



AVIATION HISTORICAL SOCIETY OF AUSTRALIA (NSW) Inc

ABN: 83 295 759 224
HON SECRETARY, PAUL EWOLDT : E paul.ewoldt@hotmail.com
13/40A ROSLYN GARDENS RUSHCUTTERS BAY NSW 2011

Southern Skies

THE NEWSLETTER OF AHS A (NSW) Inc

JUNE 2019 ~ No 539

Honorary Life Member AHS A (NSW) Inc: Ian Debenham

**THE JUNE AHS A (NSW) Inc MEETING
WILL BE HELD ON WEDNESDAY 5th COMMENCING at 8:00 pm.**

**PLEASE NOTE THE VENUE IN THE LOWER
FLOOR CONFERENCE ROOM AT THE NORTH RYDE RSL
COMMUNITY CLUB.**

The club is located at the corner of Pittwater and Magdala Roads, North Ryde. There is ample free parking and visitors are most welcome. The facilities of the club are available to members and visitors for pre and post meeting refreshment and conversation.

MEMBERS MEET FOR DINNER IN THE **RIVERVIEWS RESTAURANT** ON THE TOP FLOOR AT 6.30 pm.

**OUR GUEST SPEAKER WILL BE JAMES
OGLETHORPE OF 3 SQUADRON RAAF
ASSOCIATION.**
**HIS TOPIC WILL BE ABOUT THE ROLE OF GLIDERS
DURING WW2.**



Our May meeting which was held on Wednesday 8th May saw a presentation by Lt. Col. Troy R. Saechao, Commander for the 337th Air Support Flight US Embassy - Canberra.



His talk commenced with a short family history and his desire to be a fighter pilot. However he eventually enlisted in the "heavy"

part of the USAF- flying the KC -135R/T aerial tanker which is the military version of the B707.

Troy spoke of his time serving with various squadrons in Japan with the KC -135 and also the C-12J turboprop (similar to a Beech King Air).

His postings saw him serve in many countries including Germany, Kyrgystan and the UK before his current posting to Australia where he envisages remaining for about 36 months attached to the US Embassy in Canberra.

His talk was supported by some amazing photos and described a fascinating insight into the world of air-to-air refuelling. Members enjoyed a very interesting evening's talk and question time.

OFFICIAL OPENING OF THE AHS A (NSW) INC LENDING LIBRARY



ON Saturday 25th May some AHS A members and visitors gathered to officially open the AHS A NSW LENDING LIBRARY that has been

catalogued under the Dewey system in the new cupboards.

Various artifacts owned by AHS A (NSW) were on display, and also the **Clerget and Curtiss** aero engines together with some WW1 propellers which are owned by the Australian Society of WW1 Aero Historians and which are based also at Gordon's home. The displays demonstrate the valuable records and collections held by AHS A NSW and the ASOWWIH.

Books were also for sale.

A huge vote of thanks is extended to Gordon, Christine and Paul for the opportunity to retrieve the collection from cardboard boxes to the safety of Gordon's home, catalogue them, add official library bookcovers and complete the organisation of borrowing procedures.

BOOKS MAY BE BORROWED for a maximum of two months. All members will shortly receive a list of books in the library and can order by email or personally. The borrowed books will be taken to the AHS A meeting and returned to the library in the same manner unless otherwise agreed.

A delicious bbq lunch was provided by Christine and Gordon, all enjoyed in the sunshine of a perfect autumn day and the company of Gordon's personable cat! The opportunity for bonhomie and discussion was a highlight of this pleasant day.

TO RESERVE AND BORROW BOOKS: email

Christine: paul.ewoldt@hotmail.com or

Gordon: glaslett@bigpond.net.au

ASK'nANSWER

TL

People who want INFORMATION on a particular question are invited to list the question and anyone with information or suggestions can reply - with the question and the reply printed in future *SSkies'* issues. Students researching a topic and those with ideas and answers can support, clarify and question aviation facts and records. This can publicise research, which is always good for both aviation researchers and readers.

