



BNAPS News

May 2022

BNAPS News Vol 12 Iss 3 – May 2022

Spring Viewing Day 23 April 2022 – Islander G-AVCN on Show

Thanks go to all the BNAPS team that helped at the successful Spring Viewing Day on 23 April. The event attracted many visitors and friends old and new and was held in conjunction with the Wight Military & Heritage Museum's St George's Day commemoration with free entry to the museum on the day.



Visitors getting a close up view of Islander G-AVCN, now externally complete and in its Aurigny Air Services colours.

In the museum visitors were able to get a close look at our Islander which was attended by BNAPS restoration team members throughout the day. With the electrical systems powered external and internal lighting was switched on and demonstrations of the Flap System were conducted.

BNAPS was also able to use the Mess Bar alongside the museum entrance where there was a reception desk, information displays and other attractions together with a sales stand for BNAPS Merchandise.

For more about the Spring Viewing Day see the event report on page 3.

**In this issue of BNAPS News:
Spring Viewing Day Report
Islander G-AVCN Aircraft Systems Restoration
Britten-Norman Day at Solent Airport
Plus more news of Islanders and Trislanders around the World**

BNAPS Chairman's Update – May 2022



Dear BNAPS Supporter,

Although progress with the restoration of Islander G-AVCN has been reported in BNAPS News, since the first issue in January 2011, it is now felt useful to take an overall look at what has been achieved by the restoration team. It is of course recognised that this could only have been done with the support of many individuals and organisations. A key aspect of the planned "official unveiling" of Islander G-AVCN in the latter part of this year is for BNAPS Trustees to pay tribute to the exceptional level of help and enthusiasm that the project has attracted over many years and to convey grateful thanks to all involved

In this issue of BNAPS News the feature article is based on a detailed report, prepared by BNAPS restoration team member, Bryan Groves, on all that has been done in the area of Aircraft Systems restoration over the past 10 years to present an overall view of what was involved, problems encountered and overcome together with the reasons behind decisions to include or exclude certain features of the aircraft during its restoration as a high quality static exhibit.

This will be followed in later issues of BNAPS News with a feature article about the aircraft structure restoration and painting and another about the work involved in restoring the internal fuselage trim and furnishings.

In the coming months, work will be stepped up to prepare the exhibition space around the aircraft. Part of the work will be supported by the museum regarding resurfacing of the visitor side floor area and installation of additional lighting and electrical outlets. BNAPS will be taking care of setting up the aircraft as an exhibit in a safe situation for visitors and to provide for surrounding exhibition material, information boards and other facilities that will hopefully be of interest to all – that is for casual day to day visitors, educational, heritage and special interest group visits and to stimulate interest in aviation for young people.

As has been mentioned on previous occasions, now that the work of restoring our Islander is in sight of completion, the question is raised of "what happens next for BNAPS"? It is a fact that the passage of time is the enemy i.e. the present trustees and restoration team members are not getting any younger such that it is unlikely that another restoration project will be undertaken. All can take great pride in what has been achieved with Islander G-AVCN and, without wishing to be boastful, the quality and workmanship standards achieved can be considered to stand up to scrutiny and comparison with similar work by other aircraft restoration groups. At this time BNAPS efforts are concentrated on getting the Islander and its exhibition space completed in the near term.

Care and maintenance of the aircraft and exhibition space will be an ongoing activity and there will be a fresh look at the future prospects for the sale of B-N related books, cards, images and memorabilia. Another important activity is the collation, cataloguing and storage of a considerable quantity of B-N related archive material. BNAPS Trustees have a clear duty to determine the way in which the society could or should move forward in the longer term, much will depend on "new faces" that are willing to step in.

As always our grateful thanks go out to all the people and organisations that have supported BNAPS and the restoration project over many years

For more information regarding the above please contact BNAPS by email bob@bnaps.org.uk or Telephone 01329 315561.

Yours sincerely,
Bob Wealthy,

Britten-Norman Aircraft Preservation Society Chairman

BNAPS Spring Viewing Day Report

BNAPS Restoration Team members and supporters were out in force for the Spring Viewing Day on 23 April 2022. With our historic Islander now externally complete in its recently applied Aurigny Air Services livery it attracted much interest and favourable comment. BNAPS Restoration Team members were with the aircraft throughout the day to keep an eye on the proceedings and to answer the many and varied questions from visitors.

The aircraft's electrical system external supply was connected and internal and external lighting switched on. This also allowed an occasional demonstration of flap system operation. The port engine cowlings had been removed for the event so that visitors could get a close look at the engine and accessories.

Meanwhile over in the nearby museum Mess Bar BNAPS had set up a reception desk and a number of facilities and attractions for visitors.



Visitors getting a close up look at our restored Islander



Rita Edgcumbe and Jeni Gallagher looked after BNAPS reception desk and Norman Hobbs ran the sales side (top left).



Islander and Trislander models and related framed prints and information displays were on show (top right) together with the Islander flight simulator, operated by Clynt Perrott, (lower left) and a video show about the restoration.



Maury Dyer was also there with an Islander model to demonstrate how an aircraft flies.



Thanks go to Steve Taylor and team at the Wight Military & Heritage Museum for all the help given to BNAPS to make the day a success. Thanks also go to all the BNAPS restoration team and supporters that participated and to all the visitors who came along to see our Islander.

G-AVCN Restoration March 2022 – May 2022

Summary of Activities during the period:

- 1. General:** All the main component parts of the aircraft have now been re-assembled.
- 2. Fuselage:** Internal trim fabrication and installation is progressing. Side wall trim and door trim panels have been installed. Installation of windscreen and instrument panel surround trim mouldings is continuing. This has proved a difficult operation as access is limited for fitting support angles to secure the trim sections.
- 3 Engines:** Work to install detail engine dressing items has continued with installation of various hoses and parts donated by FIGAS, see 8 below.
- 4. Fin, Rudder and Rudder Tab:** Detail fairing has been made and installed at the base of the fin where it meets the dorsal fin.
- 5. Landing Gear:** Wheel trims have been made and will be fitted at a later stage.
- 6. Engine cowlings:** Detail painting work and lining around catches has continued.
- 7. VQ-SAC Fuselage Section:** Work has continued to fabricate suitable hinges for the pilot's door and starboard passenger door. Installation of windows and window trims has continued.
- 8. Missing Items List:** Thanks go out to FIGAS for donating several fuel hoses, vacuum pump heat shields and two vacuum pump adaptors. These items have now been installed.



Above, fuel hoses and vacuum pump heat shields and below, two vacuum pump adaptors, all donated by FIGAS



The following captioned photographs show the results of some of the work undertaken in the last period:

G-AVCN Restoration March 2022 – May 2022



Bob Wilson installed a detail fairing section at the junction of the fin and dorsal fin.



Bryan Groves continued with installation of fuel, air and inlet hoses and ancillary items as part of the port engine dressing work



View of the port engine rear section where fuel hoses and other items are located showing the confined work space.

G-AVCN Restoration March 2022 – May 2022



Vacuum Pump fitted with the recently acquired adaptor and heatshield ready for installation



Vacuum Pump installed in place.



Side view of the port engine as engine dressing work nears completion.

G-AVCN Restoration March 2022 – May 2022



Above – View of the pillar trim and E2B Standby Compass after installation (Guy Palmer).

Left - Paul Brook installed the E2B Standby Compass after installing the trim capping section around the central wind screen pillar (Bob Wilson)



Paul Thomasson (centre) has led the work involved in fuselage trim fabrication and installation. Assisted by Paul Brook and Mark Porter (right), this aspect of the restoration work is nearing completion.

The current activity is to sort out fixings for ceiling panels and fabrication of the panels from material already procured. This will be followed by installation of floor and lower sidewall carpeting. Passenger seats have been refurbished and will be installed at the final stage (Bob Wilson).

Work planned through to completion Q3 2022

1 General:

- 1.1 Complete work on the fairing between the wing droop leading edge and the inboard side of the upper engine cowling.
- 1.2 Devise scheme for supporting aircraft on blocks sufficient to keep weight off the tyres

2 Wing and Engines:

- 2.1 Completion of detail port engine "dressings".

3 Fuselage:

- 3.1 Internal trimming work, fitting floor carpet and roof lining.
- 3.2 Installation of seats

4 Islander VQ-SAC Fuselage Section Work Items:

- 4.1 Fabricate door hinges and door catches and install doors and windows and trim.
- 4.2 Install electrical earthing connection for fuselage structure
- 4.3 Install and commission Stage 1 flight sim equipment

5 General Activities/Preparation of Exhibition Space:

- 5.1 Complete tidying up, get rid of unwanted items and generally sort out the area for satisfactory working and storage and display.
- 5.2 Determine how to treat the existing museum space floor surface, in particular for final display
- 5.3 Prepare scheme for aircraft accessibility and display to take account of visitor access and safety.
- 5.4 Develop schemes for surrounding exhibition space content and layout.

Supporting BNAPS and Restoration of B-N Islander G-AVCN



B-N Islander G-AVCN – Aircraft Systems Restoration

BNAPS restoration team member Bryan P Groves has compiled a detailed report on the restoration of Islander G-AVCN's systems. What follows is a summary of Bryan's report that it is hoped will give an insight into what has been achieved under Bryan's direction, ably supported by Paul Brook and other members of the restoration team.

