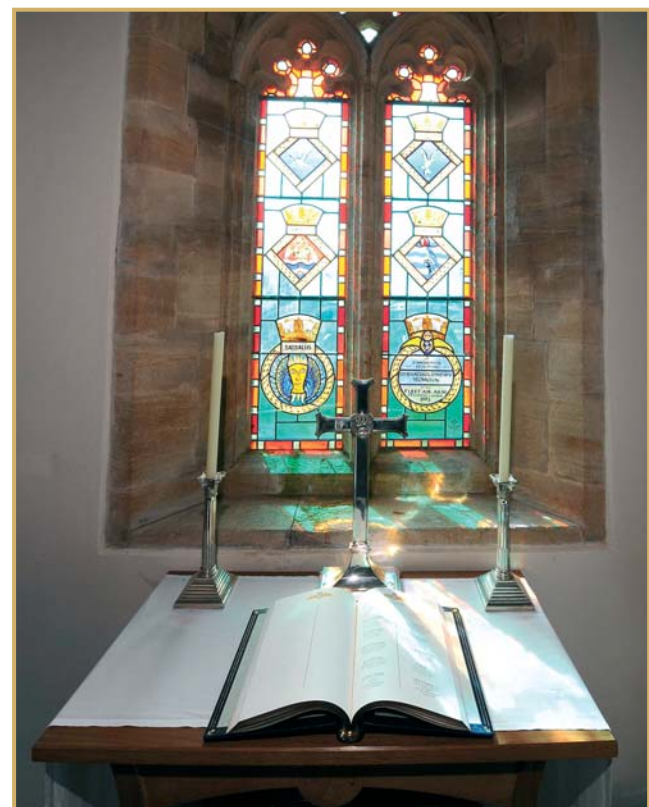
The idea to compose a special musical tribute to celebrate this year's Centenary was proposed by the Fly Navy Heritage Trust who sponsored a

national competition. 97 applications were made to enter the competition and 16 full scores were submitted. The winning composition which was played to accompany a film on 100 years of Naval flying, received a standing ovation at the Royal Albert Hall.

"It is a truly magnificent tribute" said Admiral Terry Loughran, Chairman of the Fly Navy Heritage Trust. "There was not a dry eye in the house and we hope 'Daedalus' will be played on many occasions throughout the Centenary year and for many years to come."

Fleet Air Arm Roll of Honour

The Fleet Air Arm Roll of Honour containing the names of the 6,749 Royal Naval Air Service and Fleet Air Arm personnel who have given their lives in the service of Naval aviation is kept at the Fleet Air Arm Memorial Church, St Bartholomew's at Royal Naval Air Station Yeovilton in Somerset. A service to celebrate the Centenary of Naval aviation and dedicate a plaque in honour of the four Naval aviators awarded the Victoria Cross will be held at St Bart's on 9 October 2009 at 1030.



Fleet Air Arm Heroes Honoured

Their work has been described as some of the most demanding flying anywhere in the world, outside war zones. Last month members of the Royal Navy Search and Rescue unit HMS Gannet were recognised for their outstanding bravery, with a remarkable 8 of the 20 aircrew at the helicopter station in Prestwick being honoured in the Operational Honours list.



The honours were awarded for exceptional courage in dangerous rescue situations and ranged from Queen's Commendations for Gallantry in the Air and Commander-in-Chief Fleet's Commendations to the Air Force Cross the highest award in recognition of exemplary gallantry in the air on non-active operations.

The Search and Rescue Flight was also awarded the prestigious Firmin Sword of Peace in recognition of the outstanding service provided by HMS Gannet to the local community and the Boyd Trophy awarded annually for excellence in aviation.

HMS Gannet's area of responsibility in Scotland and around the Scottish coastline covers an area of 98,000 square miles, more than 12 times the size of Wales. The Commanding Officer of HMS Gannet, Lieutenant Commander Bryan Nicholas said "I am incredibly proud of these men and women and the courage and determination which they have shown in the face of adversity. They saved lives and risked their own."

Speaking after the awards ceremony Rear Admiral Simon Charlier said "Whilst there is an ongoing debate about the future of Search and Rescue, I have nothing but the greatest admiration for Gannet SAR Flight. It is a vibrant and busy part of the Royal Navy doing an absolutely magnificent job. Last year's record number of call outs amounted to more than the number of days in the year! I am immensely proud of the Flight's outstanding achievements."



Left to right: Lt Cdr Martin Lanni decorated with the Air Force Cross, Lt Tony Sherwin, Commander-in-Chief's Commendation, Leading Aircrewman Kev Regan, Queen's Commendation for Bravery in the Air, Rear Admiral Simon Charlier, Chief of Staff Aviation, Lt Cdr Martin 'Florry' Ford, Queen's Commendation for Bravery in the Air, Petty Officer Daz Craig, Queen's Commendation for Bravery in the Air and Flight Sergeant Euan Gibson, Commander-in-Chief's Commendation. Lt Mike Paulett (not pictured) formerly Gannet SAR Flight and now 854 Squadron was also decorated with the Air Force Cross and Lt Olivia Milles (also not pictured) received a Commander-in-Chief Fleet's Commendation.



Naval Strike Wing Back Onboard

After intensive operations in Afghanistan, the Naval Strike Wing returned to HMS Illustrious last month for a period of reintegration training to get back up to speed in their core business of carrier aviation.

A mix of GR7 and GR9 Harrier jets together with 12 pilots and 80 support staff and engineers clocked up an impressive 84 sorties in a fortnight including a round the clock rigorous deck work-up passage which saw 4 new Harrier pilots gain their initial deck landing qualifications and two further pilots re-qualifying.

fantastic welcoming the jets back on board. The ship comes alive when the flight deck is busy and we are delivering our primary capability of air power from the sea."

Lieutenant Simon Rawlings, one of the pilots from the Naval Strike Wing embarked in HMS Illustrious, stated "It was great being back onboard. The Squadron has spent a lot of time in Afghanistan but embarking in a carrier again is second nature to us. The whole team works like clockwork."

Air combat training was conducted with RAF Hawk aircraft of 100 Squadron, RAF Leeming and the new Typhoon from XI Squadron RAF Coningsby. The Commanding Officer of HMS Illustrious, Captain Ben Key stated "It was



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NAVY DAYS 2009

Devonport, Plymouth
5-6 September



www.royalnavy.mod.uk/navydays Ticket Hotline - 08445 787878

Meet Your Navy

Joining in the celebrations of 100 years of Naval Aviation, Navy Days 2009 will include a stunning air display, featuring a wide range of Naval aircraft. Visitors will also be able to climb aboard the Navy's ships and submarines, witness a dramatic hostage rescue demonstration by the Royal Marines, and get a glimpse of the future in the 'Future Navy' marquee. This promises to be an incredible day out for the whole family, so book early for big discounts!





Naval Aviation

Comes of Age



The Angled Flight Deck

The angled deck started as a 'doodle' by Captain, later Rear Admiral Denis Cambell in 1951. Aircraft were getting heavier and faster but they were still being landed on a straight deck along the fore and aft axis of the ship where, to miss the wires, meant certain entry into the barrier or landing in the deck park in the bows – a crash in either case.



