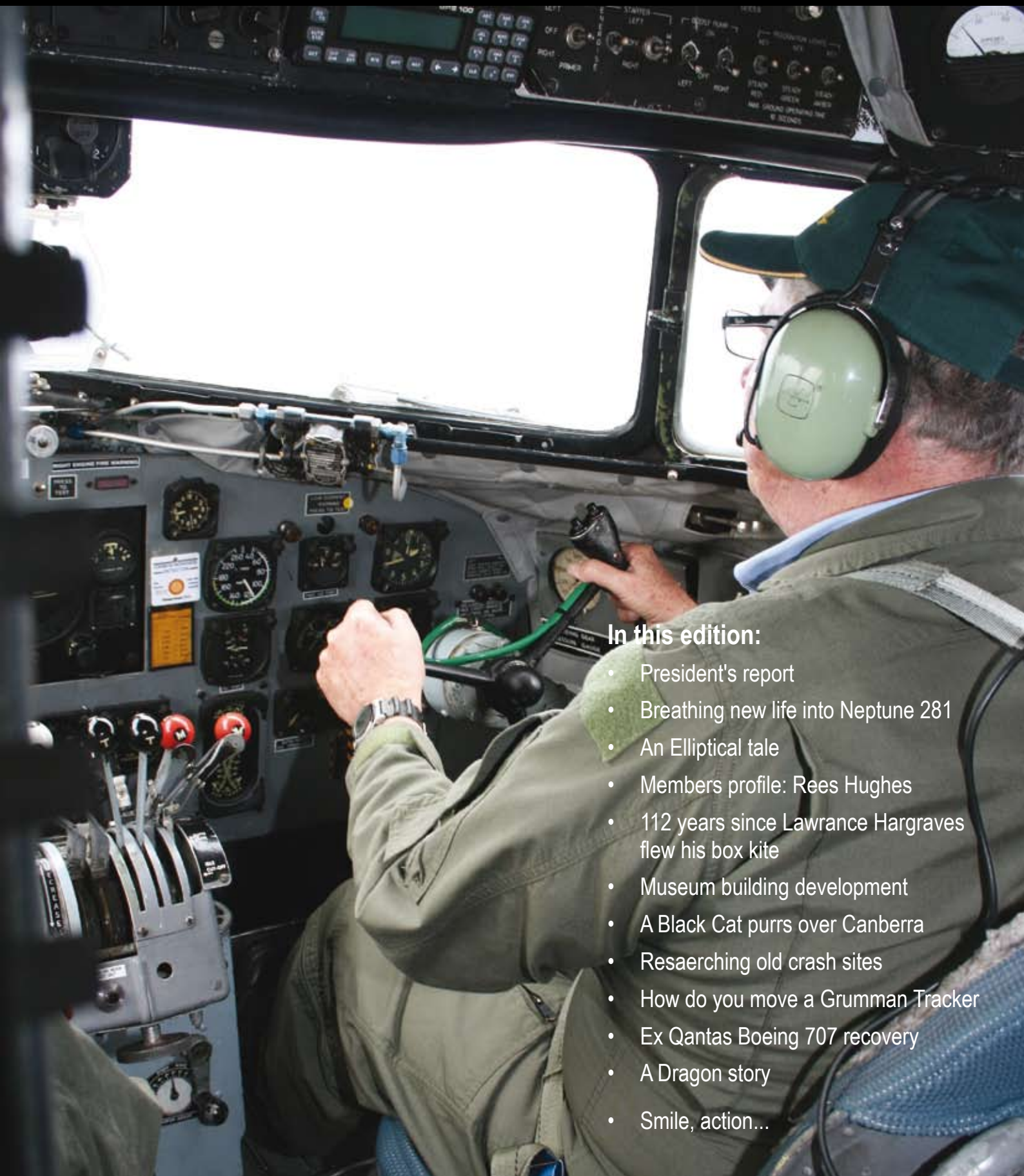
PHOENIX

QUARTERLY MAGAZINE OF THE
AUSTRALIAN HISTORICAL FLYING MUSEUM
HISTORICAL AIRCRAFT RESTORATION SOCIETY, INC.