ONE HUNDRED YEARS AGO

JUNE 1919 - 2019

Chronology GL

- 01** A permanent flight of ex WWI Curtiss JN4 'Jennys' is stationed in San Diego to serve as a forest fire patrol.
- 02** The Colonial Office approves sending the RAF to Somaliland to regain control over the Dervish State of the 'Mad Mullah' Mohammed Abdullah Hassan. This is the first test of aerial policing.
- 05** The Larkin-Sopwith Aviation Co of Australasia Ltd is registered in London with a capital of £31,000.
- The AIF volunteers of the North Russia Relief Force (NRRF) arrive in Archangel.
- 06** Canada becomes the first country to legislate all aspects of aviation within its borders.
- 07** The Latvian Air Force is formed.
- Pre WWI aviator Raymonde de Laroche of France in a Caudron G.3 sets a woman's altitude record of 4,800m.
- 15** Capt John Alcock and Lt Arthur Whitten Brown complete the first non stop crossing of the Atlantic in a Vickers Vimy.
- 18** Germany given ultimatum to sign Treaty of Versailles.
- 22** German Reichstag ratifies the Versailles Treaty.
- 23** Their crews destroy six Zeppelins at Nordholz in order to prevent them from falling into Allied hands.
- 25** The world's first all-metal commercial airplane, the *Junkers F.13*, flies for the first time.
- 27** Canadian ace Raymond Collishaw CO of 47 Sqn RAF in his book *Air Command* mentions that one of his aircraft dropped a 112lb bomb on a Tsaritsin building killing 39 of the 41 local Soviet officials meeting there.
- 28** Versailles Treaty signed. The treaty calls for destruction of all German air material.
- 30** US press reports Captain William MacDonald of Melbourne intends to fly from San Francisco to Australia on 15 August.



Nancy Bird Walton Bronze Plaque in Domestic Terminal 3, Mascot, Sydney

MEDIA ANNOUNCEMENT :

" Sydney's new airport will be named after Australian aviation pioneer Nancy Bird Walton.

Pioneering pilot Nancy-Bird Walton is an "absolutely inspiring choice" as the name for western Sydney's new airport, according to Premier Gladys Berejiklian.

Known as the "Angel of the Outback", Ms Walton took her pilot's licence at the age of 18 in 1933, bought her own plane and set off on a tour of regional NSW.

She began transporting the sick from isolated regions around the country, helped set up the Royal Far West Children's Health Scheme and was an early pilot for the Royal Flying Doctors' Service.

"Nancy-Bird Walton was a pioneer not just for women but for anybody," Ms Berejiklian said at the site of the airport in Badgerys Creek on Monday.

"She helped set up the flying doctors, she did things which nobody else did, male or female."

Prime Minister Scott Morrison says it's fitting that having recognised her mentor Charles Kingsford Smith at Sydney Airport, "we now recognise Australia's greatest female aviation pioneer."

Western Sydney International, to be also known as the *Nancy-Bird Walton Airport*, is due to open in 2026.

Ms Walton's family say they are "extremely excited and thrilled, and it's just a huge honour" for their mother and grandmother.

Born in Kew on the NSW mid north coast in 1915, Ms Walton was taught to fly by Sir Charles Kingsford Smith and became the youngest woman in the Commonwealth to hold a commercial pilot's licence.

She was awarded the Order of Australia in 1990 and died in 2009 aged 93.

The new airport is taking shape, Ms Berejiklian said, and so is the airport city around it.

The premier on Monday announced a new agribusiness precinct which will contribute 2500 direct jobs and support up to 12,000 more.

The precinct will link directly to the Sydney Markets, which will have a base at the airport.

High-tech farming and glasshouses will create fresh produce and handle incoming products from NSW farms for global export, which will allow food produced in the state to be flown directly from farms to the world around the clock."

Australian Associated Press

FINE POINTS FOR HISTORICAL RECORDS

The following is included for members' information to help clarify a few of the inaccuracies in the media.

"FIRSTS" AUSTRALIAN WOMEN PILOTS : 23 MARCH 1927 –

UNFETTERED by the rules and regulations of modern Australian private aviation, early men and women pilots in Australia flew the 'firsts' that were to develop the routes and regulations that we remember in history today. Women pilots were amongst those pilots we remember. Whist we celebrate some achievements, many are forgotten. The following lists some of these achievements for your records.

My reference book sets out the list by 'A' licence dates.

