BNAPS News May 2015

BNAPS News Vol 5 Iss 3 – May 2015

"Islander 50" Special Edition

BNAPS is pleased to announce that "Islander 50" will be officially opened by Major General Martin White CB CBE JP, HM Lord Lieutenant of the Isle of Wight at 1200 on Saturday 13 June, 2015 – see page 2

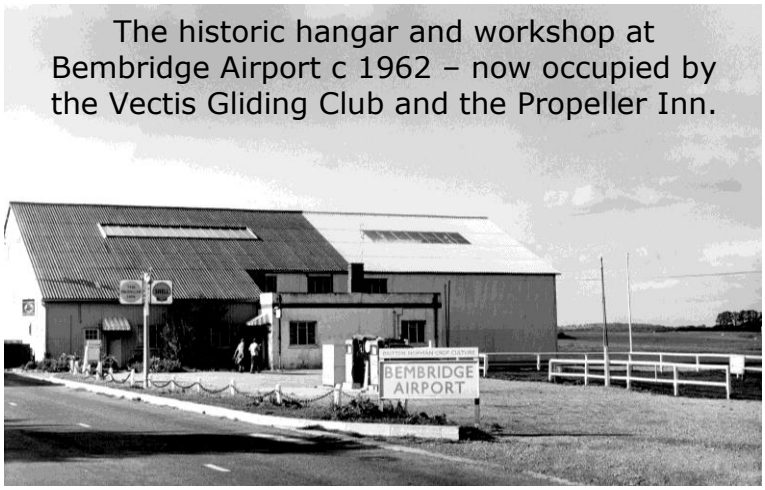
Ivan Berryman's Painting for "Islander 50" -"First of the Many"

Once again Ivan has captured the drama and spirit of the time with this painting "The First of the Many" depicting the BN-2 Islander prototype G-ATCT climbing out from Bembridge Airport as it would have been in mid June, 1965.

Having made its first flight on 13 June 1965, G-ATCT was then painted in its attractive blue and white colour scheme ready for an appearance at the Paris Air Show. On 16 June, G-ATCT was awarded its Special Category Certificate of Airworthiness at a press conference held by B-N and in the morning of 17 June it departed for Paris - this was history in the making.

"Islander 50" 13-21 June, 2015

The Britten-Norman Aircraft Preservation Society Trust (BNAPS), in conjunction with the Bembridge Heritage Society, the Propeller Inn and the Vectis Gliding Club, will be hosting "Islander 50" week with a series of events centred on The Propeller Inn at Bembridge Airport Isle of Wight from 13-21 June, 2015. The celebrations will start when the 50th anniversary of the first flight of the prototype BN-2 Islander, G-ATCT, is commemorated on Saturday 13 June, 2015, at Bembridge Airport.



The historic hangar and workshop at Bembridge Airport c 1962 – now occupied by the Vectis Gliding Club and the Propeller Inn.

"Islander 50" will be open to visitors at 1100 on the 13 June commemoration day. At 1200 the event will be officially opened by Major General Martin White CB CBE JP, HM Lord Lieutenant of the Isle of Wight together with dedication of a commemorative plaque. There will be a first flight 50th tribute with a flypast of two Islanders at 1418.
"Islander 50" offers an opportunity to view the fitted out fuselage and other restored components of Islander G-AVCN as "work in progress".
Specially commissioned paintings produced by local artist Ivan Berryman for "Islander 50" will be unveiled and there will be an exhibition about B-N and local aviation heritage.

The aviation heritage and artwork exhibition will continue through until 21 June. Other events during the week will include:

Tuesday 16 June Joint RAeS/BNAPS keynote talk evening at the IoW College, Newport starting at 1800

Wednesday 17 June Propeller Inn Curry Night

Thursday 18 June Propeller Inn Quiz Night with an aviation theme

Friday 19 June BNAPS Social evening including an opportunity to see historic archive film featuring the Islander - 1800 for 1830.

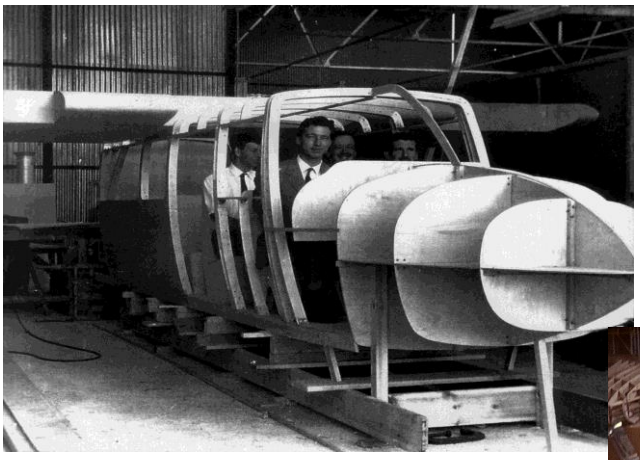
Saturday 20 June Evening Social with Food and Music, details to be advised.

BNAPS intends that "Islander 50" should pay a full and well deserved tribute to the achievements of John Britten, Desmond Norman and all those who worked with them to create the BN-2 Islander - a classic design at the outset and later to become Britain's best-selling civil transport aircraft.

"Islander 50" provides an opportunity to look ahead to the future when BNAPS has completed the restoration work and Islander G-AVCN, is fully assembled and on public display and to thank all those individuals and organisations that have given the project their valuable support over the years. Also recognised is the fact that 50 years on BN-2 Islanders and Defenders continue to be in production and of the 1250+ aircraft delivered by Britten-Norman to date with around 600 or more still in service around the world.

If visitors wish to fly in for "Islander 50" then please consult the following website for EGHJ PPR arrangements and operating procedures www.eghj.co.uk

BN-2 Islander G-ATCT - First Flight Photo Gallery



BN-2 wooden mock up late 1964 (Peter Gatrell)

BN-2 G-ATCT under construction April 1965 (Bob Ward)

First flight preparation 12 June, 1965 (Brian Robinson)

First start up 12 June, 1965 (Bob Wilson))

First "hops" 12 June, 1965 (Peter Gatrell)

This report of the BN-2 Islander's first flight and Paris Air Show appearance is from the 19 June, 1965 edition of the Isle of Wight County Press and is reproduced here by kind permission.

