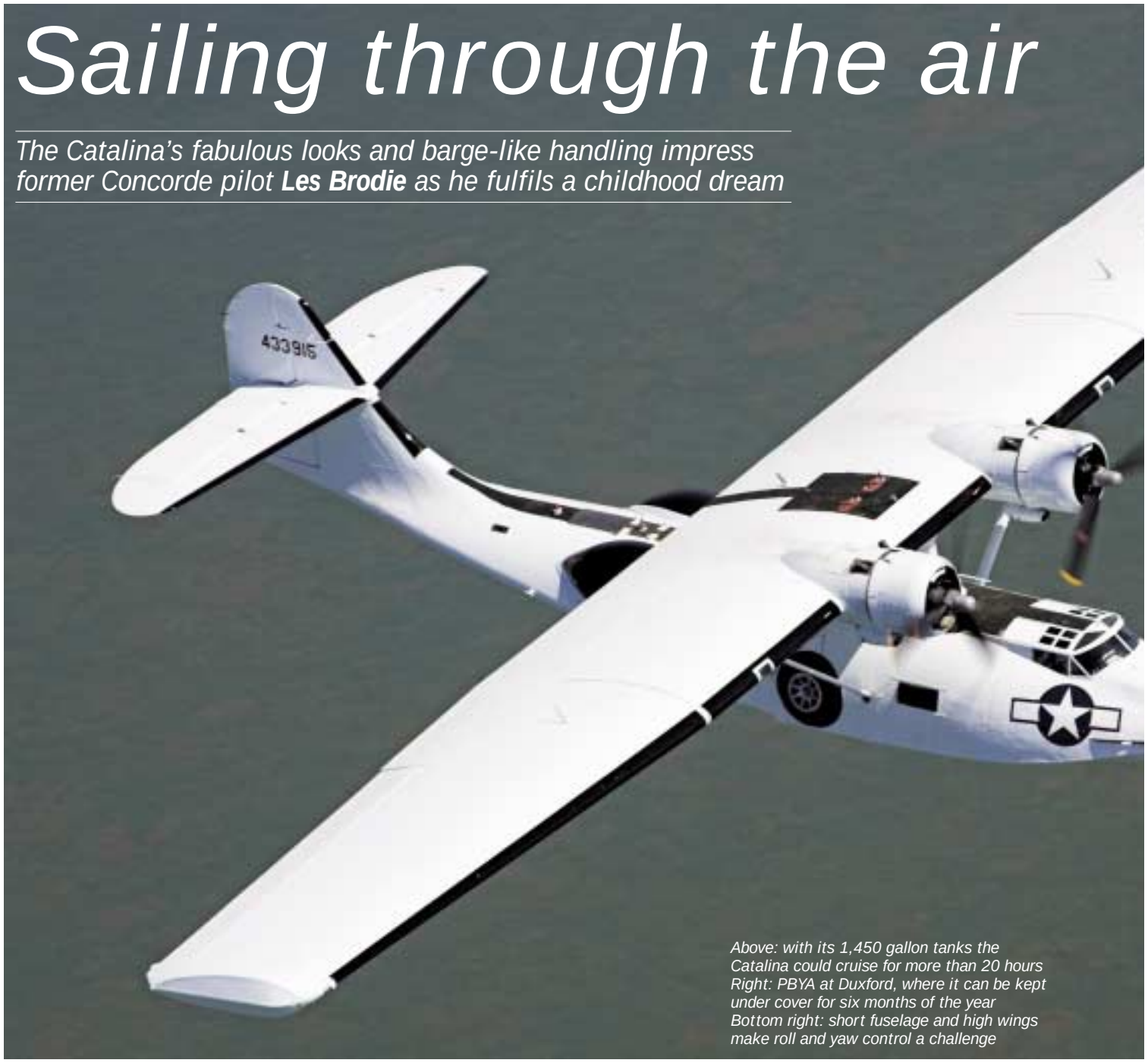
Sailing through the air

The Catalina's fabulous looks and barge-like handling impress former Concorde pilot ***Les Brodie*** *as he fulfils a childhood dream*



Above: with its 1,450 gallon tanks the Catalina could cruise for more than 20 hours
Right: PBYA at Duxford, where it can be kept under cover for six months of the year
Bottom right: short fuselage and high wings make roll and yaw control a challenge

The headline tells you what Plane Sailing Air Displays Ltd offer with their PBY-5A Catalina flying boat – and I was lucky enough to spend a day with some of the enthusiasts who operate the aircraft from its base in Duxford. For me, the PBY has been a firm favourite ever since I first saw one in a WW2 Picture Story Booklet at a very early age. The idea of an aircraft that can take off and land on water and yet look so wonderful has impressed me ever since – so understandably I was very excited about the day, especially as it involved some time in the right seat. Definitely a case of a boyhood dream come true.

