

De Havilland DH84 Dragon EI-ABI

By Eamon C Power



As Aer Lingus prepare to celebrate their 75th anniversary this year, we take a look at the history and the work involved to restore 'Iolar', the first aircraft operated by the airline in 1936. The aircraft has spent many years of inactivity and only recently completed a major restoration project and it's now ready to take to the skies again. Eamon C Power of Irish Air Letter has very kindly written the following article on the history of this aircraft to date and this rare piece of Irish flying history.

De Havilland DH84 Dragon EI-ABI named "Iolar" took to the air again on the afternoon of 24th February 2011, the culmination of more than a year's intensive work by a team of volunteers to restore the aircraft to an airworthy state. It will form the centrepiece of Aer Lingus' 75th birthday celebrations this year, being a close representation of the airline's first aircraft, the original Dragon EI-ABI, which had inaugurated the first flight between Baldonnell and Bristol on 27th May 1936.

Firstly, it might be worth recapping on the background to the Dragon. De Havilland had become famous in the 1920s as the designer and builder of the very successful Moth biplane trainer and light touring aircraft. In an attempt to address the lower end of the air transport market, they came up with the DH83 Fox Moth, a single-engined biplane with an enclosed cabin for four passengers, although the pilot was still housed in an open cockpit. The Fox Moth, which first appeared in January 1932, enjoyed a reasonable degree of success with small operators, its operating costs being sufficiently low that it held reasonable prospect of being able to operate light-traffic routes without subsidy, but its single engine was a drawback, particularly for airlines with routes that crossed water. One of the leading small UK operators, Hillman's Airways, requested De Havilland to consider building a slightly larger twin-engined version seating six

passengers. Coincidentally, the Iraqi Air Force had issued a specification for a twin-engined multi-purpose military aircraft of a similar size, resulting in De Havilland setting to work on the new project, which became the DH84 Dragon. The first prototype with Class B registration E.9 made its first flight from Stag Lane on Thursday 24th November 1932, and certificate of airworthiness trials immediately took place at Martlesham Heath, leading to the award of Type C of A on 16th December 1932, little more than three weeks after the first flight. The prototype was given the standard registration G-ACAN, and after painting in Hillman's Airways colours, it was delivered to the airline at Maylands Aerodrome, Romford, Essex, on 20th December 1932. Hillman's took delivery of a further three Dragons during early 1933, and on 1st April 1933 the company inaugurated its Romford-Paris route using the Dragons.

The Dragon's attributes soon resulted in orders coming in from other UK private operators, including Midland & Scottish Air Ferries, Northern and Scottish Airways, Highland Airways, Blackpool & West Coast Air Services, Norman Edgar (Western Airways), Railway Air Services, Jersey Airways and Olley Air Service. Foreign customers included Automobiles Fernandez SA of Barcelona, Indian National Airways, Misr-Airwork of Egypt and Wilson Airways of Nairobi. The Dragon also found favour with

operators in Canada and Australia, with some Canadian operators putting their aircraft on floats designed by De Havilland Canada. An improved version was introduced from the 63rd aircraft, featuring individually-framed cabin windows, faired-over undercarriage struts and higher weights, and these became known as Dragon Mk IIs, or simply Dragon 2s. The aerodrome licence at Stag Lane was cancelled on 5th January 1934, forcing De Havilland to move Dragon production to a new site at Hatfield, with the move completed by May 1934. Dragon production in the UK was completed in May 1937, at which stage a total of 115 aircraft had been built. A further 87 Dragons were constructed in Australia by De Havilland Aircraft (Pty) Ltd at Bankstown between September 1942 and June 1943, using drawings and jigs supplied from Hatfield. These aircraft were ordered to fulfil an urgent requirement of the Royal Australian Air Force for a radio and navigation trainer.

When the Irish Government decided to launch a national airline in the mid-1930s, it turned to a British airline pioneer, Gordon Olley, for assistance in setting up the operation. One of Olley's companies was Blackpool and West Coast Air Services, and it was arranged that one of their Dragons would be supplied to Aer Lingus, along with one of their most experienced pilots, Irishman Captain Oliver Armstrong. The UK company also supplied technical support with some of their engineers located to Baldonnell.