The Induction Loop

With the quickening pace of jet aviation flight deck personnel were subjected to deafeningly high noise levels and communicating with personnel in helmets and protective headgear became increasingly difficult. Radios were not permitted on deck under radio silence conditions so in 1961 the Admiralty Engineering Laboratory at West Drayton in Middlesex was asked to look into the problem of flight deck communications particularly between flight control and deck crews on aircraft carriers.

Similar difficulties had been encountered with personnel wearing earmuffs in high noise level compartments in surface ships and submarines. To give mobility to personnel working in noisy compartments and allow them to hear orders the Admiralty engineers designed transistor amplifiers able to detect audio frequency signals set up within compartments by inductive fields. A cable loop surrounding the area was connected to a standard ship's amplifier to provide the inductive field and the personnel heard orders via the small detector amplifiers fitted in their headsets.

"Because audio frequency signals from upper deck loops cannot be detected at more than a few hundred metres from the ship it was decided to use similar techniques for flight deck communications" said John Le Warne the senior engineer on the development team.

"However, the steel decking and the large area to be covered reduced signal levels towards the centre of the deck entailing the use of specially designed powerful amplifiers to drive current through the cable around the deck perimeter."

To cope with the weaker signals over the flight deck, the inductive receivers were designed with more advanced characteristics than those for internal shipboard use. These pocket sized receivers, carried by flight deck personnel and connected by cable to their helmets enabled direct audio control to be maintained between handlers and pilots. Such was the success of the system, that it still forms an essential part of flight deck communications to this day.

A significant part of the 100 year history of Naval aviation was occupied by the dark days of the Cold War, which lasted from the late 40s to the late 80s. It was a very important time for the Fleet Air Arm, for in addition to maintaining a constant front line readiness to engage the massive forces of the Warsaw Pact in what could be full scale nuclear war, it was a period of huge and demanding transition in Naval aviation capability.



Speaking of those four decades, Captain Michael Rawlinson OBE commented that, "That period took Naval aviation from the operation of the obsolete propeller driven aircraft, in service during the Korean War, through to what was the peak of fixed wing carrier operations when the Royal Navy eventually acquired the large, purpose built Fighter and Strike jet aircraft and fixed wing Anti-Submarine and Airborne Early Warning aircraft that were needed. The day and night operation of these aircraft, in all weathers, from relatively small carrier decks was undoubtedly one of the most demanding and at the same time professionally rewarding periods in the history of the Fleet Air Arm. A period when the adrenalin really flowed! Carrier operations have always carried risks, and along the way, in the continuous challenge of helping to keep the Cold War just that, the Fleet Air Arm sadly lost a number of very fine aviators."

The first jet to enter service with the Royal Navy was the Attacker, followed quickly by the Sea Hawk and Sea Venom. Both the Sea Hawk and Sea Venom were involved in Operation Musketeer, the Suez Campaign in 1956 where they more than proved the

effectiveness of carrier aviation being able to remain on station for considerably longer than land based aircraft operating out of Cyprus. The Scimitar and Sea Vixen followed and although never involved in full scale conflict, both aircraft took part in many operations including campaigns in Indonesia and Aden. The world's only flying De Havilland Sea Vixen will be taking part in this year's Centenary celebrations flying in 899 Naval Air Squadron colours as she was in HMS Eagle in 1971.

Driven by Cold War tensions and the need to penetrate Soviet naval groups and if necessary deliver a nuclear payload, it was the Navy jets of the 60s and 70s, however that transformed carrier aviation capability. The long range strike aircraft the Buccaneer, built to fly fast and low to avoid detection by enemy radar and the impressively versatile fighter, the Phantom were much loved by the men who operated them.

The Royal Navy operated Phantoms between 1969 and 1978. In 1969, on the fiftieth anniversary of the first aircraft crossing the Atlantic by Alcock and Brown, a Royal Navy Phantom won the Trans Atlantic Air Race setting a new world air speed record between New York and London of 4 hours 46 minutes. The Phantom had formidable range and performance and was capable of carrying heavy loads, including air to air missiles and nuclear bombs.

The early fast jet years were remarkable years. It was an era that also generated many pioneering innovations including the mirror landing site, the steam catapult, the angled flight deck and the ski-jump – all legacies that made an enormous contribution to the safety and effectiveness of carrier aviation and have been standardised by navies around the world.

Cambell's solution -'out of the blue'- to quote him was to shift the landing axis ten degrees to port. This would at once give the pilot a clear approach and overshoot path such that if he missed the wires he would only have to apply power and go round again. Furthermore it would do away with the need for barriers, reduce the number of arrestor wires required, open up a larger deck park and speed up deck operations.

The Americans saw the benefits faster than the British, and whilst the Admiralty were still 'considering' the issue, the Americans a little while later sailed one of their carriers, the USS Antietam into the Channel with the wires angled off and a slanted centre line at ten degrees to port! This was not only to show us the whole idea worked but also a tacit acknowledgement that the Brits had thought of it first.

Commander Graeme Rowan-Thomson flying a Sea Hawk was one of the first Royal Navy pilots told to try it out. It worked magnificently, the Admiralty were convinced and HMS Centaur was the first carrier to be modified. Throughout the whole development and research period, Cambell was partnered by Lewis Boddington, the civilian technical officer in charge of the Naval Air Division at RAE Farnborough whose contribution to the project was considerable. All carriers operating high performance conventional aircraft have since had angled flight decks and it was only phased out in the Royal Navy after 20 years with the introduction of the VSTOL era.

Aviation Scholarships



The Fleet Air Arm Officers Association Aviation Scholarship Trust aims to encourage young people between 16 and 19 to consider a career in aviation. The Association has awarded gliding training courses to more than 1000 students over the last 20 years and many of them have gone on to become pilots and observers in the Royal Navy.

Students are accommodated in the Wardroom of a Royal Naval Air Station as potential officer cadets and attend an intensive 8 day gliding instruction course leading to a solo flight. Students also get experience in an aircraft of the Fleet Air Arm Squadron and many get the opportunity to attend further advanced training. If you are interested in a gliding scholarship, details can be found at the website below under the link to scholarships and grants. The Trust is a charity and receives sponsorship and donations from industry and individuals. If you would like to help sponsor young men and women or simply make a donation, please contact: The FAAOA Aviation Scholarship Trust, 8 Oaklands Close, Adel, Leeds LS16 8NS T. 0113 261 2853 E. bvigrass@aol.com www.fleetairmoa.org



65th Anniversary of Operation Tungsten

Sixty five years ago, on 3 April 1944 the Fleet Air Arm launched one of the largest and most concerted naval air strikes ever undertaken. The target was the German battleship Tirpitz in Kaafjord, in Northern Norway, and the force of the attack seriously disabled her, critically removing the significant threat she posed to the crucial D-Day landings.