The PBY (P for Patrol, B for Bomber and Y the manufacturer's designator) was designed in the 1930s for the US Navy by a company called Consolidated (later Consolidated Vultee), the first production aircraft becoming available in September 1936. In all, over 3000 Catalina flying boats were produced over a ten-year period making it the most successful flying boat ever. In fact there were more Catalinas built than all other flying boats combined, yet from all of those aircraft there are perhaps only twenty survivors remaining that are still able to fly.

With its 2000 mile-plus range the PBY proved to be very versatile and played a major role in WW2 operations. When I mentioned the Catalina to my 87-year-old father he recalled how he and his Fleet Air Arm colleagues were amazed to see them patrolling the seas far away from land and long before they saw any other type whilst on convoy duty. Even after the war the PBY carried its versatility into civilian life making remote locations accessible and once again saving lives through their role in controlling forest fires – this time B for water Bomber.

The Group that operates the Catalina at Duxford was co-founded and is led by Paul Warren Wilson, who has been involved with Catalina operations since 1984 when the group procured their first Catalina VP-BPS, which was sadly lost 14 years later during a landing on Southampton Water. The present aircraft is owned by 17 people mainly from the UK, some of whom like Paul own more than one of the twenty shares available. Operating costs are normally covered by air show fees, memorabilia sales, advertising and film contracts along with members paying a monthly amount. The shareholders benefit from their investment (apart from being able to drop into any conversation that they own a part of aviation history) by flying as passenger or crew during transit flights. There is also a member's hourly rate for those who are able and want to fly the aircraft personally.

The 'flying' shareholder I spent the day with was Captain Rod Brooking, a retired British Airways B747 pilot who I was able to quiz during our drive to Duxford. Rod explained that his involvement with the Catalina began with a brochure distributed to all BA pilots which, unlike many, he picked up and studied. One thing led to another and Rod found himself not only a shareholder but a part of the team with the exciting prospect of flying the replacement Catalina G-PBYA (formally C-FNJF) from Nanaimo, Vancouver Island to Duxford. This turned out to be a 30-day trip commencing 1st March 2004, flying around the United States rather than across it. The route taken was

Damien Burke

Above: huge blister window gives spectacular views, even fore and aft - there's no need for CCTV on this aircraft

been like. With a 1,450 imp gallon tank capacity some of the patrols would last over 20 hours in similar conditions – with the additional possibility of being attacked. The crossing would have taken Rod around three hours in air-conditioned comfort when he last flew the route in a B747, and for me it was 1hour 25minutes in a Concorde. However it would have been unlikely that either of us would have spotted any shipping, and certainly not a submarine, from our view point. Rod explained that the Catalina was affectionately known to the crews as the '90kt aircraft'. For patrol work it climbed at 90kts cruised at 90kts and descended at 90kts. Maybe this method of operation was to keep things simple during a 20 hour mission in order to combat fatigue, or more probably to gain maximum endurance from the aircraft.