BRITTEN-NORMAN AIRCRAFT FOR PARIS SHOW

'ISLANDER' SHOWS HER PACES AT BEMBRIDGE

BRITAIN'S latest aircraft — a miniature 10-seater airliner designed and built entirely in the Island — flew out of Bembridge Airport at 9.30 on Thursday morning to become a surprise exhibit in the Paris Air Show. Given the very appropriate name "Islander," the aircraft is the latest product of Messrs. Britten-Norman, Ltd., of Bembridge, who have developed her specifically for the commercial short-haul operator.

Finishing Touches for the Islander

Messrs. Britten-Norman's new aircraft being prepared for her debut

She made her maiden flight of 70 minutes' duration on Sunday, flown by Mr. Desmond Norman (director), accompanied by Mr. John Britten (director) and Mr. Andy Coombe (flight test engineer). They were delighted with her performance.

At a Press conference which followed a demonstration flight at Bembridge on Wednesday, Mr. Britten was able to announce that following a complete series of successful flight trials the Air Registration Board had that day recommended the Ministry of Aviation to Issue a special category Certificate of Airworthiness. As a result the Islander would be flown to Paris for the show.

The Island Member (Ald. Mark Woodnutt) had met Mr. Roy Jenkins (Minister of Aviation) and had arranged for the Minister to see the new aircraft during his visit to Paris. The firm have celebrated the occasion by sending a drawing office and works party for a well-earned week-end in Paris, their five lucky guests being selected by lot.

The demonstration on Wednesday took place under miserable conditions, with low cloud and heavy rain, but the watchers were most impressed by the new machine, its short-run take-off and landing characteristics arousing much favourable comment. The aircraft's generous wingspan and large flaps have been designed to this end, and the double main wheels and long stroke undercarriage can absorb bumps on rough landing strips.

MEETING A NEW DEMAND

The company believe that there is no directly competitive aircraft in production today and that, as the larger airliners fly farther and faster, there will be an Increasing demand for short-haul aircraft to fill the gaps left in the domestic airline network. The Islander is the ideal aircraft for a party of eight or nine to hire for a flight to any airfield serving tong distance airliners, or even for a jaunt to London to see the Cup Final!

At £17,500 (49,000 dollars) it is the cheapest aircraft of its kind in the world. The American Aero Commander costs more than £40,000 by comparison. With full loads and a busy schedule the Islander's running costs are as low as £14 an hour.

By designing for stage-lengths of about 100 miles the gross weight has been kept below 5000 lbs, about half the weight needed for stage-lengths of 1000 miles — the usual range for small aircraft designed for executive travel. The plane is, however, fitted with large fuel tanks which can be filled If the aircraft is required for a long flight with fewer passengers — just one example of her versatility.

NOVEL FEATURES

The aircraft has three large entry doors and her designers have done away with the customary aisle down the centre of the fuselage. Passengers sit as couples on comfortable bench seats, each pair of seats having its own door. As it is a high wing aircraft getting into it is almost like getting into a car, and queueing is eliminated. The extra doors will prove invaluable when the aircraft is carrying a mixed load of passengers and freight, as the passengers will be able to reach their seats unhindered by piles of cargo. The seats can be removed in a matter of seconds and folded to stow in the baggage compartment when only freight is carried.

SIMPLE DESIGN

The design has been kept as simple as possible so that the Islander can

easily be produced abroad under licence in developing countries wishing to take a short cut into the aircraft manufacturing industry — a complete package for this purpose, consisting of all drawings, tools, production jigs and semi-manufactured components is to be offered.

The Press conference was held by Mr. Norman in a workshop-cum-hangar, with a complete test fuselage of the Islander separating the guests from the craftsmen busily engaged on producing fittings for the machine. It was attended by representatives of the national and trade Press.

Mr. Norman said "God willing, and weather permitting, we hope to fly the Islander to Paris and put her under the wing of that big Russian" — a reference to the giant Russian airliner which caused such a sensation on its arrival at the show.

"AN ABSOLUTE WINNER"

Mr. Norman added that while the Islander represented no break-through in aircraft design — it was not an executive plane or a flying boardroom — it was designed to carry nine passengers for short journeys at minimum cost, to meet the needs of the small man in aviation enabling him to make a good living out of short-haul flying. It was powered by two 210h.p. Rolls Royce Continental engines. In designing and building the aircraft, they had stuck to good, sound aeronautical practice, but he was dumbfounded at the way in which it flew. "We have an absolute winner here," he said. "It is as docile to fly as a cross between a Piper Cub and an Avro Anson, but it leaps into the air like a cork out of a champagne bottle. It is the most pleasant aircraft I have ever handled and, as a point of interest, I have flown 57 varieties!"

TRIBUTE TO CRAFTSMEN

Mr. Norman said the company had some of the finest craftsmen in the industry; the quality of their work was as good as any in this country and better than any overseas. All those craftsmen's experience bad been drawn upon to get a lot of people into a small aeroplane and get them from A to B cheaply. They had put their life and soul into ensuring perfection in every detail. He did not think they would find such an enthusiastic team anywhere else in the country.

ORDERS WITHOUT PUBLICITY

Mr. Norman said it was decided to "scheme" the new aircraft at Christmas 1963 and by April 1964 the project had reached a position where it was decided to spend money on the design and a model was on display at the Farnborough show last year. The machine had now passed its tests, and the company had more than £20,000 worth of production tools in their stores. As to orders for the aircraft, they had neither publicised it nor solicited orders, except for one or two firms with

which they were intimately connected in other ways, but they had booked and received the deposits on 15 aircraft which represented exactly half of the Initial batch of 30, which would appear to be the best number to put in hand. Ten of the orders were from America. Following that day's Press release, they were going to promote a sales campaign among the 1200 potential customers they had listed. It was a machine designed for export, and he was confident they would sell plenty. There was every chance that it would be fully certified for public transport well within a year. The company had been granted an industrial development certificate and had outline planning permission to increase their factory space by 25,000 square feet and by up to 100,000 square feet if necessary.

EARLY PRODUCTION — FINE TEAM WORK

Mr. Norman said the first production model would probably be ready in less than a year, and He was sure that anyone who reserved a plane now would get it within 12 or 14 months. The management offered a prize of £5 for the most appropriate name put forward for the new aircraft by a member of the staff. This was shared by Messrs, Ted Smith and Arthur Rayner, who both submitted the appropriate name "Islander."