Date of Issue	NAME	Number "A"	Aircraft type	State	Graduate of	Remarks.
23 03 27	BRYANT M M Mrs	71	DH 60 Moth	NSW	NSW Aero Club	1 st AUSTRALIAN WOMAN PILOT
03.12.27	Drowned in ferry "Greycliffe" disaster, Sydney Harbour					
October 1927 First Air Race: Ladies Oak Race						
10 01 28	REIS D E Mrs	134	"	QLD	Brisbane F S	1 st Qld
. . 28	UPFOLD M A Mrs	138	"	NSW	Aero Club	Skilled aerobatic pilot
20 3 28	BELL M T A Mrs	154	"	VIC	Aero Club	1 st Aust woman ground engineer
31 8 28	HARKNESS N K Miss	209	"	SA	"	1 st SA
22.02.29	TERRY F M ('BOBBY')	292	Avro Avian	NSW	Aero Club	
19 06 31	"	354	"B" Desoutter, Dornier		"	
28 06 29	(ARNOTT Phyllis R Miss	(330	DH 60 Moth	NSW	"	
28 02 31	(" "	(334	"B" "	NSW	"	1 st Aust female Commercial
15 07 30	WOODS M E Mrs	565	"	WA	"	1 st WA
16 09 30	(THOMPSON Freda M	596	"	VIC	"	
30 04 32	(" OBE Miss	390	"B" "	"	"	1 st Aust woman flying instructor
13.11.30	GRIFFITHS R E	640	"	NSW	GoulburnAeroClub	
30.10.31		369	"B" "	"	"	
23.12.30	BLAKEWAY M E Miss	673	"	NSW	GoulburnAeroClub	
		775	"B" "	NSW	"	
16.01.31	BRADFORD M G Miss	683	"	QLD	Aero Club	
		512	"B" "	"	"	
18.02.31	McKILLOP M M Miss	709	"	NSW	"	
19.02.35	(Mrs 'Peggy' Kelman OBE)	487	"B" "	"	"	Barnstormed with Nancy Bird
04 05 31	MARTIN F E Miss	744	"	NT	RVAC	Lived Victoria Downs Station
30.05.31	WILLIAMS I S Miss	775	"	WA	BakerAviationCo	
13.01.33	(Irene Dean Williams)	416	"B" "	"	"	
31.08 31	(BONNEY M R Mrs Harry	835	"	QLD	Matheson FS	(
28 10 32	(" MBE AO	408	"B" "	"	"	(4 world records
29 09 33	(de Low BIRD Nancy Miss	1150	"	NSW	KSAS	(Youngest <u>employed</u> Commercial
21 03 35	(" OBE OA	494	"B" "	(KingsfordSmithASchool)	(pilot in British C'wealth
31.10.32	CHOMLEY E M F Miss	1010	"	SA	Aero Club	
		651	"B" "	"	"	
30 11 33	HOGARTH B Miss	1182	"	TAS		Mrs Betty Shatwell
27.03.36	JORDAN C F C MISS	1800	DH 60	Q'LD	Aero Club	BECAME LICENCED GROUND ENGINEER Paid same as men
26 08 37	McKENZIE G J Mrs	2300		VIC	Vic FS (ANA)	Became Flying School Owner
09 02 39	CASEY E M S Lady	2928	DH 60 & Cub	VIC & CB	Essendon	Lady Maie, wife Governor-General
10 07 39	STARK A G Miss	3132	DH 82	NSW	RAC	Mrs Gwen Caldwell OBE WAAAF



NANCY BIRD AND HER 2 AIRCRAFT



'VINCERE' with WOMAN advertising under the wing.

Aerial refuelling

Aerial refueling, also referred to as air refueling, in-flight refueling (IFR), air-to-air refueling (AAR), and tanking, is the process of transferring aviation fuel from one military aircraft (the tanker) to another (the receiver) during flight. The two main refueling systems are *probe-and-drogue*, which is simpler to adapt to existing aircraft, and the *flying boom*, which offers faster fuel transfer, but requires a dedicated boom operator station.

The procedure allows the receiving aircraft to remain airborne longer, extending its range or loiter time on station. A series of air refuelings can give range limited only by crew fatigue and engineering factors such as engine oil consumption. Because the receiver aircraft can be topped up with extra fuel in the air, air refueling can allow a takeoff with a greater payload which could be weapons, cargo, or personnel: the maximum takeoff weight is maintained by carrying less fuel and topping up once airborne. Alternatively, a shorter take-off roll can be achieved because take-off can be at a lighter weight before refueling once airborne.

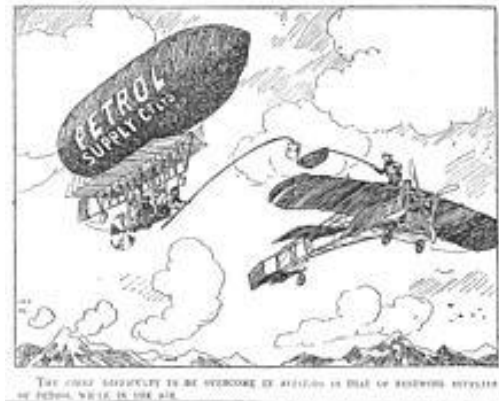
Aerial refueling has also been considered as a means to reduce fuel consumption on long-distance flights greater than 3,000 nautical miles (5,600 km; 3,500 miles). Potential fuel savings in the range of 35–40% have been estimated for long haul flights (including the fuel used during the tanker missions).