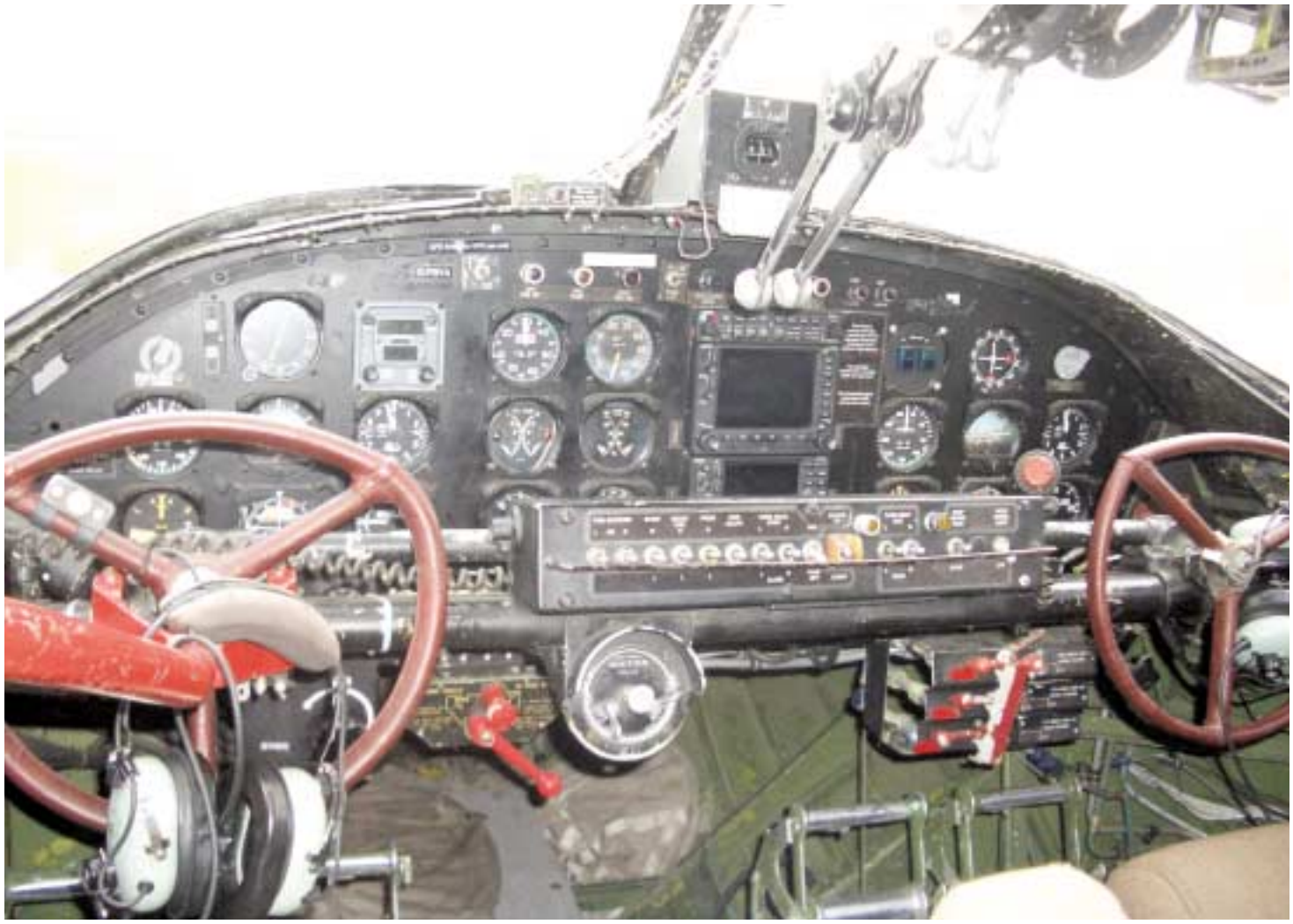
The time spent in St John's was put to good use by Garry Short, the engineer responsible for keeping G-PBYA airworthy. He met up with a local engineer who was very familiar with the Catalina and between them they were able to clear many of the inspections and checks still to be completed on return. The exercise was particularly useful as a Canadian registered aircraft in Canada required a Canadian licensed engineer to sign off the work.

Rod told me about the history of G-PBYA which was built by Canadian Vickers under licence from Consolidated Vultee (so in truth it should be called by its Canadian name 'Canso') in 1943 for the Royal Canadian Air Force. Based on the west coast for patrolling the Pacific, it remained with the RCAF until the early 1960s after which it was used by the Canadian government for aerial survey work. Later it was modified to become a 'water bomber' and in that role was loaned to France, spending time based in Marseille with the code name 'Pelican Bleu' fighting the forest fires that often break out in the heat of the summer in that area. After some time on the ground, C-FNJF as it was known as then was sold privately and was put up for sale by the previous owners. Because the aircraft was owned by the RCAF and a Provincial Government for most of its life G-PBYA has been looked after very well, which is why it is such good condition for a 63 year old machine. With around 13,000 airframe hours it is also relatively young in terms of fatigue life so it was an ideal replacement for Plane Sailing's needs, with their objective of keeping a Catalina airworthy until at least 2050