The systems aspects covered are as follows:

- Heating and Ventilating
- Communications/Navigation/Intercommunication/Audio/PA
- Pitot Static System
- Power Supplies and Distribution
- Flight Control – Yaw, pitch and roll control and flap control
- Fuel System
- Instruments and Panels
- Landing Gear
- External and Internal Lighting
- Vacuum System
- Ice and Rain Dispersal
- Propulsion System – Propellers and Engines



Bryan at work

Bryan P Groves was with B-N for many years and was Deputy Head of Systems Design when he retired in 2009. An approach was made at an early stage of the restoration project in December 2012 to see if he could spend a "Couple of Hours" to advise on the Instrument Panel Layout and associated Instrumentation. The rest is history as they say and Bryan was well and truly "sucked in" and eventually agreed to spearhead the total Systems restoration project, a task that he is still heavily involved in some 10 years later.

Introduction

A major part of the restoration project involved the renovation of the numerous electrical and mechanical aircraft systems which would encompass the mammoth task of procurement of the very considerable amount of period Instrumentation, Electrical, Avionic and Mechanical equipment items which were regrettably missing from the aircraft as found. A policy decision was therefore taken that the status of the restoration would be that of a "High Quality Static Museum Exhibit" and as such, components hidden from view could be considered as non-essential for procurement purposes. With the exception of a limited number of "operational" components, there would be no requirement for any procured components to be in a serviceable condition although appearance would be of paramount importance.

The first major task was the preparation of an Aircraft Equipment List as no access was available to the original company records. From this equipment list it was then possible to generate a "Missing Parts List" and commence the seemingly impossible task of procuring the extremely large list of missing components. Suppliers, Operators, Ebay, work colleagues etc were all approached and these contacts combined with much goodwill built up over many years in the industry having reaped vast dividends, the procurement task started to bear fruit.

Once the procurement process had been set in motion, work was able to commence in earnest on what has turned out to be a 10 year Aircraft Systems renovation programme in which Bryan was ably assisted by Paul Brook and the late Richard (Dickie) Cox. Both of these highly skilled aircraft electrical engineers proved to be more than capable of undertaking any electrical and mechanical task placed before them. Acknowledgement must also be given to the rest of the close knit restoration team who were always on hand to assist as tasks demanded. Also grateful thanks go to retired BN Service Engineer Tim Barton for his invaluable technical advice whenever required.

Heating and Ventilating

The Cabin Heating option is provided by an aircraft fuel burning heater installed in the rear fuselage and controlled by the pilot from a small Heater Control Panel situated at the front end of the port passenger service unit (PSU). Hot air is ducted to floor mounted outlets at each seat location. The installation in its entirety has not been embodied with the exception of the floor mounted outlets. Procurement of a correct Heater Control Panel has proven elusive and a blanking panel is currently installed which hopefully can be replaced at a later date should a suitable unit be located.

Unheated Fresh Air Ventilation is derived from a scoop under each wing located in the propeller wash between the engine and fuselage. The fresh air is ducted to ten adjustable passenger Louvre outlets located one above each seat position in the roof mounted Passenger Service Unit (PSU). The ducting between the component parts has not been embodied.

Communications/Navigation/Intercommunication/Audio/PA

The original equipment fit offered was a choice of either Bendix CNS220 or Narco MK12A Communication/Navigation equipment options. G-AVCN in its original configuration specified the Bendix CNS220 option. Also installed was a Bendix T12C Aircraft Direction Finder (ADF) and a Narco Marker Beacon receiver.

The Bendix CNS220 Com/Nav system exhibited a number of in service problems and a surviving example of this equipment could not be found. The restored aircraft is now presented with the alternative Narco MK12A option. This provides Communication, VOR/ILS and VOR/LOC and Marker facilities.



Narco K12A Communication/Navigation equipment as installed.

An Audio system providing Control of the Audio, Crew Intercommunication and Passenger Address functions has not been installed. For the restoration a non-operational Audio Control Panel is situated at the bottom of the main instrument panel Radio Stack and the Passenger Address loud speaker positions are located in the roof mounted Passenger Service Units (PSU).

A number of Antennae exist on the aircraft to service the avionic installations. One Navigation antenna at the top of the Fin, Two Communications antennae on the Fuselage Roof, a Marker Antenna on the underside of the fuselage, a Glide slope Antenna mounted within the Nosecone of the fuselage, an ADF Loop Antenna on the underside of the fuselage nose area and an ADF Sense Antenna Wire between the top of the Fin and the Fuselage Roof above the pilot.

Pitot Static System

The Pitot Static system of an aircraft is a system in which total pressure created by the forward motion of the aircraft and the static pressure of the atmosphere surrounding it are sensed and measured in terms of speed, altitude and rate of change of altitude (vertical speed). These pressures are derived from an Avimo combined Pitot Static Head mounted on a short mast under the port wing. The existing mast on the aircraft as found had rusted away and was suffering from transit damage. Having eventually managed to procure a short length of the aerofoil section tube required, a new replacement mast was constructed and the Avimo Head installed. As this Pitot Static system is non-operational the piping system throughout the wing and fuselage have been omitted along with the pitot static head heater electrics.



Pitot Static Head as installed after repair and refurbishments

Power Supplies and Distribution

Initially decisions were made on which electrical systems and equipment were to be operational and the required Electrical Routing Charts, Loom Diagrams, Test Schedules and Equipment Layouts detailed.



Electrical Switch Panel



Electrical Circuit Breaker Panel

An internal electrical storage battery is not included and the limited electrical systems, consisting of selected lighting and Flap operation, are powered by a 24 Volt 25 Amp external power source via the aircraft external supply connector. The abridged electrical wiring looms required have been fashioned from the original aircraft looms where possible adhering as far as can be achieved to the original wiring routing and coding.



External 24 Volt DC Power Supply.

The abridged electrical wiring looms required have been fashioned from the original aircraft looms where possible adhering as far as can be achieved to the original wiring routing and coding.

There are no Electrical Looms in the Engine Bays and as all of the metal conduits within the wing were regrettably removed during the restoration process, suitable PVC hose has been installed as electrical conduit where required. Although not all active, a full set of Circuit Breakers and Switches have been installed into their respective panels below the Main Instrument Panel.

The Operational Electrical Systems and Equipment are as follows:

- On/Off control of the external power supply with indication on the Voltmeter and Ammeter.
- Navigation Lights on Wingtip and Tailcone.
- Rotating Ant Collision Beacon.
- Dimmable Red Instrument Panel Lighting.
- Map Light.
- Cabin lighting.
- Passenger Notice.
- Port and Starboard Generator Under-volt warning lights with lamp press to test facility.
- A further six warning lights with lamp press to test facility only and an active Door Warning light.
- Avionic Marker receiver with lamp press to test facility.
- Avionic Equipment Panel Lighting.
- Pilot's Door Audible Warning via Port Magneto Switches to warn of an unsafe Engine Start procedure.
- Pre-stall Warning Lift Detector and Horn.
- Full Flap Operation.

Also installed but non-operational are two 24 volt 50 amp Prestolite Alternators, one on each engine. These as new overhauled units were donated by FIGAS as their Islander fleet had been upgraded to the later 70 amp equipment.

The standard aircraft electrical equipment not embodied is as follows:

- Voltage Regulators
- Undervoltage Relays
- Overvoltage Relays
- Electrical Filter Boxes
- Shunts
- Miscellaneous Fuses and Terminal Blocks

Flight Controls

Roll control.

The Ailerons provide for Roll control and are fully operational via a system of cables between the control surfaces and the Central Yoke assembly in the cockpit. Aileron Drive levers in the wing have been the subject of an extensive repair scheme. The operating rod attachment lugs of these levers as found on the abandoned airframe had been torn apart thought to be due to unrestrained ailerons thrashing around in inclement weather conditions. New lever end repair plates have been locally fabricated and assembled to the lever assemblies.



Repaired Aileron Lever Assemblies

During the assembly of the aileron System, it proved impossible to achieve the correct Aileron rigging. It was determined that chain at the lower sprocket of the control yoke assembly had unfortunately been assembled one tooth out around the sprocket. Attempts to adjust out this error on the system turnbuckles having not proved possible and with the two pilot's handwheels at neutral, the left hand aileron trailing edge is ¼ inch down and the right hand aileron trailing edge is ¾ inch down. Due to the complexity of access, it was decided that this error would regrettably remain uncorrected. The plastic Control Yoke Cover Assembly has proved elusive and is not fitted.

Yaw control.

The Rudder provides for Yaw Control and is fully operational via a system of cables between the control surface and the pilot's Rudder Bar assembly which had been rebuilt during the restoration process.

The Rudder Bar assembly would normally also be connected to the Nose Undercarriage Assembly by cables to provide steering on the ground. However, on G-AVCN these nosewheel steering cables and their vertical torque shaft have been omitted so that demonstration of Rudder operation can be experienced on the exhibit.