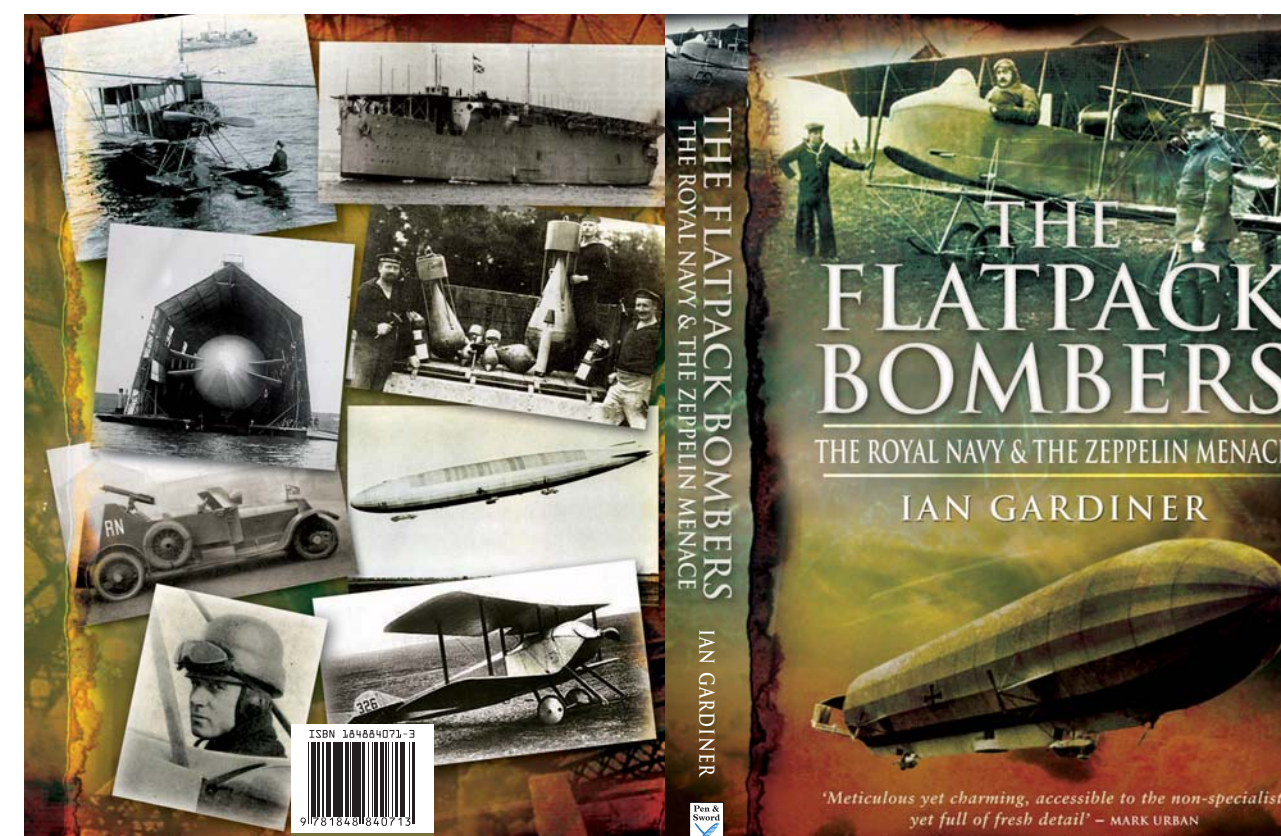
Codenamed Operation Tungsten, and led by Lt Cdr Roy Baker-Falkner DSC RN, the attack was organised in two waves of 60 aircraft, each of 20 Barracuda dive bombers and 40 escort fighters, Corsairs, Wildcats and Hellcats launched an hour apart from the fleet carriers HMS Victorious and HMS Furious and four escort carriers.

The Tirpitz was subjected to two closely coordinated and fearlessly executed dive-bombing and strafing attacks with 200 Naval aircrew from 12 Naval Air Squadrons giving their all in a tightly orchestrated and synchronised plan. For many of them it was their first experience of enemy action. As a result of the attack the Tirpitz suffered heavy losses and was rendered

incapable of putting to sea for several months. While the attack has never really been credited with the recognition it deserves, it was the success of the Fleet Air Arm tactics that effectively kept the convoy routes open and gave the green light to the D-Day landings. 4 aircraft were lost in the attacks, 2 as a result of enemy fire, with the loss of 8 lives.

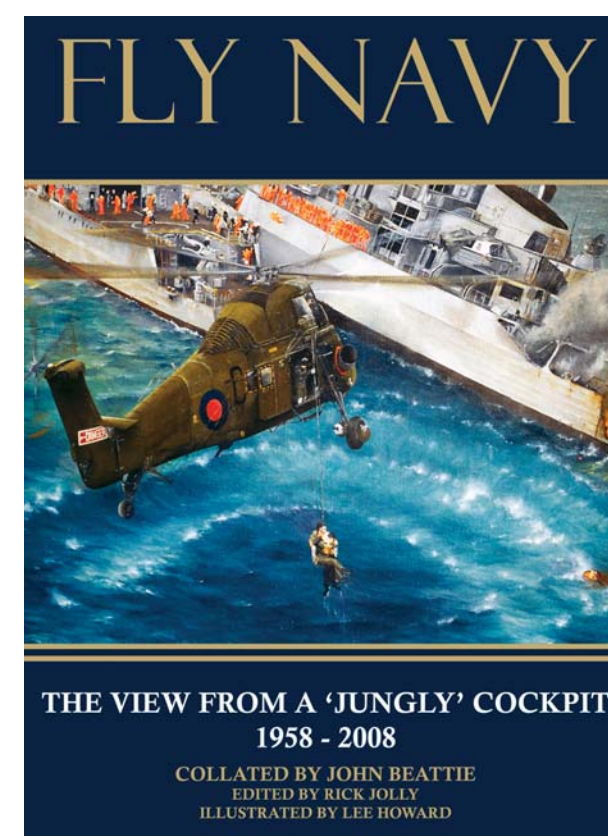
“ Pray congratulate the pilots and aircrews concerned on this most brilliant feat of arms so serviceable to the Royal Navy and to the whole world cause. ”

Winston S Churchill



The Royal Navy's struggle with Zeppelins for air supremacy in the First World War

In 1908, HG Wells wrote his science fiction thriller 'The War in the Air' in which a fleet of Zeppelin airships crossed the Atlantic and devastated New York. When war broke out with Germany in 1914, many people in Britain believed that HG Wells' story would come true and that London would be laid waste by German airships. Zeppelins also meant that the Royal Navy could do nothing in the North Sea without being spotted. It was this 'menace' – no aircraft could match it – which spurred the British Government to form the Royal Flying Corps, and which led Winston Churchill and the Royal Navy to set about bombing these airships on the ground in 1914. Thus it was that the Royal Naval Air Service with IKEA style flatpack aeroplanes, pioneered strategic bombing which eventually led to the Blitz, and the massive air raids on Germany during the second World War. The Flatpack Bombers tells the story of the first bombing raids in history, the Dusseldorf, Friedrichshafen and Cuxhaven Raids, Royal Navy achievements that have been in the long grass of history for too long. These ripping yarns of early Naval aviation deserve to be more widely known.



