

Fly By

Edition 59

July 2022



Flying In Concorde

An ex-FAA pilot tells us what it was like

Slipstream Slippage

An important Message About 'Slipstream' Magazine

Veterans' Day 2022

All the Details and Registration Form

Around The Traps

News and Snippets from Around The World

EDITORIAL

This month marks a bit of a milestone for me, insofar as I caught COVID. I'd been smugly congratulating myself on dodging the bullet whilst so many others were falling for its charms, when *Wham!* - down I went like a sack of old spuds.

I have more mRNA juice in me than blood, and I can tell you it still wasn't nice. Those readers who have had it will recognise the symptoms: chills, fever, headache, earache, a hacking cough and extreme fatigue - all made their appearance within 48 hours. Now, some three weeks later, only the cough persists and I'm told that could last for months.

So, in a country that seems to have totally abandoned all avoidance strategies, let me implore you once again - try very hard not to catch it!

The front cover of this month's *FlyBy* is of a classic airliner that has no tangible connection to any Navy (other than G-BST (002) now rests in the FAA Museum in the UK) but we present a fascinating insight into Concorde and the culture in which it was operated by **Graeme Lunn**, an ex-FAA pilot who went on to a 30+ year career in British Airways. It is well worth a read and some of the photographs Graeme provided can't be easily found elsewhere.

We also bring you the sad news that **Paul Shiels**, our Slipstream Editor, is obliged to hang up his running shoes for reasons of ill health, and we wish him all the best for the future, together with our grateful thanks for a job well done. The hunt is now on for a replacement Editor, so if you've ever had a secret hankering to publish, and fancy being at the hub of talking to FAA contacts

and veterans old and new, see page 3 for details.



By the time you read this edition, I'll be in the land of the Long White Cloud. It's taken me 18 months to get there, and I won't be back until August - but I expect *FlyBy's* routine to remain on track. In fact, next month's edition will run to a record number of pages as it will feature a couple of treats.

Finally, remember that this magazine is only as good as the material it gets, so don't be shy in pecking out a few words and sending them to me [here](#). It could be a comment about *FlyBy* (good or bad), or a point of view about something, or perhaps a memory of your time in the FAA. Anything is welcome and you'll get to see your name in print!

Until next time.

Marcus Peake
Editor



Cover: Concorde, even when photographed from an unusual angle, was still unmistakable. Read Graham Lunn's story about her on page 18. ➔

FLYBY is a periodical of the Fleet Air Arm Association. The views expressed within it are not necessarily endorsed by the Association or any of its agents.

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Important Notice About Slipstream Magazine

Slipstream is the premier publication of the Association and has essentially been produced every quarter since 1990.

Our Slipstream Editor, Paul Shiels, has advised that he is stepping down from his duties for health reasons. He has done a fantastic job and we extend our grateful thanks for all his work.

The June 2022 edition of Slipstream will therefore be delayed by a few weeks and will be a smaller size than normal.

We urgently need a volunteer to replace Paul. Any person interested might wish to consider the following:

- There is clear guidance for the Editor on the process, development and production of Slipstream;
- Paul has offered a 'handover' period to assist the new Editor with training, coaching and advice on software and the process;
- The Association covers all reasonable additional costs incurred by the Editor in the production of the magazine. This might include, for example, specialised software necessary for typesetting; ink and paper expended on Slipstream, and/or essential 'one off' training if required. Conditional assistance with hardware may also be available. Details are set out in a Standard Operating Procedure which can be seen on our [website](#), or email the FlyBy editor [here](#);
- The Association believes that the Slipstream Editor should be afforded reasonable artistic licence in the production of the magazine, within normal publishing standards and protocols;
- The Editor can live anywhere in Australia. Slipstream is currently printed in Nowra and distributed by volunteers there, but that's not a restriction. For example, Paul operated remotely from South Australia so geographic location is not an issue.

If you are interested in finding out more about how you can help the Association and the many veterans who enjoy the magazine, please contact the webmaster [here](#).



On 01 July 1964 three Tiger Moths from Britannia Flight (attached to Britannia Royal Naval College) flew from their base at Roroborough (Plymouth) and landed on board HMS *Eagle* – the ship was working up in the English Channel. Three staff pilots and three Sub Lieutenants who had PPLs formed the crews. There were two RAN officers in the group – SBLTs **Andrew Craig** and **John Hazell**.

The carrier's arrestor wires were unrigged and with 20 knots of wind over the deck the Tigers approached at 45 knots, using the axial deck rather than the angle. *Eagle* had even found a batsman who cut a lonely figure on the flight deck, trying to remember his old skills!

It was almost a hovering touch down. As soon as the wheels hit the deck two handlers raced in from either side and grabbed the wing tips – the aircraft had no brakes.

Take off was entirely straightforward – line up on the axial deck from about six spot, two handlers hanging onto the wings, full power, handlers let go and they were airborne by about the island.

Eagle had just finished a major refit and, as they were the first fixed wing aircraft to land on, they got the traditional cake – to the chagrin of the Buccaneer and Sea Vixen squadrons.

As far as we know they were also the last bi-planes to ever land on a carrier, too. ➔



FOR YOUR DIARY - FAA EVENTS IN NOWRA OCT 22

There's a smorgasbord of events planned at HMAS *Albatross* for the weekend of Friday 21st and Saturday 22nd October. Confirmed final details will be published in the next couple of editions of 'FlyBy', but in the meantime block out those dates in your Diary. The current thinking is:



Friday 21st October 2022

- **Naval Institute Seminar** (free), most likely on "The Future of the Fleet Air Arm" (or a similar title) with keynote speakers and lively discussion on this important topic.
- **Book launch** of the brand new volume to the classic 'Flying Stations'. This will bring the history of our Fleet Air Arm up to date from where Volume 1 finished (in 1997).
- **Freedom of Entry March** by HMAS *Albatross* into the City of Shoalhaven.
- **Social Event** (Dinner?) for any veteran attending any of the above, or those wishing to attend the FCM the following day.

Saturday 22nd October 2022

- **FAAAA Federal Council Meeting**. This is our "Annual General Meeting" and is particularly important, as every three years (which is this one), all office bearers in the National Executive are 'spilled', and the Council votes who to replace them with, from nominations received. There will be more information about this in a future FlyBy. →

ALL NAVY REUNION

20-23 October 2022



For those who can't make Nowra there's a great alternative happening in the same timeframe on the Sunshine Coast.

There's an impressive website which gives you all the details and allows you to register for the event.

Click [here](#) to view. →

RAF Survival Training
Squadron Leader Crumbly-Biscuit gets woken for sentry duty



REST IN PEACE

Since the last edition of FlyBy we have been advised that the following people have Crossed the Bar:



Theo Bushe-Jones, Barry Lister and Barrie McConchie.

You can find further details by clicking on the image of the candle. →



Dear Editor,

I recently saw that the Torres Strait Islander Flag turned 30. This reminded me of my time as the Resident Naval Officer, Thursday Island and thought I should write about a little known fact about the association of HC723 Sqn and the Torres Strait Islander Flag.

On 29 May 1992 the new flag was officially presented to the people of the Torres Strait at the 6th Annual Cultural Festival on TI. The festival saw Islanders from every island in the strait and northern (Cape York) peninsula area converge on TI for dance competitions and various other cultural activities and associated feasts!

Early in 1992 I was approached by then LCDR **Chris Tutin** of HC723 Sqn about bringing a couple of B206 Kiowas to TI as the final check rides for some pilot conversions. The end of May was chosen to coincide with the Cultural Festival. When I found out the new flag was to be launched, Chris and I offered to fly the new flag under a Kiowa for the occasion. Consequently as the flag was raised for the first time at the festival, two blue and white Navy helicopters flew overhead with the brand new Torres Strait Islander



flag in the lead and a White Ensign behind. Chris flew the flags around the islands so everyone could see their new ensign.

Many appreciative comments were received which help preserve the great relationship between the islander peoples and the RAN. This is just one of those many little things our FAA does around Australia to support our communities that mean so much to them.

Details on the flag can be seen [here](#).

Many thanks for your continued excellent work with the Fly By magazine and our Association website

Cheers, **Alan Earle.** ✈

Dear Editor,

BZ and please keep up the awesome work.

As a small point if I may. Not a gripe but hopefully something that can be corrected for the future. No offence meant to anyone.

It is AAAvn or Australian Army Aviation Corps.

AAC (Army Air Corps) is the Brit equivalent.

Thanks and regards. **Tracy 'Bomber' Brown**

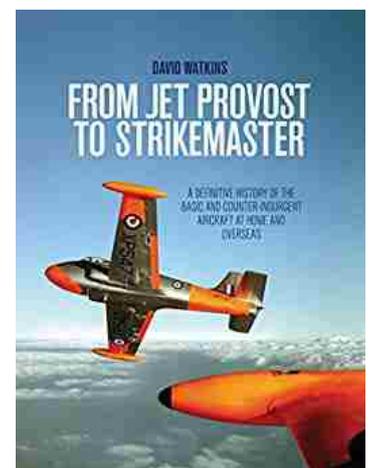
By Editor. Thanks Bomber. This resulted from last month's tribute to the officers and soldiers of the SASR and AAVn who lost their lives in the Blackhawk collision. I mistakingly referred to the air component as "AAC". Every now and again my Pommy heritage peeps out and this is such an occasion. I stand corrected! ✈

Dear Editor,

At the risk of prevailing upon your patience and goodwill, I would be most grateful if I could possibly help me?