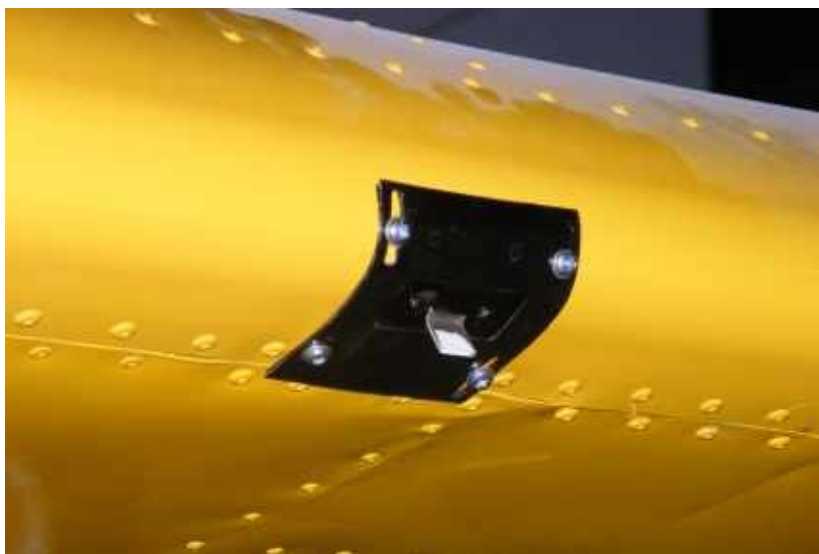
The Rudder Trim Tab on the Rudder is also fully operational via a system of cables between the Tab mechanism and a control wheel with indicator situated centrally in the cockpit roof. The Trim Jack Chain Guard has not been embodied.

Pitch control.

The Elevator provides for pitch control and is fully operational via a system of control rods between the control surface and the pilot's Control Yoke assembly which has been rebuilt during the restoration process. During the final assembly of the elevator control, it proved impossible to correctly rig the system and achieve the required elevator travel. Investigations determined that a number of suspect control rods may have been embodied during the fuselage floor restoration. The main problem was determined to be the rod section under the baggage bay floor which was the wrong diameter, wrong length and had fixed and not adjustable rod ends. A correct replacement was sourced and on installation permitted the correct elevator rigging to be achieved.

The Elevator Trim Tab on the elevator is fully operational via a system of cables between the Tab mechanism and the Control Wheel and Indicator on the right hand side of the central engine control console. The Trim Jack Chain Guard although now available, was unavailable at the time of the system installation and has not been fitted.

A Stall Warning Vane is located on the port wing leading edge. This can be demonstrated to initiate and provide audible warning of an impending wing stall condition.



Stall Warning Vane as installed

Flap control.

The Flap system is fully operational powered by an electric actuator via control rods. Operation of the Flap System is via a centrally biased switch on the central engine control console which provides a relay controlled positive stop selection of UP (6 degree droop) /TAKE OFF / DOWN positions. A Talley 1628T100 Actuator system has been installed together with a Flap Position Indicator, located on the roof instrument panel, donated by the Falkland Islands Government Air Service.



Talley 1628T100 Actuator



Flap System under test

Fuel System

There is no requirement for an operational fuel system and therefore only the following system components have been embodied:

- Fuel Cock selector panel in cockpit roof.
- Engine driven Fuel Pumps.
- Fire-sleeved Fuel pipework within Port Engine Bay.
- Fuel contents Indicators.
- Fuel Pressure Indicators (within engine instrument cluster).
- Fuel System Control Switches and Circuit Breakers.

Instruments and Panels

The main and roof instrument panels on the aircraft as found were almost totally devoid of instruments. They were mechanically in a very poor condition with many non-standard avionic equipment cut outs made during a long service life with a variety of operators.



Main instrument panel and controls at an early stage of rebuild and refurbishment.

The main Instrument Panel was removed for overhaul and the introduction of a large repair panel to cover the various miscellaneous avionic equipment cut outs. The panel was then repainted and the pillar and bridge lighting assembled and wired before reinstallation back into the fuselage by Bryan P Groves and Paul Brook using a new support structure. At the same time, the Central Engine Control Console was overhauled. A similar exercise was carried out on the Roof Panels which remained in situ. With the main instrument panel installed, it was possible to refit the two original style tubular Pilot's Control Handwheels but only one had come with the aircraft. A suitable item was located with an aircraft enthusiast and this was acquired by Bryan's family and donated to the project.

In total 31 instruments and items of Avionic Equipment were required and these have been sourced under the missing items procurement process. It has taken most of the ten years since the Instrument Panel renovation commenced to achieve the fully populated panel.

All Instruments are of true type and vintage with all colour band and limitations markings accurate. Of particular satisfaction to the renovation team were the Directional Gyro and the Engine Instrument Cluster. The early horizontal drum Direction Gyro was obtained from the USA via eBay in a very poor state of repair. The badly corroded and broken bezel area was restored in house with a repair scheme bezel plate.



Main instrument panel and controls as installed



Overhead instrument panel and controls as installed

The very early style Engine Instrument Cluster was constructed from a box of bits discovered by Saywell in their archive store and is possibly the last remaining survivor of its type.



Engine Instrument Cluster as installed

The windscreen mounted Outside Air Temperature (OAT) gauge was sourced and installed.

Landing Gear

Main and Nose Undercarriage

At first, the restoration of the Undercarriage units appeared a daunting task. The Nose unit of the aircraft as found was missing and the two Main units were badly corroded and considered possibly beyond restoration.



Existing landing gear components were too badly corroded for re-use.



Examples of landing gear components donated by Heroux Devtek.

Undercarriage overhaul engineers Rotable Repairs donated an almost complete set of components for the three Automotive Products legs that we required including seals etc, these components having all been classified as unserviceable during overhaul procedures and donated to the project by Heroux Devtek (formerly Aircraft Products-APPH). All components had been stripped and degreased and were in a perfect condition for rebuild into the much needed "Static Exhibit" units.

The only component missing was the nose leg stirrup. Again luck was on our side as Islander operator FLN based in Germany had suffered wear between his nosewheel stirrup and the nose leg tube. A bushed repair scheme had been devised as a temporary measure until their next major overhaul at which a new replacement stirrup was installed and the bushed component donated to the restoration project.

It was decided that the three undercarriage legs were to be assembled preset to represent the leg extensions experienced by a static on the ground Islander aircraft with no requirement for any internal oil or pressurising gas. To meet this requirement, substantial internal alloy spacer tubes and spacer blocks were locally manufactured.



Bryan Groves installed replacements seals and re-assembled landing gear components



Rebuilt landing gear components ready for installation

Having first painted all components where required, assembly was undertaken in accordance with the Automotive Products manual with liberal application of LPS3 inhibitor on all internal surfaces. Steering Bar Lugs at each end of the nose wheel axle, having proved elusive to procure, were locally manufactured in stainless steel

Wheels and Brakes.

Five Cleveland wheel and tyre assemblies were selected from a number of poor condition units available, four Mains and one Nose. The five wheels were cleaned of corrosion, repainted, bearings and seals re-greased and new inner tubes installed where required. The main wheel Brake Discs were professionally skimmed to remove serious corrosion.



Paul Brook with one of the refurbished wheels

Finally, the wheels were assembled to their respective axles having first installed four Cleveland Brake Torque plates to the main axles. The four main wheel hubcaps were missing and replacements were locally produced, painted and installed.



View of main landing gear with brake discs and calipers installed

There was no requirement to install a full set of operational brake system components. Four Girling Master Cylinders were cleaned and installed at the Rudder Bar Toe Brake Pedal assemblies and four Cleveland Brake Caliper assemblies were overhauled, cleaned and installed, one at each main wheel. No other brake system equipment is embodied. Following installation of the four Brake Calipers, each was pressurised with air to centralise the cylinders and pads snugly against the brake discs. Brake hoses will be installed when available.

Lighting

External Lighting

Fully operational wingtip and tail cone navigation lighting is installed.

Two Landing Lights are installed, one in each wing on the outboard leading edge. These two landing lights are non-operational due to the considerable electric current requirement and also cooling airflow is required to prevent heat distortion of the Perspex lens covers.



Port navigation light unit being installed



Anti-Collision Beacon unit under test

A fully operational Whelan Rotating Anti Collision Beacon is installed on top of the wing on the aircraft centreline.

Internal Lighting

Fully operational internal lighting has been installed as follows:

- Dimmable Red Panel Lighting of Main and Roof Instrument Panels, Engine Control Console and Roof Rudder Trim Control.
- Quick release wander lead Map Lamp mounted in roof of cockpit.
- Cabin Lighting consisting of ten combined Light/Fresh Air Louvre units, one for each seat position. The original light/louvre assemblies proved to be unreliable in service and are no longer available. The light/louvre assemblies used are pattern components and considered to be suitable for the special customised interior trim installation adopted for the restored aircraft.
- Illuminated No Smoking/ Fasten Seat Belt sign installed on the cabin roof trim panel assembly.



Passenger Service Unit lighting under test

Vacuum System

The Vacuum System on the basic aircraft is utilised to provide the motive force to Drive the Directional Gyro and Artificial Horizon instruments. The vacuum is derived from an engine driven pump on each engine which is piped through regulation and distribution valves to the instruments. Vacuum Pumps are installed on each engine but as there is no requirement to operate the vacuum system, the valves and pipework are not installed. A Vacuum Gauge that is normally used to show correct operation is installed on an instrument panel.

Ice and Rain Dispersal

As originally operated by Aurigny Air Services the aircraft was equipped with Airframe and Propeller De-icing. However, at some time in its service life, this equipment was removed as clearly shown by the end of life photographs of the abandoned aircraft in Puerto Rico. Further evidence is a number of blanking plates present on the aircraft due to the system removal.

Installation of an Airframe and Propeller De-icing system was not considered a practical proposition by the restoration team and as exhibited the aircraft is therefore now presented without the De-icing Boots and associated control equipment embodied. However, the higher specification Vacuum Pumps required by the de-icing system have been installed as procurement of standard vacuum pumps has not proven successful.

Propulsion System

Engines

Two "Mock Up" Lycoming O540E4C5 narrow deck engines were specially prepared for the project from "End of service life" components by engine overhaul specialists Norvic Aero Engines Ltd. Although only having minimal internal components, the external finish of these engines was to a very high standard and were supplied already equipped with Starters, Magnetos, Spark Plugs, Ignition Harnesses, Oil Filters and Fuel Pumps.



