



ON HER MAJESTY'S SERVICE

Words Neil Wilson. Pictures courtesy of AgustaWestland

This year marks Westland Aircraft's 100th anniversary; they have been building both aeroplanes and helicopters on the same site at Yeovil throughout all of that time, most recently as part of the Finmeccanica AgustaWestland Group. This month we paid a visit to them to meet LAA member and Chief Test Pilot Andy Strachan, and learn about his job at one of the country's leading aircraft manufacturing facilities.

Entering Andy's office, it was immediately obvious that here was someone with an intense interest, passion and enthusiasm for aviation, with models of a Lightning, Hunter, Mosquito, Sunderland and numerous helicopters on display; this is clearly a place where someone

(Above) Andy with his Van's RV-9, which he hopes to fly more after he has retired

very much enjoys their work, and is also probably doing the job he dreamed about when younger.

So how did it all start? Living in Dundee, at the age of five, Andy visited the nearby airshow at RAF Leuchars where two Lightnings screamed overhead; in Andy's words, "That was it – flying was going to be my career."

Andy went on to gain his PPL through an Air Cadet Flying Scholarship and, in 1979, joined the RAF as a Direct Entrant (non-graduate) for pilot training, with basic flying training taking

place at RAF Church Fenton on Jet Provost Mk 3As. Having established a keen interest in rotary flying prior to joining the RAF, Andy was delighted to then move on to helicopter training at RAF Shawbury. Following basic and advanced training on the Gazelle and Wessex, he was posted to RAF Odiham to fly the Chinook where he was on the very first conversion course to learn to fly this new type entering RAF service. It was a good time, but in 1982 the Falklands War started and the Chinooks were loaded onto the MV Atlantic Conveyor at Devonport, along with Harriers, missiles, bombs and spares etc, while Andy flew down to Ascension Island in a RAF VC-10 to meet them a few weeks later.



Andy was very much involved in the successful Merlin helicopter refuelling trials

This got all rather dramatic, as while on the way down to the islands the ship was attacked and hit by two Exocet missiles. Luckily all the Harriers had flown off by then, but only one Chinook, (the well-known Bravo November) was moving supplies between ships so when the order went out to abandon ship, a great deal of valuable and much-needed equipment was lost, as was the Captain, Ian North amongst a number of other casualties.

Andy had to jump off the ship and, as he describes, "Went for a swim for an hour, and was then in a dinghy for a further hour before being picked-up." As there were no more Chinooks to fly, Andy and some of his colleagues got sent back home, and that was the Falklands war over for them! Bravo November went on to achieve a staggering number of hours as the sole Chinook supporting the Falklands operations, having a number of interesting experiences on the way. But that's another story...

INSTRUCTOR TRAINING

Having completed his first tour, Andy then undertook the Qualified Helicopter Instructor's (QHI) course at CFS(H) RAF Shawbury. On completion of the course, he instructed on the Gazelle before returning to the Chinook for several tours as a Squadron and OCU QHI. He had always been interested in becoming a test

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pilot and was fortunate to be selected for the ETPS course in 1990. Following the course, he moved on to the Rotary Wing Test Squadron at Boscombe Down for two years, flying Gazelle, Scout, Lynx, Wessex, Sea King and Chinook helicopters. An exchange posting to Edwards Air Force base in Southern California followed, where he served with a US Army unit and flew Bell UH-1H Huey helicopters, of Vietnam War fame, plus many variants of the Chinook. While at Edwards, Andy also qualified on the Beech T-34C Turbine Mentor, which was used as a chase aircraft. He had a wonderful time with the US Army, which gave him many opportunities to fly and visit new and interesting places.

In 1997, after 18 years' service, Andy left the RAF and became a test pilot at Westlands, advancing to Deputy Chief Test pilot in 2003 and Chief Test Pilot in 2012.

The job, in Andy's words, "Is quite a traditional one, where the Chief Test Pilot is still heavily involved in development and production flying, as well as fulfilling a managerial role in organising the Test Pilot's Department to meet business needs and ensuring that the requirements of the various regulators are satisfied. Quite a varied menu offering little opportunity to get bored!"

Andy has helped in the development of all manner of types at what is now AgustaWestland, including the Merlin MK.3, which he took for its first ever flight, as well as all other variants of the AW101, the Lynx, its replacement the new Wildcat with the new digital flight controls, plus lots of flying with the Apache, Agusta 109 and others that have had internal and/or external ordnance and equipment modifications. As an example, the Merlin will have an Airborne Early Warning System put on it, similar to that used on the Sea King with its round dome on the fuselage side. This needs testing to see what aerodynamic effect it has on the airframe, with regards to stress as well as airflow, weight and general handling. This is the major part of the test pilot's job, to thoroughly test and ensure

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nothing (or as little as possible) is left to chance.

Such testing should ensure that when the aircraft is in service, nothing untoward happens that could have otherwise been foreseen. Andy had such an unforeseen incident in an early stage of his career while in the RAF (before becoming a test pilot) when he and a colleague took a Chinook to RAF Wittering to learn how to pick up a Harrier GR.3 as an underslung load. This was April 1982, prior to deployment to the Falklands. All was going well until they started moving forwards with the Harrier slung below; the flow of air through the Harrier air intakes started to turn the turbine, which in turn activated a hydraulic pump which engaged some of the flight controls; the ailerons started moving and the aircraft followed!

