

LOGBOOK

Great Aviation History



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by Patrick Dean

Unless otherwise noted, all photographs are courtesy of the author.

I have early memories as a boy trying to understand how huge airplanes that are heavier than air can fly. In grade school I spent hours in the library leafing through books reading and studying photos of huge aircraft. This is possibly where I developed a love for heavy lift. As a youth I was blessed with seeing a training formation of Convair B-36 Peacemakers, and later while in U. S. Air Force basic training saw the Convair XC-99. Some years later by chance circumstance I was at Lockheed Georgia for the first flight of the C-5A. At another time I witnessed the Super Guppies flying in and out of Marshall Space Flight Center/Redstone Arsenal. All of this validated my fascination with heavy lift. While serving in the Air Force I was assigned to the Douglas C-124 Globemaster II and stationed at RAF Mildenhall England. These huge lumbering giants were like a childhood dream coming true.

I had seen a drawing of the ATL-98 Carvair around 1959 and later a photo of one in a book. One Saturday afternoon while exploring the Channel coast of England a friend and I visited the Southend airport. We spotted a Carvair, which I had only seen in photos. Airports were not security fortresses

as they are now and we were able to get very close. An accommodating maintenance technician sensed our interest and offered to show us on board. Here was a front-loading Douglas derivative similar to the C-124 in purpose, but for civilian use. Patiently waiting its next cargo run, Carvair Number 20 - C-GAAH - of HawkAir sits on a wet ramp in Canada, circa the late 1990s. Unfortunately, this aircraft, now registered as N898AT and in the employ of Alaska-based Brook Fuel, crashed on 30 May 2007, leaving only two Carvairs left. The crew survived without serious injury. Photo: Sean Keating

as they are now and we were able to get very close. An accommodating maintenance technician sensed our interest and offered to show us on board. Here was a front-loading Douglas derivative similar to the C-124 in purpose, but for civilian use.

Over the years I collected photos and articles on the Carvair. In 1984 I was standing in flight ops in Hawaii when a Carvair taxied by. I ran out and chased it down the ramp to the parking spot to get a better look. The thrill of seeing it over twenty years earlier in England was renewed. I learned of the operations in Hawaii and paused daily to watch their slow lumbering approach into Kahului, holding up the shiny jets behind them. Shortly thereafter I learned of three more operating in Georgia near where I grew up. Guppies, hybrids and heavy lift had always been a passion, now it was time to learn the Carvair story.

After 48 years of service since the first test flight on 21 June 1961, one of the most unique transport aircraft in aviation history is passing into the recesses of time. Only two Aviation Traders ATL-98 Carvairs survive – one ATL-