One of the craftsmen engaged on the project told a "County Press" reporter that anyone who had seen the Islander only three weeks ago would never have believed it possible to get her into the air In. time for the demonstration. But all concerned had worked as a team and had put in anything from 80 to 100 hours a week to complete the aircraft on time. He added that it was a happy firm where everyone pulled together. They had young "guv'nors" who knew and talked to all the staff in a way which would not be possible in a bigger concern.

Another member of the staff eyed the buffet and well stocked bar where the guests were being entertained close by his bench and said wistfully "It seems almost like a mirage. Night after night as I've worked here until late I've longed for a bar, but I never expected to see it materialise!"

Can you help?

Some questions have been raised about the circumstances of the first flight. Firstly it appears that the exploratory "hops" in the early evening of Saturday 12 June, 1965, seem to have been a complete circuit of the airfield. This appears to be the case from photographs taken by Brian Robinson on 12 June, 1965.
Secondly who was on board G-ATCT for these "hops"?
Thirdly eye witnesses of the official first flight on Sunday 13 June, 1965, believe that only Desmond Norman and John Britten were on board yet contemporary reports state that Andy Coombe was also on this flight. When interviewed for local TV news at Islander 30 in 1995, Desmond Norman recounted that "Andy Coombe was crouched in the back". So which flight was he referring to – the "hops" on 12 June or the official flight on 13 June?

BN-2 Islander G-ATCT at the Paris Air Show 17-21 June, 1965

Preparing to leave Bembridge 17 June, 2015 – note display board on the left ready to be loaded (Bob Ward)

G-ATCT arrived safely and was parked in the static aircraft display area. Note display board now on show – this only refers to BN-2 not "Islander" as the name had only been chosen the day before (Bob Ward)

G-ATCT is seen here soon after arrival at the show. On the right is the B-N company IoW registered Ford Anglia Estate, CDL960C, parked alongside (Bob Ward)

Looking resplendent in the sunny weather, G-ATCT receives close inspection from air show visitors (Bob Ward)

The Miles Aircraft Company Connection

The BN-2 design study was completed in December 1963 when a board decision was taken to proceed with the project. Two contracts were signed with the Miles Group. One covered the secondment of five senior draughtsmen to expand B-N's own technical design team and the second enabled coverage of the BN-2 project under the Air Registration Board (ARB) design approval held by the Miles Company. This arrangement, which was acceptable to the ARB, placed responsibility for the design with B-N whilst the primary responsibility for airworthiness was devolved to Miles.
The BN-2 design team was therefore composed of B-N's technicians, who had carried through the design of three Cushioncraft machines, and the team from Miles that had been concerned with the design of Miles and BEAGLE aircraft.

On the manufacturing side B-N had received ARB approval for manufacture of aircraft sub-assemblies. This approval was uprated to full approval later in step with the BN-2 programme. The works team for the BN-2 had been built up around a lead production engineer and a number of experienced staff who had been engaged upon various light aircraft projects. Fortunately the BN-2 project was started at a time when re-arrangements within the structure of the British light aircraft industry had made the experienced Miles light aircraft design team available to B-N.

Thanks go to Brian Robinson, who was employed by Miles and seconded to B-N at the time, for his recollections:
"Previously a number of design office staff employed by F G Miles Ltd had been made redundant following the merger with Beagle Aircraft, several of these were re-employed by another of the Miles companies (Miles Engineering) and, of those, six became part of the design team on the Islander project. Those six were Mike Benjamin, Dudley Kell, Denis Berryman, Ernie Perkins, Ron Dack and myself, Brian Robinson, and were all still employed by Miles. We had all worked together developing the Beagle M218 aircraft and as such provided a team bringing a certain amount of experience to the project."

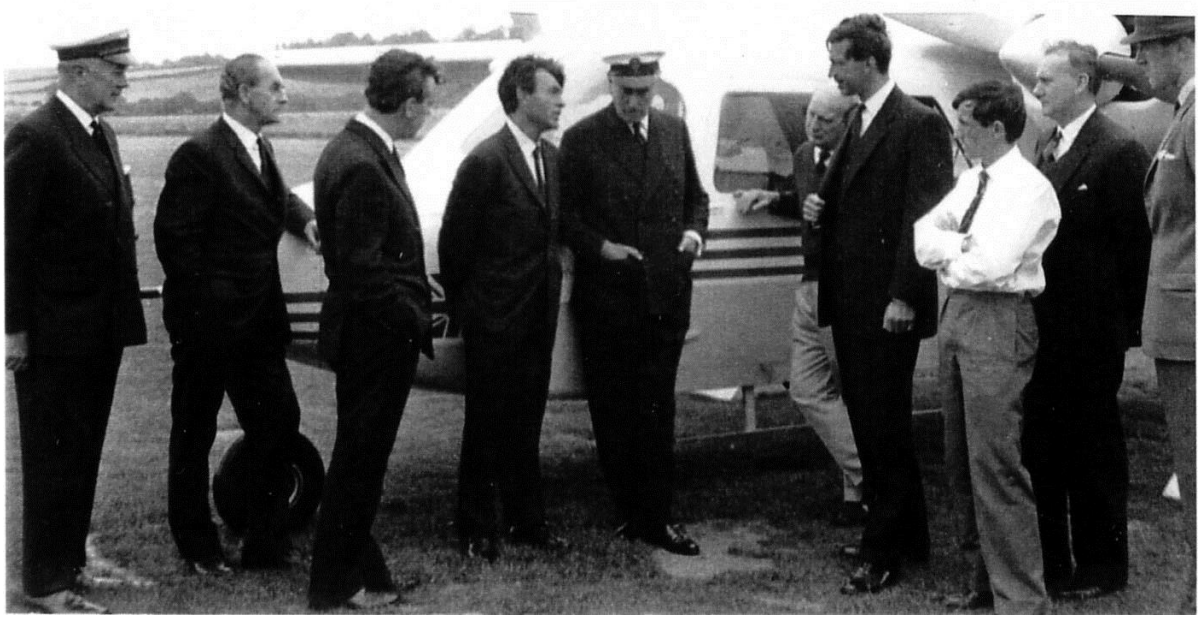
Also Jack Sullivan came from Miles to B-N and was praised by Desmond Norman, when he gave an interview after the first flight, for Jack's outstanding effort that got the prototype Islander G-ATCT built in record time to go to the Paris Air Show.