through Washington State, Oregon, California, New Mexico, Texas and across to the eastern seaboard via North Carolina to Bangor, Maine. From Bangor they headed back into Canada to St John's and after waiting for several days for the winds across the Atlantic to become more favourable they set off on the 12.75 hour 1,700 nm crossing to Shannon, all with no autopilot and for a time at 12,000 feet and -28° C. This certainly gave Rod an idea of what those WW2 Atlantic patrols must have

On arrival at Duxford I gained my first glimpse of G-PBYA, and soon realised why Rod and each person I met involved in the operation were so enthusiastic and dedicated. Even though the skies were grey and heavy showers were passing through, everyone involved was cheerful and obviously looking forward to the flight ahead, which was to position the aircraft to Dunkeswell to take part in an air show. Fortunately Garry had fuelled the aircraft the previous day, so all that was left was the pre-flight inspection and loading.

While waiting for the heavy rain to pass through we had a cup of tea in the office, a Portacabin situated very close to the aircraft parking spot. The administration required for operating the aircraft and dealing with the many enquiries that are received when



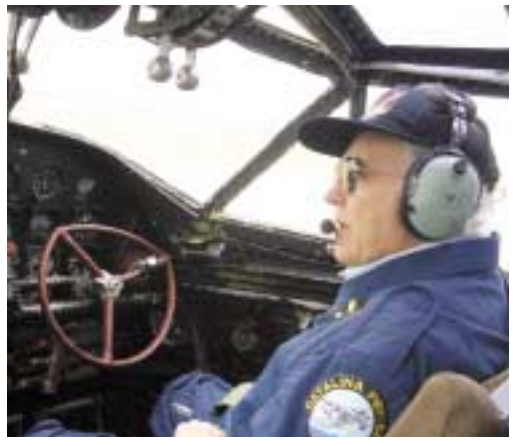
operating such an unusual type are dealt with from this office by Rachel Morris. I found Rachel translating a form written in French regarding the forthcoming 'Geneva Classics' exhibition, giving just a hint of how versatile she needs to be to do her job. Garry also has an office in the block to deal with engineering matters. Keeping the aircraft in tip top condition takes a great deal of hard work including sourcing the necessary spares. Garry

told me that he actually found some parts on Ebay but of course they would need to be approved before use. He also explained that parts for the two 1200 hp Pratt & Whitney R1830 Twin Wasp engines are easier to come by than airframe parts. There are still drawings available, so it is not out of the question to remanufacture components if necessary. The arrangement at Duxford allows the aircraft to be inside a hanger for up to six months of the year, so most of the heavy maintenance can be carried out with the 'Cat' under cover.

The volunteer ground crew for the trip consisted of Crew Chief Paul Curran aided by Shaun Jarvis and Mike Ebbs. Before towing the Catalina to the start area they loaded the necessary equipment and stores including Catalina souvenirs to be sold at the show. While this was going on Rod and Keith Sissons, who was co-pilot for the trip, finished their flight planning. Keith is a very experienced pilot who first started flying in the early 1950s and since has flown many types over many hours. With his vast experience particularly with the Catalina (he has been flying PBYs for over twenty years) he is a valuable crew member.