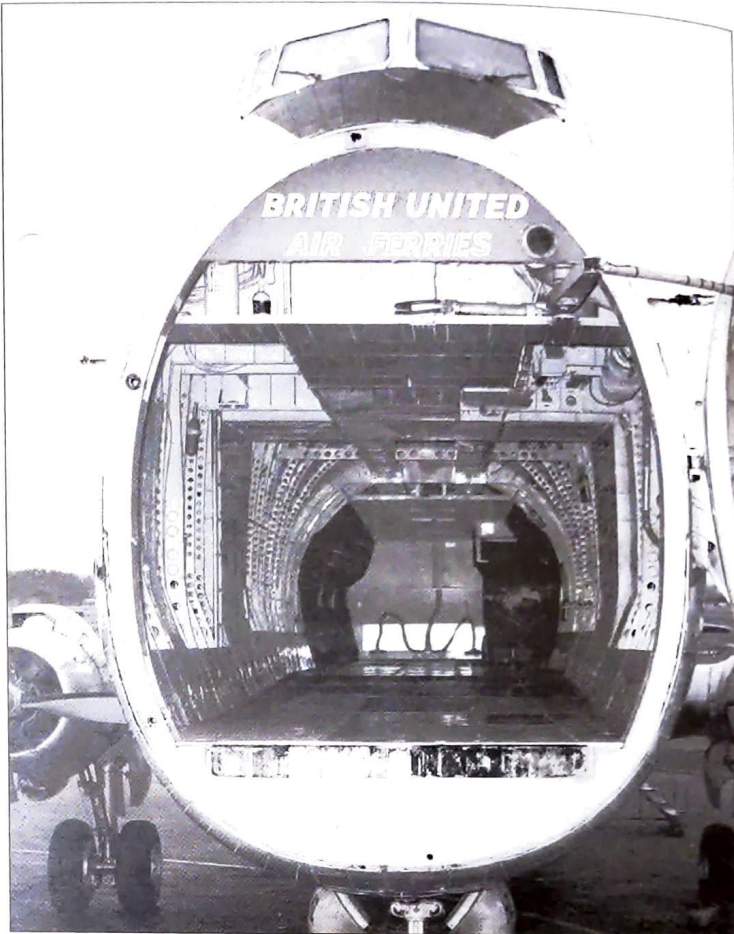


98A operational in Texas and a second ATL-98(F) stored in South Africa.

The development and production of the ATL-98 Carvair – an acronym for CAR-Via-AIR – is as much chance circumstance as planning. This true hybrid was developed from the Douglas C-54/DC-4 airframe as a specialty transport for British cross channel car-ferry service. It has been told that Sir Freddie Laker conceived the idea of grafting a 747-type nose to the DC-4 while he was in the bath. He had been considering for some time a number of existing aircraft to update the car-ferry fleet in England. At that time no one could have imagined that this type of hybrid or guppy would be operated by at least 75 carriers, with registrations in 16 countries. It virtually covered the globe from as far north as Umnak Island Alaska to as far south as Comodoro Riadavia, Argentina, and every continent east and west.

Originally developed as a replacement for the aging Bristol Mk.32 car-ferry fleet, it eventually became the civilian and military contract workhorse for oversized cargo before the introduction of more modern guppies and other large capacity cargo aircraft. The high bulk 18,000-pound payload ATL-98 Carvair, with its ability to operate into short and unimproved fields, has transported oil rigs, radio towers, whales, reindeer, elephants, other aircraft – both damaged and new, gold bullion, armored cars, pigs, monkeys, snakes, auto parts, nuclear material, rockets, orchestras, rock groups, refugees and royalty. It has seen combat from the Congo to Cambodia, transporting armed and wounded troops while taking hits from ground fire. The ATL-98 has appeared in movies such as “Goldfinger” and was used in numerous advertising campaigns to promote imported products that were delivered by the Carvair.

The Douglas C-54/DC-4 basis for the ATL-98 Carvair is a mutation of ideas that began 26 years before the ATL-98 flew. William Patterson, president of United Airlines from 1934-1966, envisioned the need for a 2,200-mile, long-range, four-engine transport, and presented the idea to Donald Douglas in 1935. Five carriers, United, American, Eastern, Pan Am and TWA each put up \$100,000 toward the \$3 million



Above, Left: Despite hauling a wide variety of cargo, the Carvair's initial role was as a flying car ferry. Seen loading an automobile, is British United - later British United Air Ferries - Carvair Number 2, registered G-ARSD. This aircraft, which bore the nickname “Chelsea Bridge” throughout much of its life, was finally scrapped in August 1970.

Above: With its nose wide open, it is clear that the Carvair was quite suitable for out-sized cargo.

dollar development cost. The outcome was the large and problematic tri-tail DC-4E, which with only one example built, was shelved.

The outbreak of World War Two put the project on hold until later the military required a long-range transport. Douglas already had their more conventional DC-4 on the drawing board and the rest is history. Fast forward to 1959, and the C-54/DC-4 had seen its day, being outclassed by more modern airliners. The 21 airframes that were eventually selected for ATL-98 conversion had flown for 50 carriers in 21 countries. Aviation Traders of Southend England, under the direction of Laker, set about the task of removing the C-54 nose just forward of the wing and grafting on the new front loading unit, lengthening the aircraft and giving it an eighty-foot cargo hold.

The new longer nose, extra hardware and 34-inch extension to the vertical stabilizer added approximately 2,200 pounds to the dry weight of the aircraft. The maximum takeoff gross of 73,000 pounds – 73,800 in the U.K. – remained the same as the C-54/DC-4. The cruising speed was reduced by five



knots, however the rate of climb was slightly increased over the DC-4. This is attributed to the large nose, which produces some lift.