Jack Sullivan is seen here at Shoreham Airport with the innovative Miles M218 light twin aircraft. Some of the Miles Aircraft design team that were engaged on the detail design of the prototype BN-2 had previously been with the M218 project (Brian Robinson).

Further reading:
Derek Kay's book "The Last Grand Adventure in British Aviation?" (ISBN 978-1-907571-23-7) gives a remarkable insight into the dynamic and often unpredictable day to day life at Britten-Norman. The book recounts Derek's experience at B-N from 1966 until 1992 as the head of B-N's Technical Publications Department. In the first three chapters Derek sets the scene by providing a fascinating account about the origins and early days of Britten-Norman and the people who contributed to making the Islander a worldwide success. Derek's book is available from BNAPS at £9.99 + £2.50 UK p&p.

BN-2 Islander G-ATCT Flight Testing

After its return from the Paris Air Show on 21 June, 1965, G-ATCT then embarked on its flight test campaign. A personal account of the work done during the early flight testing of the BN-2 Islander prototype, G-ATCT, by Andy Coombe, Britten Norman's Deputy Chief Designer and Chief Airworthiness Engineer, appeared in the August 1970 issue of "Aircraft Engineering". It reflects the enthusiasm and "can do" approach to the Islander project that enabled it to be taken from the drawing board to production in record breaking time. B-N's Chief Pilot Jim Birnie flew G-ATCT during the flight test campaign.



Andy Coombe is seen here third from the right on the occasion of a visit by Earl Mountbatten to see the B-N Islander prototype G-ATCT. John Britten is third from the left and Desmond Norman is fourth from the right. B-N's chief pilot, Jim Birnie, is standing next to Desmond Norman by the aircraft (Bob Ward).

Andy Coombe's report from the August 1970 issue of "Aircraft Engineering", with minor adaptation, follows:

Flight Testing the Islander
A description of the early flight test development of the aircraft
By A. J. Coombe,

Introduction

The design team knew that the Islander was a winner from the very first moment it leapt into the air on 13 June, 1965. The reliability was phenomenal; from that first flight on 13 June to the evening of Wednesday, 16 June, the aircraft completed twelve flights totalling 7 hours 25 minutes over a wide range of c.g. positions and flight regimes in order to acquire the Special Category Certificate of Airworthiness that was required for attendance at the Paris Air Show.

After attending the Paris Air Show, an intensive flying programme was commenced. Aircraft reliability proved to be outstanding - only one flight was delayed for mechanical reasons - on one day, eleven sorties were completed.

Two problems came to light from the flight test programme. Longitudinal trim was found to be not powerful enough to meet BCAR and FAA requirements at the low speeds, and the aircraft performance, whilst equalling or exceeding expectations in most respects, was found to be down on estimates for cruise and single engine performance.

BN-2 Islander G-ATCT with test instrumentation fitted seen here being prepared for a test flight (Bob Ward)

Longitudinal Trim

An attempt was made to remedy the deficiency in longitudinal trim power by increasing the chord of the elevator trim tab by two inches. This measure was only partially successful, lowering the minimum trim speed by approximately ten miles per hour, insufficient to meet the requirements at the extreme forward limits of centre of gravity. Extending the tab over 90 per cent of the elevator span and slightly increasing the range of movement whilst again giving an improvement, was not sufficient for the aircraft to meet requirements. The final solution was to retain the long span tab and decrease the incidence of the tail plane by a further one to one and a half degrees

Performance

In an attempt to obtain the estimated cruise and single engine performance much effort was concentrated on two items, engine power and aerodynamic drag:

Engine Power

The Islander was fitted with two Continental IO-360A engines developing 210 b.h.p. for take off. This power, according to the Continental power curves, would have developed at 2,800 r.p.m. and 28 inches of mercury manifold Pressure at sea level under ISA conditions.

As the Islander is fitted with constant speed fully feathering propellers 2,800 r.p.m. was readily achieved. However, approximately 27 inches of mercury was the highest manifold. pressure recorded. Reading across the Continental power curves it was concluded that the engine was developing only 200 h.p. at sea level under ISA conditions.

Various modifications were carried out to the engine intake, induction and exhaust systems, but all without success. Pressure measurements confirmed that cowling pressures around the engine intake were satisfactory. Further investigations showed that 29 inches of mercury was being achieved in other parts of the induction system as compared with the 27 inches indicated at the recommended pressure taking points. Rolls-Royce subsequently put an engine from the Islander on a test bed and measurements confirmed that approximately 210 b.h.p. was being developed, but due to the location of the particular pressure measuring points recommended by Continental, only 27-3 inches of mercury manifold pressure was achieved at full power.

Aerodynamic Drag

In the original configuration of the aircraft at maximum all up weight on one engine, the Islander had a poor rate of climb (80 ft./min.) on the port engine with the starboard engine feathered, and only 40 ft./min. on the starboard engine (port feathered). Engine temperatures at the single engine climb speed (80 m.p.h. IAS) were extremely low (the cooling cowl position making only a small effect) and it was considered that the drag associated with the engine overcooling was responsible for much of the excess aerodynamic drag. In the cruise, the aircraft was about 10 m.p.h. below the brochure figures.

The removal of minor details such as the HF aerial did not measurably alter the aircraft performance. The rather bluff rear to the engine nacelles, rather as expected, showed marked breakaway when tufted. A lengthened nacelle was fitted which necessitated locking the flaps fully up. The actual cruise speed was then increased by 6 m.p.h. (4 m.p.h, below the brochure figures) but the single engine climb performance was only slightly improved. (The main effect on the climb performance was to increase the rate of climb on the port engine but not, for some reason, on the starboard engine). The net result of the lengthened nacelle was therefore to increase the difference in rates of climb between the two engines to 90 feet per minute. In fact the profile drag coefficient was markedly reduced but the induced drag factor only slightly lowered.

After every major modification affecting the aerodynamic form of the aircraft the drag was measured from timed descents with both engines feathered. Adequately repeatable results were obtained by this method.