Usually, the aircraft providing the fuel is specially designed for the task, although refueling pods can be fitted to existing aircraft designs if the "probe-and-drogue" system is to be used. The cost of the refueling equipment on both tanker and receiver aircraft and the specialized aircraft handling of the aircraft to be refueled (very close "line astern" formation flying) has resulted in the activity only being used in military operations.

There is no known regular civilian in-flight refueling activity. Originally employed shortly before World War II on a very limited scale to extend the range of British civilian transatlantic flying boats, and then after World War II on a large scale to extend the range of strategic bombers, aerial refueling since the Vietnam War has been extensively used in large-scale military operations. For instance, in the Gulf War and the Iraqi invasion of Kuwait and the Iraq War, all coalition air sorties were air-refueled except for a few short-range ground attack sorties in the Kuwait area.

History and development

Early experiment



"The chief difficulty to be overcome in aviation is that of renewing supplies of petrol while in the air"
(Punch 20 October 1909, p. 288)

Some of the earliest experiments in aerial refueling took place in the 1920s; two slow-flying aircraft flew in formation, with a hose run down from a hand-held fuel tank on one aircraft and placed into the usual fuel filler of the other.

The first US mid-air refueling, based on the development of Alexander P. de Seversky, between two planes occurred on June 27, 1923, between two Airco DH-4B biplanes of the United States Army Air Service.

Capt. Lowell H. Smith and Lt. John P. Richter receiving the first mid-air refueling on June 27, 1923, from a plane flown by 1st Lt. Virgil Hine and 1st Lt. Frank W. Seifert.



An endurance record was set by three DH-4Bs (a receiver and two tankers) on August 27–28, 1923, in which the receiver airplane remained aloft for more than 37 hours using nine mid-air refuelings to transfer 687 US gallons (2,600 L) of aviation gasoline and 38 US gallons (140 L) of engine oil. The same crews demonstrated the utility of the technique on October 25, 1923, when a DH-4 flew from Sumas, Washington, on the Canada–United States border, to Tijuana, Mexico, landing in San Diego, using mid-air refuelings at Eugene, Oregon, and Sacramento, California.

Similar trial demonstrations of mid-air refueling technique took place at the Royal Aircraft Establishment in England, and by the Armée de l'Air in France in the same year, but these early experiments were not yet regarded as a practical



The first aerial refueling! Wesley May can be seen climbing from the Lincoln Standard (lower left) to the Curtiss Jenny (upper right) — the rectangular fuel can can be seen strapped to his back as he dangles from the bottom of the Jenny's lower left wing.

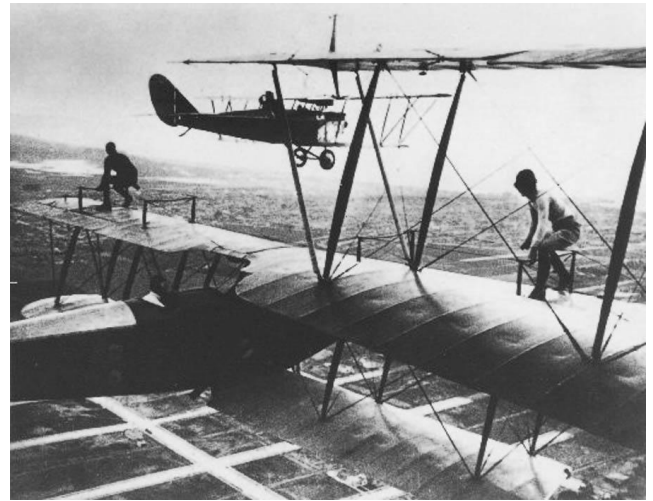
Photo Credit: Peter M. Bowers Collection, Seattle Museum of Flight

proposition, and were generally dismissed as stunts. As the 1920s progressed, greater numbers of aviation enthusiasts vied to set new aerial long-distance records, using inflight air refueling.

One such enthusiast, who would revolutionize aerial refueling was Sir Alan Cobham, member of the Royal Flying Corps in World War I, and a pioneer of long-distance aviation. During the 1920s, he made long-distance flights to places as far afield as Africa and Australia and he began experimenting with the possibilities of in-flight refueling to extend the range of flight.

Cobham was one of the founding directors of Airspeed Limited, an aircraft manufacturing company which went on to produce a specially adapted Airspeed Courier that Cobham used for his early experiments with in-flight refueling. This craft was eventually modified by Airspeed to Cobham's specification, for a non-stop flight from London to India, using in-flight refueling to extend the plane's flight duration.