The Carvair is a very forgiving aircraft however the large nose does have some negative influence in certain situations. It has never been statistically proven but many crews have reported a tendency for the Number Two engine to experience overheating, which has been attributed to airflow



around the large nose. During engine out in-flight emergency procedures the operating manual clearly states the crew should not attempt a bank turn into a dead inboard engine. It is definitely more critical on the left and stated to never bank into a dead engine on the left side. This directive was bore out with fatal crashes in Karachi and Miami.

Even with some faults the Carvair has proven to be an amazing workhorse transporting hundreds of thousands of passengers and cars in addition to an amazing array of oversized cargo. It is a cost efficient, high bulk aircraft. It achieved many milestones in aviation history and set records, but was not without its faults. A study of its history indicates that the fleet suffered a number of nose wheel collapses over the years, however these incidents have not been attributed to any specific engineering defect. Some have been charged to maintenance irregularities and crew error. Only one crash and loss, G-APNH – Carvair Number 11 – in France resulting in writing off the airframe, was attributed to the nose gear collapsing. Of the 21 C-54/DC-4s that were converted in the 1960s, eight have crashed – Rotterdam – The Netherlands, Karachi – Pakistan, Le Touquet – France, Miami – Florida, Twin Falls – Labrador, Griffin – Georgia, Venetie – Alaska, and Nixon Fork – Alaska; nine were broken up – four in England, one each in France, Thailand, The Dominican Republic, The Congo, and United States; and two destroyed in

Top, Left: Happy tourists deplaning from a British Air Ferries' Carvair after a trip to the Continent. They must be happy because they took their cars with them on vacation.

Top, Right: Carvair Number 21 was converted for Ansett-ANA, in an all-cargo configuration. Registered as VH-INM, it was in the airline's fleet from February 1968 until it was sold in January 1974. This photo was taken in 1968, at the airport in Southend, England, just prior to the eight-day ferry flight to Australia. This airframe is one of the two Carvairs still in existence.

Above: Carvair Number 9 is the other airframe still extant. Seen here in the livery of British Air Ferries Cargo - G-ASHZ - circa 1977. Carvair Number 9 is currently registered as N89FA.