Fly Navy, the view from a Jungly Cockpit 1958-2008, covers fifty years of Jungly exploits from combat to cock-ups, bravery by bravado and work pranks to pianos. Compiled by John Beattie and edited by Rick Jolly, it is a side splitting 'Kick the Tyres, Light the Fires' read, both moving and hilariously funny with stories of the ordinary every day, crashes, machinery breaking, outstanding gallantry and tea and medals. Available by post from the Royal Navy Historic Flight, RNAS Yeovilton, Ilchester, Somerset BA22 8HT. Price £10.99 plus £2.00 post and packaging. Please make cheques payable to 'RN Historic Flight.'



Sea King HAS Mk1



Sea King HAS Mk2



Sea King AEW Mk2



Sea King HC Mk4



Sea King HAS/HU Mk5

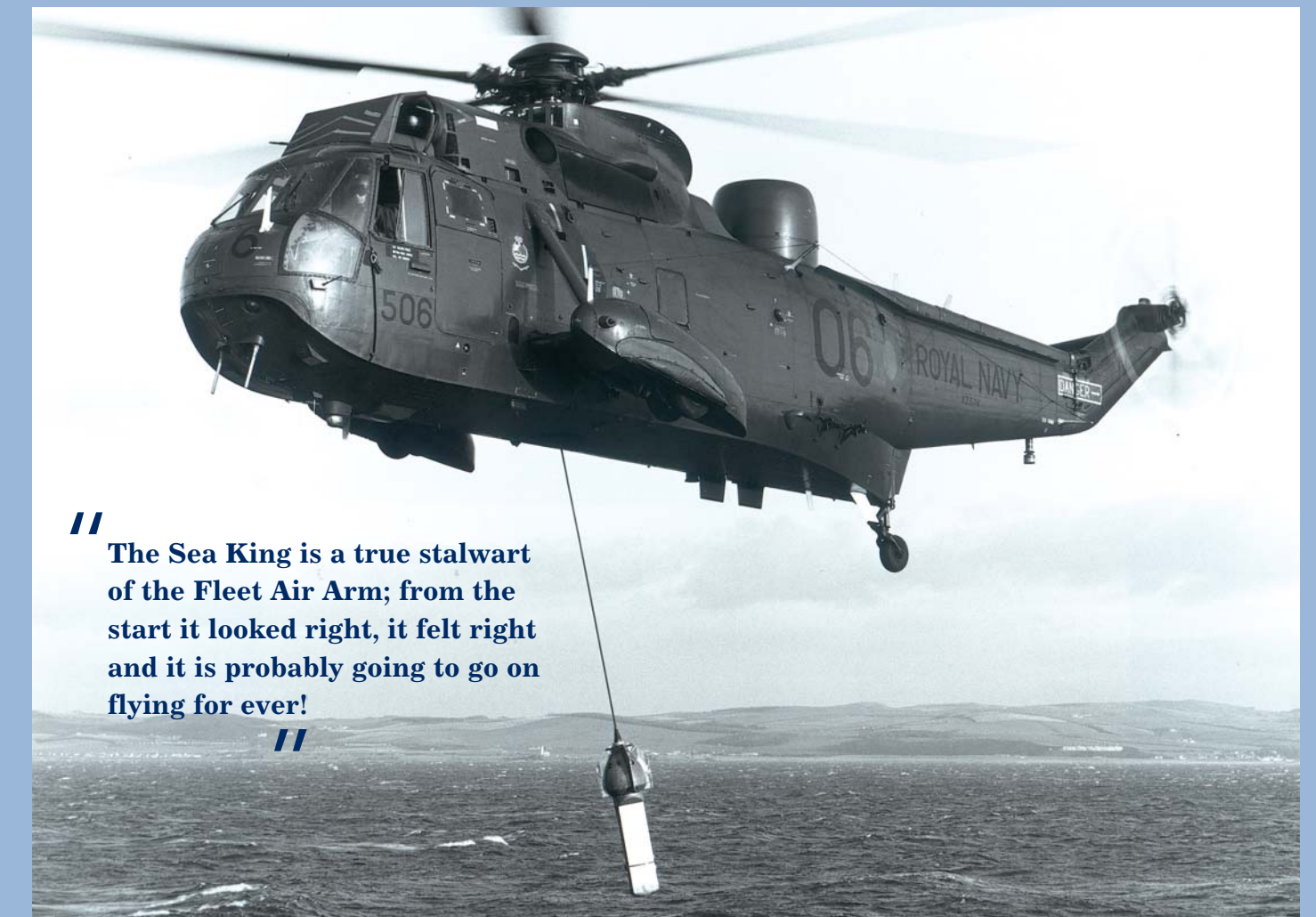


Sea King HAS/HU/CR Mk6



Sea King ASaC Mk7

Sea King Celebrates 40 Years Service with the Royal Navy



“ The Sea King is a true stalwart of the Fleet Air Arm; from the start it looked right, it felt right and it is probably going to go on flying for ever! ”

This year, in the Centenary year of Naval aviation, the Westland Sea King helicopter celebrates being in Royal Naval service for 40 years, amassing over one million flying hours and securing its place in history as the most versatile, reliable and enduring maritime helicopter in the world.

Since entering service with the Royal Navy on 11 August 1969, the Sea King has transformed the UK's Anti-Submarine Warfare and Search and Rescue operations and proved outstanding in military operations in the far reaches of the globe.

Battle proven in the Falklands, two Gulf Wars and current operations in Afghanistan, the Sea King's versatility, adaptability and reliability from the arctic to the desert has been phenomenal.

Originally designed and equipped for the Anti Submarine Role in the Cold War era, the aircraft was fitted with search radar and dipping sonar. In the 70s, six front line Sea King ASW Squadrons provided a major component of NATO's ASW capability. Many a long hour was spent in the hover – 'pinging'. It was exactly what the aircraft was designed for and it did the job very well. As submarines became stealthier the Sea King was upgraded and modified, housing increasingly more sophisticated passive and active ASW equipment.

One of the Sea King's greatest strengths is its range, endurance and all weather capability

making it a natural choice for long range Search and Rescue. From the outset, it has been involved in numerous rescues and saved thousands of lives, not just in emergencies but also in humanitarian relief.

The Sea King's rugged dependability was not lost on the Commando community either. As the need for a Wessex 5 replacement emerged, the Sea King was the obvious choice and moved naturally into the support role. The Sea King Mk4 is now a key component of the Joint Helicopter Force working at full stretch in Afghanistan.

From day one the Sea King has proved itself highly adaptable in its ability to meet changing roles and requirements, so much so that some airframes have undergone three, four or even five, complete metamorphoses. From the initial design concept over 50 years ago, Sikorsky could hardly have imagined that in 2009 the Royal Navy would be operating a Sea King with a 'bag' hanging off it. The Sea King Mk 7 Airborne Surveillance and Control aircraft (ASaC7) is an impressive achievement. The mission suite is so technologically advanced and the real time picture so good, that the aircraft is in great demand both in the

maritime surveillance and battlefield reconnaissance role. 40 years on the Sea King is still at the forefront of winning capability – a testament and tribute to this remarkable helicopter.