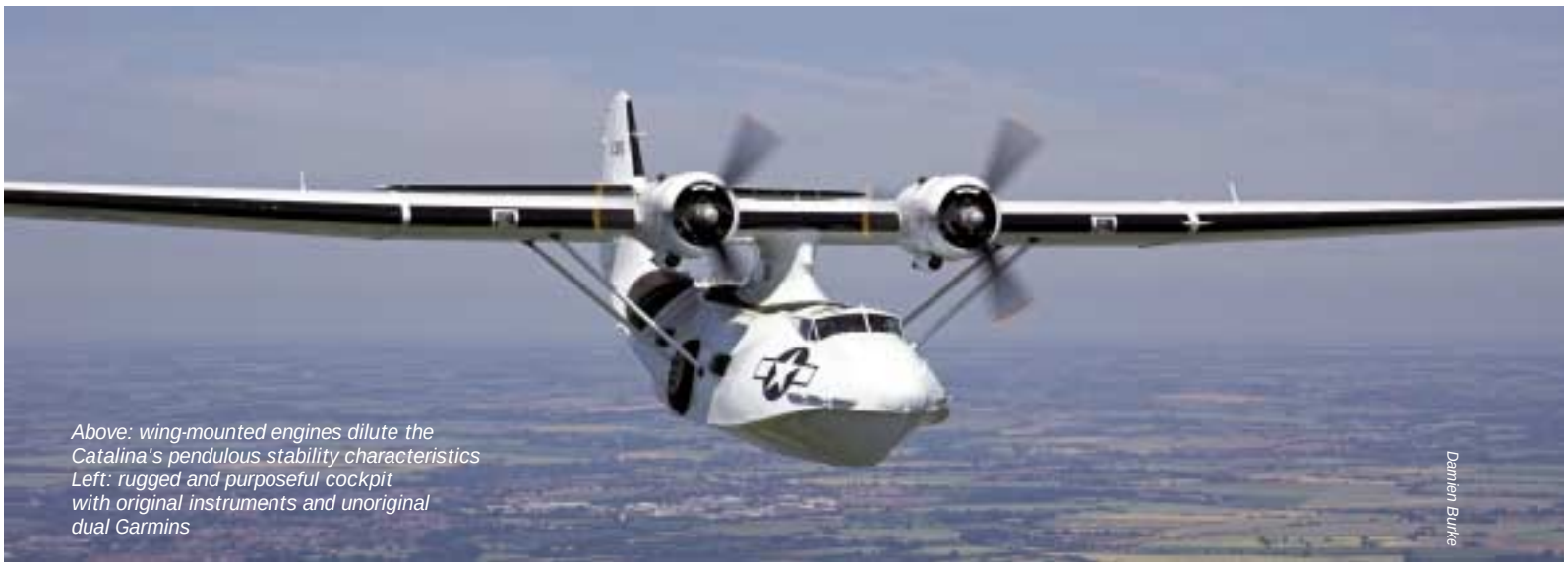
Once the aircraft reached the start up area chocks were put in place and external control locks removed. Garry had recently purchased an extendable rod to reach the aileron locks on the very high wing rather than using steps as in the past. My first impressions inside the PBY were much as I expected. Everything

Above: Rod Brooking and Keith Sissons flank Rachel Morris, who does all the admin for Plane Sailing



looked rugged and purposeful, the cockpit included, there is no side panelling so you can see wiring looms etc. The instrument panel has mainly original dials, so it is easy to spot modern replacements. The Garmin GNS530 and GNS430 really stand out, especially when active. I bet they would have been appreciated if they were available 60 years ago when returning from patrols in inclement conditions. The very low-geared control wheels also stand out as they are covered in red leather. They have to be turned through what seems like 360 degrees to obtain full aileron deflection.

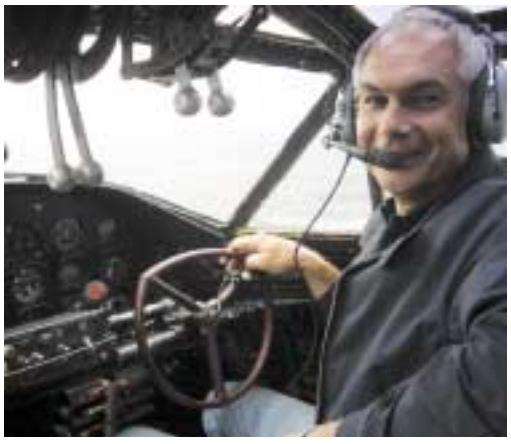
The pre-start checklist includes a few unusual items for landlubbers, e.g. wing floats locked, gear isolation valves closed. Through the isolation valves the main gear can be lowered to act as sea anchors with the nose gear remaining up. The rest is all familiar Mixtures set, priming complete and the mighty P&W Twin Wasps burst into life after a few



Above: wing-mounted engines dilute the Catalina's pendulous stability characteristics
Left: rugged and purposeful cockpit with original instruments and unoriginal dual Garmins

Damien Burke

Below: wide smile on Rod's face is a permanent fixture while flying the Cat
Bottom: author Les Brodie takes control - and adopts the Catalina smile
Below left: co-pilot Keith Sissons has been flying the Catalina for more than 20 years



turns from the electric starter supplied from the ground power unit. I was able to watch Rod taxi the aircraft to the run-up point by standing up, but missed out on watching the crosswind take-off once strapped in a passenger seat. It is possible to install 16 passenger seats in the current configuration but as the aircraft is UK registered only six are allowed to be used.