Meanwhile, in 1929, a group of U.S. Army Air Corps fliers, led by then Major Carl Spaatz, set an endurance record of over 150 hours with the *Question Mark* over Los Angeles. Between June 11 and July 4, 1930, the brothers John, Kenneth, Albert, and Walter Hunter set a new record of 553 hours 40 minutes over Chicago using two *Stinson SM-1 Detroiters* as refueler and receiver. Aerial refueling remained a very dangerous process until 1935 when brothers Fred and Al Key demonstrated a **spill-free refueling nozzle**, designed by A. D. Hunter. They exceeded the Hunters' record by nearly 100 hours in a *Curtis Robin* monoplane, staying aloft for more than 27 days. The US was mainly concerned with transatlantic flights



Stuntman trying out a double simultaneous transfer of two wing walkers climbing between three planes — no fuel involved. c. 1922.

for faster postal service between Europe and America. In 1931 W. Irving Glover, the second assistant postmaster, wrote an extensive article for *Popular Mechanics* concerning the challenges and the need for such a regular service. In his article he even mentioned the use of Aerial refueling after take off as a possible solution.

At Le Bourget Airport near Paris, the Aéro-Club de France and the 34th Aviation Regiment of the French Air Force were able to demonstrate passing fuel between machines at the annual aviation fete at Vincennes in 1928. The UK's Royal Aircraft Establishment was also running mid-air refueling trials, with the aim to use this technique to extend the range of the long-distance flying boats that serviced the British Empire. By 1931 they had demonstrated refueling between two *Vickers Virginias*, with fuel flow controlled by an automatic valve on the hose which would cut off if contact was lost.

Royal Air Force officer Richard Atcherley had observed the dangerous aerial-refueling techniques in use at barnstorming events in the US and determined to create a workable system. While posted to the Middle East he developed and patented his '*crossover*' system in 1934, in which the tanker trailed a large hooked line that would reel in a similar dropped line from the receiver, allowing the refueling to commence.

In 1934, Cobham sold off the airline Cobham Air Routes Ltd to Olley Air Service and turned to the development of inflight refueling, founding the company **Flight Refuelling Ltd**. Atcherly's system was bought up by Cobham's company, and with some refinement and continuous improvement through the late '30s, it became the first practical refueling system.

To be continued



SMITH FLIGHT CENTENARY
COMMEMORATIONS
PROGRESS REPORT

Subject to much alteration and discussion, just to keep you up with the latest facts:

Developments are continuing, and I hope to have an interesting lot of news for the next meeting. The flight from Darwin to Adelaide will be held in March so as to arrive in Adelaide for the hundredth anniversary of the *Vimy's* arrival.

Owen Zupp is unable to take part in the flight Darwin to Adelaide. We had hoped that he would take a similar role to that of the Guillaux flight.



Michael Coates, the Australian agent for *Pipistrel electric aircraft**, had hoped to fly from England to Darwin as an independent operator, but has decided that the idea is too costly and complex. However he is interested in doing a Darwin to Adelaide flight as the glamour aircraft of the commemoration flight, to be done rather along the lines of the Guillaux flight. Under the circumstances the idea of arriving in Adelaide 23 March has appeal.

Much work and organisation is required, the aim being to have something relatively definite during early July.

Re philately: There is a possibility of a shipment from England to Darwin arriving 10 December, and then another event from Darwin to Adelaide. Again much detail to be discussed.

Please let me know of any ideas, problems and suggestions and do whatever you can to spread the word that something might happen. Phone or email me any time.

Smith Flight Commemoration Group
AVIATION HISTORICAL SOCIETY OF AUSTRALIA (NSW) inc
Tom Lockley ahsanswsmithflight@gmail.com +61 (0)403 615 134

* Pipistrel Virus SW high-performance two seat aircraft is a multiple NASA CAFE Challenge Winner with the best performance and economy in the market for this category of aircraft. Nearly 150 kn cruise with Rotax 100 hp engine World Record Holder. www.pipistrel-usa.com

Thank you, Gordon Lasslett, John Scott, Paul & Christine Ewoldt, Tom Lockley, and aviation friends for submissions to this newsletter. Contributions should be sent to the Newsletter Editor: judyrainsford@hotmail.com *jr69 AHSA (NSW)*

CALENDAR OF EVENTS : 2019

THE TEMORA AVIATION MUSEUM'S AIRCRAFT DISPLAYS

Email: info@aviationmuseum.com.au

Website:

<http://www.aviationmuseum.com.au/event/aircraft-showcase>

INTERSTATE NEWS

MELBOURNE MEETINGS are held on the fourth Wednesday of the month in the auditorium of the RAAF Association, 24 Camberwell Rd, Hawthorn East. Parking is available under the building - enter from the lane at the south end. The meetings start at 7.30pm - ring the bell if the front door is shut. A number of members meet casually for dinner from 6.00pm at the Tower Hotel opposite the RAAFA. Visitors are welcome. Website <http://www.ahsa.org.au/> Contact Dave Prossor, President, president@ahsa.org.com

BRISBANE MEETINGS are held on the last Friday of each month in the Lounge Area, Terminal Building, Archerfield Airport, Brisbane. Visitors are welcome. Next Meeting: Friday 28th June 2019 - 7:00 for :30pm Peter Dunn, Secretary, advised that the AHSA Q'land web site links to Victoria Museum's Facebook page - <http://ahsaqld.org.au/> Contact ahsaqld@gmail.com or Warwick Henry at 0417 771 563

AVIATION HISTORICAL SOCIETY of AUSTRALIA (NSW) Inc

ABN: 83 295 759 224

AHSA

13 / 40A Roslyn Gardens

Rushcutters Bay NSW 2011

MEMBERSHIP ENQUIRY

ARE YOU

- ➔ INTERESTED IN AVIATION HISTORY, PARTICULARLY AUSTRALIAN?
- ➔ INTERESTED IN JOINING PEOPLE WITH SIMILAR AVIATION INTERESTS?
- ➔ DO YOU LIVE TOO FAR FROM MEETING VENUES?
- ➔ WOULD YOU LIKE TO BE A JUNIOR MEMBER OF AHSA?

I AM INTERESTED IN JOINING AHSA (NSW) Inc.

PLEASE FORWARD: Tick appropriate box:

- Information about AHSA (NSW) Inc.
 - A membership application form
- AHSA (NSW) Inc subscription - \$40.00
Members receive the newsletter *SOUTHERN SKIES*
 via EMAIL. via post

Print Name:

Phone No Mobile

Address:.....

..... Postcode

Email:.....

Signed:.....

Send this form to:

The Acting Membership Secretary, AHSA (NSW) Inc,
C/- W. J. Scott, PO Box 1450, LANE COVE, NSW, 1595

Countdown to the Smith flight centenary commemorations: 'Spirit of Brooklands' part 2.

Brooklands, famous as a car racetrack, was regarded by the Kidby team as 'the spiritual home of the Vimy', because this was where the most of 336 Vimys were built in the Vickers factory. In August 1919 a few finishing touches were put on the replica, including a windscreen with excellent craftsmanship by Tom McMillan and Robert Gieve, of the famous tailoring firm. Another essential modification was elbow guards to prevent the elbow protruding from the edge of the cockpit because the clearance between the propeller and the cockpit was very small.

The Vimy flew to Farnborough on 3 September and despite appalling weather was a star attraction of the annual display. Completion of details continued, and the minutiae of the various route and customs clearances had to be finalised for the nineteen countries en route. Six days later two escort aircraft arrived – an Australian Army Nomad (A19-408) and a United Kingdom Police Aviation Services Islander. The Nomad carried the National Geographic film team and this was its last major flight, and indeed one of the last official flights made by ADF Nomads. It is now in the collection of the Oakey museum.

On the day of departure, September 11, the aircraft made a brief test flight, then waited on the ground until a QANTAS Boeing 747 (VH-OJB?) in special livery inspired by Aboriginal art flew over the airfield as the Vimy took off. Cairo was the Smiths' sixth stop, but the replica aircraft made twelve stops in the first section, not including an abortive start from Pisa. On the ground at Pisa they were caught in a windstorm gusting to 70 mph, and the size and relatively light weight of the Vimy caused huge problems. The wing area of the Vimy was bigger than that of a Boeing 737-900, but while a 737 weighs around 42 tonnes empty, the Vimy was a little over 3 tonnes. In general in this section the airmen were well received by officials in France, Italy and Greece, but without elaborate welcomes. The big advantage was the use of a GPS to give exact positions – over the Apennines the Smiths had to fly through clouds without being sure that they were not flying into headwinds, and descents were always cause for concern.

In Cairo, a flight was made over the Pyramids for photographs, and here the 1994 path diverged from that of 1914. Instead of going North to Syria, Iraq, Iran then east to Karachi, the replica flew across Saudi Arabia to Bahrain, a strong financial supporter. This involved a flight of over nine hours from Cairo to Ha'il, en route. Three days were spent in Bahrain, including a flight into the desert for a magnificent tribal gathering attended by the Crown Prince. Photos were taken, evocative of the deployment of the Handley Page bomber flown by Ross Smith during the last months of World War I.