I am in the process of adding the final(?) touches to the second edition of my history of the Jet Provost and I would very much like to complete the draft with Naval students destined to fly the Sea Harrier at No.1 FTS RAF Linton on Ouse?

Due to text limitations I was unable to include the complete story of naval training in the first edition and would like to correct this omission in the second draft. I was fortunate to receive a number of enthusiastic responses from those who received BFT on the Jet Provost at Linton between October 1960 and July 1969, when all RN training was halted. Having said that, although the occasional student continued to pass through the training programme until the unit disbanded, No.1 FTS began JP training once again in July 1976 for those destined to fly the Sea Harrier.



To complete the story, I am reliably informed (?) that 'Pre-Shar' was concluded ca. 1980 / 1981, and I am keen to gather the details of the last course, i.e. course number, dates, students, etc? I have tried the FAA Museum at Yeovilton, the NRA at Kew, and a number of other sources, without any success.

Therefore any help that you can provide would be extremely welcome.

My regards, **David Watkins**

By Editor: The only RAN pilots to have flown the Provost or the Harrier would have been on exchange. Can anybody identify them, and do you have any story or facts to help David? Email me [here](#). ➔

Dear Editor,

I thought you might be interested in the photo for FlyBy (below) from Albatross 1958 Quite an achievement to win as it was a pretty hot inter-branch competition in those days. I can name a few, who were all Stewards:

- 2. John "Dutchy" Erwich
- 8. Robert "Froggy" Rae
- 14. Glen Fisher
- 15. Billy Bacchus
- 18. George Connolly

Cheers, **Robert "Froggy" Rae**

By Editor: Thanks Robert. If anyone knows the names of the other 13 people, let us know [here](#). ➔



By Ed. In April our FlyBy Mystery Photo was HMS Condor, near Arbroath in Scotland Nobody identified it, but we asked if anyone had any memories of the place. Here's one reminiscence:

Dear Editor,

After completing 12 months initial training at HMS Ganges, I was posted to HMS Condor near Arbroath in Scotland for continued trade training for 12 months to emerge as a fully fledged Naval Aircraft Mechanic.

Most of my training centred around Sea Vixens, Scimitars and Gannets AEW 3 and Mk5. Naturally, my first posting from there was to a Wessex Mk 5 squadron (go figure) at HMS Seahawk (RANAS Culdrose).

While Arbroath was a good run ashore, my everlasting memory of Condor was the wind tunnel accommodation (very similar to HMAS Albatross at that time), but keep in mind that Arbroath in Scotland is only two ups and a jump from the Arctic and the Arctic ocean joins the North Sea. I have never been so cold in all of



my life. One morning that I remember clearly was when a particularly heavy blizzard had persisted for 48 hours and we could not get out of our mess, as the snow had drifted way above the height of the door. As we had no equipment to dig ourselves out, we just had to sit tight and wait until help from the outside arrived. At least we had a brew boat and a couple of decks of cards to keep us occupied.

Fourteen months after leaving HMS *Condor*, my request to transfer to the Royal Australian Navy was approved. I spent 4 weeks on a cruise ship travelling to Australia with my own cabin on the sun deck and on full pay. I thought how good is this RAN. 2 days after landing in Sydney, I found myself at HMAS *Albatross* and working in B hangar, finally putting to use my training on Gannets and experience on Wessex (albeit with a different engine). Living in Oxley block playing Volleyball every lunchtime and enjoying the warm weather, I thought I was in paradise. And you know what - almost 60 years later I still do!

Cheers, **Gil (Jesse) James.**
Ex NAMA and LSATA.→



Dear Editor,

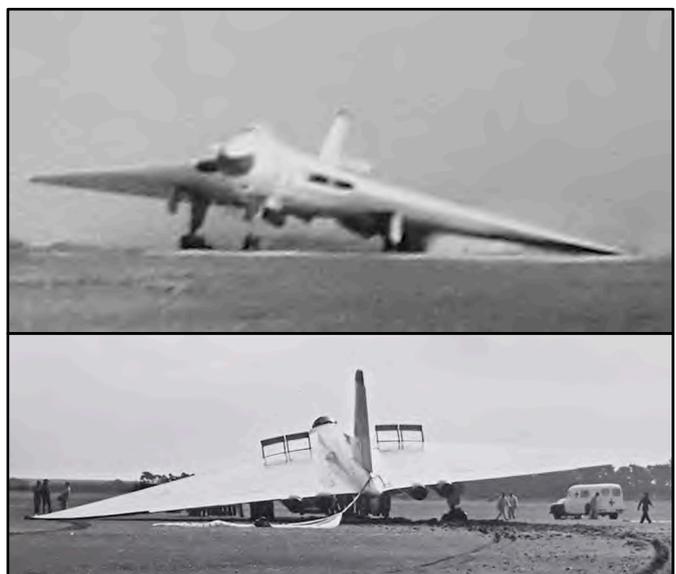
In regard to last month's Mystery Photograph, my educated guess is de-icing trials with the Olympus turbojet for Concorde. Sir Stanley Hooker was involved with the development of this engine and in his autobiography *Not Much of an Engineer* he provides details of its development from the initial version weighing 3520lb and producing 9750lb thrust through various Marks to that installed in Concorde weighing 7465lb and producing well over 40000lb thrust.

In the book Hooker tells how Curtiss-Wright in 1950 bought the licence to produce an American version of the Olympus as the J67 but ran into problems and was uncompetitive with P&W's J75 thus ending Wright as a producer of jet engines. Further, the UK Government backed the Rolls-Royce Conway to power the Vulcan B2 and withheld all support for Olympus, leaving Bristol to develop it at its own expense.

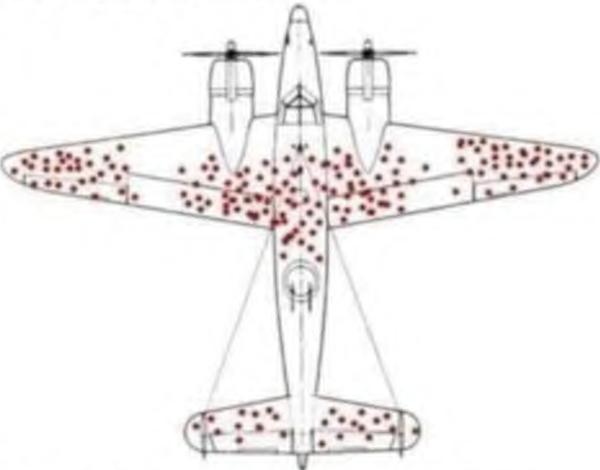
There is a photo in the book of a Vulcan with an Olympus intended for TSR2 slung underneath but this is a much smaller installation than the mystery photo.

Finally, are you familiar with the video of the airshow held to mark the opening of Wellington (NZ) airport in 1959? Three potential tragedies narrowly avoided must have left the organisers greatly relieved at the conclusion. Triple Trouble - Wellington Airport 1959 on Vimeo. You can see it [here](#).

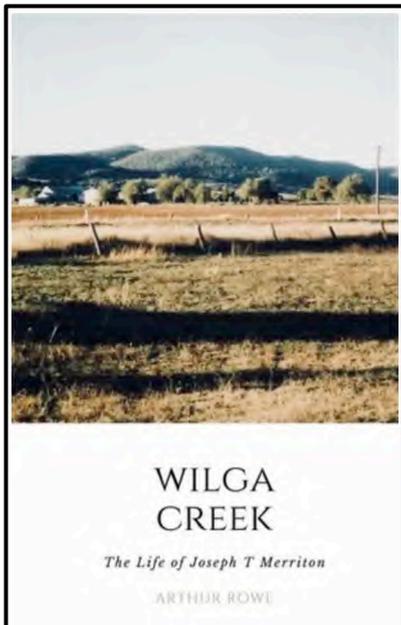
Dr Richard Kenderdine.→



This is a picture tracking bullet holes on Allied planes that encountered Nazi anti-aircraft fire in WW2.



At first, the military wanted to reinforce those areas, because obviously that's where the ground crews observed the most damage on returning planes. Until Hungarian-born Jewish mathematician Abraham Wald pointed out that this was the damage on the planes that *made it home*, and the Allies should armor the areas where there are no dots at all, because those are the places where the planes won't survive when hit. This phenomenon is called survivorship bias, a logic error where you focus on things that survived when you should really be looking at things that didn't.



Dear Editor,

I recently attended the funeral of **Arthur Rowe** (ex FAA member), together with **Ray Murrell** and **Ron Marsh**. At the funeral his daughter gave us a copy of a book "Wilga Creek" which was written by Arthur. She mentioned during the service that she was helping him pack up when he had to go into Aged care, and found the manuscript in the filing cabinet. He apparently had tried to get it published, without success, so told her to "shred it". She didn't, she got it published. It is a

fictional story, but Fleet Air Arm members could relate to young Bob who nearly got into trouble with the law and leaves town and joins the Navy, ending up in the Fleet Air Arm. Anyone who lived through the late forties, fifties, and early sixties would probably find it interesting.