The Dragon selected for Aer Lingus, G-ACPY, was prepared for its new operator by the manufacturer, De Havilland, at Hatfield. This work ran late, and it was not transferred to the Irish register as EI-ABI until 26th May 1936, the eve of the launch of services. The aircraft finally left the De Havilland facility at 1900 hours, arriving in Baldonnel after dusk. It was named "Iolar" (Irish for Eagle), and early the following day it was blessed by the Irish Air Corps Chaplain, the Reverend William O'Riordan, as part of the pre-departure ceremonies. Five passengers were booked on the inaugural Dublin-Bristol service, with ticket number 1 held by the wife of the Aer Lingus Chairman, Mrs Sean O'hUadhaigh. The other four passengers were Mr. W H Morton, an Aer Lingus Director and Manager of Great Southern Railways; Mr. and Mrs T Fitzherbert of Dublin; and Mr. T J O'Driscoll, a senior secretary in the Department of Industry & Commerce. The five

passengers were weighed by the Aer Lingus station staff before they boarded the aircraft, and a parcel of copies of the Irish Times newspaper for delivery in London was the only freight carried.

The inaugural flight was seen off at Baldonnel by the Minister for Industry & Commerce Mr. Sean Lemass and the Aer Lingus Chairman Mr. Sean O'hUadhaigh; Gordon Olley expressed his regret at not being able to attend the event as he had been tied up with ensuring the Dragon was dispatched from the UK the previous evening. EI-ABI took off at 0900 hours on the historic first flight, and soon entered the low cloud which hung over Dublin that morning. Messrs Lemass and O'Uadhaigh then visited the new aircraft radio station at Baldonnel where they heard messages being exchanged with the Dragon as it climbed out southeastwards en route to Bristol. In fact considerable difficulties were encountered with radio

communications on that first flight as EI-ABI's radio receiver was defective. The flight arrived at Bristol's Whitchurch Aerodrome some 55 minutes behind schedule, where it was met by a delegation which included the Chairman of the Bristol Airport Committee Alderman A A Senington and the Bristol Manager for Blackpool & West Coast Air Services Mr. F Blunden. Two passengers, Mr. and Mrs T Fitzherbert, left the flight at Bristol and proceeded onwards by train to London, whilst the remaining three passengers re-boarded the Dragon for the return flight to Baldonnel.

The Dublin-Bristol service was maintained on a daily basis by Aer Lingus subsequent to the inaugural on 27th May. On 30th May, the company operated a special inaugural flight on the Dublin-Isle of Man route, but no further services were operated until a regular thrice weekly service started on 7th July 1936. Blackpool & West Coast Air Services commenced a regular daily schedule on the Liverpool-Isle of Man-Dublin route on 1st June 1936 using both DH84 Dragons and DH86 Express Airliners, but this service was maintained for the summer only and was suspended for the winter on 31st August 1936.

On 14th September 1936 Aer Lingus started a Dublin-Bristol-London service using a larger De Havilland DH86 four-engined airliner. The launch of this service freed up the DH84 Dragon EI-ABI to be deployed on a Dublin-Liverpool service, which was operated in conjunction with the existing Blackpool & West Coast Air Services route via the Isle of Man. The Dragon operated the first service on 14th September, and the route was suspended for the winter on 24th October, with the Dublin-Isle of Man service also being suspended on that date.

Aer Lingus resumed the Liverpool and Isle of Man services on 14th May 1937, operating as a combined Dublin-Isle of Man-Liverpool route with a basic frequency of twice daily except Sunday, rising to three per day in July. The service was suspended again for the winter period on 4th September. Blackpool & West Coast Air Services had tried a winter Liverpool-Dublin

service in January 1937, but suspended the operation at the end of the month. Coinciding with the resumption of Aer Lingus' services, the UK carrier also came back on the Liverpool-Isle of Man-Dublin route on 14th May 1937 operating two or three times a day until 5th September.

In February 1938 Aer Lingus negotiated an exchange deal with West Coast Air Services for the replacement its Dragon EI-ABI with a DH89 Dragon Rapide. EI-ABI was flown to the UK on 16th February and was cancelled from the Irish register on 19th February, reverting to its former UK registration G-ACPY on 1st March 1938, registered to Olley Air Services Ltd. The replacement Rapide, G-AENO, was registered EI-ABP on 24th February and was delivered to Aer Lingus the same day. It was given the name "Iolar II".