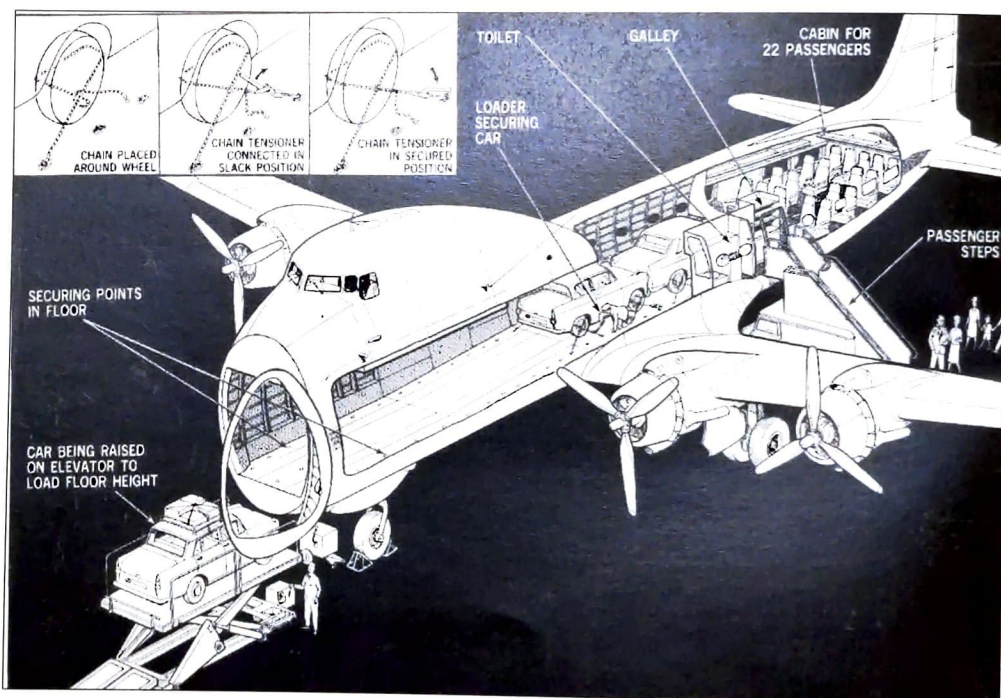
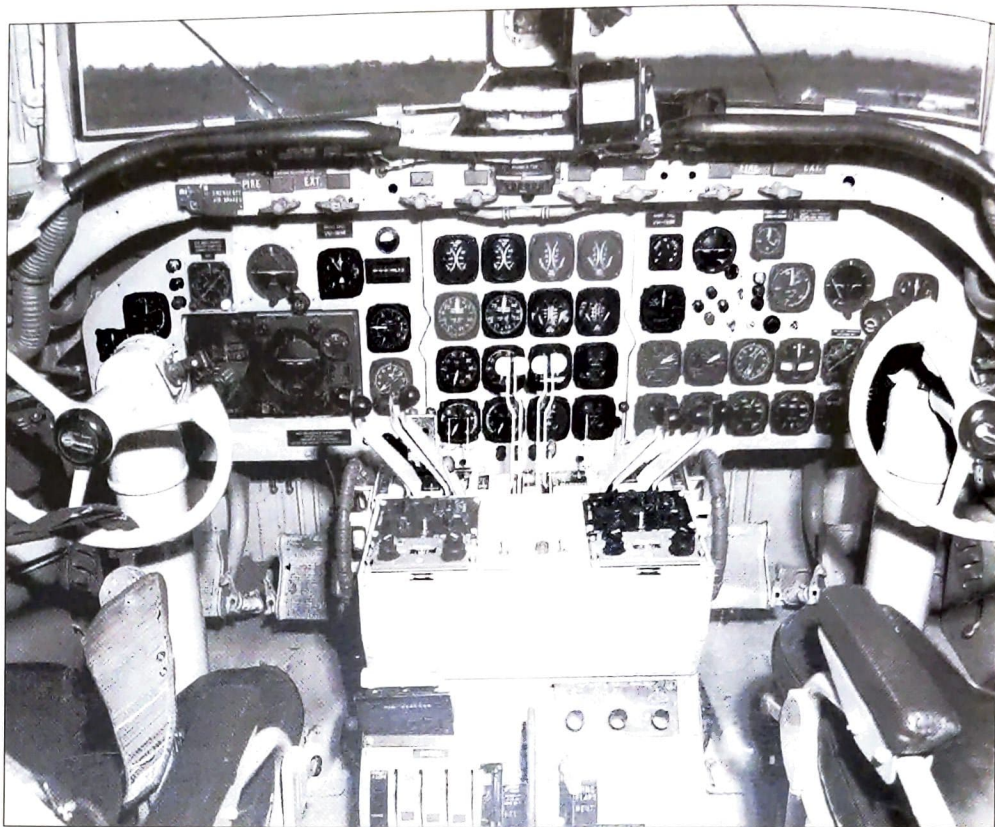
war – Phnom Penh – Cambodia and Kinshasa – The Congo.

Only two Carvairs exist today. Carvair Number 9 – currently registered as N89FA – is the oldest of the pair. It began life as a C-54B-20-DO at Santa Monica, and was delivered to the U.S. Army Air Forces (USAAF) in 1945, as Serial Number 44-9023. As the war was ending it was transferred to the Reconstruction Finance Corporation for disposal, after which it was assigned civilian registration NC88816 and returned to Douglas to become the 10th conversion to DC-4 civilian transport standards. After a hard life in commercial

service with Western Airlines, Guest Aerovias Mexico, Aerovias Panama, Lloyd Aereo Boliviano and several brokers the aircraft was acquired in 1962 by Aviation Traders for conversion.

Disassembly began with the announcement that the Carvair Number 9 would be for InterOcean Airways, which had previously purchased conversions Numbers 4 and 5, for United Nations work in the Congo. No further announcements were made and the newly completed Carvair instead went into service with British Air Ferries as G-ASHZ, and began car-ferry service on the Southend - Rotterdam route. Aviation Traders fitted this aircraft with the newly developed convertible "Quick Change" (QC) cabin. It could carry five automobiles/22 passengers or three automobiles/55 passengers or it could be configured for bulk cargo. Almost immediately it began taking on supplemental cargo of ships masts, washing machines, flowers, Dutch cigars and most anything that would fit through the forward bulkhead, and continued oversize charters until 1976.