Summer 2007



In this edition:

HARS Contact Details

Phoenix
Julie Hourigan - Editor
Email: mhouri@bigpond.net.au or julie.hourigan@act.gov.au

HARS web site
www.hars.org.au
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Associated web site
www.notebookpub.com.au

All correspondence
(including claims and invoices):
HARS Inc.
PO Box 1071
Albion Park Rail NSW 2527

Illawarra Regional Airport
Phone: (02) 4257 4333
Fax: (02) 4257 4388

President
Bob De La Hunty, OAM
Phone: (02) 9894 5818
Home: (02) 9894 5775
Mobile: 0408 235 682
Fax: (02) 9894 6630
Email: delahunty@bigpond.com.au

Executive Vice President - Marketing
John Brooker
Phone: (02) 9939 7513
Fax: (02) 9905 9496
Email: jwbrooker@bigpond.com.au

Secretary
Robert Greinert
Phone: (02) 9451 2619
Mobile: 0414 512 619
Fax: (02) 9451 4369
Email: thunderboltaus@optusnet.com.au

Treasurer
Maureen Massey
Mobile: 0400 818 557

Executive Committee Member
Jim Hayes
Mobile: 0421 664 199

Director Administration Services
Rees Hughes
Mobile: 0409 104 910

Administration and Tour Director
John Martin
Mobile: 0422 278 502

General Manager Maintenance
Malcolm Hallowes
Phone: (02) 9868 4463
Mobile: 0410 498 081
Email: malcolmh39@bigpond.com.

Manager Engine Workshop and Port Kembla Facility
Kevin Taylor
Phone: (02) 9520 6946
Mobile: 0422 902 545
Email: kgemtay@chilli.net.au

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Editor's Message

Thank you to all of our members who have provided articles for the Spring edition of *Phoenix*. Without your support there would be a lot of white space between pages 3 and 16.

I would also like to take this opportunity to thank John Weston and his staff at Weston Print. Without their fantastic support there would not be a magazine to read.

To members of HARS, please be game to come forward with new articles for future editions of *Phoenix*. If you are a bit unsure of the readability of your articles we can rework them for you. I know that there must be some great stories out there just waiting to be told.

Since my first *Phoenix*, many great adventures have been made available to me. Firstly, I was lucky to score a ride in our Neptune 273 and then, just to outdo that adventure, I took a round trip to Parkes in a C47. These were both remarkable feats for me as I have a great fear of flying. However, as both opportunities were not planned and sprung on me at the last moment, I had no time to think about my fear of flying. To tell you the truth, I have to admit to enjoying the experiences.

I would like to thank the crew of both flights. Knowing that the aircraft were being flown by very experienced, dedicated and professional people made me realise just how fortunate we are at HARS.

Also needing our thanks are the HARS members who come back week after week spending hours of their personal time on maintaining our aircraft to flying condition or restoring those yet to take to the skies. The commitment of these enginers and helpers allows people like me to rethink my beliefs and realise that flying can be fun... if it's a HARS aircraft maintained and crewed by HARS members!

Julie Hourigan

President's Report

As I am dictating this President's Report, frames and steel have started arriving on site for the eagerly and long awaited construction of the museum building.

It is a great relief to all of us as a lot of our sponsors have begun to question this next stage of our development which has been held up due to a wide range of reasons. I am pleased to see that at last we are getting on with it which will help the entire site development and create the circumstances that will give the essential visitors more to see. This will also enable us to work towards our objective of being open 7 days a week and the associated cash flow that we know from the limited time that we are open is achievable.

Our thanks go to all of those involved in tours and visits which has contributed so much to our current cash flow. The conditions under which they have had to exist have not been easy but they have shown incredible spirit and determination in the overall interest of the Society.

The open day scheduled for 24 February has, in the words of Michael Hough who has accepted the position of Event Coordinator, become 'bigger than Ben Hur' thanks to the great support from the Shellharbour Council, our sponsors and other community groups and airport operators. This will be a significant showcase for the community and visitors to the Illawarra to see what an incredible job our voluntary organisation has been able to achieve. With the support of businesses and citizens who share our vision we are not only preserving Australian aviation heritage, we are also providing potential for employment and encouragement to national and international tourism for the region.

This will be a challenging year as we also have a very significant number of flight operations booked and our voluntary maintenance and operations crews have indicated their willingness to put a maximum effort into doing whatever is necessary to try to attend all events requested.

I look forward to working with everyone this year and wish you all a very safe and happy association with your colleagues in our objectives.

BREATHING NEW LIFE INTO NEPTUNE 281

On 24 May 1962 Neptune 281 was delivered to 10 Squadron RAAF, Townsville ex USA. On 6 December 1977 it was flown from Townsville to Amberley for disposal. This was the last flight undertaken by a Neptune aircraft of the RAAF. 281 is currently undergoing a major life saving exercise which will see it as a reassembled aircraft regularly on the move (be it closely following a tug) around the Illawarra Regional Airport.

The aircraft was on display at Chewing Gum Field Museum, near the Gold Coast during the 1980s and 1990s, when it was acquired by the QVAG who hoped to restore it to flight. Unfortunately, this was not to be. The aircraft then sat at Archerfield until acquired by HARS some 4 years ago.