One of the engines assembled by Norvic Aero Engines as delivered.

During the construction of these "Mock Up" engines Norvic experienced a shortage of eight of the twelve now obsolete early style narrow deck cylinder assemblies required. Diligent searching by all concerned eventually paid off. One, belonging to Loganair, was located at Saywells in Worthing, one at the Pallot Steam, Motor and General Museum in Jersey, four via Deltair in Waterlooville and the remaining two finally located by Norvic.

Two problems subsequently emerged during the assembly of these engines to the aircraft: As the crankcases had seen many years in service, some of the tapped accessory mounting holes were found to have stripped threads. These were repaired by standard mechanical practices and special studs locally manufactured as required.



View of the Propeller Mounting Flange and Bushes that required re-positioning.

A somewhat more serious problem was later encountered when attempting to install the propellers. It was discovered that the layout of the Propeller Mounting Flange Bushes was not in accordance with the specification layout for the O540E4C5 engines. These steel bushes are a very tight press fit within the flanges and necessitated the local manufacture of a special purpose Extraction/Insertion tool which was fashioned from a professional automotive ball joint splitter tool. The bushes were removed, machined as required and reinserted at the specification positions.

Prior to the installation of the two engines into the aircraft, preparatory work was undertaken involving overhaul and painting of the two Main Engine Frames, the four Diagonal Struts and the four Horizontal Struts and fabrication of replacement engine mounting plate bushes in stainless steel.



Patrick Gallagher refurbishing one of the Main Engine Frames.



Refurbished Struts and Mounting Lugs and replacement rubber mounts ready for installation

The overhauled and painted Main Engine Frames were assembled to the Dynafocal Mounting Lugs of the engines via eight used Lord rubber mounts which had been donated to us by an Islander operator FIGAS that had recently performed an engine change and replaced the engine mounts with new items.

Baffles

Traditionally the Engine Baffles and their Seals experience a high rate of attrition due to their hostile environment. However, eventually a full set of acceptable components have been procured. They may not be fully matching sets but with suitable renovation and some skilful juggling, an acceptable installation has been achieved on both engines.



Refurbished Engine Baffles ready for installation

Starting

Each engine is equipped with a Prestolite DC electric Starter Motor which would normally be powered from either the aircraft internal battery or alternatively from an external power source. As no starting facility is required the associated controlling contactors and heavy duty cabling are not installed.

Due to the close proximity of the port propeller to the pilot's door, the standard aircraft is equipped with an audible warning system that activates should the pilot attempt an engine start without the door being fully secured in the closed position. Pilot activation of either of the port engine magneto switches with his door not secured in the fully closed position, will activate a loud audible warning horn prior to his operation of the engine starter switch. This system is wired up and fully operational for demonstration purposes.

Exhaust

All required exhaust system components were eventually sourced to make up a complete exhaust system installation on both engines.



View of Port Engine Exhaust System installation

Induction Air

The Induction Air System comprises of a main up-draught Carburettor mounted on the underside of each engine coupled to an Air Box Assembly. Ram air normally enters the front of each Airbox Assembly into the Carburettor via a replaceable Filter located within the engine cowling air inlet scoop. A spring loaded flap in the air box duct protects against blockage of the filter assembly and provides an unfiltered emergency air source to the carburettor.



Refurbished Air Box Assembly

The two Airbox assemblies donated to the project both required extensive renovation and having been repainted were then installed onto the engines.

Oil Cooling

Cooling of the engine oil is achieved by ram airflow through an Oil Cooler assembly mounted on a vertical baffle above the rear of each engine. Fire-sleeved hoses connect the input and output oil flows to the relevant connections on the rear of the engine and have been installed on the port engine only.

Engine Controls

Control of each engine's Throttle, Mixture and Propeller Pitch is normally achieved via six Teleflex push/pull control cable assemblies.

Control of each engine's Carburettor Heat Control System is normally achieved via a spring return Bowden Cable arrangement.

The six Teleflex cables and the two Bowden cables have been omitted for practical reasons. Only the engine end Teleflex Slider Assemblies are installed onto the Port engine mounted on the standard Throttle and Mixture control bracket and a "pattern" bracket at the Propeller Pitch control due to non-availability of a genuine component.



Left – Refurbished engine control pedestal Right- Fuel Cocks.

Engine Control via these cable systems is achieved by the pilot from his centrally located Engine Control Console. This Console has received a total renovation and although no actual control cables are attached, correct control feel can be achieved by suitable adjustment of the friction control wheel and by the provision of suitable spring loading to the Carburettor Heat Control Levers.

Pilot control of the two main Fuel Cocks located out in the wings is achieved via a roof mounted selector panel providing full On/Off and Crossflow capabilities. These Fuel cock Controls are installed but the interconnecting cable and chain operating system has been omitted along with the Fuel cocks.

Engine Indicating

Engine Indicating is achieved by a series of instruments, all of which are mounted on the aircraft Main Instrument Panel:

- Dual RPM, Manifold Pressures and Carburettor Temperatures are indicated on three instruments mounted vertically in the centre of the panel.
- Dual Cylinder Head Temperatures, Oil Temperatures, Oil pressures and Fuel Pressures are all contained in an Engine instrument Cluster unit mounted at the left hand edge of the panel.
- Optional Dual Combustion Monitor instrument is mounted alongside the pilot's control column.

Installation

The engines were installed with the aid of a car engine hoist Further work referred to as "engine dressing" was undertaken as follows:

- Alternator Mounting Brackets, Starter Ring Gear, Alternator and Drive Belt were installed on both engines.
- Vacuum Pumps, Adapters and Cooling Cans
- Propeller Governors
- Exhaust System and Hot Air Muffs
- Carburettors, Airboxes and Ducting
- Engine Controls – on Port Engine only
- Fire-sleeved Hose Assemblies for Fuel, Oil and Manifold Pressure Systems on Port Engine only.
- Vacuum Pump, Fuel pump and Magneto Cooling – Partial installation only.



Initial trial installation of Port Engine in progress.

Propellers

Two 80 inch Hartzell HCC2YK2CUFF-C8477-4 Propellers were donated to the project, one by Isles of Scilly Skybus and the other by Cormack Islander Aircraft. Proptech supported the project by preparing "As new" non-operational propellers that are now installed onto the aircraft. As requested, Proptech

removed the large Unfeathering Spring from each propeller so that the blade angle settings can be manually adjusted as required. Propeller De-icing Boots are not embodied.



View of Starter Ring Gear donated by FIGAS.



View of Port Engine with Propeller, Spinner and engine cowlings installed

Propeller Spinner Backplates were installed onto the Engine Starter Ring Gear assemblies, that had been donated by FIGAS, followed by the Propellers and finally the Spinner Domes and Nose Caps.

A Woodward Governor F210444 Propeller Governor has been installed onto each engine and therefore the optional Unfeathering Bottle modification is not embodied.



View of Port Engine with engine cowlings removed (Peter Smithson).

A Memorable Day at Solent Airport 19 May 2022

In early April B-N announced that it would be conducting Hangar Tours of its facilities in Hangars 5 and 6 at Solent Airport. These tours followed on from the tours in December last year that had attracted much interest. On this occasion bookings were handled for B-N on line by Eventbrite and demand was such that almost within hours after the booking system became active all places had been taken up and a waiting list opened up.

Air Alderney announced at the beginning of May that it would be running their "Islander Experience" flights from Solent Airport at 11.00, 13.00 and 15.00 hrs in conjunction with B-N's Hangar Tours. On offer was a flight of around 25 minutes duration around the scenic Solent area. Similar flights over the South Coast had been operated by Air Alderney's immaculate Islander G-BLNI, c/n 2188, from Brighton City (Shoreham) Airport in March, see report in the March 2022 issue of BNAPS News. These flights had proved very popular and soon after the Solent Airport flights were announced all places had been booked.

The weather is always a factor for anything to do with aviation and, as it turned out, luck was on our side as 19 May was a beautiful spring day with a gentle south-westerly breeze and good visibility. It was one of those occasions when everything came together perfectly.

BNAPS at Solent Airport

BNAPS had been following the developing situation arising from the plans for B-N Hangar Tours and it seemed that with a significant number of people having an interest in B-N being at Solent Airport on the 19 May, together with the added interest of the Air Alderney flights, there was a golden opportunity to add something to the occasion if BNAPS could also be at Solent Airport with a sales stand and information point.

Thanks to support from the locally based Daedalus Aviation & Heritage Group and its chairman, Terry Coombes, BNAPS was kindly given the use of the club room conveniently located alongside the Solent Airport control tower. Preparations got under way and BNAPS merchandise was brought over from the Isle of Wight. BNAPS Supporter Norman Hobbs organised the sales side, assisted by BNAPS Chairman, Bob Wealthy, and all was made ready for a start at 11.00hrs.

BNAPS sales stand offered a wide range of B-N related merchandise together with information displays showing the history, recovery, restoration and preservation of the oldest B-N Islander in existence, G-AVCN, c/n 3..

On sale was a selection of BNAPS ever expanding range of postcards, caps, Islander, Defender and Trislander lapel pins, various commemorative stickers, a selection of BNAPS publications about the heritage of Britten-Norman and the story of the recovery and restoration of Islander G-AVCN together with items of B-N memorabilia.



BNAPS sales stand and information display in preparation before the event..