The Sea King is also universally loved. It has bred generations of Naval aviators – by the mid 90s most of the airframes were older than the crews flying them! "The Sea King has real character" said one pilot. "There is something very dependable, reassuring and forgiving about it. Its reliability and fortitude in extreme operating conditions inspires confidence. For the 'back seat' crew, even the steady dripping of hot hydraulic fluid down their necks is comforting and familiar until it stops – then you worry!"

As part of the Sea King 40 celebrations a static display of each Mk from 1-7, will be on show at RNAS Yeovilton and RNAS Culdrose Air Days and at the Royal International Air Tattoo. One of the early airframes, XV648 now a HU Mk 5, has been repainted in the original dark blue livery and is flying with 771 Squadron at RNAS Culdrose as a daily reminder of the Sea King's longstanding and proud heritage.

Making Sure the Past has a Future

The Royal Navy Historic Flight based at Royal Naval Air Station Yeovilton in Somerset is a living memorial to all those who continue to serve or have served in the Fleet Air Arm. It is a thin slice of Naval aviation history, representing not only the aircraft but also the people who flew, maintained and supported the 200 different aircraft types that have shaped our Naval aviation heritage over the past 100 years.

Every time a historic Naval aircraft flies it is a salute to the memory of those who valiantly gave their lives in the defence of their country. Today the Fleet Air Arm is very much in the front line, particularly in Afghanistan, getting the job done despite the privations and severe conditions. Maintaining the aircraft and achieving good operational results has never been more important. The men and women of the Fleet Air Arm today continue to employ ingenuity, invention and innovation tempered with common sense and good practice just as their predecessors did.

The folklore of the past, such as stripping and rebuilding the broken Pegasus engine of a Swordfish on a beach in 1940 prior to flying it across the Mediterranean to North Africa, lives on with numerous present day parallels in motivation and dedication.

The Royal Navy Historic Flight is manned by ex service personnel who no longer have to do battle in far off lands, but they do have to do battle with ageing machinery, lack of spares and the need to comply with modern regulations and testing procedures that were not extant when the aircraft were in service. In these days of stringent budget constraints and the need to ensure that defence expenditure provides our front line forces with the best possible equipment we can afford, there is limited MOD funding left for heritage projects. Only the core manpower of the Royal Navy Historic Flight is paid for by the Royal Navy. All repairs and running costs are financed either by the Fly Navy Heritage Trust through private donations and sponsorship, or by close links from Industry. The present economic downturn only increases the challenge which is why the Trust needs your continued support.

Chairman of the Fly Navy Heritage Trust, Admiral Terry Loughran said "Increasing our support base is a key target for the Centenary year. There are nearly 6,000 serving members of the Fleet Air Arm and currently only 600 on the Supporters list. We must remember that in addition to providing funds for the Historic Flight, the Trust supports all the Heritage, including the Fleet Air Arm Museum, the Memorial Church and the Fleet Air Arm more widely."

A standing order of just £20 a year means a significant amount to the Trust and will help assure the future of YOUR Heritage. Maintain the ideals of Service and Sacrifice embodied in our VC winners and the heroes of recent conflicts. For further information and a supporters joining form please contact the Fly Navy Heritage Trust on 01935 842005 or email office@FNHT.co.uk



Fly Past Over Eastchurch The Beginning of the Beginning

This year's Centenary will get off to a flying start on 1 May 2009 with a ceremony at the Pioneer Memorial at Eastchurch on the Isle of Sheppey followed by a spectacular flypast of Harrier GR7 and GR9 jets, Hawks and Falcon aircraft and a historic Sea Vixen, paying tribute to the first home of British and Naval aviation.



The memorial at Eastchurch commemorates the historic events which took place on the Isle of Sheppey during the formative years of aviation in Great Britain between 1908 and 1911. The Short Brothers established the first factory in the world for the production of aircraft at Shellbeach in 1909, moving production to Eastchurch in 1910. The first four Royal Navy pilots learned to fly at Eastchurch in 1911 and in the same year Eastchurch became the first Royal Naval Air Station.

"The historical importance of Eastchurch in the early development of Naval aviation is immense," said Commander Sue Eagles, Communications Director Fly Navy 100.

"Sheppey was the cradle of aviation in this country and the budding Naval aviators found themselves immersed in the wealth of pioneering aeronautical technology and endeavour being built up there. The memorial was dedicated in recognition of the spirit of innovation and adventure of the early pioneer airmen and that spirit lives on in the Fleet Air Arm today."

The names of the first four Naval aviators who trained at Eastchurch are inscribed on the memorial together with twelve Royal Naval Air Service technical ratings. The first Naval aircraft were also built at Eastchurch.

Guest of Honour at the event will be Admiral Sir Raymond Lygo KCB who will take the salute with Rear Admiral Simon Charlier, Chief of Staff Aviation and Rear Admiral Fleet Air Arm as the flypast passes overhead. The service will be attended by current and former serving members of the Fleet Air Arm, veterans, guests and local residents.



Eurocopter wishes the Fleet Air Arm many congratulations on the Centenary of Naval Aviation and continued success as leaders in the field

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RNAS Culdrose delivers highly capable Naval Air Squadrons specialising in Anti Submarine Warfare, Anti Surface Warfare and Airborne Surveillance and Control. Frontline Squadrons from Culdrose deploy aircraft in support of operations all round the world. RNAS Culdrose also provides intensive training for

Aircrew, Engineers, Air Traffic Controllers, Fire Fighters and Flight Deck Crews. The air base is also the home of 771 Search and Rescue Squadron, on constant alert 365 days a year to respond to emergencies throughout the South West region.

COBHAM

The Royal Navy's Operational Training Partner



Cobham Aviation Services is pleased to be a major sponsor of Fly Navy 100, helping to raise the profile of Naval aviation in this important Centenary year.

Cobham has a close working relationship with the Royal Navy and the company's Falcon jets, flown by ex Royal Navy pilots, will be participating in the Fly Navy 100 displays at Eastchurch, the Royal International Air Tattoo and RNAS Yeovilton and RNAS Culdrose Air Days.

Cobham plc was founded by aviation pioneer Sir Alan Cobham who, in 1926, flew from England to Australia and back in a DH50 aircraft. Landing on the River Thames in front of the Houses of Parliament before an audience of one million, he was knighted for his pioneering efforts. Today Cobham provides aircraft for warfare training for the Royal Navy, with regular 'Thursday war' exercises carried out against both UK and foreign fleets.

Pleased to support the Centenary of Naval Aviation
www.cobham.com

Classic Fleet Air Arm Fighter joins Centenary Celebrations

An historic Royal Navy 1950s fighter, the Sea Vixen, will be taking to the skies at all the major airshows this year to support the Centenary of Naval aviation. In a generous gesture by de Havilland Aviation, the aircraft painted in 899 Naval Air Squadron colours from HMS Eagle in 1971, has been loaned to the Royal Navy for the Centenary year.