G-ASHZ served the British carrier well in car-ferry service, and wore a number of color schemes for 13 years. The drive-on sea ferries across the English Channel brought an end to flying car-ferries, and in 1976 Carvair Number 9 was placed up for sale. With no interested buyers coming forward it was leased to SOACO, a construction company that had purchased two other Carvairs and a CL-44 for a mammoth construction project in Libreville, Gabon. The front-loading cargoliner was put into service transporting construction materials, including plumbing fixtures, from France to Africa. After the short lease it returned to England for maintenance and in 1977 it became the second British ATL-98 converted to all cargo configuration by removing the rear passenger cabin, galley and lavatory. A single row of seats was left against the rear bulkhead for supplemental cargo handlers and a portable toilet was installed in the nose door for the crew. In 1978, it was leased by the

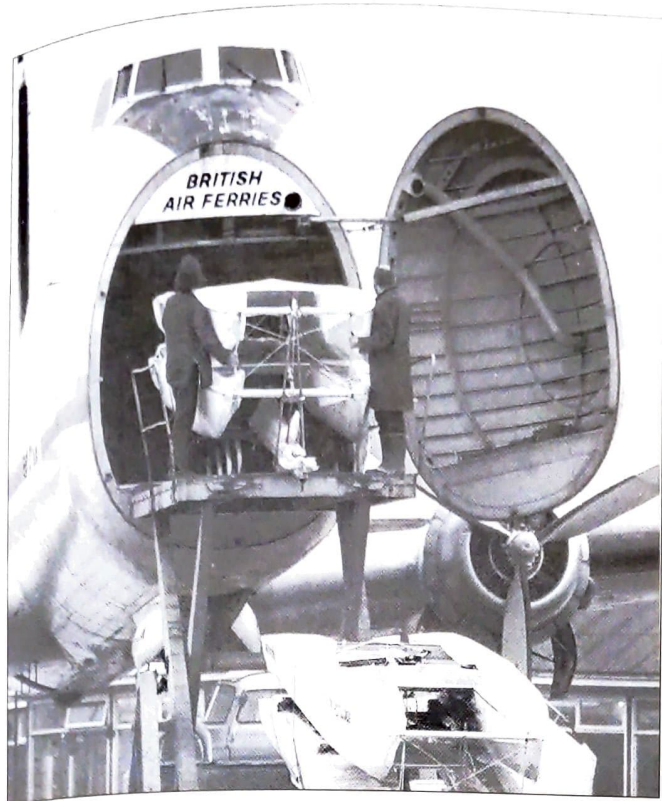


Top: The cockpit of the Carvair was upgraded and optimized for a two-man crew.

Above: A cutaway of the Carvair, showing the cars stowed forward of the aft passenger cabin.

International Red Cross for disaster relief missions in the Middle and Far East.

The British carrier phased out the cargo ATL-98 and G-ASHZ became one of a trio purchased by Falcon Airways of Dallas, Texas. Falcon Airways, who registered this Carvair as N89FA, had established itself in oil field trans-



port service with DC-3s and -4s. The Carvair, with an eighty-foot cargo capacity, made it ideal for transporting oil drilling rigs, pipe and explosives. Only one year after the arrival of the Carvair, Falcon fell on hard times and N89FA was grounded. It passed through a number of repossessions and transfers before being acquired by James Blumenthal in Arizona, who actually wanted a C-124 for his ad-hoc operation but settled for the ATL-98 Carvair. Blumenthal meticulously restored Carvair Number 9 to flying condition, but the cost eventually forced him to sell. It was then acquired by Bob McSwiggan for Custom Air Service in Georgia. McSwiggan was operating another Carvair – Number Five, registered N83FA – transporting auto parts. He was very pleased with the Carvair's ability to accept an eighty-foot trailer load of auto parts. After a short operation N89FA was withdrawn from service in order to provide a source of spares support of the other ATL-98. Carvair Number 5 had the enlarged forward bulkhead allowing additional clearance for oversize cargo, like priority Aircraft On Ground (AOG) transport of aircraft engines. For more than ten years N89FA remained idle with engines and parts being removed for spares. When N83FA was lost in tragic incident at Griffin, Georgia, N89FA was brought back to airworthiness and returned to service in 1998.