A TYPICAL PROGRAMME

I suggested that perhaps we could look at a typical test flying programme that he had carried out, something that was a bit different was when a customer was asking for in-flight refuelling capability for the Merlin helicopter. Up to this point, no British helicopter had ever achieved this mission, so the task required a lot of research into existing techniques and procedures. One of the basic tenets

of development flying is to gather as much information as possible before actually conducting the test. Andy sought advice from various sources, including the RAF, Cobham Engineering, Lockheed (as a C-130 J model Hercules was going to be the aircraft supplying the fuel). In addition, the test team managed to gain the services, as an advisor, of an ex-USAF Special Operations pilot with a huge amount of experience in helicopter AAR. It was decided that as the Merlin has various types of rotors, known as BERP 3 and the more advanced BERP 4, that they would test both types, as the latter would be appearing on customers' supplied aircraft in the future.

According to past experience, it was much easier and safer to take fuel from the port wing of a Hercules, as the starboard side exhibits a lot more buffeting and turbulence. Although refuelling from this station was possible and practiced, it traditionally was more difficult with a higher pilot workload. Andy moved into position behind the C-130's port wing and all seemed fine, so after a few dummy runs, they hooked into the refuelling drogue and fuel was taken and transferred. All was very smooth behind the Hercules.

They then tried the right-hand side to assess any differences. Moving into position, they came in slowly, hooked up, took fuel, smooth

as silk... both Andy and the American advisor were delighted, but wondering why? Answer – the Italian Air Force Hercules was a 'J' model that they were hooking into had new and advanced propellers and an updated wing, changes from earlier models. These factors had significantly changed the downwash patterns behind the aircraft such that there were no real differences between either side of the tanker. This was an unexpected but useful result.

Being a Chief Test Pilot isn't all graft though, sometimes something can come from out of the blue and create a little fun. One day the phone rang at AWL. "Does AgustaWestland have a big, heavy, rather sinister looking helicopter that could have a gun, searchlight and loud speaker put on it please? Oh and can it be ready in a few weeks to help with the filming of the new James Bond film called *Skyfall*?"

"Yes we do, yes we can and yes we will" was the excited reply. And that is how Andy and his team got to work with an AW101 on set at Hankley Common near Pirbright in Surrey. As ever, a full understanding of what the Director, Sam Mendes, wanted was needed, so meetings with Marc Woolf and Andy Stephens of the film company Flying Pictures, which uses helicopters with gyro-controlled cameras on the front, were set up. Models of the house where James Bond and M escape to were mocked



Flying the *Skyfall* baddies' helicopter (foreground) which is shooting up the building below. The second helicopter is doing the filming.

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up, and the AW101 was fitted with a gun and its paint scheme slightly modified to represent the bad guys! The gun is a 1/2in Browning that was actually fired (blanks only!)

If you have seen the film, you may recall the baddies helicopter shot up the house and Bond's prized Aston Martin! As ever though, rules and regulations need to be adhered to, so the actors playing the baddies couldn't fly in the actual helicopter (which was a development asset flying under experimental regulations at the time) so when you see the AW101 'land' and the guys run out all guns blazing, some clever close in camera work shows the undercarriage sink down onto the ground. Actually, Andy simulated a take-off with the landing gear oleos extended but still in contact with the ground and then he cut the power, so it looks like the Merlin is making a proper landing as the gear compresses, taking the weight of the machine! All very theatrical.

Leading on from this the phone rang again. "Do you have a helicopter available and can you help with the 2012 London Olympics? We would like to fly her Majesty the Queen and James Bond from Buckingham Palace to the Olympic stadium."

"Yes we do, yes we can and yes we will" was the jubilant reply (this was getting familiar!). Director Danny Boyle outlined the requirements

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and these were practiced during the day, and at night, ready for the big event.

Part of the plan was to fly through Tower Bridge. One of Andy's colleagues (from the AW training school in Italy) would fly the AW.139 for this task and from The Palace to the Olympic Park with her Majesty. This all proved a great success, as the 'Queen's helicopter' hovered over the arena and she and Bond 'parachuted' into the stadium.

It didn't end there, as Andy and his crew, this time Andy in a Merlin MK.3 (leased from the RAF especially for the event) operating out of

RAF Northolt and using a hopper system, flew over the stadium and dropped confetti as the British Olympic team, led by Chris Hoy, came into the stadium at the closing ceremony.

Andy joined the LAA about 10 years ago, when he happened to overhear a conversation between his colleagues, his predecessor Chief Test Pilot Colin Hague, and AW Chief Engineer Brian Main, that they were buying and going to build a Van's RV-9A. This proved to be the first one of that model built in the UK. Andy fully intended to help build it, but Brian is a serial builder of all things mechanical and gets on with things quickly, so as Andy admits, "I helped hold a wing once, when some riveting needed doing." Since then he has added some hours to his overall flying which amounts to about 3,500 civil and 5,600 military. As Andy says, the RV and the Groppo Trail that he also has a share in with Brian at Henstridge is really for when he retires and has more time to enjoy them. So far, he has been to the LAA Rally and has visited Scotland twice, in addition to some local bimbles.

After visiting Andy and his team, you can see his professionalism, dedication and enthusiasm for the job. Test flying is in good hands at Yeovil. My thanks to Andy Strachan, Geoff Russell, and the team for making my visit such a pleasure. ■



The Wildcat, on which Andy has carried out development work, has recently entered service with the Navy and Army in the UK

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