The Sea Vixen FAW1 (fighter all-weather) entered service with the Fleet Air Arm in 1959 replacing the Sea Venom. The Fleet Air Arm had over 100 Sea Vixens and throughout the 60s and early 70s they were continuously on operations. The first British aircraft to be solely armed with missiles, rockets and bombs, Sea Vixens, flying off HMS Centaur in 1964 took part in the successful operation to restore stability in the East African state of Tanganyika. In 1961 and 1964, Sea Vixens saw service in the Persian Gulf and later in the 1960s they played a crucial role on Beira Patrol preventing oil reaching landlocked Rhodesia. In 1967 Sea Vixens also helped cover the withdrawal from Aden.

known in the Service as the 'coal hole' has given the Sea Vixen a tremendous following amongst aircrew and enthusiasts alike.

The Sea Vixen taking part in this year's celebrations will be flown by a current serving Royal Navy pilot, Lieutenant Commander Matt Whitfield. Speaking after his first flight he said "It is extraordinary to think that without dual controls or modern day simulators, a young pilot of only 20 or 21 years old would receive ground instruction from his senior pilot and then get in one of these aircraft and fly it on and off an aircraft carrier! The technology in the cockpit alone, must have been pretty daunting."

The aircraft's distinctive design with a twin-boom tail, which was extended forward in the FAW2 version, and the Observer housed within the fuselage,



1909 - 2009



Programme of Events 2009

Telegraphist Air Gunners Association Memorial Service and Lunch, HMS Collingwood
Sunday 17 May 2009

Opening of 'One Hundred Years of Naval Flying' Exhibition and Veterans Reception, Fleet Air Arm Museum, RNAS Yeovilton
Thursday 2 July 2009

Jungly Cocktail Party, Hazlegrove House, Sparkford, Somerset
Saturday 4 July 2009

Royal Garden Party Buckingham Palace
Thursday 9 July 2009

RNAS Yeovilton Air Day
Saturday 11 July 2009

Royal International Air Tattoo, RAF Fairford, Gloucestershire
Fly Navy 100 Centenary flypast
Saturday 18 – Sunday 19 July 2009

RNAS Culdrose Air Day
Wednesday 29 July 2009

Dedication of Channel Dash Memorial, Manston
Saturday 29 August 2009
Channel Dash Association dedication of a Swordfish Memorial in memory of the unsurpassed bravery of the Channel Dash Heroes.

Navy Days 2009 – Devonport Naval Base
Saturday 5 September – Sunday 6 September 2009

Dedication of Fleet Air Arm Memorial, National Arboretum, Staffordshire
Friday 11 September 2009

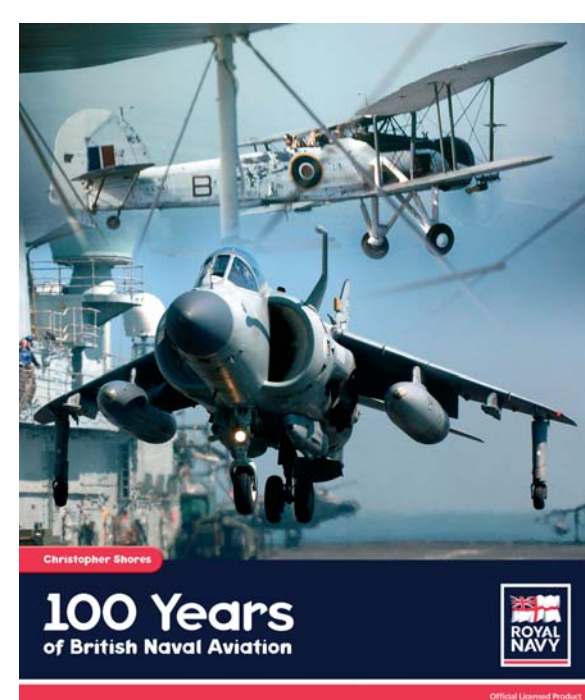
Centenary Service, Fleet Air Arm Memorial Church, St Bartholomew's
Friday 9 October 2009

The Britannia Centenary of Naval Aviation Dinner
Friday 16 October 2009
Fly Navy Heritage Trust dinner onboard the former HMY Britannia in Leith.

Fly Past and Reception HMS Illustrious in Liverpool
Friday 23 October 2009

Royal British Legion Festival of Remembrance, Royal Albert Hall
Saturday 7 November 2009

Royal Centenary Gala Dinner, Old Royal Naval College Greenwich
Thursday 10 December 2009



Published in association with the Royal Navy, 100 Years of Naval Aviation, by Christopher Shores, is an eloquent and well researched account of the history of the early Royal Naval Air Service and Fleet Air Arm through to the present day. It chronicles Naval aviators' involvement in two World Wars and other conflicts worldwide, and the crucial developments in the technology of ships, aircraft and weaponry that made victory possible. Price £35.00 from all good bookshops, the Fleet Air Arm Museum or direct from www.haynes.co.uk.



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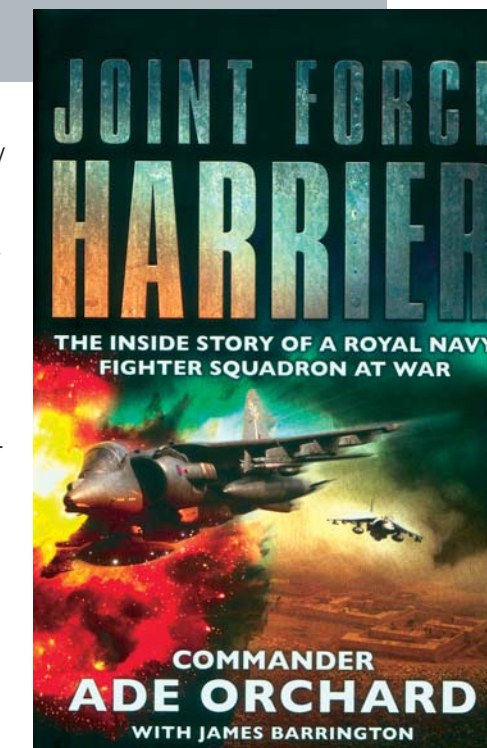
royalnavy.mod.uk/flynavy100



Do You Know the Names of the Three Naval Aviators in this Photograph? Are You One of Them?



Penguin books are giving away ten signed copies of their recently published paperback, *Joint Force Harrier* by Commander Ade Orchard for the first ten correct entries of the competition. *Joint Force Harrier*, a vivid insight into flying and fighting with a frontline Harrier Squadron in Afghanistan, has been described as 'one of the finest books about air warfare ever written'. This gripping first hand account of the Royal Navy pilots of 800 Naval Air Squadron supporting troops on the ground with danger close, pin-point attacks pressed home from the air, provides an exhilarating and revealing look at today's fixed wing Fleet Air Arm. *Joint Force Harrier* is available price £6.99 from all good book shops. Answers to: flynavy100@btconnect.com



Editor's Note



Thank you for your numerous letters, emails and photographs in response to our Centenary Newsletters. While every care is taken to provide a comprehensive balance of news and information, past, present and future, inevitably in the limited space available there have been some omissions for which I apologise. Many of you kindly wrote about the 65th Anniversary of Operation Tungsten, which is included in this issue. Your dashes of biographical colour and stories of bravery and survival remind me daily of the sweep of history our Centenary embraces and the ethos on which the Fleet Air Arm is founded.