G-ACPY was operated by Olley Air Services' subsidiary Channel Air Ferries Ltd., based at Land's End (St. Just). This company was taken over by Great Western & Southern Airlines Ltd., Land's End, in December 1938 and the aircraft was officially registered to Great Western & Southern Airlines on 15th March 1939. It flew the airline's services until it was lost on Tuesday 3rd June 1940, flown by Australian pilot, Captain W.D. Anderson. The aircraft left St. Mary's in the Scilly Isles, shortly after 1700 local on its third (non scheduled) flight of the day, to Lands End but failed to arrive. The alarm was raised after the aircraft was 15 minutes overdue and the Scillian lifeboat was launched, but despite an extensive air and sea search, no trace of the missing Dragon was ever found. A body of one of the passengers was later found in the sea near Portreath. The aircraft had been shot down by a Luftwaffe Heinkel He 111H?4 which was returning from an abortive bombing attempt of the aircraft carrier HMS Indomitable at Barrow?-on?-Furness. The He 111 was using Scilly as a turning point when it came upon the Dragon and shot it down using its free mounted machine gun in the nose. G-ACPY's registration was officially cancelled on 11th June 1941.

The aircraft which is the subject of the current Aer Lingus restoration is c/n

6105, a Dragon 2 built at Hatfield and initially flown by Geoffrey De Havilland himself. It was registered G-AECZ on 11th Mar 1936 to Air Cruises Ltd., Hatfield, and its first C of A was issued on 18th April 1936, described on the registration paperwork as a 6-seater biplane. It was registered to Straight Corporation Ltd., Ramsgate, on 1st February 1937 and registered to Ramsgate Airport Ltd. on 15th November 1937. The latter used it for joy-riding at Weston (UK), Exeter, Ramsgate and Ipswich; it was operated by their associate Norman Edgar (Western Airways) Ltd., Whitchurch, which underwent a name change to Western Airways Ltd. in October 1938. It was registered to Southern Airways Ltd., Ramsgate, on 14th February 1939 but was still operated by Western Airways Ltd., Weston-super-Mare. It featured a rather colourful paint scheme with Western Airways, being predominantly blue overall with red registration letters and red and white horizontal stripes on the rudder.

Following the outbreak of the Second World War, G-AECZ was impressed into RAF service and was used by 24 Squadron at Hendon from 11th October 1939. This squadron had been tasked with providing transportation for Heads of State, the UK Government and senior personnel from the three services, but with the outbreak of war it undertook general military communications and mail flying, mostly using De Havilland Rapides taken over from commercial operators. It also operated regular flights to France in support of the British Expeditionary Force until the evacuation at Dunkirk. G-AECZ was officially cancelled from the UK civil register on 8th May 1940, and it was delivered to 110 (Anti-Aircraft Co-operation) Wing at Ringway on 12th May 1940, being allocated RAF serial AV982. It went to 7 Anti-Aircraft Co-operation Unit, Castle Bromwich, on 22nd May 1940, and was badly damaged (fuselage, mainplanes and undercarriage) on landing at Castle Bromwich on 22nd September 1940, reportedly still displaying registration G-AECZ. It was transported to the De Havilland Repair Unit at Witney as Category B damage for storage, and was sent to 18 Maintenance Unit, Dumfries, on 30th June 1941 still as



Category B. It was repaired there and was delivered on 13th October 1941 in brand new condition to the Ministry of Aircraft Production overseer at English Electric who used it for communications duties. It suffered minor damage at Castle Bromwich on 4th November 1941. It remained in service with the MAP overseer until it was flown to 5 Maintenance Unit on 31st August 1944 for storage.

The Dragon was sold on 3rd April 1946 to Air Taxis (Croydon) Ltd. and was restored to marks G-AECZ on 18th June 1946, registered to Air Taxis Ltd., Croydon. As at 11th November 1946 the aircraft had accumulated 2,006 hours and 40 minutes flying time on the airframe. It was taken off service on 13th July 1947 for a C of A





renewal, but it remained out of service until it was sold by Air Taxis in January 1948 shortly before they ceased operations. It was registered to Frederick Thomas Bingham, of Lockerby, Hants, on 13th January 1948, and the C of A renewal overhaul was signed off on 1st March 1948 by Aircraft Engineering Services Ltd, Croydon. It flew again on 28th April 1948, but was re-registered to The Wiltshire School of Flying Ltd., Thruxton Aerodrome, on 30th April 1948. Its next C of A renewal check was carried out by them between 19th February and 10th May 1949 at Thruxton. Registration G-AECZ was cancelled on 24th February 1950 as sold abroad, and its logbook was noted as ownership changed to J Cleary Esq. on 1st March 1950, new registration EI-AFK, and total flying hours of 2,290 hours and 10 minutes.