The blurb for the book reads: *"Spanning the period 1898 to 1988, this novel has been written painstakingly and accurately against a background of contemporary history and seasonal variations over those years. Set primarily in south-western Queensland, but venturing as far afield as Egypt, Palestine, New Zealand, New Guinea, the U.S.A., and Asia, the saga records the lives, loves, adventures, fates, and friendships of five generations of the Merriton family."*

The book opens with the birth in a wagonette on an outback stock route of the central character, Joe Merriton. In his early youth, Joe was a stockman and drover and then served in the First World War as a Trooper in the 2nd Brigade, Australian Light Horse. After the war, Joe marries Diana and they raise their three children at Mt Chillingham, a large cattle station north of Wilga Creek."

You can buy a copy [here](#), or do a Google Search on "Wilga Creek by Arthur Rowe" to find other sources.

Cheers, **Ian Henderson**. ✈

Dear Editor,

More About A4 Underwing Mounts

Earlier when looking at the photo [on the next page] the URL in my PDF was no longer correct. The changed URL is [here](#).

Dear Editor

Great story on Macchi!

Thought you may like a shot of the biggest Macchi formation in AUS.

About 1972/3 2AFTS Pearce put up 40 planes in the formation.

I flew the last in the 'T'

Paul Hamon was also in one and maybe one other navy instructor plus whatever navy students were there.

Good photography as it was probably the only moment that we were in good formation. The rest of the time we were "same way same day".

Cheers, **Ball**.

By Editor. Thanks mate. Hopefully the photo below comes out well enough for our Readers to see the unique "2FTS" formation.

The Macchi article Ball refers to can be seen [here](#). ✈





The KIWIS used a similar pod. The SUU pod is listed in the armament that the KIWIs could carry.

I have that list in the big PDF if needed. I'm going through the new BIG PDF randomly trying to correct old URLs for new and errors etc. I'll be doing this for a very long time but thankfully some items are just gone from the internet so that is that.

NOTE the two complete cylindrical shapes on the PMBR? These are not practice bombs. I'm guessing the flares were loaded for a SHOP Window flyby shooting them out during a flyby?

Cheers, **Phil Thompson.**

By Editor: 'The Big PDF' to which Phil refers is his mega collection on all things FAA, which runs to about 16,000 pages. More details about it can be found later in this Edition, [here](#).



Order No 50 has closed, with the following names being forwarded to the Foundry for plaque manufacture:

- Cummings P.T. R104121 CPOA Jul69-Sep90
- Young C.R. R118661 CPOA Jan76-Jan96
- Garside T.P. O122656 CMDR Apr77-Apr22
- Gugliotti D.J. S116274 POATW Sep74-Sep84

- Schmidt M.A. O129938 CAPT GLEN AE Jan81-Jul11
- Dudley J.B. A45206 LEUT O May 51-Jan60
- Fiedler, G. OAM O126802 CMDR ATC/O Jan80-Apr21
- Toy, M. S121906 LSETS SM Jan77-Jan89

It generally takes a month or so for the process, so watch this space for updates on completion/fixing to the Wall.

Order No. 51 is now open for anyone who wishes to apply for a plaque.

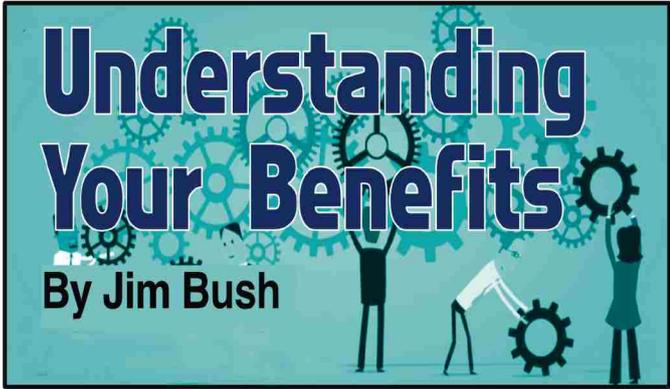
For those that don't know, the Wall of Service is a way to preserve your name and details of your Fleet Air Arm Service in perpetuity, by means of a bronze plaque mounted on a custom-built wall just outside the FAA museum. The plaque has your name and brief details on it (see background to photo above).

There are over 1000 names on the Wall to date and, as far as we know, it is a unique facility unmatched anywhere else in the world. It is a really great way to have your service recorded.

It is easy to apply for a plaque and the cost is reasonable. Simply click [here](#) for all details, and for the application form. ➔



Steel



DISCOUNTS & CONCESSIONS

A comprehensive range of Discounts and Concessions may be available to members of the Veteran Community, listed by the State or Territory in which they live. This may include Health, Dental, Transport, Household and Vehicle concessions, amongst others.

The organisation that offers the product or service, (eg your Local Council) decides what sort of concession is offered and to whom (ie. Eligibility). DVA Pensioner Concession Card and Veteran Gold Card holders are usually eligible, but other Concessions may be available to veterans with other eligibilities.

For example, in NSW the list of possible concessions includes:

Pharmaceutical benefits; Hearing Services; Ambulance Transport; Spectacles; Dental; Opal Cards; Taxi Subsidies; Postage Discounts; Telstra Services; Rates Rebates; Energy Rebates; Vehicle GST Exemption; Fishing Licence and so on.

The Concessions of other States and Territories



may vary, but the concept is the same.

There is a comprehensive website (click button below), which tells you all you need to know depending on the State or Territory in which you live, so you can check out the concessions you may be entitled to.

Remember - nobody is going to check to see which benefits, discounts or concessions YOU may be entitled to. It's up to you to do the work and make the necessary claim - but it can be worth thousands of dollars.

DISCOUNTS & CONCESSIONS



This month's Mystery Photo shows a commuter jet in rather a sorry state. Who did it belong to and what happened to it? Click [here](#) to lodge your answer. ➔

Around The Traps



FAA Top Gun

There's a lot of hype about the new "Top Gun" movie now showing in cinemas around the world, but did you know that RN Fleet Air Arm pilot Lt Cdr **Dick Lord** was instrumental in the development of America's Top Gun fighter pilot academy?

Lt Cdr Lord gained his wings in the Fleet Air Arm flying Sea Venom and Sea Vixen fighters from the aircraft carriers HMS *Centaur*, *Victorious*, *Hermes* and *Ark Royal*.

He established his role with the American military in 1968, when he was the British instructor sent on exchange at Miramar, California, to train American pilots then suffering significant losses at the hands of MiG-21s flown by the North Vietnamese.

He and a handful of other Fleet Air Arm graduates of the Royal Navy's gruelling Air Warfare Instructors (AWI) school in Lossiemouth,

Scotland, introduced new methods for recording and scrutinising the performance of trainees during exercises.

Lt Cdr Dick Lord was even granted access to classified American military documents comparing the performance of US aircraft against that of enemy fighters. This access allowed him to write, with others, the US Navy's Air Combat Manoeuvring manual.

A year after Lord's arrival, the tuition and methods introduced by FAA pilots, all graduates of the AWI school at Lossiemouth, made their way into the US Navy Fighter Weapons School, which was set up in 1969. Better known as Top Gun, it remains the most famous programme in the history of naval aviation. Soon after it was established a Phantom flown by one of its first students shot down a MiG-21, the first time a US Navy aircraft had succeeded in aerial combat in two years. ➔

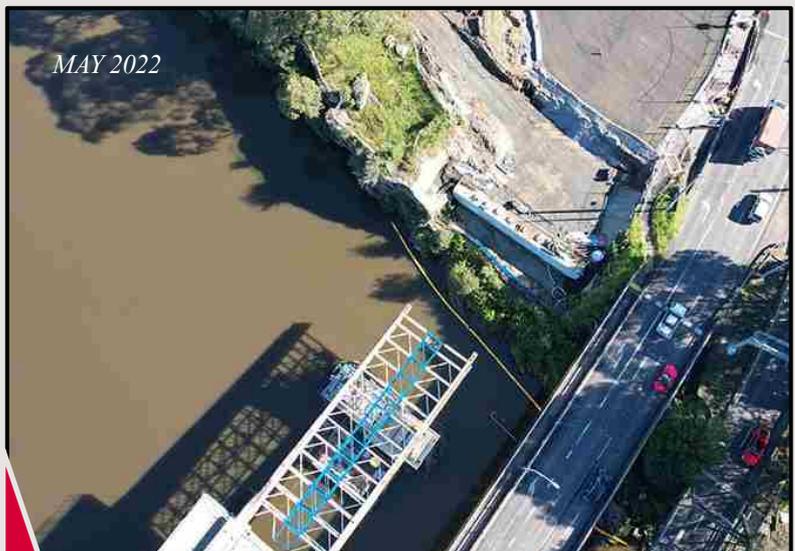
Nowra Bridge Spans River

Two years after construction first started, the deck of the new Nowra Bridge has reached the northern shore of the Shoalhaven River.

The temporary steel "Bridge Nose" (see photo right) will now be removed, and the final deck segment will be pushed from the south into its permanent position.

The milestone will mark half way though the \$342m project, which is due for completion in mid 2024 - although it is not clear if it is ahead of schedule.

Once the segments are all in place, finishing work on the deck will occur including laying the final asphalt surface.



HARSH WORDS

From the September 1997 edition of the Naval Historical Review

The form used for Britain's Royal Navy and Marines officer competency reports was the S206, which, in its early days at least, was not given to the recipient to read. This allowed the reporting officer to be more candid than he or she might otherwise. (In the RAN it was an AS206).