During the day there was steady flow of visitors and a number of BNAPS Supporters Club members and friends of BNAPS. With help from Allan Wright and Andy Clancey of BN Historians, during the day BNAPS was able to answer questions raised by visitors about B-N heritage, its aircraft and BNAPS.

BNAPS was pleased to welcome Danny Brem-Wilson, the owner of Air Alderney and we had an interesting chat about Islanders and its operation to serve the Channel Islands communities. Later Air Alderney pilots Capt. Rob Erskine and Crew Training Capt. David Donovan paid a visit and were both tempted to purchase some of the BNAPS merchandise. All in all a very interesting and worthwhile day – here's to the next time.....

B-N Hangar Tours

Visitors were welcomed to B-N facilities by PR Administrator Jonathan Sivarajah who gave an introduction to B-N's operations at its various sites in the UK and overseas. Four tours of B-N's Hangars 5 and 6 took place during the day, starting at 09.00, each tour lasting just under an hour.



B-N PR and Marketing Administrator Jonathan Sivarajah, right, with Hangar guides Scott Hume, left, and Steve Knowles, (B-N)



The first stop for visitors was Hangar 5 where a briefing on the work in progress was given by B-N's Aircraft Maintenance Manager Steve Knowles (B-N).



In Hangar 5 the Armed Forces of Malta BN-2T AS9819, c/n 2156, was seen being made ready to go to Biggin Hill for re-painting after completion of a major overhaul, upgrade of avionics and instrumentation and a new interior (BNAPS).



B-N's company aircraft, Defender BN-2T-4S G-WPNS, c/n 4011, was on show outside Hangar 5. The aircraft is currently supporting flight trials in connection with Project HEART (BNAPS).

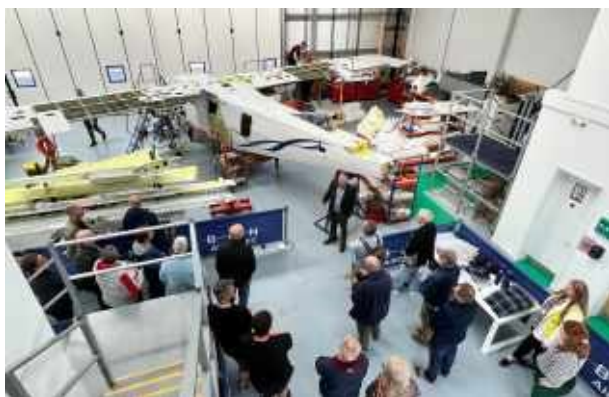


In Hangar 6 Islander G-BKJM, c/n 2162, was undergoing a major rebuild and had reached the stage where the wing and fuselage would soon be joined up (BNAPS).



View of Islander G-BKJM showing new nose section installed during the rebuild process (BNAPS).

B-N Hangar Tours - continued



Islander G-BCEN, c/n 403, was also being worked on in Hangar 6. The rebuild work under way involved extensive re-skinning of the wing. This Islander and the adjacent Islander G-BKJM are destined for a new owner in the Seychelles (B-N).

View from port side showing work in progress on Islander G-BCEN (BNAPS)

B-N summed up the day in a posting on Britten-Norman Facebook page:

The hangar tours were a huge success, attracting photographers, aviation and travel media, enthusiasts, pilots, and Islander fans alike. We were very fortunate to host Cllr Sean Woodward of Fareham Borough Council and aviation YouTuber Noel Philips.



Steve Knowles (left) B-N's Aircraft Maintenance Manager with Cllr. Sean Woodward, Fareham Borough Council Executive Leader, (B-N).

Attendees had an exclusive insight into the various functions of our MRO and Islander production line facilities, network with our talented Britten-Norman engineers and technicians, and a rare close-up photo opportunity with our line-up of aircraft.

Jonathan Sivarajah, PR and Marketing Administrator commented:

"We are overwhelmed by all the excitement that this event has generated. The aviation enthusiast community will always be important to us. Giving them the opportunity to have a unique, insider view into our operations is a small token of our gratitude to thank them for their continuous passionate support for Britten-Norman. Thank you to all of our wonderful colleagues who worked very hard to get this event off the ground and running smoothly and the amazing attendees who took the time out of their day to join us. We are very much looking forward to hosting more hangar tours and events in the near future"

Many thanks go out from BNAPS to B-N for the well organised and informative Hangar Tours.

Air Alderney "Islander Experience" Flights

Air Alderney's B-N Islander G-BLNI, c/n 2188, arrived at Solent Airport at 10.00 hrs in good time for the first of three "Islander Experience" flights planned for the day at 11.00, 13.00 and 15.00. The flight around the eastern Solent was priced at £80 and it is understood that all places had been booked in advance. Pilot for the flights was Capt. Rob Erskine.

The Solent region certainly offers excellent opportunities for scenic flights with many interesting places that come into view along the mainland coast from Solent Airport, Gosport, Portsmouth Harbour, Langstone Harbour, Hayling Island and beyond. Similarly the northern coast of the Isle of Wight from Cowes to Bembridge Point is equally of interest if somewhat different in character. The images below give a flavour of a scenic Solent flight in Air Alderney's Islander from Solent Airport.....



*Air Alderney's Islander G-BLNI on arrival
(Graham Tiller)*



*Pilot Rob Erskine gets ready for departure
(Mandy Pike).*



*Air Alderney's Islander G-BLNI sets off for the
first pleasure flight of the day (Tony Dann)*



*View over the pilot's shoulder as Portsmouth
Harbour comes into view (Paul Fiddian)*



*View to the North West over Southsea with
Portsmouth Dockyard in the distance
(Mandy Pike)*



*Over Portsmouth Dockyard looking towards
Portsmouth Harbour entrance
(Mandy Pike)*

Air Alderney "Islander Experience" Flights -continued



*Latest Royal Navy aircraft carrier at its base in Portsmouth Dockyard
(Peter Smithson)*



*Portsmouth's Spinnaker Tower at Gunwharf Quay
(Peter Smithson)*



*View of Haslar, Gilkicker Point and Stokes Bay on the way back to Solent Airport
(BNAPS)*



*On the downwind leg of the approach circuit crossing the coast at Meon Shore
(Sean Woodward)*



*On final approach to runway 23 at Solent Airport
(Mandy Pike)*



*Arriving back to the ramp at Solent Airport
(Peter Smithson)*

"Icing on the cake" for BNAPS at Solent Airport

What might be termed "the icing on the cake" for BNAPS was an invitation from Air Alderney Crew Training Capt. David Donovan, when he asked if we would like to accompany him on a 25 minute check flight in the Islander that would be operated from Solent Airport in the late afternoon. Needless to say he was nearly knocked over in the rush and Norman Hobbs, Allan Wright and Bob Wealthy enjoyed an excellent flight around the Solent region as illustrated below.....



Crew Training Capt. David Donovan took the left hand seat and the flight soon got under way after running through pre-take off checks (BNAPS)



Passing Solent Airport Tower after take off from runway 23 (BNAPS)



Islander G-BLNI, c/n 2188, climbing away at the start of the flight (Tony Dann)



Evergreen line container ship making its way down the Solent (BNAPS)



With a flight path closer to the Isle of Wight Seaview came in sight (left) followed by St Helens Duver and Bembridge Harbour (BNAPS)



After take-off the flight headed east down the Solent on course to an area near the Nab Tower where the check pilot would carry out some steep turns and a stall recovery exercise at 3000 ft. On the way there was an excellent view of the Isle of Wight coast from Ryde to Bembridge Point. After completing the check flight operations the Islander returned to Solent Airport, this time closer to the mainland coast.

Grateful thanks go to Danny Brem-Wilson Sr and Jr for their generosity, to Capt. David Donovan for taking us on the flight and to our pilot Neil for the very smooth flight – an unforgettable flight on a memorable day.



Allan Wright, in the first row passenger seat, on board Islander G-BLNI (Tony Dann)

Future Air Alderney Operations from Solent Airport?

Solent Airport is owned by Fareham Borough Council and is managed by Regional and City Airports Ltd. Sean Woodward, Executive Leader of Fareham Borough Council, has been instrumental in the development of the former Royal Navy Air Station, HMS Daedalus, as the hub of a Solent Enterprise zone of which Solent Airport Daedalus (ICAO code EGHF) is a key element.

After enjoying a flight over The Solent and Fareham area in the Air Alderney Islander, Sean Woodward met up with Danny Brem-Wilson, the owner of Air Alderney, and discussed his plans to start scheduled services from Solent Airport Daedalus in the future, once the new airport lighting and performance based navigation facilities are in place.

Future developments are awaited with great interest.



Air Alderney owner Danny Brem-Wilson (right) with Sean Woodward and Islander G-BLNI at Solent Airport on 19 May (Sean Woodward).

Islander c/n 2188 history by Norman Hobbs

The maiden flight of this aircraft, with registration G-BLNI, took place on 19 March 1986 at Banaesa Airport, near Bucharest. It was flown to Bembridge for customisation and further flight tests, arriving on 11 April 1986. This was the fifth Islander to be delivered to the Falkland Islands Government Air Service (FIGAS). The previous three Islanders had been dismantled and shipped via sea but c/n 2188 was flown to Port Stanley. It left Bembridge on 14 October 1987. Upon arrival the registration VP-FBI was applied and it soon joined the fleet of Islander aircraft carrying passengers and freight between the 32 airstrips and beach landing areas of the remote archipelago in the South Atlantic.