The aircraft was officially registered EI-AFK on 16th March 1950 to Joseph Cleary, Mullingar, but based at Weston. It was registered to Darby Kennedy's Weston Ltd, Weston, on 1st August 1950, and it was used by them on light charter work, pleasure flying and parachute jumping. Its charter flying took it to destinations throughout Ireland and the UK, often with VIPs on board, and the famous French racehorse owner M Marcel Boussac used it on a number of occasions to transport him from Dublin Airport to

the Curragh Racecourse or other racecourses around Ireland. The Dragon undertook the role of representing Aer Lingus' first aircraft to mark the airline's 21st birthday in May 1957. It participated in fly-pasts over Dublin on the day in question, 27th May, accompanied by two formations of three DC-3s, two Viscounts and the second prototype Fokker Friendship. In addition to giving pleasure flights from Weston and performing light charter work, it was also used for twin-engined flight instruction for student pilots. At the 1958 Weston air show held on 03rd & 4th August EI-AFK flew in formation with an Aer Lingus Viscount 808 to symbolise Aer Lingus' first aircraft and its newest. The aircraft remained in service until 12th January 1959, on which date it performed its last flight for Weston Ltd, after which it was again put into storage at Weston. Registration EI-AFK was eventually cancelled from the Irish register on 11th March 1966.

In June 1967 Darby Kennedy arranged to sell EI-AFK to Aer Lingus for a nominal sum, and preparations went ahead to make the aircraft airworthy for a one-off ferry flight from Weston to Dublin Airport. It was repainted to represent EI-ABI and the ferry flight took place on 1st September 1967, landing in Dublin at 1101 hours. It was officially handed over to Aer Lingus after arrival, and it was initially stored

suspended from the roof of the Number 2 hangar. It remained there over the next few years, but it was restored to taxiing state in early 1971 so it could be used for the arrival ceremonies for the delivery of the first Aer Lingus Boeing 747-148, EI-ASI, on 6th March 1971. After this brief moment of glory it went back into storage for the next five years, but it was then decided to make the aircraft the centrepiece of the Irish Aviation Museum, which was set up at the south end of the underutilised new terminal building at Dublin Airport. Iona National Airways were contracted to carry out a cosmetic refurbish of the aircraft and to prepare it for static display. The Dragon was suspended from the ceiling in May 1976, and at least now the aircraft was available for public viewing.

In 1985, with the approach of Aer Lingus' fiftieth birthday the following May, one of the airline's Quality Assurance Inspectors, Johnny Molloy, who was experienced in the dying art of restoring and maintaining wood-and-fabric aircraft, undertook a survey of the Dragon, and determined that a restoration to airworthy state was eminently achievable within a fairly modest budget. He put forward a suggestion to Aer Lingus management that the aircraft be restored to flying condition to mark this significant anniversary, which was duly accepted. Johnny received permission to enlist the services of Flight Sergeant Brendan O'Donoghue of the Irish Air Corps, who was one of the very few aircraft engineers available with the requisite woodworking skills, and was thus key to the whole project. In addition a group of volunteers was recruited amongst Aer Lingus maintenance staff to participate in what was to be a major restoration programme. Formal go-ahead for the project was received on 31st May 1985, and shortly afterwards the aircraft was moved to the mezzanine floor in Hangar 5 at Dublin where it was out of the way of the main hangar activity. It was placed back on the Irish register, not under its old registration EI-AFK, but using the registration used by Aer Lingus' original Dragon, EI-ABI, and it was officially registered as such on 12th August 1985.

Initial taxi tests were undertaken on 8th April 1986 by Captain J J Sullivan, a highly experienced Aer Lingus pilot who was in charge of the Dragon operation from the flight operations side. Over the subsequent two days Johnny Molloy and his team worked on clearing a few snags which had become evident, but by the evening of 10th April all was in order for the first post-restoration flight. Air traffic control authorised a quick circuit before darkness descended, and so EI-ABI took to the air that evening, flown by J J Sullivan, with another Aer Lingus pilot, Captain Paul van Lonkhuyzen, plus Johnny Molloy on board. No problems were encountered, allowing further flights to take place the following day. It was then worked on over the subsequent few days in addressing cosmetic items such as the exterior paint and interior trim and furnishing. The Certificate of Airworthiness test flight was performed on 18th April, which it passed with flying colours, allowing the Department of Communications to issue the all-important C of A - happily exactly on the 50th anniversary of the issuing of its first C of A on 18th April 1936! The total cost of materials used in the entire restoration was an incredibly low £8,500.