The following are apparently true excerpts taken from 206s.

- "This young lady has delusions of adequacy."
- "Technically sound, but socially impossible."
- "He has the wisdom of youth, and the energy of old age."
- "He would be out of his depth in a car parked in a puddle."
- "This man is depriving a village somewhere of an idiot."
- "Since my last report he has reached rock bottom, and has started to dig."
- "She sets low personal standards and then consistently fails to achieve them."
- "When she opens her mouth, it seems that this is only to change whichever foot was previously in there."
- "This officer reminds me very much of a gyroscope – always spinning around at a frantic pace, but not really going anywhere."
- "This officer is really not so much of a has-been, but more of a definitely won't be."
- "His men would follow him anywhere, but only out of idle curiosity."
- "When he joined my ship, this officer was something of a granny; since then he has aged considerably."
- "This officer should go far – and the sooner he starts the better."
- "In my opinion this pilot should not be authorised to fly below 250 feet."
- "The only ship I would recommend this man for is citizenship."
- "Works well when under constant supervision and cornered like a rat in a trap."
- "This officer has used my ship for the sole purpose of transporting his genitals from one port to another." →



FLEET AIR ARM BOYS Vol III: Helicopters

"Volunteers were sought for a mission to convey a Special Forces unit to Rio Grande, from where Exocet sorties were being launched. Political constraints meant that we could not compromise Chilean neutrality. So on completion, we were to fly on until out of fuel, destroy the aircraft in a remote spot, and go to ground for a week before making our way to the British embassy in Santiago (some 1,200 miles to the north). Simple!"



This and many other Dits from Air and Ground Crews can be found in the forthcoming release of **Steve Bond's book "Fleet Air Arm Boys - Vol III"** which, unlike its predecessors, concentrates on the rotary wing elements of the RN FAA.

Anyone who trained or served with the RN, or who just has a love of great aviation stories/memories or Navy culture and humour, will find this a fascinating read. It is now available for pre-order at the price of £25.00 plus P&P.

You can order it from the Navy Wings store [here](#), and, whilst you're about it, have a look at the full range of the new fixed and rotary wing coffee cup designs featuring "Steev" cartoons (one of which is shown above). They are only £8.95 + P&P so make an affordable gift for yourself, a friend or a relative. You can store it away for Christmas! →

Extraordinary Record

Spaz Sinbad,' aka **Phil Thompson**, has over the years amassed an extraordinary collection of over 16,000 pages of photographs and documents regarding the RAN Fleet Air Arm and its activities over the years, together with other pages of interest.

The collection is a unique historical record of the Fleet Air Arm and the PDF file is certainly worth a long look. It is about 2.5GB in size and stored on Microsoft 'One Drive'.

Click [here](#) to access the latest version (as of June 22). This will open the Microsoft 'One Drive' site. You don't need to register to access it.

There will be just a line of text at top of the page with a small download link to click on, then a download dialog. It is a very large file so be patient!

The PDF file is too big to browse directly through OneDrive, so always download it before opening, and then browse off your computer. To browse you can use the latest version of Acrobat Reader DC which you can get [here](#) for free.

Depending upon which web browser you use it may not be obvious that the PDF is downloading. Use combination of keys Control CTRL + J together to see the download happening. In EDGE and SAFARI the download just starts. Don't try to use Internet Explorer 11 as the URL will not work.

In Firefox it is not so obvious that after clicking on the download text that the PDF will start to download (to where ever the download folder is located on computer).

The FAAAA, along with every other organisation or individual with an interest in the FAA and its history, is indebted to Phil for the extraordinary work he has done and his willingness to freely share it.

NEW Edition for Jun 2022
18,000 pages

Photo by Dave Ramsay

This PDF is Best Viewed with Acrobat Reader DC suitable for your operating system

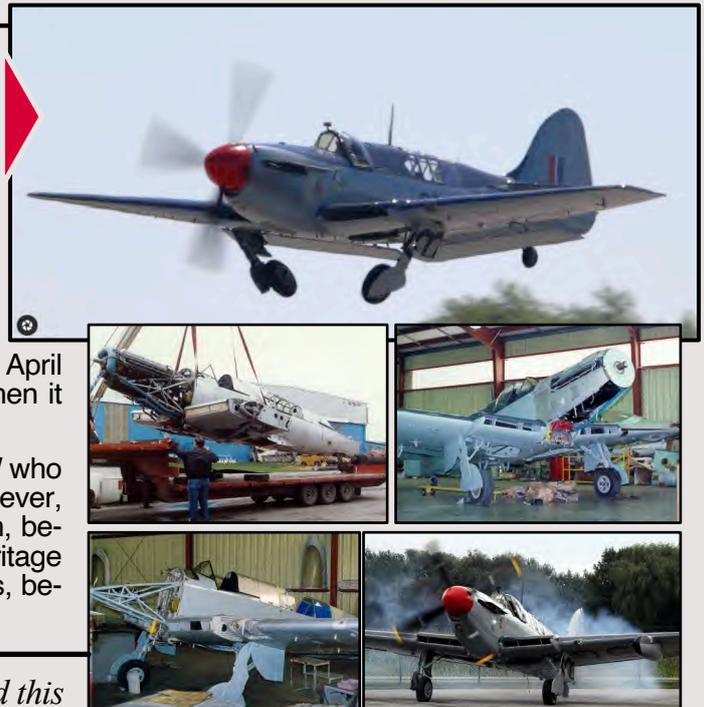
**Royal Australian Navy Fleet Air Arm
Scrapbook History of A4G Skyhawk &**
various FAA jet & fixed wing aircraft + helicopters — 1948–2022
'How to Deck Land' is included in a large section at the front of this PDF
NOW INCLUDES New Zealand, Brazilian Navy & Argentine Skyhawks
USMC variants & history of the aircraft over the years

Firefly Flies Again

Facebook, for all its faults, does have the occasional use and a recent post from our friends at the Canadian Warplane Heritage Museum was one such occasion. It reports that **Firefly WH632** is airborne once again after an eight-year hiatus.

WH632 was transferred to the RAN in June of 1953 and embarked on HMAS *Sydney* for passage to Australia later that year. It was placed in storage - perhaps as an attrition airframe that was never needed - and in April 1958 was sentenced to death by a thousand cuts when it was classified as an instructional airframe.

In '69 it was sold to the Marrickville Air League of NSW who held it in an open compound to rot. Six years later, however, it was transferred to the Camden museum of Aviation, before the intervention of the Canadian Warplane Heritage Museum who bought it, and a large number of spares, before shipping it to Halifax and thence to Hamilton.



Spaz Sinbad, aka Phil Thompson, kindly forwarded this image by Steve Long, showing an A4 in the initial 'dull' grey Dove/White livery, to reduce glint in the sun (circa 1967). This only lasted a few years until it was replaced by semi-gloss, and then the second 10 Skyhawks arrived in high gloss finish which was eventually adopted by the fleet.

Watch out for a 30+ page re-digitised "Heritage" feature on our A4s in a coming edition of FLYBY.



Last Month's Mystery Photo

Last month we offered you a photo of a Vulcan bomber and asked what it was doing, and why.

Quite a large number of people correctly identified that it was flying as a test bed for the Rolls Royce Olympus engine. Some went on to say why - i.e. the tests were specifically for development of the engine in its new role for the Anglo-French Concorde, which was in its design phase at the time.

Although the Olympus was a tried and tested engine in its earlier military form (it had powered the BAC TSR-2), extensive changes were needed to adapt it to the Concorde, including specified fuel consumption, thrust, and performance over the entire flight envelope of the supersonic passenger aircraft.

In June 1966, a complete Olympus 593 engine and variable geometry exhaust assembly was first run in France. At Bristol, flight tests began using a RAF Avro Vulcan bomber with the engine and its nacelle attached below the bomb-bay. Due to the Vulcan's aerodynamic limitations, the tests were limited to a speed of Mach 0.98 (1,200 km/h). During these tests, the engine achieved 35,190 lbf (157 kN) of thrust, which exceeded the specification for the engine. The Vulcan flew over 100 hours in its test-bed role before the first Concorde flight in March '69.

The Vulcan chosen for the task had an interesting history. It was XA903, a Mk.1 model, and during its life it played an outstanding part in British aviation development.





Completed in June of 1957, it was kept at Woodford (the Avro plant) for test and evaluation work. It was the only Vulcan to ever carry and test Blue Steel, a nuclear air launched stand-off missile of that era. It also did some work in Woomera in 1960.

In 1963 it was allocated to Bristol Siddeley at Filton where it was heavily modified to carry an Olympus 593 engine. This included stainless steel and titanium lining on the underside for heat shielding. Not all the testing was particularly scientific, though: in October 1966 someone was worried about hitting the Olympus engine if they had to bail out, so dummies were thrown from the aircraft at 2000' to see if they were ingested!

The aircraft later completed trials for the RB199 Tornado engine. It last flew in February 1979, and then remained in the rubbish dump at Farnborough where it was plundered for various parts. Bruce Partington worked there and recalled:

'The aircraft languished about the airfield for several years until it was dragged out of the dump, "beheaded" and cut up. A very sad end to an illustrious life. The scrappy that cut it up must have made a fortune as the bomb bay was full stainless steel tanks and pipes and the entire rear undersurface of the aircraft was covered with a heat shield made from either stainless or titanium. This was fitted to prevent damage from the afterburner fitted to the RB199.'