The elaborate welcomes of the Arabic states were continued at Karachi. However problems emerged over the next stage, the passage to India. Relations between India and Pakistan were strained, and the issue was complicated by an outbreak of plague that had rendered landing impossible at the *en route* area of Gujarat. They were to encounter this problem again after Calcutta, and it was feared that the plague might be transported even by aircraft flying over infected territory. Eventually a relatively direct route to Delhi was agreed, and after another nine-hour flight the aircraft was welcomed by Shell petrol executives and staff. Next day they met the Prime Minister, performed numerous social functions, and took the photo opportunity of flying over the Taj Mahal, staying overnight at Agra.

On October 1 they set off to Calcutta, the longest stage of the flight – 820 miles, taking 10 hours 10 minutes. There had been some problems acquiring the correct quantity and quality of fuel, and despite flying with maximum economy, they barely had enough fuel, running empty before completing their taxiing at Calcutta.

The next stage was to Rangoon, another long flight of 686 miles, taking 8 hours 20 minutes. Though this was over fertile riverine plains, they were out of radio contact for some hours. Rangoon was an overnight stop, with a press conference, then on to Bangkok, Thailand. The ground below was often rugged, and there was concern over a 'missing' cylinder on the right-hand engine. At Bangkok a large press conference occurred, but the airmen were less impressed by the airfield fees of \$2,700. But confidence and morale were high.

However, on the next stage the right engine again acted up, leading to an unscheduled landing on Langkawi Island off the east of the Malayan peninsula. The Nomad support aircraft arrived from Phuket within an hour, and it was found that a spark plug had completely burnt out. They carried no spares for these modern and usually reliable items, but eventually a plug was found in a motorcycle shop and modified to fit. The following day they flew on to Penang, but shortly afterwards they had to land at a disused airfield when the right engine again lost speed. This time the two support aircraft were on hand, and the problem was traced to a computer setting. The airfield was so short that the *Vimy* and the *Nomad* had rather perilous take-off runs but the *Islander* handled the conditions better.

Because of smoke haze, they decided to fly on to Singapore rather than land at Kuala Lumpur. Here, a lavish welcome was awaiting: the 1919 *Vimy* had been the first to arrive in Singapore from overseas, and to commemorate this, the Singaporean postal authorities are issuing a commemorative stamp later this year.

On Sunday 9 October, the *Vimy* took off for Palembang, Sumatra.

to be continued.....

FACTS AND FIGURES

FLIGHT LOG: 1919			
Date	Route	Time	Distance (miles)
12 Nov.	London-Lyons	6 hr. 20 min.	500
13 Nov.	Lyons-Pisa	4 hr. 45 min.	380
15 Nov.	Pisa-Rome	3 hr. 20 min.	180
16 Nov.	Rome-Taranto	2 hr. 35 min.	260
17 Nov.	Taranto-Suda Bay (Crete)	5 hr. 40 min.	520
18 Nov.	Suda Bay-Cairo	7 hr. 20 min.	650
19 Nov.	Cairo-Damascus	4 hr. 10 min.	450
20 Nov.	Damascus-Ramadie	6 hr.	420
21 Nov.	Ramadie-Basra	3 hr. 30 min.	350
23 Nov.	Basra-Bundar Abbas	7 hr. 40 min.	630
24 Nov.	Bundar Abbas-Karachi	8 hr. 30 min.	730
25 Nov.	Karachi-Delhi	9 hr.	720
27 Nov.	Delhi-Allahabad	4 hr. 25 min.	380
28 Nov.	Allahabad-Calcutta	5 hr.	470
29 Nov.	Calcutta-Akyab (Burma)	4 hr. 45 min.	420
30 Nov.	Akyab-Rangoon	4 hr. 15 min.	330
1 Dec.	Rangoon-Bangkok	6 hr.	400
2 Dec.	Bangkok-Singora	6 hr.	470
4 Dec.	Singora-Singapore	6 hr. 20 min.	480
6 Dec.	Singapore-Kalidjati (Java)	9 hr.	640
7 Dec.	Kalidjati-Surabaya	4 hr. 20 min.	350
8 Dec.	Surabaya-Bima (Sumbawa)	5 hr.	420
9 Dec.	Bima-Atamboea (Timor)	5 hr. 30 min.	440
10 Dec.	Atamboea-Port Darwin (Aust.)	6 hr. 30 min.	470
Total		135 hr. 55 min.	11,060