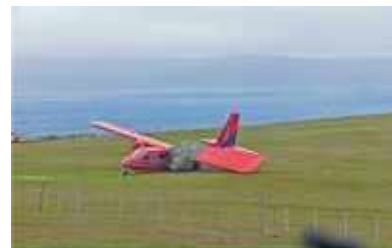
As a result of a forced landing on West Point Island in November 2006, it was dismantled and shipped back to the UK in a container. After being rebuilt by Cormack Islander Aircraft at Cumbernauld, it was re-registered G-BLNI and flown to Hurn for repainting. In October 2020 ownership was transferred to Air Alderney Ltd based in Hangar 500 at Biggin Hill Airport. According to GINFO, total airframe hours as at 15 December 2021 was 11033.



c/n 2188 as G-BLNI at Bembridge prior to delivery flight October 1987 (BNH Collection)



c/n 2188 as VP-FBI with different tail logo at Stanley December 2003 (BNAPS Archive)



c/n 2188 after forced landing on West Point Island November 2006 (BNAPS Archive)



c/n 2188 prior to repainting at Hurn June 2018 (BNH Collection)



c/n 2188 all white at Biggin Hill July 2020 (BNH Collection)

BN-2 Islander aircraft for a new Antigua and Barbuda Air Wing



Antigua and Barbuda is a small twin island nation in the Caribbean and one of the founding members of the Regional Security System which consists of seven independent Eastern Caribbean States.

Brief history

The small island of Antigua was explored by Columbus in 1493 and named for the Church of Santa Maria La Antigua. Antigua was colonized by Britain in 1632, while Barbuda Island was first colonised in 1678. Having been part of the Federal Colony of the Leeward Islands from 1871, Antigua and Barbuda joined the West Indies Federation in 1958. With the breakup of the federation, it became one of the West Indies Associated States in 1967. Following self-governance in its internal affairs, independence was granted from the United Kingdom on 1 November 1981.



The Antigua and Barbuda Defence Force (ABDF) is tasked with internal and external security and consists of a land branch (the regiment) and a maritime branch (the coast guard). The islands will be better protected in the event of an emergency after the Antigua and Barbuda Defence Force (ABDF) commissioned a new air wing to assist with everything from search and rescue to medical evacuations.

Late February 2022, the first aircraft for the Air Wing was revealed at its home base St. John's - V.C. Bird International Airport. The Britten-Norman BN-2A-8 Islander, serial ABDF-A1, will be the first aircraft of the Air Wing of the ABDF. It will be used for security, patrol and liaison missions, and is painted in

dark blue colours with the national flag of Antigua and Barbuda. They plan other aircraft to join their fleet, but only as budgets allow.

On 12 April 2022 the ABDF Air Wing was officially commissioned. The short ceremony was attended by the Governor General, H.E. Sir Rodney Williams, the Attorney General, Hon. Steadroy Benjamin, Minister of Aviation, Hon. Sir Robin Yearwood, among other guests from local and regional partners. The event culminated in a flyby of the aircraft, and reception catered by ABDF Catering Department.



ABDF Air Wing Officer welcomes guests to the ABDF commissioning ceremony on 12 April 2022 (ABDF).

The Islander enables the Force to offer aerial support across the Tri-Island state in Disaster/Emergency Response, Search and Rescue Support, Medevac, Maritime Space Surveillance among others. Successful operations so far include a recent Medevac from Barbuda of a COVID-19 patient who was in severe distress and could not be quickly extracted via sea. The complete round trip, to include pick up of the patient by ambulance in Antigua, took less than 45 minutes in total. ABDF Airwing's motto is "Sparing Nothing Giving ALL".



ABDF Air Wing Islander ABDF-A1 on show at the commissioning ceremony (ABDF).

Islander BN-2A-8 c/n 542

ABDF-A1 is ex V2-LGQ c/n 542. First flew as G-BEDX 11.9.76, delivered to Munz Northern as N35MN 4.4.77. After many years and operators in the USA, to Dominican Republic as HI-787SP 8.04, later HI-787. To Antigua as V2-LGQ 6.16, and to ABDF Air Wing 2.22.

A plane of many colours, here are some of the colours schemes carried by c/n 542:



Newly delivered to Munz Northern Airlines as N35MN in 1977 (Paul Huxford)



In Florida shortly before going to Dominican Republic 2003 (BN Historians Collection)



HI-787CA with Vol Air in 2004 (BN Historians Collection)



A very colourful HI-787 with Air Inter Island in 2012 (Air Inter Island)



In Antigua with Caribbean Helicopters, 2016, with Air Barbuda titles (Dave Hedges)

News of Islander G-BVSG and 2-CIAS from BN Historians

Croatian Islander G-BVSG becomes 9A-SMM



*Islander c/n 2283 arrived in Croatia in January 2022.
Later o it was allocated registration mark 9A-SMM (air-pannonia.hr).*

Originally delivered in 1995, BN-2B-20 Islander c/n 2283, spent 13 years as VH-ZZX in service with Surveillance Australia. When the contract ended, B-N repurchased the aircraft (with the other 5 Islanders in the fleet). VH-ZZX was eventually dismantled and shipped to the UK for rebuild, first being noted at Solent in 2014.



VH-ZZX in store at Tamworth, Australia in 2009. (BNH Collection/S.Kedar)

It was re-registered to B-N as G-BVSG on 16.10.14 and was noted at Solent 19.4.21 after a lengthy rebuild in primer, and interestingly fitted with fences, similar those carried by BN-2T aircraft. Later painted all white, the aircraft flew again on 11.5.21.



G-BVSG during its first flight since rebuild at Solent. Note the wing fence. (Rich Davies)

Later, when Micronair spray bars were fitted, some idea of its next lease of life became evident. The wing fences are fitted to improve stability in the air with the crop spaying equipment added.



G-BVSG was delivered to its new owners, Air Pannonia, Osijek, Croatia, on 20.1.22. It is registered to Air Tractor but operated by Air Pannonia. Air Tractor was formed in 1993 with the acquisition of Antonov AN-2 9A-DAV. The fleet was quickly expanded with two further AN-2s, 9A-DAM and 9A-DIZ. In 1995 the business was expanded to a pilot school with A Cessna 172, 9A-DVJ, and in 2009 a PA-44 Seminole 9A-DPY joined, and the pilot academy named Pannonia Pilot School. Further expansion of the business occurred in 2014 when VIP and medical transport operations ensued with the addition of a Beech C90 King Air, under the name Air Pannonia. The Air Pannonia fleet now comprises 3 Cessna 525 Citation Jets, and the newest addition to the Aviation Treatment division is the Islander, now registered 9A-SMM.

Channel Islands Air Search Islander resumes service.



CIAS Islander departing from Solent as N70AS (Mark Rutley)

Channel Islands Air Search Islander 2-CIAS (c/n 2314) received some minor damage to a wing tip following a ground incident in January 2022 at Jersey. The aircraft was flown to Solent for attention by Britten-Norman and was returned to CIAS at the end of April. During the time with Britten-Norman, the aircraft had work completed to make it able to be certificated on the USA FAA register. The aircraft has now been re-registered on the FAA register as N70AS. These markings were previously carried in 2019 when initially delivered to CIAS, on 26.6.19. At the time it was said that this was due to delays in certification of the markings 2-CIAS, which was carried from 18.9.19. It is understood that the reason for the change to an FAA Registration is in accordance with the terms of the original purchase contract.

Israeli Defence Force/Air Force Islanders

By Allan Wright



Islanders 001 and 004 on service with IDFAF (Anon)

It is well known that in the early 1970s, the Israeli Defence Force/Air Force (IDFAF) acquired several BN-2 Islanders. However, there has always been some confusion about the number they had, and which aircraft were involved. Some sources quoted up to as many as a dozen were in use, but only 4 identities were known and only 2 tied up to construction numbers. These two aircraft were only identified as they are now in the IDFAF Museum at Hatzerim.

Recently, new information has been discovered that sheds more light on the Islanders used by IDFAF. The information is from a confirmed source who has asked to remain anonymous. This detailed account of the aircraft is presented here and we are grateful for the opportunity of obtaining the additional data.

By early October 1973 there was a total of 12 BN-2 Islander aircraft in use with civil companies in Israel: one registered to and operated by Shachaf Aviation Services, one registered to and operated by Nativ Air Services and 10 operated by Kanaf-Arkia. Of the 10 aircraft operated by Kanaf-Arkia only 3 were fully owned by them, the other 7 were registered to YAAF Aviation (4) and Isravia (3) (although the three Isravia aircraft were in fact owned by a Jewish businessman residing abroad: See also later in the story).

Shortly after the outbreak of the Yom Kippur War on 6 October 1973, it quickly became obvious that there was a shortage of medium sized communications aircraft and it was decided to impress some suitable civil types, among them the Islander. It is thought that only the Kanaf-Arkia aircraft were involved and then only some, or maybe all, of the 8 equipped for passengers (as the other 2 were fully fitted out for aerial photography for mapping purposes, and had a camera floor installed for this purpose), but the exact number used by the IDFAF has remained a bit vague due to the incomplete records for the war period at 100 Sqn.

Manned by reservists, they were incorporated as 151 Flight within 100 Sqn at Sde Dov on 8 October 1973 and flown in their civil paint scheme and using their civil registrations. (Another aircraft used by 151 Flight was Piper PA-31 Navajo 4X-ANU of Chimavir).

However, according to official IDFAF paperwork, and although they were not officially impressed yet, some of the Kanaf-Arkia aircraft were already operating under 100 Sqn orders during at least 24 hours before the start of the war on 6 October. In that period a number of urgent flights with military passengers were executed from Sde Dov and Tel Nof to several strips and bases in the Sinai.