The aircraft at this stage was beyond flight, so the decision was made to dismantle and road trek it back to Sydney. Then commenced a long distance commute to Brisbane, when time and other commitments allowed, to carry out the two year dismantling for road transport. The Society acknowledges the support of some of our sponsors who include: Lever's Interstate Transport, Brambles, Boom Logistics, Cleary Bros, Bill Andronicus Transport, Duren Transport and others.

During this transport epic, the saying was coined: 'nothing in aviation is compatible with road transport', however with the expertise of these companies, it was accomplished safely and without incident.

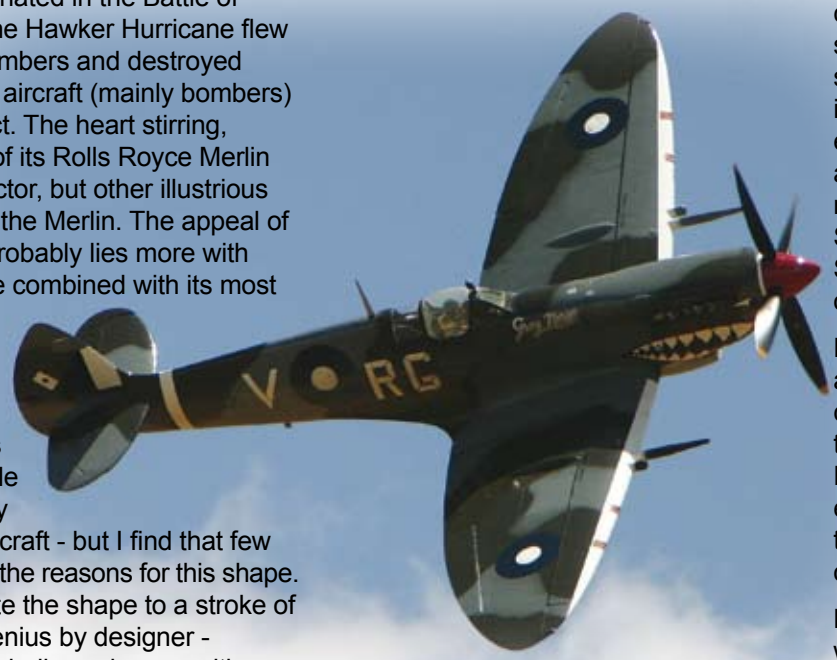
This aircraft will provide an important training aid, to educate young Australians looking for a career in aviation, to acquire skills that can later be transferred to flying aircraft.

AN ELLIPTICAL TALE

Brian Van de Water

A friend of ours with only a passing interest in aviation recently made a pilgrimage to see one particular aircraft. He had long held an ambition to see an airborne Spitfire, but thought that this would never be fulfilled until, at our recommendation, he travelled to Temora to attend one of the regular air shows held there. He returned to report that, although enjoying all the flying, what made the visit truly memorable was seeing a Spitfire in the air.

This quest by our friend typifies the aura and mystique surrounding the Spitfire, but what is the reason for this? Its fame originated in the Battle of Britain, but the Hawker Hurricane flew in greater numbers and destroyed more enemy aircraft (mainly bombers) in that conflict. The heart stirring, throaty roar of its Rolls Royce Merlin is another factor, but other illustrious aircraft used the Merlin. The appeal of the Spitfire probably lies more with beauty of line combined with its most distinctive feature - the elliptical wing shape, which makes it recognisable to all with any interest in aircraft - but I find that few are aware of the reasons for this shape. Many attribute the shape to a stroke of innovative genius by designer - Reginald Mitchell - and some with understanding of aerodynamics believe that the elliptical wing was employed purely to improve efficiency (i.e. reduce drag).



Mitchell was certainly a design genius, and it is true that, theoretically, an elliptical wing shape is more efficient than a wing of the same area with straight leading and trailing edges. But, at the risk of undermining one of the myths surrounding the Spitfire, I have to point out that Mitchell was not the first to employ the elliptical wing - and the shape was introduced more to accommodate certain items of hardware requested by the British Air Ministry than to enhance aerodynamics.

The German Heinkel company has the honour of being the first to employ an elliptical wing on a successful aircraft design. The He70 was a single engine transport aircraft with elliptical wing which first flew in 1932 - and entered service with Lufthansa in 1933, at which time it was the fastest transport aircraft in the World. Not many were built because single engine aircraft were, understandably, not popular with airlines - but one was purchased by Rolls Royce to use as a flying engine test bed in 1936, as no comparable high speed aircraft was available from British manufacturers.

Mitchell was familiar with the He70 well before the design of the Spitfire reached an advanced stage in 1934 featuring straight leading and trailing edges - so Mitchell was not directly influenced by the Heinkel design.