To improve the span wise lift distribution the upper cowl louvres were blanked off in order to prevent a column of air being blasted up into the low pressure region of the wing/nacelle junction thus destroying lift. This modification produced no measurable change in performance.

Doubts had been expressed concerning the contribution of the Hoemer type wing tips. The tips were therefore removed and the rather surprising results showed that the cruising speed was reduced by more than 10 m.p.h. and the rate of climb by over ten per cent. Lateral stability was no longer acceptable and severe wing drop occurred in the stall.

Decisions Made to Increase Wing Span and Engine Power

So far, all moves to increase the single engined rate of climb had not been particularly successful, but in the next stage the decision was taken to increase the span by four feet to 49 feet, and this increased the single engine rate of climb by 110 ft./ min. On the starboard engine the figure was 80 ft./min. lower. This additional span reduced the cruise speed by only two m.p.h. Because of the very steep single engine rate of climb/altitude line, to achieve acceptable WAT limits it was essential to retrieve the missing performance on the starboard engine. A port to starboard change of engines gave precisely the same results, confirming that the rate of climb difference side for side was due to aerodynamic reasons rather than the differences in engine power (a discrepancy in single engine rate of climb between the two engines was not unique to the Islander, this characteristic is present to greater or lesser extent on all twin engined aircraft without handed propeller rotation).

In search of achieving the brochure rate of climb on the starboard engine further modifications were tried but gave no measurable or significant improvements:

(a) A fairing from the top of the fuselage to the upper surface of the wing.

(b) Ailerons given three degrees of up float. Handling of the aircraft was adversely affected.

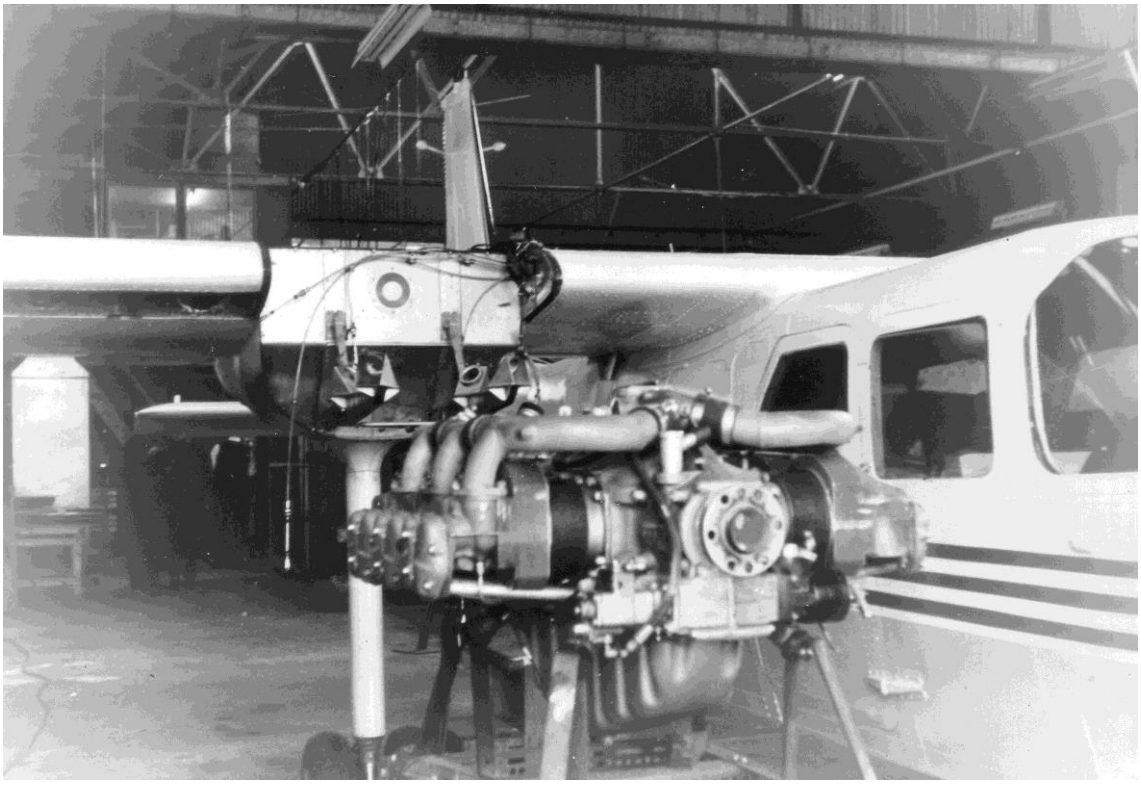
(c) The nose wheel was disconnected from the rudder controls and arranged with the aid of a bungee to lie parallel to the airflow instead of moving with the rudder.

(d) Longer nacelles incorporating positive camber. Apart from a slight decrease in performance, the handling of the aircraft was adversely affected.

(e) All excrescences were removed (including nose probes and associated equipment) and all gaps taped.

(/) Engine exhausts were modified; fairings added to direct the exhaust aft; and cooling

gills removed and faired outlet.
Theoretical studies indicated that some benefit would be derived by replacing the existing 76 inch diameter propeller by one of 80 inches. An 80 inch diameter propeller was therefore fitted on the starboard side and whilst the single engine rate of climb was increased by some 10 to 20 ft./min., the noise increase justified the change back to the original propeller.
The next modification was to replace the original lengthened nacelle with one slightly shorter that was divided to allow the aft part of the nacelle to move with the flap. This nacelle reduced the gain in cruise speed achieved by the previous best nacelle by 2 to 3 miles an hour, and gave a decrease in single engine rate of climb by 15 to 20 ft./min. A return to the longer form divided to permit flutter operation was therefore indicated.
The final modification to the engine nacelles involved the fitting of new nose cowls of a more streamlined shape with a smaller cooling air intake which reduced cooling drag. At the same time the cooling exit was cleaned up to release the air in the rearward direction. Not only did this raise the engine temperature to the recommended level but the cruise speed was increased by 5 miles per hour and the single engine rate of climb on either engine was increased by twenty feet a minute. This then was the position when it was decided to change to *Lycoming* 0-540 engines which developed 260 b.h.p. The brochure single engine performance was exceeded on the port engine and was about 50 feet a minute low on estimates on the starboard engine.