The principal aim of this Centenary year is to raise the profile of the Fleet Air Arm and highlight the achievements of Naval aviation and your constructive and helpful suggestions serve as another timely reminder of the increasing need to capture our roll-call of distinguished service, history and experience for the benefit of future generations.

Commander Sue Eagles QVRM, RD Royal Navy



1909 - 2009



HMS Illustrious



in London

6 - 11 May 2009



HMS Illustrious, the Nation's current Strike Carrier will be paying a high profile visit to the city of London from 6 - 11 May 2009 as the centrepiece of the Royal Navy's celebrations to mark the Centenary of Naval aviation.

The ship, which will be moored at Greenwich, will be taking part in a busy programme of events, the highlight of which will be a Centenary Flypast over the carrier at midday on 7 May 2009.

The Admiralty ordered its first aircraft, His Majesty's Airship 1, on 7 May 1909 and the Centenary celebrations mark the introduction of Naval aviation, a radical new capability that was to have a far reaching influence on military strategy and operations to this day.

HMS Illustrious, which operates Harrier jets and helicopters, will have aircraft from a number of different squadrons embarked. The Duke of York KG, Commodore-in-Chief of the Fleet Air Arm, will take the Royal Salute on the flight deck as the flypast passes overhead. He will also meet members of the ship's company and current and former serving Fleet Air Arm personnel.

The Centenary celebrations will include a spectacular firework display to music over HMS Illustrious on 7 May at 2200



"Fly Navy 100 is a fantastic opportunity for the Royal Navy to celebrate and promote the contribution that Naval aviation has made and will continue to make to our nation's security. It is an honour for HMS Illustrious to be in our affiliated city of London to support the occasion."

Captain Ben Key
Commanding Officer HMS Illustrious





Centenary

Fly Past in London

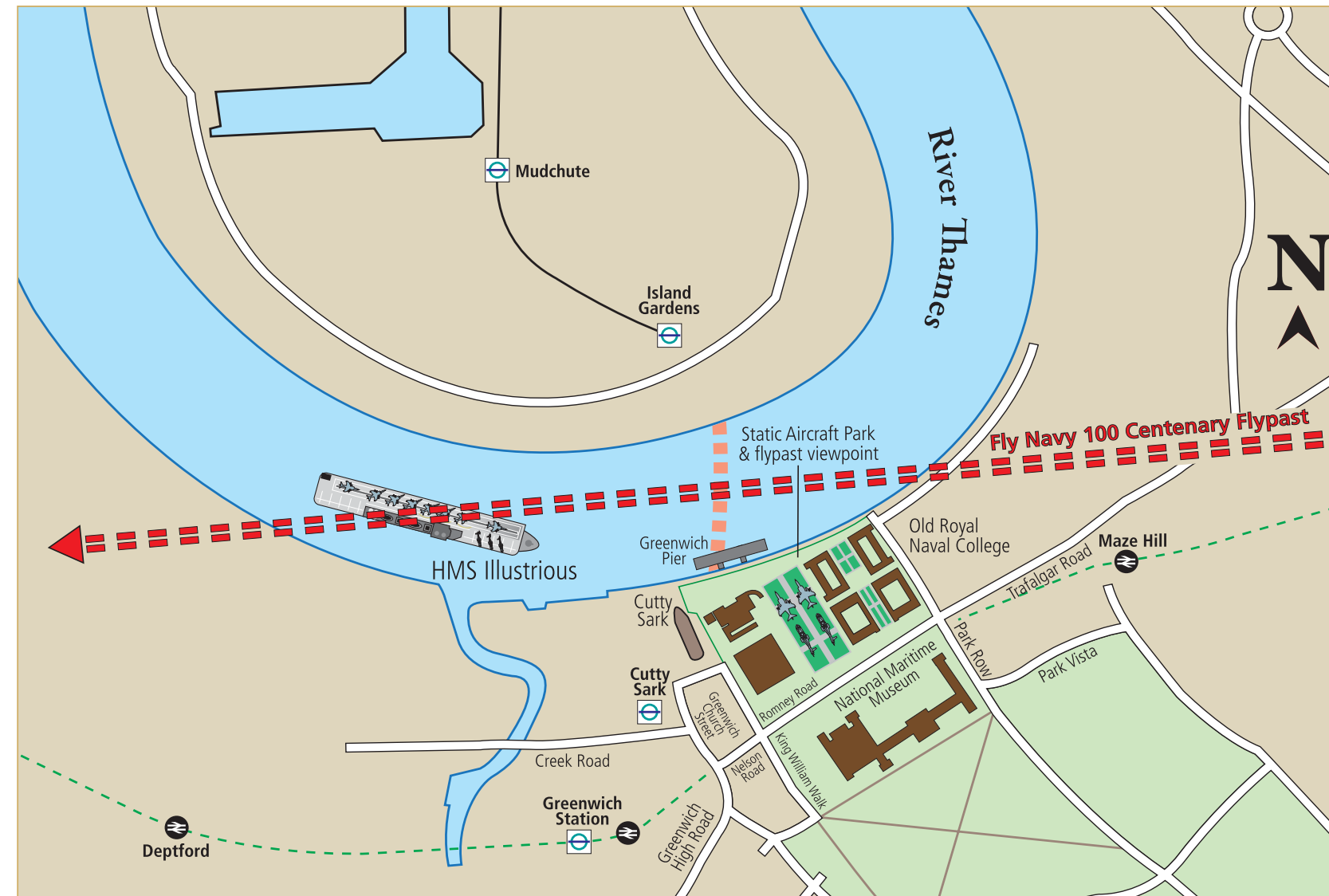


The Royal Navy will celebrate the Centenary of Naval aviation with a Flypast over HMS Illustrious at Greenwich on 7 May. The Balbo formation will be led by four Merlin helicopters, the Royal Navy's newest state-of-the-art helicopter followed by a line-up of current Fleet Air Arm fixed wing aircraft and helicopters including the fast, agile Lynx Maritime Attack helicopter, many variants of the venerable Sea King helicopter, Hawks and Jetstream training aircraft. The aircraft will fly East to West over London, passing over the ship at exactly midday.

Commander Mark Deller, Commander (Air) HMS Illustrious, said "We always get a fantastic welcome in London and we are particularly looking forward to visiting our affiliated City and to supporting such a significant anniversary in Naval aviation."



Carrier aviation is an important part of that heritage and as the UK's High Readiness Strike Carrier, HMS Illustrious is a crucial element of national security. "With most of our Squadrons currently deployed, the flypast is only a small representation of our capability," said Commander Deller. "We recently welcomed our Harrier jets back onboard after being on operations in Afghanistan. They have been deployed almost continuously over the past 5 years. There can be no greater demonstration of the versatility and expeditionary nature of Naval aviation."