This Vulcan Mystery Photo is a lead-in to the great Concorde article by ex-FAA pilot **Graeme Lunn**, which you can read later in this edition.➔



Previous Page, Top. Our Mystery Photo shows Vulcan XA903 carrying the Olympus 593 engine for Concorde trials. The inset is the 'spray grid' which fed water from tanks in the bomb bay into the Olym-

pus intake for icing tests. The tests allowed Concorde to be certified for flight in severe icing conditions before she ever flew. **Previous Page, Lower.** A shot of the RB199 on reheat (afterburner) during the Vulcan tests.

This page: At the end of its life Vulcan XA903 was towed to the dump at Farnborough where she languished for several years having bits systematically cut off. In 1984 she was cut into two, with the fuselage being scrapped and the nose discarded (top image, courtesy of Francis Wallace). Fortunately the nose section was rescued by a series of enthusiasts (centre), but it continued to deteriorate until it found itself at a location near Stranraer, which later turned into the [Stoneykirk Aviation Museum](#). The new owner located the nose under cover (**lower photo**) and is gradually restoring it. (Other images from the FaceBook page 'Vulcan XA903'). Thanks also to Wikipedia.

Next month in FLYBY: "The Air Minded Class" by Graeme Lunn tells the story of the Class of '41, where no less than 10 of the 13 College graduates volunteered for the brand new Fleet Air Arm PLUS a full brand new Heritage feature on the RAN's little Bell 206 PLUS all the usual news, views and stories.

Veterans Day

16-18 AUG 2022

Old Bar, NSW

Fleet Air Arm Veterans are invited to join in for three days of activity to commemorate the Old Bar Veterans Day concluding with Freedom of Entry, followed by a Veterans' Day Service hosted by the Old Bar Public School.

Getting to Old Bar

By Road: Off the Pacific Highway, East of Taree.

By Air: Fly into the Taree Airport or fly your lighty to Old Bar Heritage Airfield.

By Rail: Taree's Railway Station is on the main North/South line.

Bookings

Bookings for any of the activities listed to the right are essential. You can pick and choose which ones you wish to attend, or come to all of them. Booking details can be found on the next page. (Travel and accommodation is at your own discretion).

Cancellations

You can cancel your activity bookings for a full refund up to 13th August 2022. No refund after this date.

Payment and Contact Details

Payment and organiser contact details are on the next page.

Tuesday August 16th.

Meet and Greet

Cost: \$10/person (Incl. finger food & goodies bag)

Time: 4pm

Location: Club Old Bar.

Dinner & drinks available at your own cost.

Courtesy bus available

Wednesday Aug 17th

Lunch with the Old Bar Men's Shed

Cost: \$12/person

Time: 11.30am

Location: Trad Oval Old Bar

Reunion Dinner

Cost: \$45/person (2 course meal), drinks at own cost

Time: 6pm

Location: Club Old Bar

Dress: Smart casual. Courtesy Bus Available.

Thursday Aug 18th

Brunch at Old Bar Village Café

Cost: At your own expense

Time: 10.00am

Location: Old Bar Village Café

Veterans' Parade, Freedom of Entry & Service.

Cost: Nil.

Time: 12.45pm

Location: Skate Park. Parade march off at 1pm.

Chief of the Navy takes the salute (TBC)

Parade dismisses and adjourns to School Assembly Area for the Service.

Afternoon tea at Old Bar Public School post service.

Dress: Neat casual with medals.

Cocktail Party

Cost: \$15 inc. 1x glass of bubbly and finger food, other drinks at own cost.

Time: 5 pm

Location: Club Old Bar

Farewell Dinner

Cost: At your own cost.

Time: 6:30 pm

BOOKING FORM

Please fill in the form and Event Table below and either scan/email, or post them to the organiser. Contact details are below.

Surname: Given/Nick name:

Address:

Phone:

Email:

Partner/Guests:

Event	No. of People	Event Cost	Sub-Total
16 th August. Meet & Greet. \$10 pp.		\$	\$
17 th August. Lunch. \$12 pp.		\$	\$
17 th August. Reunion Dinner. \$45 pp.		\$	\$
18 th August. Brunch (own expense)		\$	\$
18 th August. Cocktail Party. \$15.00 pp		\$	\$
18 th August. Farewell Dinner (own expense)		\$	\$
Grand Total:			\$

PAYMENT:

By: 3rd August 2022 (bookings essential)
 Cheque/money order: Pay to account JR & SM Macartney
 Direct Deposit: Suncorp, Account name: JR & SM Macartney
 BSB: 484 799 Account: 501 674 757
 Ensure you reference your surname with initials.

ENQUIRIES: John Macartney

Home: 02 6557 4165
 Mobile: 0427 787 296
 Email: hfvenu67@gmail.com
 Post: 14 Joel Drive Old Bar
 NSW 2430

Accommodation Advice

(Advise you are booking for Veterans' Day for possible discount)

Club Old Bar Motel. (02) 6553 7224
<https://cluboldbar.com.au/accommodation>

Flows (Boogie Woogie Beach House). (02) 6557 4224.
www.boogiewoogiebeachhouse.com.au

Lani's On The Beach Caravan Park. (02) 6553 7274
info@lanisonthebeach.com.au

Meridian Resort. (02) 6553 3441
enquiries@meridianresort.com.au

FLYING CONCORDE



Ex FAA pilot Graeme Lunn tells us about flying on this iconic aircraft at a time when supersonic travel was still an option.

Seniority rules sacrosanct in any national airline and British Airways was no exception. All pilots were able to do an Annual Bid, listing your preference for aircraft type by base and whether left (command) or right seat. Every twelve months there would be a much anticipated computer run when preferences would be matched to training slots in strict order of seniority. Once a minimum level of hours/sectors was attained seniority was the only selection criterion for any type, even for Concorde or the much-aspired-to mainline commands at London Heathrow. This accorded with the BA philosophy that every pilot was trained to 'BA Standard' as a P1, and to maintain this Captains allowed almost every second sector for the First Officer to be 'P1 Under Supervision'.

In 1995 Heathrow fleets included the first production B777-200s and new B747-400s, the mixed age B737-200s and B737-400s, the dual B757/B767 fleet and the venerable B747-200s and Concorde. In earlier years, as a very junior First Officer, I would amuse myself by commencing the Annual Bid with all mainline commands starting with C-Concorde before listing Co-Pilot preferences starting with P-Concorde.

My Mum, bless her, had been voluble in her doubts about leaving a secure Navy career in 1988 for the mere possibility of an airline position in the UK. One reason for choosing to aim for BA was the range of fleets available and these were led by their flagship - Concorde. Once safely ensconced in the airline with a seniority



At LHR. Supposedly the Concorde Chief Pilot told the pilot of the photex helicopter that if he had an engine failure he was to ensure he crashed well away from the Chief Pilot's precious aircraft.➔

number around 3000 Mum relaxed enough to tell the neighbours, but I knew she would love to boast even more if I was flying Concorde. I settled into the new uniform and enjoyed my First Officer years flying short and medium-haul out of LHR.

What did I really know about Concorde? We lived twelve miles west of LHR and you could set your watch by that crackling roar over the home counties as she departed on the morning JFK service. If you were driving around the airport traffic would literally stop on the perimeter road to watch the take-off with the flames of the four reheats (afterburners) making it look more rocket than jet powered. As she receded in the distance the engine noise would be replaced by the hundreds of car alarms in the crew car park set off by the ground shaking vibration.

I had watched as my Captains would offer back to ATC their position in the take-off queue as soon as they heard Concorde taxiing on frequency, knowing that at anything under Mach 2.0 her engines were inefficient fuel guzzlers. As she would taxi peremptorily to the front of the queue and be given immediate take-off clearance I would be instructed to get on the PA and alert the passengers to her elegant presence.

At a ground training day I had listened as a Concorde Captain recounted the story of an American who had exploratory abdominal surgery in London. Told he had late stage terminal cancer he checked himself out of hospital several days later and bought a Concorde ticket home. As the cabin altitude climbed and the internal gases expanded the stitches gave way and he literally spilled his guts but - "At least he got to fly Concorde before he died!"

In Concorde form follows function and that function was to fly 100 passengers intercontinental at Mach 2.0+. Off the drawing board came a shape with a narrow fuselage merged along most of its length into an elegantly curved delta wing with four underslung engines. It became an instant design icon as well as an engineering marvel. Among numerous advances she was the first passenger aircraft with fly-by-wire to the elevons and rudders, and the first with FADEC (full authority digital engine control) controlled engines.

The Anglo-French venture between the British Aircraft Corporation and Sud Aviation commenced in 1961. By 1966 the Rolls-Royce Olympus 593 turbojet engine - originally designed for the TSR-2 strike bomber - was being tested attached to the underside of a Vulcan bomber. First flight was in early 1969. There were six development aircraft - two prototypes (001 and 002), two pre-production aircraft (101 and 102) and two production aircraft (201 and 202). The prototype 002 visited Australia in 1971.

It was the heating of the airframe in supersonic flight that proved the limiting speed parameter for Concorde. With an aluminium alloy (duralumin/hiduminium) airframe for lightness the test flights in the pre-production 101 showed that



In the early '50s the director of the British Royal Aircraft Establishment (RAE) asked for a committee to be formed to study the concept of a supersonic transport (SST) aircraft. The group first met in February 1954 and delivered their report in April of the following year.