G-ATCT is seen here back in the Bembridge hangar with work under way to fit Lycoming engines in place of the Continental engines (Bob Ward)

Summary

The success story of the Islander with the *Lycoming* 0-540 engines is now too well known to be repeated here. Virtually no development problems were encountered other than extremely minor items such as changes to rudder trim tab travel and the usual odds and ends associated with changes to production standards. The aircraft had very successful tropical trials in Asmara and Massawa in Ethiopia and consistently broke ground in 300 to 400 feet at an airfield elevation of 7,500 feet and temperatures up to ISA plus 23 deg. C.

BN-2 Islander G-ATCT now fitted with the Lycoming 0-540 engines ready to continue the flight test programme in early 1966 (BW Collection)

The Islander was originally certificated for Public Transport use at a maximum take-off weight of 5,700lb. With very small changes to the undercarriage and placards and markings, the aircraft was rapidly cleared to an all up weight of 6.000lb. It is an interesting fact that the large difference in single engined performance between the two engines of the *Continental* powered Islander has never been repeated in the case of the *Lycoming* powered version. The maximum difference in single engine rate of climb between the port and starboard engine does not exceed 25 feet a minute.

BN-2 Islander, G-ATCT, is seen here during testing off the coast of the Isle of Wight by Tennyson Down (BW Collection)

VCN Restoration Progress Report
March 2015 – May 2015

Much work has been done to complete a number of finishing off tasks for the fuselage. A new port side window was acquired but even this was slightly oversize. Bryan Groves applied his skills once again and made a template and the new window trimmed to suit and has now been successfully installed after much time and effort had been expended by Keith Winter and Bob Ward. The reason for the size variation of the window aperture on VCN remains something of a mystery.

Bryan Groves and Paul Brook have installed all the instruments and switches in the main instrument panel and on the eyebrow panels. The electrics have been completed after sorting out a few niggling snags and electrical power applied. The last remaining avionics item, a Bendix T12C ADF receiver was spotted on ebay by Bryan Groves and this was acquired and has now been installed. As the seller was based in the USA BNAPS is very grateful for the help given by Saywell International to expedite shipment of the item to the UK to save on shipping charges.

All stood back in admiration of the work done by Bryan and Paul when the instrument was "lit up", although the effect is best appreciated in total darkness.

Patrick Gallagher has refurbished the strobe beacon support panel. The panel has been etch primed and spray painted in yellow and the strobe light unit attached. The sub-assembly is now stored ready to be fitted to the wing centre section top surface in due course.

Charles Shiveral, Patrick Gallagher, Rita Edgcumbe, Jeni Gallagher and Roger Young have continued the seemingly never ending job of de-corroding and removing old paint from the wing.

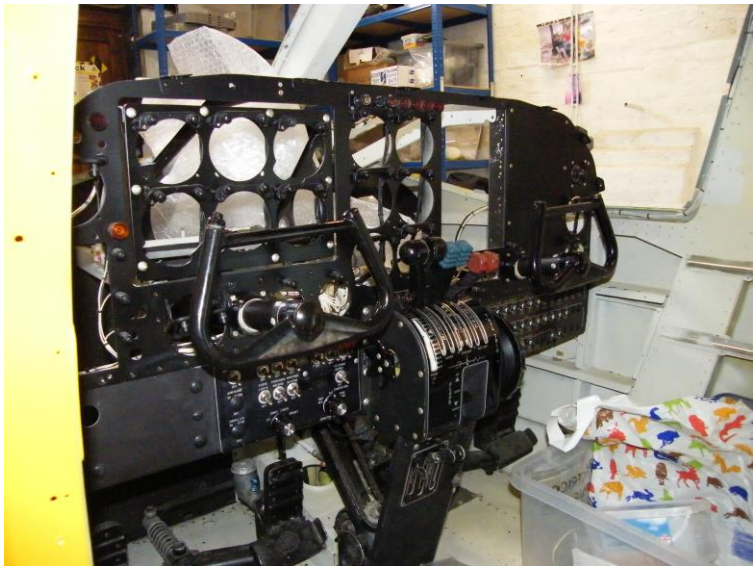
Andy Stewart has taken on the job of refurbishing the seat frames starting with the pilot's seat. Although the seat cushions are just reusable it is planned that these and the seat backs will be re-upholstered, investigation of how the seats can be re-upholstered is ongoing.

A very useful contact has been made with Mike Ellison and his company ESP at Ryde (www.espiw.co.uk) which makes signs and transfers for motor vehicles and aircraft. Mike is a keen aviator and is presently learning to fly a Micro Light at Sandown. He has offered to contribute his and any other of his company labour FOC and materials at cost. During a recent visit there was much useful discussion and many photos taken. Copies of the nose section masking made by Bryan Groves and Bob Wilson recently plus a copy of an Islander GA with the key dimensions and paint samples to match. A possibility discussed is to spray paint the nose cone with the black and match up with transfers for the rest of the fuselage. Mike will advise on material costs and supply of registration letters.

Paul Thomasson has made a welcome return to the fold and is now engaged on sorting out the internal trim for the fuselage. Paul's previous knowledge and experience of Islander internal trimming are going to be invaluable now that work has started on this area. An added bonus is that Tony Saunders has offered his services to help with the trim as a skilled craftsman and the benefits of his knowledge of trimming materials from his work on luxury yachts and powerboats. Good use has been made of the large packing case that contained the trim sent down by George Cormack earlier this year as it has been turned into a useful flat working surface in the new "trim shop".