The impressment of the Islanders is supposed to have been terminated late November / early December 1973 and all of the aircraft, with two exceptions, were returned to their civil owners and/or operators. The two exceptions were 2 of the Isravia registered aircraft, 4X-AYK (c/n 285) and 4X-AYW (c/n 107), which were donated to the IDFAF by the de-facto owner and for which the registrations were cancelled on 2 December 1973. The reason for the donation may have been that Isravia was already for some time in serious financial trouble and would be declared bankrupt during February 1974. Their third Islander (c/n 86) would be sold in the UK in March 1974.

The two donated aircraft at first continued to operate with 100 Sqn, but on 1 May 1974 they were handed over to the newly formed 135 Sqn, also at Sde Dov, where they served alongside the newly obtained Beechcraft 65 B80 Queen Air. They served in various roles, including as multi-engine trainers, but by late 1981 it had become more than obvious that they were far too expensive to operate in the same roles as the Queen Airs and thus the decision was taken to try to sell them on the civil market.

Kanaf-Arkia expressed much interest (both aircraft had always been maintained by the Kanaf-Arkia maintenance unit so they knew exactly their condition) and was willing to purchase the aircraft, but as they had been donated by a Israeli citizen living outside Israel, it was necessary to obtain the donor's consent in order to be able to sell these aircraft legally. Luckily this person was still alive, but it transpired that he would be unable to make a decision on the matter due to his medical condition. Having no other choice left, the decision was made to retire the aircraft and with a final destination within the IDFAF: One would be going to the IDFAF Technical School in Haifa to serve as an instructional airframe and the other one would be handed over to the IDFAF Museum at Hatzerim.

The IDFAF HQ finally made this decision only a few days after one of the aircraft, #004, was taken to the Kanaf-Arkia maintenance unit at Sde Dov and dismantled for a large-scale inspection/repair (D-maintenance), of which the bill had already been paid for in advance. As a result, the official retirement of the type had to be postponed for several months, the aircraft would be completely overhauled mechanically, internally renewed and fully repainted in standard IDFAF colours, all as stated in the original overhaul contract.

When this intensive maintenance had been fully completed, the IDFAF HQ was forced to free an additional extra budget for another 10 flight hours, needed for completing the required test flights before redelivery, and for the final flight to the aircraft's retirement site.

So, and in an almost new condition, on 7 July 1982 aircraft #004 made its last official flight for 135 Sqn from Sde Dov to Hatzerim, flown by Lieutenant Ilan Lin, being the only available of four regular pilots of 135 Sqn who were still certified to fly the type. At the museum it was kept in a flyable condition for a short time, till stored and later becoming part of the aircraft display there.

#001 had been handed over to the IDFAF Technical School in Haifa as a GIA around May 1982, but in 1989 it also went to the museum at Hatzerim, first on display but later it was moved to the storage area, as its condition was worse than that of #004.

IDFAF Islanders: *(confirmed)*

c/n 107 4X-AYW YAAF 17/12/69, Israviva/Chimavir, Kanaf-Arkia 12.72, 4X-AYW canc. 2.10.73. To 4X-FMA/001, then 4X-FNR/001. Struck off charge 5.82, to GIA Haifa TTS.

c/n 285 4X-AYK Israviva 4.5.72, Kanaf-Arkia 12.72, 4X-AYK canc. 2.12.73. To 4X-FMD/004, then 4X-FNP/004. Struck off charge 7.82, to IDFAF museum.

These are the only two identities 100% confirmed.

Other aircraft possibly impressed:

c/n 86 4X-AYV Israviva 1.5.72, Kanaf-Arkia 12.72. Impressed 10.73, returned 12.73. To UK G-AXHE, W/O 5.2.94.

***c/n 96 4X-AYT** Avirom (YAAF) 25.11.69, Kanaf-Arkia 12.72. Impressed 10.73, to 4X-FMB/002. Returned 12/73, reverted to 4X-AYT 8.78. Still extant in Israel, last noted Beer Sheba 29.12.14, WFU.

c/n 101 4X-AYF YAAF 19.6.69, Kanaf-Arkia 12.72. Impressed 10.73, returned 12.73. To USA 10.77, then TG-REB 12.77, YS-25C 4.90, N101WD 4.98, PWFU FXE 1.00, gone by 2004.

c/n 166 4X-AYC YAAF 23.4.70, Kanaf-Arkia 12.72. Impressed 10.73, to 4X-FMC/003. Returned 12.73, reverted to 4X-AYC 1.74, to UK 2.82 G-BJWL, then Lebanon OD-MIK 7.89, Cyprus 5B-CHD 1990, Air Alderney G-BJWL 8.20.

c/n 171 4X-AYA Shahaf 11.71. Impressed 10.73, returned 12.73. To USA N119JE 2.07, YV212T 2009. W/O 2009.

***c/n 214 4X-AYB** YAAF 9.1.71, Kanaf-Arkia 12.72. Impressed 10.73, returned 12.73. To USA N51JA 23.3.76, Canada C-GNSC 3.76, N6661A 2.91, N214TL 2.91, C6-BAA 2.06.

c/n 283 4X-AYO Kanaf-Arkia 22.9.71. Impressed 10.73, returned 12.73. To USA N581MA 24.2.76, F-OGHL 5.76, WO 28.10.88.

c/n 316 4X-AYL Kanaf-Arkia 29.4.73. Impressed 10.73, returned 12.73. SX-BFC 5.78 (leased), SX-BFG 5.80 (leased), to UK G-BJWN 2.82, ZK-FVD 12.89, YJ-OO5 8.18.

c/n 334 4X-AYR Kanaf-Arkia 17.8.73. Impressed 10.73, returned 12.73. SX-BBS 5.75 (leased), G-BJWO 2.82, G-NOIL 3.13, WFU

c/n 616 4X-AYN Nativ (YAAF) 26.3.71. Impressed 10.73, returned 12.73. Kanaf-Arkia 1.74, SX-BBY 4.74 (leased), SX-BBY 4.75 (leased), N616GL 8.98, WO 18.1.02.

Of the 10 "possibly impressed" aircraft only some, but maybe all, of the 8 Kanaf-Arkia aircraft equipped for passengers may have been impressed. That the two equipped for aerial photography (marked *) were used seems less likely, nor the two owned by Shachaf (c/n 171) and Nativ Air Services (c/n 616). However, the fact that a military identity has been reported for c/n 96 could confirm that this was impressed into service. C/n 166 is currently being prepared for service with Air Alderney as G-BJWL, and there is an entry in the logbook reported by former owner Cyprus Parachute Centre that it was used by 'Israeli Coastal Protection Agency', indicating this too was used by IDFAF. However, it is certain that the two later donated aircraft (c/ns 107 & 285) were not returned to Kanaf-Arkia. Endorsing this is the fact that there are plenty of photographs of 107 & 285 in service, but none have surfaced depicting 96 & 166 in IDFAF markings.



004 at the IDFAF Museum at Hatzerim. (www.aviationmuseum.eu)

Perhaps if more information is discovered we may be able to finally complete this "jigsaw" of the history of BN-2 Islanders used by the IDFAF.

Allan Wright BN Historians May 2022

BN Historians

BN Historians (BNH) is an independent society formed in April 1970, by four school friends who felt that Britten-Norman aircraft production needed recording to ensure that the increasing numbers of BN-2 aircraft then being produced were properly documented. Our aims are to collate information, especially photographs, for all Britten-Norman aircraft.

Activities have included the publication of four books, "The First 500" in November 1974, "12 Years On" in July 1977, "1000 Up" in January 1983 and "Islander96" in July 1996. Each book gave a detailed production history, together with a brief company history. The books have been used by the Britten-Norman company, and by BN-2 owners and operators worldwide. In 1989 all the data was transferred to a computer database.

The BN-2 Production History is a "printed to order" book on loose-leaf A4 format. With full indexes this is the most up to date data available - £45.00 plus carriage. A PDF file is also available for only £40.00 and sent by email.

Enquiries to enquiries@bnhistorians.co.uk or www.bnhistorians.co.uk



North Sea Aerial Surveys - Islander OO-MMM

In 2021, BN-2B-21 Islander OO-MMM, c/n 648, performed a total of 248 flight hours over the North Sea on aerial surveys for the Royal Belgian Institute of Natural Sciences (RBINS). Thirteen cases of operational discharges by ships have been observed. Additionally, suspected sulphur values have been measured in the smoke plumes of 16 vessels, while 23 vessels had suspected nitrogen values in their exhaust plumes. In 2021, a black carbon sensor was added to the sniffer setup to measure the amount of black carbon in ship emissions as well.

The North Sea aerial survey is organised by the Scientific Service MUMM (Management Unit of the Mathematical Model of the North Sea) of the Royal Belgian Institute of Natural Sciences, in collaboration with the Ministry of Defence. Due to the elaboration and application of an extensive Covid-19 switching plan, the initially foreseen target of flight hours was reached, despite the Covid-19 pandemic.

Most of the flight hours were for national flights (177 hours):

- 168 hours for the Belgian Coastguard:
 - 119 hours for pollution control: 54 hours for the detection of discharges of oil and other harmful substances and 65 hours for the monitoring of sulphur and nitrogen emissions from ships;
 - 45 hours for fishery control, on behalf of and in cooperation with the Flemish Fishery Inspection Services;
 - 2 "on call" hours in response to specific alerts: a collision without pollution and a search for a small power boat with trans-migrants drifting in the wind farms.
 - 2 hours in a pollution combating exercise.