In short, the committee considered the concept of an SST infeasible, at that time.

Their conclusion was drawn from the knowledge of supersonic aerodynamics of the day. It was known that drag at supersonic speeds was directly related to the span of the wing. This had led to the use of short-span wings for supersonic craft, like those of the Lockheed F-104 Starfighter or the control fins of missiles such as on the Bristol Bloodhound.

This short wingspan produced very little lift at low speed, however, resulting in long take-offs and very high landing speeds. This was acceptable for small fighter aircraft, but in an SST it would have required enormous take-off power and a huge aircraft to carry the fuel needed. The concept just didn't stack up.

Not long after, however, other researchers at the RAE produced a series of reports on a new wing, known in the UK as "the slender delta" concept. It was based on the new understanding that delta wings can produce strong vortices on their upper surfaces at high angles of attack, which lowered air pressure and caused lift to be greatly increased. The research team noted that the lift from the vortex was increased by the length (not span) of the wing it had to operate over, which suggested the effect would be maximised by extending the wing along the fuselage as far as possible. Such a wing would still have good supersonic properties due to its short span, but could offer reasonable take off and landing speeds using vortex generation.

The trade-off was that such a design would require a very high nose-up attitude to generate the required vortex, which in turn would require long landing gear to produce the required angle of attack whilst still on the runway.

The chairman of the original SST committee immediately seized on the concept as the answer to the problems they had identified. Some people regard this moment as being the true birth of the Concorde project.

Much work was required to further examine the theories and test the handling qualities of such a wing, but it proved to be sound. It gave the Concorde, surely one of the most beautiful aircraft ever designed, its characteristic shape: the long delta wing, tall spindly undercarriage and the 'droop snoot' to allow the pilots to see better at very high angles of attack on approach. →



Left: The first version of the Rolls-Royce Olympus engine had its genesis in the ill-fated TSR2 project, and was the only real option at the time to power a supersonic transport aircraft - but much work was required to redesign the engine for that role.

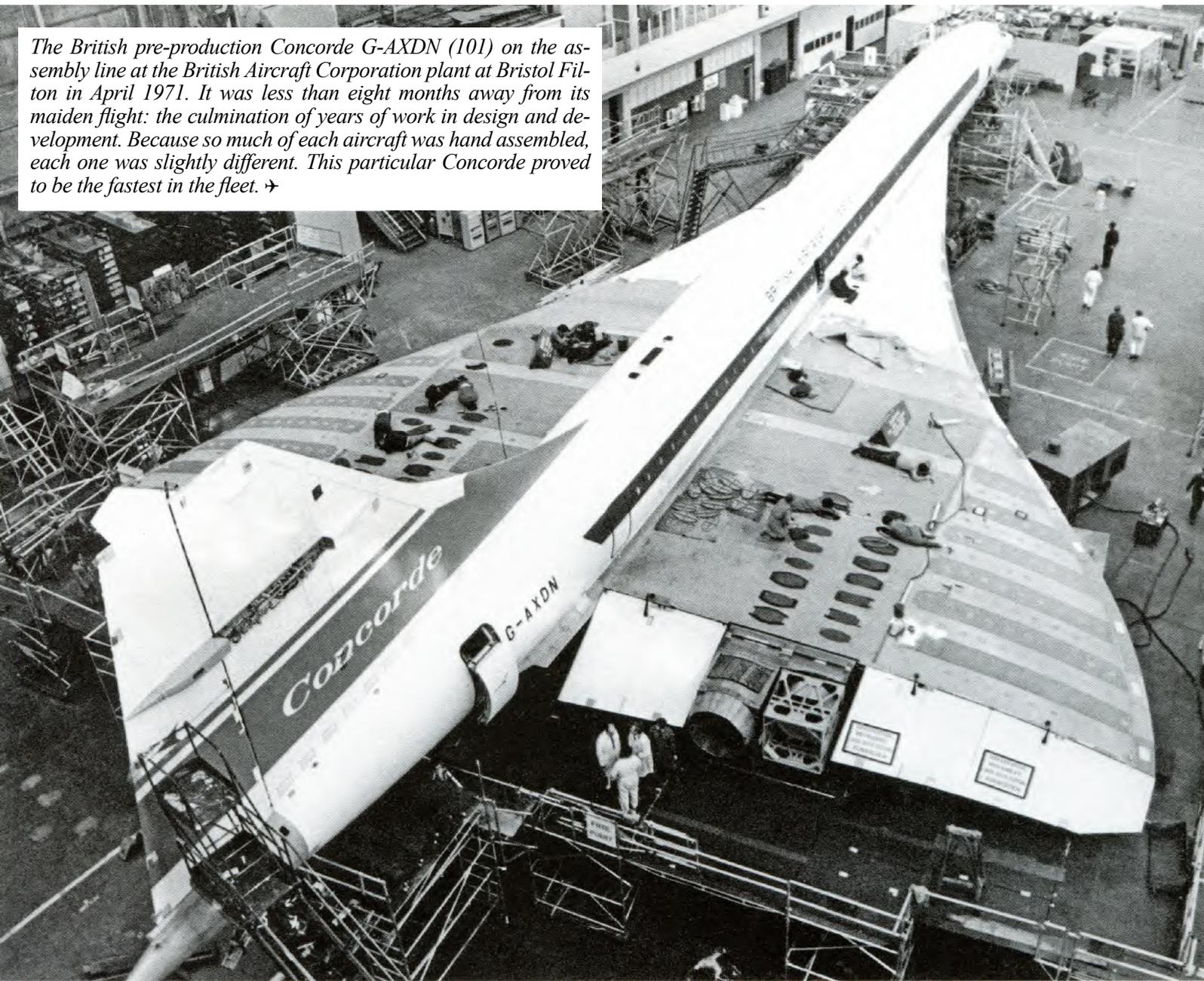
The variable geometry engine intake, for example, once described by a BAC engineer as "the second most complex orifice in the world" was required to deliver pressure distribution across the entire aircraft flight envelope.

It was tested on a Vulcan, which wasn't ideal as it could only explore the subsonic parameters. →

above Mach 2.2 the heating of that alloy raised integrity concerns. Mach 2.2 became the flight limit, although 101 had tested 100 mph faster than this, and Mach 2.0 normal cruise speed at up to 60,000' for production aircraft. All hulls were painted white to further aid in heat dissipation and the complex fuel system of 13 integral tanks also served as a heat sink, in addition to controlling aircraft centre of gravity by trimming fuel aft and later forward as the aircraft accelerated and decelerated though Mach 1.0.

In the 1960s British Overseas Airways Corporation (BOAC) routes were everything east and south of Cyprus, and west across the Atlantic. By 1971 the BEA and BOAC Boards had merged, followed by the creation of the single entity British Airways in 1974. Sixteen airlines had taken out 74 Concorde options before 001's first flight but the early 1970s oil crisis coupled to environmental noise activism meant that only Air France and British Airways actually had options turned into firm orders. This was at their respec-

The British pre-production Concorde G-AXDN (101) on the assembly line at the British Aircraft Corporation plant at Bristol Filton in April 1971. It was less than eight months away from its maiden flight: the culmination of years of work in design and development. Because so much of each aircraft was hand assembled, each one was slightly different. This particular Concorde proved to be the fastest in the fleet. →



tive Governments' direction, which the two airlines perceived as a financial burden imposed on the national carriers to prevent the Concorde program being a costly fiasco. The first BA commercial hull (204) flew acceptance trials in early 1975 with the appropriate British registration of G-BOAC.

Receiving a British CAA Airworthiness Certificate in December 1975 commercial flights commenced in January 1976 to Bahrain. BA took delivery over the next four years of seven aircraft. Sir John King, BA's Chief Executive Officer, in the long run up to privatisation in 1987, saw Concorde's potential as the airlines prestige flagship and purchased the hulls cheaply from the government. There were six loss-making years before the fleet turned a profit in the early 1980s. It was rumoured to break even with a load factor of 50% and by the mid-1980's was averaging 65%. There was quickly established a solid core of dedicated Concorde passengers willing to pay US\$20 per minute for a 3:30 flight across the Atlantic, while charters raised its profile even further.

Prime Minister Margaret Thatcher flew Concorde in 1986 and the Queen used it for her Royal Tour to Washington in 1991. In the mid-1990s the JFK-LHR record of 2:52:59 was set and the Red Arrows formed on it. To maintain profitability its route structure, which had included destinations such as Barbados, had been whittled down by 1995 to twice daily New York services and the occasional charter. Even the daily Washington service had been recently dropped. But the now Lord King continued to view it as BA's prestigious flagship and committed to its continued service.

Normally travel on Concorde was not available to even positioning crew let alone staff passengers. Very occasionally, if sales were down, some seats would be released for staff. I grabbed the chance with my wife Rowan in 1995 and we presented ourselves at LHR's Terminal 4. Concorde was a one class aircraft and delivered a product superior to First. There was a dedicated check-in area and its own lounge from which you could board direct to the aircraft. Each flight has been described as a unique assemblage of wealth, power and prestige traveling a mile every 2.7 seconds. It was certainly fun spotting VIPs and A-Listers in the lounge.