Royal Navy Static Display Park

A static park of Royal Navy aircraft, including a Sea Harrier, a Sea King, a Lynx and a Gazelle, together with a Merlin Flight Simulator and a Royal Navy hot air balloon will be on display in the grounds of the Old Royal Naval College. Flying demonstrations will also take place on Saturday 9 and Sunday 10 May, over the Thames in front of the Old Royal Naval College at 1400 to 1430.

The best place to view the Fly Past is from the Old Royal Naval College. The grounds are open daily from 0800 to 1800 and can be entered from Cutty Sark Gardens, College Approach, Royal Gate and Park Row. Car parking is very limited. To plan your journey visit the Transport for London Journey Planner website stating you are travelling to the Old Royal Naval College SE10 9LW.



Centenary Service in St Paul's

A service of Thanksgiving will take place in St Paul's Cathedral on Friday 8 May 2009 to celebrate the Centenary of Naval aviation and pay tribute to the courage, commitment and professionalism of everyone who has served with the Royal Naval Air Service or Fleet Air Arm over the past 100 years.

Their Royal Highnesses The Prince of Wales, the Duchess of Cornwall and the Commodore-in-Chief of the Fleet Air Arm, The Duke of York will be in attendance, alongside dignitaries from the City of London, the Commander-in-Chief Fleet Admiral Sir Mark Stanhope and 2,000 current serving members of the Fleet Air Arm, together with veterans and families.



The service will remember the 6,749 Royal Naval Air Service and Fleet Air Arm personnel who have given their lives in 100 years of Naval aviation. The perils of flying at sea are much greater than flying over land resulting historically in many more Naval air casualties from accidents than from combat. During the service the traditional Royal Navy bosun's call will pipe the 'still' as the Books of Remembrance are laid on the altar in a poignant replica of a burial at sea.

One of the readings during the service will be read by the internationally acclaimed actress, Kristin Scott Thomas whose father, a Fleet Air Arm pilot died in a Sea Vixen in 1967. Her mother remarried but tragically was widowed a second time. Kristin's step father, another Fleet Air Arm pilot died in a Phantom accident in 1971.

After the service HRH The Prince of Wales will take the Royal salute as the Guard from HMS Illustrious, servicemen and veterans march past the Cathedral. HMS Illustrious is affiliated to the City of London and members of the ship's company will be supporting the service, lining the steps of St Paul's as guests arrive. Receptions will be held after the service in The Guildhall, Merchant Taylors' Hall and Skinners' Hall.



The Royal Navy at Greenwich

The Royal Navy has been closely associated with Greenwich since Tudor times. The Old Royal Naval College, on the south bank of the River Thames at Greenwich is the centrepiece of Maritime Greenwich, now a World Heritage Site managed by the Greenwich Foundation.

It was from the windows of Greenwich Palace that Queen Elizabeth watched the famous explorer and Admiral, Martin Frobisher, with two small ships, start down the river for his voyage to discover the North West passage. It was also from Greenwich Palace that the Queen watched Drake's famous ship the 'Golden

Hind' passing up river to Deptford, after his three year voyage of circumnavigation.

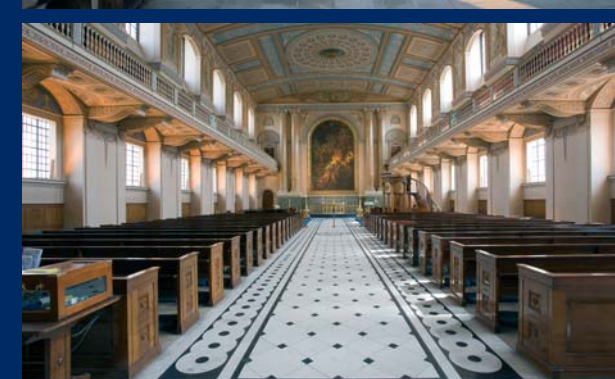
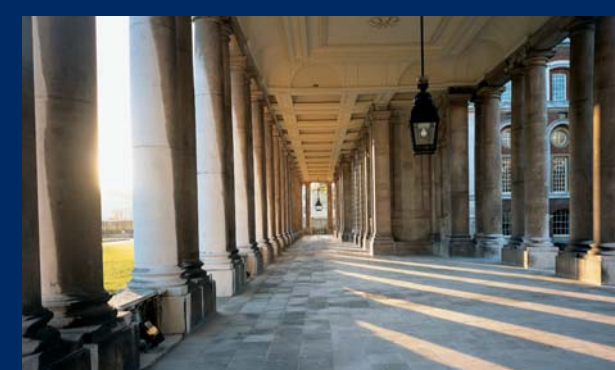
The Greenwich Hospital was founded in 1694 as the Royal Naval Hospital for sailors. The pensioned sailors wore blue uniforms similar to the red ones of the Chelsea Pensioners. On 5 January 1806 Lord Nelson's body was laid in state in the Painted Hall of the Greenwich Hospital before being taken up the River Thames to St Paul's Cathedral for a State funeral.

From 1873 to 1998 Wren's magnificent buildings became the home of the Royal Navy. The Royal Naval

College provided advanced strategic, scientific and technical training for thousands of Naval officers.

The custom for all ships of war to fire a salute when passing Greenwich was instituted in Henry VIII's reign. In 1588 the order to resist the Armada was made at Greenwich. Sir Walter Raleigh was often at Greenwich and it was at Greenwich that this famous explorer and sailor of Queen Elizabeth's reign made his dramatic gesture of spreading his cloak over a 'splashy place' for the Queen to step on.

www.oldroyalnavalcollege.org



Greenwich Foundation for the Old Royal Naval College

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Successful Trials

The new Short Take Off and Vertical Landing (STOVL) F35 Joint Strike Fighter is another step closer following successful trials of the aircraft's advanced flight control software which will enable pilots to land onboard ship in all weathers, day and night with 'centimetric accuracy'.

The trials, carried out onboard HMS Illustrious using a veteran two seat Harrier airframe, the Vectored-thrust Aircraft Advanced Flight Control (VAAC) Harrier, put the new system to the test. The Harrier has been heavily modified with a conventional control arrangement in the front cockpit and the rear being connected instead into an experimental fly-by-wire system using left and right hand interceptors to manoeuvre the aircraft and simulate the way the new Joint Strike Fighter will fly and respond to different inputs. 66 running landings and recoveries were achieved in varying sea states up to and including sea state 6, with outstanding results.

The test aircraft, XW175 is the oldest flying two seat Harrier in the world. Commander Kieron O'Brien, the Air Engineering Officer, HMS Illustrious said "The VAAC Harrier provided an ideal facility to trial the Shipborne Rolling Vertical Landing (SRVL) techniques that will be utilised by the Joint Strike Fighter in the new carriers. It worked brilliantly. XW175 represents an incredible link between the past and the future of the Fleet Air Arm."



New Joint Strike Fighter

// **The UK has historically been in the forefront of innovation in carrier technology. The development of Shipborne Rolling Vertical Landing techniques could well be next – enabling the Joint Strike Fighter to recover with a significantly greater fraction of weapons and fuel than achievable using a vertical recovery.**

//

Rear Admiral Simon Charlier

XW175 Harrier T2 (VAAC)



1909 - 2009