The take-off was very noisy, as can be expected with the engines just above and so close to the 'boat' and Rod made the crosswind technique look easy. After clearing the noise sensitive areas around Duxford we set course to Wescott at 2400 feet and 110 kts with radar information from a friendly Luton controller. Once settled in the cruise I was able to squeeze through the opening in the bulkhead and make my way into the right hand seat having watched Keith demonstrate the manoeuvre in reverse. After strapping in I had a good look around, and two things stood out to me. One was just how large the wingspan appeared from the seat – its high aspect ratio design really stands out. The other was the smile on Rod's face as he flew the aircraft (see picture).

Then it was my turn to smile as I was given control. As Rod had briefed me I wasn't surprised at how sluggishly the ailerons performed. To make a turn it was a matter of initially applying rudder in the direction of the turn, followed up with aileron. This prevents the marked adverse yaw that would be caused by aileron input alone (no wonder the group is called Plane Sailing – it did feel a little like steering a boat through the air). The Catalina is stable in pitch provided there is not too much movement from the crew and passengers in the rear but this is not the case with the yaw/roll. As Keith mentioned later, at first sight the PBY looks a stable 'old girl' but on closer inspection you can see why that is not the case. With such a large wingspan and a relatively short fuselage lever arm, coupled with a reliance on pendulous stability for roll (the overhead wing-mounted engines diluting that effect), it is not surprising that the pilot has to work quite hard at the straight part of 'straight and level'. I found myself acting as yaw damper to keep the machine straight. Sadly it would appear that my Catalina yaw damping skills are not that good, as both Paul and Mike were airsick during the flight, sorry chaps.

Our routing to Dunkeswell after Wescott was via Marlborough and Radstock and it was over Radstock that we were to team up with an An-2 for our grand arrival at Dunkeswell. Even though Rod brought the engine power back to patrol speed settings we still arrived at Radstock early, so I was able to practice a 360° turn to the right while we hoped that the Antonov would appear. Using the rudder-first method the 'Cat' was easy to set up and control in the turn, and by now I was getting more used to the handling. On roll-out it was time for Keith to get back into his seat to prepare for the arrival into Dunkeswell, which at 839 feet elevation is the highest airfield in the UK.

This gave me a chance to see the views from the side bubbles, which present a stunning panorama and are useful with regard to inspecting the aircraft in flight. There is no need for CCTV on this aircraft.

With another crosswind to deal with Rod brought the Catalina safely and smoothly onto runway 05 at Dunkeswell, where we were met by some of the air show organisers and local media. I asked Rod earlier about water landings, where crosswinds are only an issue once you have landed. Rod was given some initial right hand seat practice (10 take-offs and landings) on this aspect of the operation on a lake at Biscarrosse in France, just south west of Bordeaux. Biscarrosse is famous for flying boats and is an ideal base for this kind of training. The safe option for landing the 'Cat' on water is to fly the latter part of the approach at an attitude and power setting to give an indicated speed of exactly 72kts and a vertical speed of 100 to 150 feet/minute and keep that until touchdown. After being on board for many of the 55 water landings Rod began to get used to this set-up, which of course requires a great deal of concentration. Rod remarked that even the CAA pilot with the crew looked like he had been through a workout by the time they had finished, which made him feel slightly better about how demanding he had found landing on water.

The visit to this year's Geneva show involves a water landing on Lake Geneva. To be able to land on water surrounded by such beautiful scenery must make all of the training worthwhile.

'Worthwhile' sums up the whole operation of G-PBYA, and if you would like to join in with the fulfilling pastime of keeping this special part of aviation history alive then contact Plane Sailing Air Displays Ltd, Duxford Airfield, Cambs CB2 4QR. (Tel 01223 837011) ■

Right: ground crew Paul Curran, Shaun Jarvis and Mike Ebbs - Paul and Mike suffered from yaw-related medical disorders