Custom Air Service, and associate company Academy Airlines, began paring down its DC-3 and Carvair operation, and N89FA was eventually sold off. It transited several more owners until today, where it is operated by Gator Global Flying Services of Denison, Texas, and is still wearing the paint scheme applied by Jim Blumenthal in 1982. It is back in ad-hoc charter service and recently transported oil drilling equipment from Houston to Ciudad del Carmen, Mexico. It is currently the only active Carvair in the world but it may have a

Above, Left and Above: The Carvair carried a diverse variety of cargo, including catamaran sailboats (left) and a special shipment of Dutch Panther cigars, which were ordered by an English gentleman and delivered personally by three Panther Girls (right).

limited future. As of the publication of this issue of LOGBOOK, N89FA still carries a valid FAA registration.

The other Carvair still in existence – Carvair Number 21 – was the last airframe converted. It was almost an afterthought, and was quite different from previous conversions. The C-54E-5-DO was delivered to the USAAF in 1945, as 44-9088. After only 553 hours of military service it was returned to Douglas, converted to civilian DC-4 standards and assigned civilian registration NX8881. It flew worldwide for Pan Am from 1945 until 1958. It was sold off to Japan Airlines and moved on to Ansett-ANA in 1965, still in standard DC-4 configuration. At the time, Ansett-ANA had two Carvairs – Number 19 and Number 20 – then in cargo service and in 1968, opted for a third aircraft, this one in an all-cargo configuration. This was a stop gap until the Lockheed L-188 Electra could be acquired.

The Carvair production line had been shut down in 1967, however Aviation Traders had three unused nose assemblies stored at Stansted England, along with completed Carvair Number 17 in storage. Australian aviation authorities required that an existing Australian registered C-54/DC-4 airframe be converted, which prohibited Ansett-ANA from taking delivery of the completed aircraft in storage. This resulted in Carvair Number 21 being converted at Southend England from surplus and stored conversion parts, with the nose being transported back to Southend from Stansted. It is interesting to note that this last conversion flew ten months before conver-

sion Number 17, which had been in storage for years after completion.

This last Carvair outwardly appeared the same as the others but in reality had many subtle differences. This was because single, one-of-a-kind parts needed to be fabricated, as the production line had long ceased operations. One example is a unique roller floor system that was installed to handle international size cargo pallets. The other Ansett aircraft were also fitted with roller systems, as were the Aer Lingus Irish International conversions, but this last system was visibly different as it was fabricated from various surplus parts.

Carvair Number 21 was withdrawn from service by Ansett-ANA in 1973, and parked along with Carvair Number 20, both in search of a new owner.

Carvair Number 21 saw very little service as it passed through a number of brokers, owners and some rather nefarious situations. An unsuccessful operation was attempted in Indonesia by Seulawah-Mandala of Jakarta. The aircraft was leased with option to purchase but the transaction was shaky at

best with the transfer date being rescheduled several times. Eventually Carvair Number 21 was brought back to service and flown to Jakarta. Once again the deal went sour and ownership reverted back to the broker. The broker feared the aircraft would be moved to a secret location or confiscated. In a daring covert move it was flown out without registration to Singapore, where the broker had facilities. The aircraft was serviced in Singapore and advertised for sale. It was then purchased, along with ex -Ansett-ANA Carvair Number 20, by upstart Nationwide Air, for work in New Zealand.

Nationwide Air of New Zealand took delivery of the pair of ex-Ansett-ANA aircraft in 1978. Operations were planned between the north and south islands. Once again problems arose with certification and registration. In a bazaar twist the brokerage/maintenance company in Singapore arranged for ownership to be shifted to a shell owner in the United States then back to New Zealand, in order to obtain a New Zealand type certificate. During this process, as leverage to circumvent a lot of bureaucratic obstacles, the rather strange way the U.S. certification of the third ex-Ansett Carvair was ob-

tained for operations in Cambodia in 1973 was pointed out to the FAA. This is a story in itself.

Nationwide was not well financed and was taking market share from the railroads and Cook Strait Ferry by transporting automobiles. The carrier was not well enough connected politically, was unable to secure long-term fuel contracts and was forced to cease operations. Once again the last Carvair built was idle.

Pacific Aerolift was formed by a group of rather unique characters, to purchase the last two Carvairs for planned operations in Hawaii. A major overhaul of the ex-Nationwide Carvairs was begun at Hamilton New Zealand. The first of

the pair was painted with a very smart livery but financing collapsed, and Carvair Number 21 was parked outside without engines, outer wings or empennage. A number of purchases were negotiated but none completed. In 1980 Air Cargo Panama held preliminary talks to work out a purchase agreement but no contract was signed. It appears that some of the primaries of this group were also associ-

ated with Pacific Aerolift. It was not until 1982 that Turner Aviation of Honolulu purchased the aircraft to transport bakery products in the Hawaiian Islands. The overhaul had not been completed and considerable monies would be required to bring it back to airworthiness.