The Dragon was to be a focal point of the airline's 50th anniversary celebrations on 27th May 1986 with a commemorative Baldonnell-Bristol flight, but sadly the weather did not cooperate with a violent storm featuring winds gusting to 50 kt and heavy rain, forcing the cancellation of the flight. It was rescheduled for 13th June, but that, too, had to be cancelled, this time because of low cloud and fog. The aircraft's air show debut had occurred on 7th June when it attended a display at Newtownards, and the cancellation of the second Bristol attempt meant it was able to appear at an event in Trim on 14th June. Just over a week later, on 22nd June, it flew to Birr and back, and a further visit to Baldonnell was paid on 28th June.

It proved to be third time lucky for the commemorative Baldonnell-Bristol flight, which was successfully staged on 5th July. The opportunity was taken to tie this in with a visit to Hatfield for the annual British

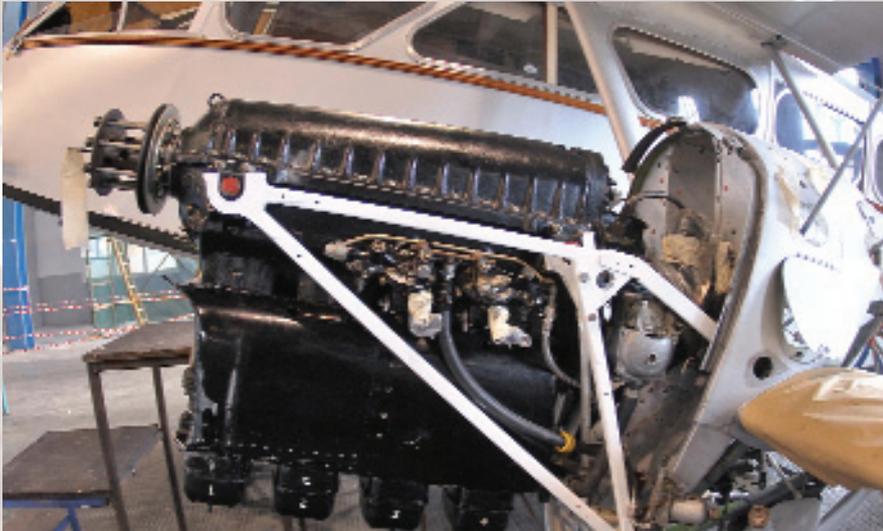


Aerospace Open Day, bringing the Dragon back to its birthplace of 50 years earlier. It then returned to Bristol for an overnight, proceeding back to Dublin the following day in a flying time of 2 hours 57 minutes. The following week, on 13th July, it was a star attraction at the Society of Amateur Aircraft Constructors Fly-In at Weston. A key part of the Aer Lingus 50th anniversary celebrations was a major exhibition at the RDS Dublin Horseshow in Ballsbridge from 5th to 9th August, and the Dragon was a major attraction at the show, being roaded in with wings removed and reassembled on site. It was restored to active status in time for the Air Spectacular air show at Baldonnell on Sunday 17th August where it performed a graceful, dignified display in front of a 75,000-strong crowd. Over the next few years the Dragon became a regular participant at various air display and fly-ins around Ireland and the UK, as well as being used by Aer Lingus for various promotional events such as the launch of new products or services or to mark significant anniversaries.

The Dragon was temporarily grounded in 1991, but it was restored to taxiing condition to participate in ceremonies to mark the retirement of the Boeing 747 from Aer Lingus service in October 1995. The last 747 in service, EI-ASJ, arrived in Dublin from Boston and Shannon on the morning of 2nd October, and in a nice touch, linking the event to the arrival of the first 747 twenty four years earlier, the 747 was led in from the runway by the

Dragon, whilst following the 747 into the terminal area was an A330, representing the new generation. It was then decided to restore the Dragon to airworthy status in time to mark Aer Lingus' 60th anniversary in May 1996. Work on inspecting and overhauling the aircraft went ahead over winter 1995/96, and it performed its first post-restoration flight on 3rd April 1996. Over the subsequent five years it was again active on the air show and fly-in circuit, being much in demand for such events. It was again briefly out of service from August 2001 until December 2003 when it was once again restored to active status. On 17 December of that year it was a key participant at a special event at Weston to mark the 100th anniversary of powered flight, and it performed a further local flight at Weston on 22nd December after which it was parked up there for the remainder of the winter. It was active again for summer 2004 but the aircraft was then taken out of service in November 2004 and stored at the Aer Lingus Commuter hangar at Dublin.