- 9 hours for marine mammal monitoring.

In addition, 71 hours have been spent on international flights, of which 34 hours for the monitoring of sulphur and nitrogen emissions in Dutch waters on behalf of the Dutch Government (Human Environment and Transport Inspectorate) and, in the framework of the BONN Agreement, 19 hours for the Tour d'horizon-mission for aerial surveillance of offshore oil and gas installations in the North Sea and 18 hours for a mission to monitor discharges from ships in the Skagerrak Strait.

In 1975, the Belgian Army ordered twelve BN-2A-21 Islander aircraft as replacement for the Dornier Do27 with 16 smaldeel and with the School van het Licht Vliegwezen (Light Aviation School). The aircraft were built at Fairey, Gosselies, Belgium, and completed at Bembridge. Deliveries were made between 25 May 1976 and 11 February 1977. During their Belgian military service, the aircraft were converted from BN2A-21 to BN-2B-21 standards. The last Islanders were withdrawn from military service in late 2004.

The 1975-built BN2A-21 Islander was test flown as G-BDYG before entering service with the Belgian Air Force (Belgische Luchtmacht - Force Aérienne Belge) 16 smaldeel at Brasschaat as B-02 on 25 May 1976. The aircraft used callsign OT-ALB. In September 1991, Islander B-02 was modified and equipped with the remote detection and communication facilities required for pollution control and operated on behalf of MUMM for pollution controls over the North Sea. From December 1990 until December 2004, MUMM worked closely with the Department of Defence and the School van het Licht Vliegwezen. After its modification the job was done with B-02 until 31 December 2004. After B-02 was withdrawn from use by the Belgian Army on 31 March 2005, the aircraft was transferred to MUMM. To enable a certification for the delivery of airworthiness by the Belgian Civil Aviation Authority the aircraft was refurbished at Bembridge by Fly BN. On 27 February 2006, the Islander was registered OO-MMM to the Royal Belgian Institute of Natural Sciences (RBIINS) and based at Antwerp Airport.



Islander OO-MMM in its current livery (RBINS).



Islander OO-MMM monitoring North Sea shipping (RBINS).



Islander OO-MMM responds to call out alerts that involve searches for small craft in danger (RBINS).

Islanders at an Airfield West of Brisbane, Australia

Thanks go to Russ Waller for posting some images on BNAPS Facebook of Islanders at "a small airfield west of Brisbane". The images are of an unmarked Torres Strait Air Islander, an ex Japan Islander fuselage registration JA127D, and two apparently abandoned Islanders, registrations H4-AAI and VH-RUT.



An unidentified Torres Strait Air Islander VH-TRS, c/n 821, undergoing maintenance. It made a first flight as G-BELD on 16.6.77 as a BN-2A-6 and converted to a BN-2A-27 in November 1978. It subsequently took up registrations YR-BNO, ZK-LYP, A3-LYP and ZK-LYP before its acquisition for Torres Straits Air



Fuselage of Islander JA127D, c/n 2282, initially registered as G-BVNF, it was acquired by Australian Coastwatch and registered as VH-ZZW. It is due to take up a new registration as VH-ZKQ.



Engineless Islander H4-AAI, c/n 355, initially registered as G-BBLX and later N355BN, it has been in storage as a spares source since 2017.



Semi-derelict Islander VH-RUT, c/n 165, initially registered as G-51-165, G-AXYT, it has been in Australia since 1970.

Islanders c/n 2282, 355 and 165 are owned by Colville Aviation Services, Queensland, Australia.

Island Airways Islander N949PW in the Spring Sun

Two PWs in one picture! Island Airways newest Islander, the former G-AXUB, c/n 121, got its first outing following work to satisfy the US FAA regulations. The registration is a personal tribute to Island Airways owner Paul Welke - Paul wanted a different registration but he was apparently outvoted by his management team - and yes the numbers do mean something!



Islander G-AXUB, c/n 121, now carrying US registration N949PW on the ramp at Welke Airport (Island Airways).



Above Islander N949PW about to take off from Welke Airport for Beaver Island on Lake Michigan (Island Airways).

Left - Paul Welke with Islander N949PW (Island Airways).

Channel Islands Aviation Islander N55JA

Thanks go to Mike Oberman for sending photos of his freshly repainted Islander N55JA, c/n 295.



Views of Islander N55JA, c/n 295 - Left, at Santa Maria Airport, California - Right, on an excursion to Panamint Springs Airstrip, Death Valley National Park, California (Mike Oberman).

BN-2A-8 Islander c/n 295 was first flown on 1.10.71, registration mark G-51-295. It was delivered to Jonas Aircraft, New York, on 23.11.71 and registered as N55JA. After service on lease in the Bahamas and in Grand Turk, West Indies, it was operated in Alaska for 3 years. After service in Indiana and Nevada it was acquired by Channel Islands Aviation, based in Camarillo California, on 1.9.77. Now 51 years on it is evident that N55JA has been in good hands and is looking "as good as new".

From the Archive

Islander Mk III Gets to Farnborough – just!

Peter Chick recently posted an interesting item on the Isle of Wight Heritage Facebook about Islander Mk III G-ATWU that include a photo of the aircraft after its surprise arrival at Farnborough around 12 noon on 11 September 1970



Islander Mk.III G-ATWU is seen here in typical "Farnborough weather" having just arrived from Bembridge .

The people by the open pilot's door on the starboard side, unlike the Islander door that is on the port side, would appear to be Andy Coombe, in the white shirt, to his right Jim Birnie and to his left a tall person who could well be Desmond Norman (B-N).

Peter drew attention to the following press release was syndicated on that day to accompany the picture: *"Within hours of making its maiden flight, the Britten-Norman Mark III Islander, a new version of a British "air taxi", is seen being inspected to-day at the Society of British Aerospace Companies' show at Farnborough. The plane had flown in at the end of a round-the-clock battle by workers of the small Isle of Wight firm to get it ready in time for the show. The new three-engined Islander has increased passenger capacity - up from 10 to 16 - and a cruising speed of 185 miles per hour, about 25 miles per hour faster than the standard twin-engined Islander."*

In the BNAPS archive there is a rather poor photocopy of a letter, see image on the right, dated 5 July 1970, from John Britten to Chris Wald at Exporter's Refinance Corporation Ltd. (ERC) concerning the Islander Mk.III or, as called by John Britten in his letter, the tri-motor project.

At the time B-N was encountering financial difficulties and operated under a series of financial sanctions to cover approved areas of work. The financial situation became more serious and this led to B-N calling in the receiver on 22 October 1971.



The text of the 5 July letter is as follows:

Dear Chris,

I enclose a copy of Walter's letter concerning the tri-motor sanction. The original sanction to which work to date has been costed is now virtually exhausted and we shall shortly be forced to stop the project unless we can work out some way to fund the programme from outside the company. Could we perhaps have another discussion on the suggestion of ERC buying G-ATWU and placing a contract on us for the completion of the prototype?

The design office have drawings ready for the wing modification and fuselage extension which could be issued immediately. The fin, engine installation and nacelle are fully schemed and ready for detailing and the tail plane and elevator are in an advanced stage of design. Other areas in work at present include the instrument panel layout and engine control system associated with the rear engine.

The programmed date for a first flight at the end of August is just possible if finances can be made available immediately, if not, the existing sanction will be exhausted and the work will have to stop at the end of this week,

Yours ever, John Britten.

Obviously this was very desperate situation and somehow additional funds were found, whether this involved the sale of G-ATWU and a contract for its completion, as suggested by John Britten, is not known. Bearing in mind that the letter was sent only two months before the Islander Mk III made a first flight, it is a remarkable testimony to the efforts of the team that designed and built the Islander Mk III that they succeeded in getting it to the 1970 Farnborough Show.

BNAPS Postcards

BNAPS has an extensive range of postcards depicting Islanders, Defenders and Trislanders. For further details of postcards and greetings cards available, please email: norman@bnaps.org.uk

BNAPS Postcard Series – New Releases

Two new A6 postcards have been published featuring B-N Islander c/n 2188. One image from a photograph by Steve Fowler as VP-FBI in FIGAS livery at Stanley Airport and one image from a photograph by Tony Dann as G-BLNI at Solent Airport which features the Air Alderney logo on the reverse.



We are able to publish bespoke aircraft postcards, from your own image if required. Minimum quantity is ten with text and logo to suit at no extra charge. For more details, and to order postcards, please email: norman@bnaps.org.uk

BNAPS Sales

Please contact BNAPS at sales@bnaps.org.uk if there are any questions regarding stock items and availability.

BNAPS on the Internet - information and back issues of BNAPS News go to www.bnaps.org.uk Also take a look at BNAPS Facebook page.

BNAPS

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:
7, William Close
FAREHAM,
Hampshire,
PO14 2PQ

Trustees are Peter Graham, Bob Wilson, Guy Palmer and Bob Wealthy. Bob Wealthy is currently the Trust Chairman.

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 at membership@bnaps.org.uk

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 Britten-Norman from time to time, as a charitable trust BNAPS is an independent organisation.

How to contact BNAPS:

Email:
bob@bnaps.org.uk
Telephone: 01329 315561
Post:
BNAPS (Dept NL)
c/o
7, William Close,
FAREHAM,
Hampshire,
PO14 2PQ.

If anyone is planning to visit the Wight Military & Heritage Museum BNAPS people will usually be there every Thursday from 10.00 until 14.00

If anyone needs more information about BNAPS and what is happening please do not hesitate to get in touch.