The following series of photographs illustrate the work that has been undertaken during the current period:

Paul Brook is seen here installing the electrical harnesses for internal lighting and other services



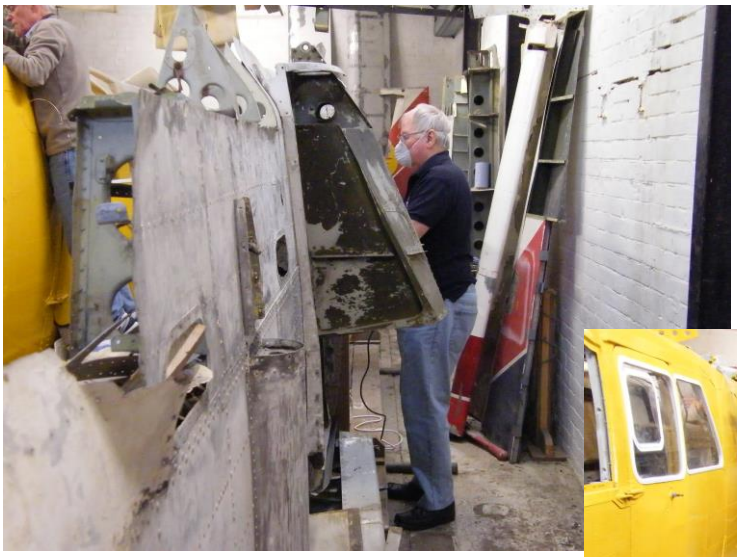
Refurbished instrument panel prior to installation of instruments and avionics units

Views of the pilot's seat before being stripped down for refurbishment.

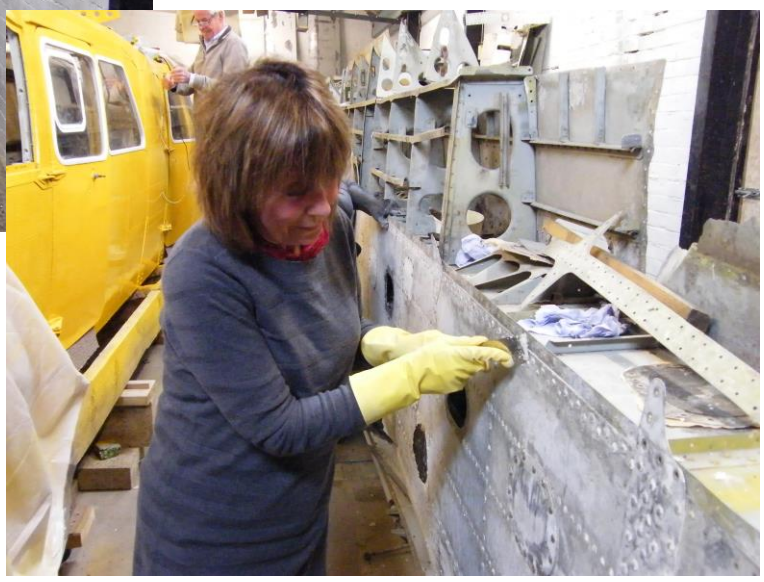
Seat back covers are missing and seat cushions are well worn and not considered re-usable.

Pilot's seat main support frame after refurbishment by Andy Stewart.

Pilot's seat main support frame with seat back frames and seat cushion frames after refurbishment.



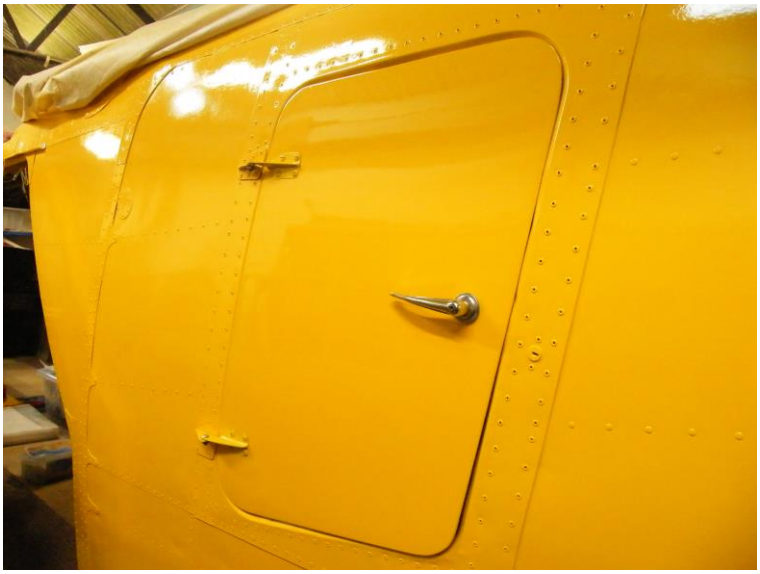
Charles Shiveral continued cleaning up the underside of the wing.



Jeni Gallagher is seen here tackling the messy process of applying paint stripper to remove old paint from the wing's upper surface.

The "as new" instrument panel and controls, seen here with just the Bendix T12C ADF Receiver yet to be fitted, are a tribute to the hard work and perseverance of Bryan Groves and Paul Brook together with help from other members of the restoration team.

This view shows the completed eyebrow panels and the red and green fuel cocks in place.



The refurbished and repainted baggage bay door has now been installed BY Keith Winter.

With electrical harness checks complete electrical power from an external 24 Volt battery was applied through the external power connection facility.
The Bendix T12C ADF receiver has now been installed to complete the avionics equipment fit.

Views of the illuminated instruments and indicator lights, above and right.

Left and below - Guy Palmer is seen here repairing one of the set of moulded plastic window surrounds that form part of the internal fuselage trim.

VCN Restoration Progress Report March – May 2015 (Continued)

An" instant "trim shop has been created by adapting a large packing case as a work table.

Here Paul Thomasson (left) and Tony Saunders (right) are dismantling the fresh air vents and light fittings from the existing fuselage trim sections.

With Phase 1 of the restoration programme in sight of completion, the next period will see priority directed to Phase 2 activities. Phase 2 is geared to the completion of all repair and refurbishment work involving the wing, tail plane ailerons, flaps, elevator, rudder, fin, landing gear engine cowlings and fairings to the stage when these items are ready for final assembly in Phase 3.

News of Cylinders Needed for "Non-functional" Lycoming O-540 Engines-

Thanks go to Loganair for donating a suitable cylinder and also to Norvic Aero Engines and Jon Howard who has now acquired one more cylinder thus enabling the first engine to be completed.

Six more cylinders are still needed for the second of the "non-functional" Lycoming O-540 engines. The cylinders are used on O-360 and O-540 engines, cylinder part number is as follows:

"The assembly part number required is 05K21102, this is identified with a cylinder head/barrel part no of LW 12425, there are other older cylinder head/barrel part numbers that will do the job listed in the following link http://www.eci.aero/pdf/crm08.pdf. Use the ECI cyl class no 10 as reference."

If anyone knows of something suitable that might be available please get in touch with BNAPS in the first instance.