When the new Aer Lingus Chief Executive, Christoph Mueller, was appointed, he immediately expressed the wish that the Iolar should be restored to airworthy state, using volunteer labour from the airline's staff, as he immediately realised the importance of the aircraft with regard to the airline's heritage. A meeting of interested parties took place on 17th December 2009, which marked the formal launch of the restoration. With



Aer Lingus now resident in Hangar 6, the aircraft was moved there from the Commuter Hangar on 3rd January 2010, and it was subsequently hoisted up to the Mezzanine Floor where the work was to take place. Johnny Molloy agreed to oversee the project and provide his invaluable expertise to the project, whilst Brendan O'Donoghue was happy to assist with inspections of the wood structure. Other members of the restoration team were:

- *John Kent, retired Aer Lingus Flight Crew, enthusiastic homebuilder.*
- *John O'Toole, Aer Lingus A320 Captain, enthusiastic homebuilder.*
- *John Fields, Engineering Department, Aer Lingus*
- *Percy Cleere, Line Maintenance Supervisor, Aer Lingus, A320/A330 B1/ B2 type approval.*
- *Oliver Murphy, Aer Lingus Station Engineer Line Maintenance Dublin.*
- *Stephen Jordan, Equipment Section Ground Operations, Aer Lingus.*
- *Jim Price, Line Maintenance Engineer (was also involved in original restoration).*
- *Padraig Delaney, Duty Maintenance Manager.*

Engineering back-up for the aircraft is being provided by De Havilland Support Ltd, who are the Type Certificate Holders for early De Havilland aircraft including the Dragon, and also their

engineer Mark Miller inspected the aircraft during the restoration. The Irish Aviation Authority were extremely supportive of the project and provided their services free with regard to their certification and operational requirements. Other organisations which assisted with the services and expertise included the following:

- *MB Precision Parts, Drumree, Co Meath (general machining work)*
- *Aero Inspection International, Shannon, Co Clare (consultancy and weighed aircraft)*
- *Plane Weighs (provided weight report and certification)*
- *Botany Weaving (provided cabin furnishings)*
- *University College Dublin (NDT services)*

It was now 25 years since the original restoration had taken place, and so a fairly extensive inspection had to be carried out. The basic structure was found to be in excellent condition, a testament to the soundness and thoroughness of the original restoration back in 1985-86. One of the key tasks was to replace the wing tie-rods, which required the wings to be demated from the fuselage. The tie-rods themselves had to be manufactured to order by Bruntons in the UK. Instruments were sent to the shop for testing and re-calibration, and repairs carried out where necessary on disassembled components. A full overhaul was carried out on the undercarriage assemblies. Aer Lingus' neighbour at Dublin Airport, Dublin

Aerospace, kindly volunteered free of charge assistance with machine shop and plating capabilities particularly with regard to undercarriage components. The aircraft was also in need of many minor repairs and some cosmetic refurbishing, particularly with regard to the exterior paint. The aircraft was then fully reassembled and extensive rigging checks were carried out after which it was carefully hoisted back down to the hangar floor. The first engine ground runs were then carried out, which showed the two Gypsy Majors to be in fine form.

Ownership of the Dragon has been transferred to the "Aer Lingus Charitable Foundation", which has been formed specifically to manage the aircraft, and the relevant change was made on the Irish register on 23rd February 2011.

A comprehensive Maintenance and Oversight Manual has been drawn up with the objective of ensuring that the aircraft is maintained and operated to the highest standards. A team of Aer Lingus pilot volunteers are also involved in the programme under Captain Paul van Lonkhuyzen, and also includes Captains Brendan Bruton, John O'Toole and Pat Murphy.

EI-ABI is the only pre-war, UK-manufactured Dragon active in Europe, and in fact there is only one other example of the type in Europe, this being UK-based G-ECAN of the Norman Aeroplane Trust. This latter aircraft is an extensive rebuild by Hants Light Plane Services of a wartime-built Australian aircraft, and so is somewhat younger than EI-ABI, having been originally built in 1942-43. There are three other airworthy Dragons worldwide, one in Australia, one in New Zealand and one in the United States.

EI-ABI "Iolar" is now also celebrating its 75th anniversary, and hopefully this latest phase in its long and distinguished career will see it acting as a worthy ambassador for Aer Lingus at various air shows, fly-ins and corporate events for many years to come, providing a tangible link to the airline's beginning and to those pioneering days of air transport development.

Photos supplied by Mark Dwyer, Joe McDermott and Stephen Jordan. 