Hawaiian Pacific Air of Honolulu was formed with some of the same individuals associated with Pacific Aerolift as cor-



Inset: A glorious sound - four Pratt & Whitney R-2000 radial engines turning up prior to a flight. It is something that is very rare today. The aircraft is Carvair Number 20 - C-GAAH of HawkAir.

Photo: Sean Keating

Opposite Page: One of the two surviving Carvair - N89FA - as it appears today.

Inside, Back Cover, Top: Two shots showing cars being off-loaded from Carvair Number 5. The aircraft - LX-IOG - was in service with InterOcean Airways of Luxembourg during the early 1960s.

Both Photos: InterOcean/Leif Hellstrom Collection
Inside, Back Cover, Bottom: One more look at Carvair Number 20 - C-GAAH of HawkAir, which was based in Canada. The men standing in front are identified as Sean Keating, Sam, Dave, and Stu.

Photo: Sean Keating

porate officers. Both ex-Nationwide Carvairs were purchased in 1990 for general cargo service and to obtain the Hawaiian bakery distribution contract. The operation was short lived and both aircraft were grounded in Honolulu by the Spring of 1993. They remained idle until 1996, when they were purchased by an aircraft broker for a planned operation in South Africa. The pair were brought back to airworthiness and flown to the U.S. mainland. The plan was to sell Carvair Number 20 in South Africa. Carvair Number 21 did not have an immediate buyer. During the ferry flight to Africa, Carvair Number 20 suffered an engine failure over Florida, and was grounded. After months of sitting idle in Florida a lease purchase agreement was negotiated and Carvair Number 21 was substituted and ferried to Africa. WonderAir of Pretoria acquired it for sub-lease to Avia Air, for relief flights to Kinshasa. Financing collapsed and it was grounded in Africa with an uncertain future. It is interesting to note that the other ATL-98 – Carvair Number 20, which suffered the engine failure – was eventually sold in Canada and later crashed in Alaska in 2007. That earlier engine failure on Carvair Number 20, and switching of aircraft can be attributed to Carvair Number 21 still being in existence today.

Carvair Number 21 was scheduled to be scrapped in South Africa and the registration was cancelled. It received a reprieve when Phoebus Apollo of South Africa, a DC-4 operator, acquired it for cargo operations. The Carvair being a high bulk aircraft capable of operation into short fields appeared to be a good choice for African back country work. However, the cargo operation was irregular at best. As has been the case so many times there is not enough specialized cargo in a single area for a small operator to maintain this tired workhorse and turn a profit. The airframe is currently grounded and available for purchase near Johannesburg. It has a bleak future.

These last two 1940-vintage airframes are a testament to Douglas Aircraft and the quality of American engineering combined with British ingenuity and craftsmanship. Today if you are fortunate enough to witness the operation of N89FA and hear the Pratt & Whitney R-2000s come up to power, your pulse will race and heart flutter just as it did for the people of Douglas Aircraft and Aviation Traders when they first witnessed the C-54/DC-4 or ATL-98 take to the sky.

This group of twenty-one aircraft survived military service in times of war. They served the airlines until replaced by more modern equipment. They were given a reprieve from the scrap man and re-manufactured as a new type transporting vacationing passengers and their cars, and later covert operations with sensitive cargo. It would be hard to find another fleet of aircraft more woven into world political events yet the possibility that either of these remaining aircraft will see a museum or be preserved is remote. In time even the crews that flew them and passengers that rode them will pass away and only photos will be left to tell the story of an exciting era in aviation. •

THE ATL-98 CARVAIR



*A Comprehensive History of the
Aircraft and All 21 Airframes*

WILLIAM PATRICK DEAN

Foreword by Michael O'Callaghan

The Full Story

To read the complete story about the ATL-98 Carvair, its development and employment, including a detailed history of each of the 21 airframes, we highly recommend the book *The ATL-98 Carvair* by William Patrick Dean. This well researched book contains a wealth of information as well as dozens of photographs and technical drawings.

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