On boarding, the diminutive size of the fuselage with a width of only 9' 6" (2.9m) was immediately apparent. A small aisle was flanked by a 2-2 configuration of 100 lovely blue seats using the same leather found in Bentleys. The 40 seats in the forward cabin were the preserve of regular Concorde passengers. The noisier 60-seat rear cabin was for those splashing out for a once in a lifetime trip or a retirement special, and even couriers clutching important contracts for hand delivery by start of business on Wall Street. We sat in the very last row.

At take-off I could feel the reheat increasing thrust from 32,000 lbs to 38,000 lbs of thrust. At cruise I peered through the small 8" (20cm) window and convinced myself I could see the earth's curvature and felt how warm the window had become. There was not the cold soak I was used to in subsonic aircraft but cruising at 1350 mph, even with a -65°C outside air temperature, noticeably heated the airframe. Taking off with a length of 203' 9" (62.1m) by the time the air-



Engineers will often tell you that the cleanest, simplest design is the best design, and if that's true then Concorde must win the prize. But for all its aesthetic appeal, this stunningly beautiful aircraft arose out of the most complex engineering feat of the day - a tribute to all those who dreamed, conceived and executed the project. ➔



craft commenced descent it had expanded with the heating and was up to 10" (25.4cm) longer.

The cabin aisle was too narrow for a food trolley requiring tray service from the galley, but the food and drink was as magnificent as the aircraft. Supersonic speed coupled to a five hour time zone change saw us leave London at 10:30 and disembark in New York at 09:30 local time. Concorde Cabin Crew also flew short-haul mainline and the Stewardess (we are still prior to the more politically correct "Flight Attendant" years) at the back had recognised me so we disembarked full of caviar and lobster while nonchalantly trying to hide an unopened bottle of Krug Grand Cuvée champagne.

The flight had reawakened my interest in the fleet, and as a Senior First Officer in 1995 I was approaching the seniority to have a successful bid into the right hand seat of either Concorde, or the brand new B777-200s of which BA was a launch customer. This seniority also meant I was only a couple of years from a successful command bid onto one of the short-haul or medium-haul fleets at LHR. Normally the freeze period after a co-pilot conversion would not be applied if you subsequently had a successful command bid, but the exception was Concorde.

With no multimedia carels to learn in or zero flight time simulators the Concorde conversion, especially the base flying, was expensive. It carried a five year freeze and that included from right seat into any fleets' left seat. For those wondering if getting Concorde on their licence was worth loss of command years you could pay a homage visit to the Concorde Chief Pilot. He would then authorise a P3 familiarisation flight to help you decide.



Upper: Taken from a Learjet in December 1985 by photographer Adrian Meredith. It was subsonic, of course, at around FL180. It was the only time four were in formation and was to celebrate their 10th Anniversary in commercial service.

Lower: The only picture ever taken of Concorde at Mach 2. In April 1985 Adrian Meredith in the back seat of a RAF Tornado over the Irish Sea managed to take this image in the 4 minutes the F3 struggled to keep up with Concorde before it had to break away due to low fuel. →



Concorde's Flight Deck, like the rest of the aircraft, was small and cramped. The instrumentation was all analogue, in keeping with the technology of the day, and the control columns were reminiscent of an even earlier era. Considering it was put together in the '60s, however, it was extraordinarily compact and well designed, and featured some world firsts: 'Fly by Wire' to the elevons and rudders, and the first with FADEC (Full Authority Digital Engine Control) controlled engines, for example.

The Flight Engineer's station was behind the FO. You can see some of his panel, but it extended much further back than shown. →

Bright-eyed and eager I showed up at the old Compass Centre on the Heathrow perimeter road to meet the crew for a BA001 LHR-JFK service, callsign 'Speedbird 1'. That they saw themselves marching to a different tune was shown immediately as the welcoming Captain was wearing a very non-issue, non-regulation but very cool looking leather jacket. The Senior First Officer was incredibly correct, to the point of unctuousness, and the Senior Flight Engineer much more polished than was usual in the other fleets that still included in their flight crew that special breed of aviator.

I observed a briefing which showed all the brevity of route familiarity. There was no actual fuel decision - the Captain would always take maximum fuel possible on the day as any problem which required slowing down and lower flight levels would quickly make things marginal. Jumping the queue for take-off was almost a necessity for peace of mind given those thirsty engines, even while taxiing.

Arriving at the aircraft I was directed to the P3 jump seat immediately behind the Captain. Before I had time to admire the old style flight deck (having been on glass screen types for a few years at this point), the uniquely shaped control column or the lengthy Flight Engineers' console the Stewardess appeared in the doorway with a full tea tray which she placed on the Flight Engineer's table. As he played mother and picked up a cup and saucer in one hand and teapot in

the other he turned to me and inquired how I liked my tea. 'I don't drink tea' I said, to which he looked down his nose and replied 'Oh, I'm not sure you would fit in on this fleet then!' My reply was predictably Australian and made the Captain laugh!

The pre-flight was interesting although as I listened to the FO's welcome aboard PA "...now sit back and relax in our capable hands as we fly you to the edge of space" I pondered if I would be able to say such words without choking on the sincerity. Taxi and take-off needed the visor retracted and the nose selected down 5° for visibility. With over 60' (18.3m) from the pilots eye-line to the nosewheel it was a bit disconcerting on hard turns to find yourself over the grass.

Take-off with reheat was a noticeable increase in acceleration from other types. Conversely when the re-heats were switched off after take-off you almost felt like air brakes had been applied. Although a relatively noisy flight deck until the visor was raised it was not overly intrusive. ATC allowed modified departures so no time was wasted before we were above 250kts and raising the nose and visor as we headed west.

Transition to supersonic waited until we were 'feet wet'. With memories of doing the Alt and Comp dive in a Macchi at RAAF Pearce I was expecting to feel some indication of the movement of the shock wave as we went supersonic with reheat, but to me it was only discernible on the flight instruments and the

Landing at LHR. The nature of the wing meant you flew it to the runway with no discernible flare. Just as well since the landing pilots eye height meant it all relied on an accurate radalt countdown by the P2.

This photo also shows how far behind the taxiing pilot's position was the front wheel. On 90° turns it was a little disconcerting to be well over the grass.→



Flight Engineer's panel as fuel was automatically transferred to the rear trim tank in the tail to keep the aircraft in trim. Achieving Mach 1.0 shortly after 25,000' we continued climbing and accelerating. Routing was well above the North Atlantic Track System for the day's subsonic traffic and we did a fuel efficient continuous cruise climb as the aircraft got lighter. With Mach 1.7 at 43,000' we got to just above Mach 2.0 at 55,000'. The noise footprint any ships below us would hear as we travelled at 1350 mph would just be a low rumble.

Settled in the cruise one of the negatives of Concorde flying quickly became plain - the constant stream of flight deck visitors from the rear cabin wanting their 'I Flew Supersonic' certificates signed, and with lots of questions. I always welcomed flight deck visitors in pre 9/11 days, especially young aviation enthusiasts, but this was an order of magnitude greater and older.

I wondered as I glanced at the radiation monitor read-out (the only civilian aircraft so fitted) if they realised we were getting twice the dose of cosmic radiation that the subsonic aircraft 15,000' below us were. There had even been a handful of occasions over the years when an emergency descent was initiated after a radiation warning alert, when solar flare activity had been greatest.

New York ATC gave us a continuous descent approach without the time wasting and fuel inefficient level-offs or vectors away from the airport to make room for other (American) aircraft. Concorde has no flaps so final approach was at an 11° up attitude rather than the 2.5° I was used to. The visor had been lowered and the nose selected to 12.5° down to allow the handling pilot to see the runway. With such a high eyeline from the flight deck it is fortunate that the aircraft was basically flown to the ground with almost no flare and the P2 reading off the radalt heights.

I enjoyed the experience, and the return BA002 service 24 hours later, but it had quickly become clear it was not worth losing command time over whatever my Mum might have thought. Within a few months the fun flying bits such as take off with reheat, transition to supersonic or the Canarsie approach into JFK would have been subsumed by the boring route familiarity.

HELLO, MY NAME IS...

HOW DID CONCORDE GET ITS NAME?

History will tell you that the Brits and the French have never really liked each other much, so the notion of forming a partnership to design and build a cutting-edge engineering masterpiece required a very special union.

One of the decisions required early in the process was what the proposed SST would be called. It was the kind of detail that could have easily become an emotional stumbling block. In the event, however, it seems to have been resolved without too much difficulty.

Reflecting the treaty between the British and French governments that led to the SST's construction, the name *Concorde* was chosen. It is from the French word 'concorde', which has an English equivalent, 'concord'. Both words mean "agreement, harmony, or union".

The name was officially changed to *Concord* by Harold Macmillan in response to a perceived slight by Charles de Gaulle. However, at the French roll-out in Toulouse in late 1967, the British Government Minister of Technology, Tony Benn, announced that he would change the spelling back to *Concorde*.