Aurigny Air Services' Trislander "Sit In" Fuselage Section Now on Show

The ex G-FTSE/"son of Joey" Trislander cockpit was made ready to go on show at the Crown Pier in Guernsey for Liberation Day celebrations on 9 May.

On the left it is parked alongside G-JOEY by the Anglo Normandy Aero Engineering hangar at Guernsey Airport

G-JOEY Scenic Flights

Aurigny Air Services will be operating "Island Tour" scenic flights from Guernsey Airport on 20 June at £40 for a 10 minute flight. "Island Tour" flights may be offered on other dates subject to demand. For further details and to book a flight then go to:

http://www.aurigny.com/html/en/Popup/popupPleasureFlights.html

Aurigny Air Services now has three Trislanders in its fleet, including G-JOEY, that will continue to operate the Guernsey to Alderney and Alderney to Southampton routes into 2016 alongside the phasing in of Dornier 228s.

More News from Vanuatu and Unity Airlines

Recent reports from Tony Deamer of Unity Airlines indicate that Vanuatu has recovered remarkably quickly from the devastating typhoon that hit the islands a few months back.

Vanuatu based Unity Airlines Trislander YJ-0019 is seen here nearing completion of its recent major overhaul.

The Last "New Build" Trislander

A fascinating set of photographs has turned up thanks to Jersey based Dave O'Byrne. Dave worked on the "new build" Trislander and the photographs show various stages in its construction in 1996 by Anglo Normandy Aero Engineering from the unbuilt Trislander kit c/n 1065 and Trislander G-BAXD, c/n 359. However, to satisfy the regulatory authorities the "new" aircraft had to be treated as a rebuild of c/n 359.

New BNAPS Donations Appeal Launch at "Islander 50"

Funding the restoration of G-AVCN has always been of critical concern. Only with a steady flow of income is the work able to proceed towards the ultimate goal of having the complete aircraft ready to go on show.

Phase 1 of the project has seen recovery of G-AVCN into safe-keeping and restoration of the fuselage section. With structural repairs to the fuselage completed, all doors and windows installed, instrumentation, avionics and controls installed, electrics commissioned and final fuselage fitting out of seating and interior trim out well under way, Phase 1 is expected to be finished in the next 3-4 months.

Phase 2 of the project to complete repair, refurbishment and painting of the wing, flaps and ailerons, fin and rudder, tail plane and elevator, landing gear, engine cowlings and fairings. This work has been moving ahead in parallel with Phase 1.

From present estimates BNAPS needs to raise around £15000 -£20000 to fund the work under Phase 2 to a point where G-AVCN can be finally assembled. Completion of Phase 2 is aimed for early 2017.

Phase 3 will cover the final assembly of G-AVCN and is constrained by the need for a work area that is of sufficient size for this purpose. Preparatory work for Phase 3 has been underway for the past 4 years and the search goes on for suitable premises on the Isle of Wight. Phase 3 funding will be the subject of a follow up donations appeal when a viable way ahead has been determined that will enable funding requirements to be estimated.

Alongside donations arising from the BNAPS Supporters Club arrangements, individual donations and various fund raising initiatives, the BNAPS Subscriber Donation Scheme will be launched at "Islander 50".

The Subscriber Donation Scheme has been devised as a way that would allow regular payments to be made by Direct Debit as a gift aided donation to BNAPS thus providing an addditional smooth flow of funding into the project.

Details of the scheme and application forms will be available at "Islander 50".

BNAPS "Islander 50" Items for Sale

B-N Caps

Books

- ***"BN-2 Islander – 50 Years On"***
- ***"VCN – The Continuing Story" 3rd Edition***

Prints of paintings by Ivan Berryman

- ***"First of the Many"***
- ***"First Man Out"***
- ***"Islander G-AVCN"***

Islander 50 mugs

Islander 50 stick on badges

Other BNAPS Items for Sale

BNAPS Ltd is the sales arm of BNAPS and in selling books and memorabilia etc. makes a significant contribution to our restoration funds. These items can be purchased direct from BNAPS Ltd, at BNAPS events and sales stands and by mail order. If you need a current price list or wish to purchase specific items please contact Rita Edgcumbe on 01983 875790 or by e mail: m_edgcumbe@yahoo.co.uk

BNAPS mug *decorated with a striking image of G-AVCN and is dish washer proof. Price for BNAPS Supporters is £5.00 and for non-members £6.00, UK p&p is £2.00.*

VCN Postcard Set
8 cards in a presentation folder
£5.00/set including UK p&p

BNAPS fridge magnets and key rings-
Price for members is £2.00, for non-members £2.50 UK p&p is £1.00

BNAPS on the Internet - information about BNAPS, including back issues of BNAPS News, can now be found on Ivan Berryman's website: ivanberrymandirect.com/bnaps.htm

More BNAPS Supporters Needed

If any BNAPS Supporters Club member knows of someone who would be interested in joining please pass on contact details to our BNAPS Membership Secretary, Rita Edgcumbe.
The principal aims of the BNAPS Supporters Club are:
"*to assist BNAPS to preserve the history and aircraft of Britten-Norman through member donations and to provide assistance with the day-to-day operations of the charity*"
Anyone with an interest in local aviation heritage is welcome.
As a point of clarification, whilst BNAPS has contact with B-N Group from time to time, as a charitable trust BNAPS is an independent organisation.

Forthcoming BNAPS Events

13-21 June "Islander 50" see page 2.

16 June Joint IoW Branch of the Royal Aeronautical Society/BNAPS keynote talk evening at the IoW College "The Britten-Norman BN-2 Islander – 50 Years On", 1800 for 1830 start, further details will be circulated.

19 June BNAPS Social Evening at the Propeller Inn, see page 2.

31 July/1 August BNAPS Workshop Open Weekend.

BNAPS Trust

BNAPS is a Registered Charity, No. 1100735, set up to "preserve the history and aircraft of Britten-Norman with the support of members' subscriptions, sponsorship and donations"
BNAPS registered address is being changed to:
BNAPS Trust,,
7, William Close,
Fareham,
Hampshire,
PO14 2PQ
Trustees are Peter Graham, Bob Wilson, Guy Palmer and Bob Wealthy.
Bob Wealthy is now Chairman of the Board of Trustees effective from 13 November, 2013.

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