FLIGHT LOG: 1994			
Date	Route	Time	Distance (miles)
11 Sept.	Farnborough-Troyes	3 hr. 39 min.	338
12 Sept.	Troyes-Chalon-sur-Saône	1 hr. 55 min.	123
12 Sept.	Chalon-sur-Saône-Lyon	1 hr. 14 min.	72
12 Sept.	Lyon-Benoux (Mende)	2 hr. 3 min.	115
13 Sept.	Mende-Cannes	2 hr. 48 min.	191
13 Sept.	Cannes-Pisa	3 hr. 2 min.	189
14 Sept.	Pisa, local (aborted)	29 min.	
15 Sept.	Pisa-Rome	2 hr. 40 min.	178
15 Sept.	Rome-Taranto	3 hr. 28 min.	302
16 Sept.	Taranto-Brindisi	21 min.	28
16 Sept.	Brindisi-Athens	4 hr. 2 min.	379
17 Sept.	Athens-Souða Bay (Crete)	3 hr. 30 min.	183
18 Sept.	Souða Bay-Alexandria	5 hr. 10 min.	463
18 Sept.	Alexandria-Cairo (Embaba)	1 hr. 20 min.	106
19 Sept.	Embaba, local (pyramids)	1 hr. 18 min.	
20 Sept.	Embaba-Cairo International	16 min.	
21 Sept.	Cairo-Ha'il	9 hr. 39 min.	742
22 Sept.	Ha'il-Bahrain	8 hr. 1 min.	568
23 Sept.	Bahrain, local (desert strip)	1 hr. 12 min.	
25 Sept.	Bahrain-Muscat (Seeb)	6 hr. 43 min.	523
26 Sept.	Muscat-Karachi	7 hr.	554
28 Sept.	Karachi-Delhi	9 hr. 5 min.	782
29 Sept.	Delhi-Agra	1 hr. 25 min.	118
30 Sept.	Agra, local (Taj Mahal)	1 hr. 9 min.	
30 Sept.	Agra-Delhi	1 hr. 50 min.	118
1 Oct.	Delhi-Calcutta	10 hr. 10 min.	820
3 Oct.	Calcutta-Rangoon	8 hr. 20 min.	686
4 Oct.	Rangoon-Bangkok	4 hr. 45 min.	374
5 Oct.	Bangkok-Langkawi	6 hr. 18 min.	515
6 Oct.	Langkawi, local	52 min.	
7 Oct.	Langkawi-Penang	1 hr. 10 min.	86
7 Oct.	Penang-Sitiawan	1 hr. 15 min.	98
7 Oct.	Sitiawan-Singapore (Seletar)	4 hr. 7 min.	308
9 Oct.	Singapore-Palembang	3 hr. 55 min.	276
9 Oct.	Palembang-crash site (Sumatra)	1 hr. 47 min.	140
16 Oct.	Crash site-Jakarta (Halim)	2 hr. 2 min.	136
18 Oct.	Jakarta-Kalijati-Jakarta	1 hr. 55 min.	124
19 Oct.	Jakarta-Surabaya	6 hr. 33 min.	414
20 Oct.	Surabaya-Bali	3 hr. 3 min.	208
20 Oct.	Bali-Bima	3 hr. 34 min.	237
21 Oct.	Bima-Kupang (Timor)	5 hr. 10 min.	368
22 Oct.	Kupang-Darwin	7 hr. 31 min.	518
Total		148 hr. 35 min.	11,256

(not including local flights)

VIMY SPECIFICATIONS

	REPLICA NX-7IMY	ORIGINAL G-EAOU
Wingspan	68 ft.	same
Wing chord	10 ft. 6 in.	same
Wing area	1,376 sq. ft.	same
Length	43 ft. 6 1/2 in.	same
Height	16 ft. 4 in.	same
Tailspan	16 ft.	same
Wheel track	21 ft. 11 in. (outer) 11 ft. 1 in. (inner)	same
Propeller (diameter)	10 ft. 8 in.	10 ft. 6 in.
Cruising speed	85 m.p.h.	same
Stall speed	45 m.p.h.	same
Average groundspeed en route	76 m.p.h.	83 m.p.h.
Weight (empty)	7,940 lb.	7,201 lb.
Weight (maximum)	12,637 lb.	12,500 lb.
Endurance	13.5 hr.	11 hr.
Fuel capacity	673 gal.	516 gal.
Total hours flown (UK-Australia)	148 hr. 35 min.	135 hr. 55 min.
Total miles (en route only)	11,256 miles	11,060 miles
Average miles per flying day	450 miles	461 miles
Engines	454 cu. in. Chevrolet V-8	Rolls Royce Eagle VIII V-12
First flight	July 30, 1994	October 3, 1919