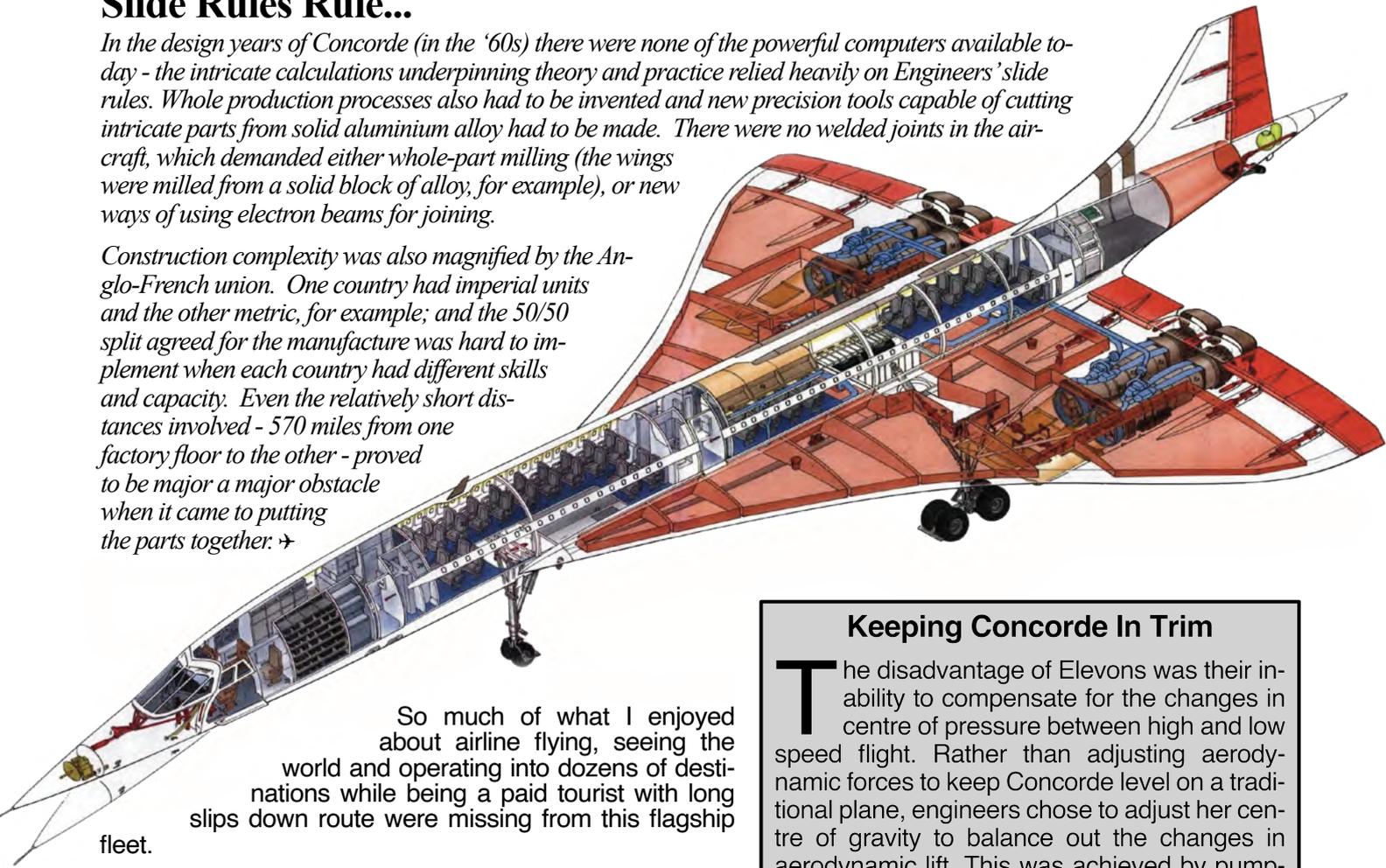
This created a nationalist uproar that died down when Benn stated that the suffixed "e" represented "Excellence, England, Europe, and Entente (Cordiale)". In his memoirs, he recounts a tale of a letter from an irate Scotsman claiming: "You talk about 'E' for England, but part of it is made in Scotland." Given Scotland's contribution of providing the nose cone for the aircraft, Benn replied, "It was also 'E' for 'Ecosse' (the French name for Scotland) – and I might have added 'e' for extravagance and 'e' for escalation as well!!" →

Wikipedia

Slide Rules Rule...

In the design years of Concorde (in the '60s) there were none of the powerful computers available today - the intricate calculations underpinning theory and practice relied heavily on Engineers' slide rules. Whole production processes also had to be invented and new precision tools capable of cutting intricate parts from solid aluminium alloy had to be made. There were no welded joints in the aircraft, which demanded either whole-part milling (the wings were milled from a solid block of alloy, for example), or new ways of using electron beams for joining.

Construction complexity was also magnified by the Anglo-French union. One country had imperial units and the other metric, for example; and the 50/50 split agreed for the manufacture was hard to implement when each country had different skills and capacity. Even the relatively short distances involved - 570 miles from one factory floor to the other - proved to be a major obstacle when it came to putting the parts together. →



So much of what I enjoyed about airline flying, seeing the world and operating into dozens of destinations while being a paid tourist with long slips down route were missing from this flagship fleet.

So I submitted my Annual Bid and in early 1996 was in the second group of co-pilots to go the the B777-200 fleet and enjoy its modern marvels. If I was doing the daylight service back from JFK we would see the BA001 taxi in and they would rush over that morning's London newspapers for our first class passengers to read on our return to LHR. I was fortunate to then achieve a LHR B757/B767 command in 1998. It was now my turn to give up my place in the take-off queue to let Concorde taxi past.

In January 2000, as a Captain in the Flight Standards Unit auditing the Concorde fleet, I once again sat in the P3 seat and once again refused the tea. Six months later the tragic Air France crash grounded all Concorde. Services resumed in November 2001 but expensive safety modifications and escalating maintenance costs made the fleet no longer economically viable. BA's last Concorde passenger service was in October 2003 and the airframes are now star exhibits in aviation museums around the world.

It was not the end of 'Speedbird 1' though. BA started a route from London City Airport to Shannon and then onto JFK with a little A320 using the BA001 service number. Business class only, it proved popular and was flown by some of the most junior captains and first officers in BA. Junior enough that other fleets would refer to it as the 'Schoolbus' or 'Dinkybus' rather than the Airbus.

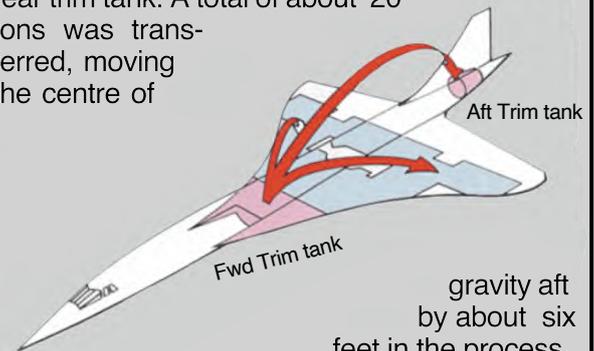
But along with the historic 'Speedbird 1' call sign, those junior Captains also got the old Concorde Captain's room at the Crew Hotel on East 55th street.

Appropriately named the Concorde Hotel, it was then BA-owned and filled 32 residential floors with crew members.

Keeping Concorde In Trim

The disadvantage of Elevons was their inability to compensate for the changes in centre of pressure between high and low speed flight. Rather than adjusting aerodynamic forces to keep Concorde level on a traditional plane, engineers chose to adjust her centre of gravity to balance out the changes in aerodynamic lift. This was achieved by pumping fuel between different tanks to move the centre of gravity forward or aft. The tanks used in this process were called 'trim tanks', and were the most forward and aft of the 13 tanks incorporated in the aircraft.

During acceleration though the sound barrier, the aerodynamic centre of pressure shifted markedly. Fuel was therefore pumped to the rear trim tank. A total of about 20 tons was transferred, moving the centre of



gravity aft by about six feet in the process.

Once the cruise portion of the flight was concluded and Concorde began to decelerate back to subsonic speed, the centre of pressure started shifting forward again. Fuel was then pumped back into the wing transfer or forward trim tanks to move the centre of gravity forward. Additional fuel was also often pumped forward after landing to keep the aircraft balanced during the unloading of passengers and cargo. →



Captains had the larger front 01 rooms with panoramic views over New York city, but only 501, the Concorde Captain's room, had a balcony. For years the more senior Captains in 01 rooms on the floors above would look down with jealousy at that very junior Captain's balcony. If the weather was fine, and especially if there happened to be a little crew party on the balcony, there could be a steady flutter of litter drifting down to the fifth floor.

Seniority was sacrosanct! ➔



Right: All but one of the Concorde airframes survived, with some going considerable distances to their final resting places.

[1] G-BOAF (219), the last to be produced and the last to fly, is now fittingly back in Bristol, where it had first taken off 25 years earlier.

[2] Concorde F-BVFB (207) and a Tupolev TU-144 "Concordski" rest beside a motorway at the Technik Museum in Sinsheim, Germany.

[3] G-BOAA(206) travels downriver on its way to the National Museum of Flight in Scotland

[4] Parked at the Intrepid Sea, Air and Space Museum, Concorde G-BOAD (210) is often the first thing that tourists see as their cruise ships arrive in New York.

Other Concordes went to Paris, Manchester, Weybridge, Duxford and, of course, G-BSST (002) went to the Fleet Arm Museum in Yeovil, Somerset.

Concorde's struggle to make a living throughout its life and the nature of its demise might suggest it was ultimately a failure. But far from it: this beautiful aircraft not only bequeathed significant technological advances to the aviation industry, but served two nations for nearly thirty years - and was the pride of each of them. ➔