Mitchell's design genius lies not in the elliptical wing, but in his determination that, to achieve maximum performance, the aircraft should employ the thinnest possible wing to give the lowest possible drag.

The thickness/chord ratio of the Spitfire was probably the least of any WW2 piston engine fighter - and although Mitchell did not know this when designing the Spitfire - the thin wing gave his product the highest Mach number capability of any aircraft before the Messerschmitt 262 jet fighter.

When the Spitfire design was nearing finality, the Air Ministry specified that the wings must be capable of accommodating up to eight machine guns - a radical move at a time when all fighters carried only two guns in the fuselage. The straight wing of the Spitfire design was too thin to accept the guns without bulges, but Mitchell was committed to a particular thickness/chord ratio - and resorted to the elliptical shape, which sufficiently increased the wing thickness at mid-span, without compromising the ratio objective. It is possible that Mitchell was also attracted to the theoretical advantage of this shape - if so, the guns gave him an excuse to go elliptical, but at the disadvantage of substantially increased manufacturing costs and difficulties.

Later models of the Spitfire employed the larger 20mm cannons, and bulges on the upper surface of the thin wings could not then be avoided. The Spitfire wing thickness/chord ratio of 13 per cent at the root down to only 6 per cent at the tip involved unprecedented structural design problems - and was so efficient that the Spitfire remained in production for over five years when engine power almost doubled. The wing was redesigned late in the war for the Spiteful, intended to supersede the Spitfire, but it proved to be no advance over the 1935 design.

Even greater appreciation of Mitchell's achievement can be gained by comparing the wing of the Spitfire with that of its contemporary and rival - the Hawker Hurricane - and by learning the extraordinary but little known fact that the Hurricane wing design was based on erroneous information!

Mitchell only ever designed one fighter which went into production, but Sydney Camm, designer of the Hurricane, sired a highly successful range of fighters, including the superb Fury biplane of the early 30s - the equally superb Fury of the late 1940s -and the Hunter jet fighter of the 50s. But between these first two aircraft, Camm designed the Hurricane and Typhoon which carried the burden of inefficient wing designs.

In 1933, when designing the Hurricane, Camm was influenced by a wind tunnel report which concluded that a thick wing gives no more drag than a thin wing. Many years later, it was discovered that the particular wind tunnel was faulty, and the conclusions incorrect, but Camm had meanwhile designed the Hurricane and Typhoon

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AN ELLIPTICAL TALE

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with undoubtedly the thickest wings used by any fighters in WW2. (19 per cent thickness/cord ratio at the root) Both were outclassed by contemporary enemy fighters during WW2, but were employed highly successfully in ground attack where a thick wing does have advantages. Camm redesigned the Typhoon as the Tempest in the early 40s, finally employing a thin wing which was remarkably similar to Mitchell's 1934 wing, including the elliptical shape. The Tempest developed into the Fury which was among the fastest of piston engine fighters.

A Hawker Fury can also be seen in Australian skies today, but, despite it's elliptical wing, I somehow doubt that our friend would travel the same distance to see a Fury as he did for the Spitfire. So perhaps there is more to the attraction of the Spitfire than just the shape of its wing - but any aviation enthusiast will have his or her own reason for admiring the Spitfire, and it is a happy fact that there are about 50 Spitfires flying in the World today - consequently, Mitchell's masterpiece will live on for many years to come, giving pleasure to those enthusiasts.

MEMBER PROFILE: REES HUGHES

Julie Hourigan

Many members of HARS have spent most of their lives in and around a variety of aircraft. Some have reached an age where they now can sit back and reminisce about their flying experiences. When you visit the HARS Administration Office you are always made welcome by one such gentleman, Rees Hughes.

I can remember that I was interviewed by Rees before being accepted as a member of HARS. I sat nervously wondering what questions he would ask and whether I would totally embarrass myself due to lack of knowledge on most things associated with aircraft. Instead I found myself totally fascinated by a man who in less than twenty minutes had me thirsting for more stories and knowledge of Australian aviation history than I would have dreamt possible.

Rees was born in Brisbane on 1 May 1925, the youngest of three sons. Rees was educated at Toowoomba Grammar School in Queensland and on finishing school, at the age of 18 years, he followed in his older brothers' footsteps and joined the Royal Australian Air Force (RAAF).

Rees was to undertake training first at Kingaroy in Queensland, then at Temora in NSW, and then back to Bundaberg in Queensland where he obtained his wings. He was than posted to Rathmines OTU flying Catalinas. He was later transferred to 43 Squadron, also known as the RAAF 'Black Cat', in Darwin.

The Society's VH-PBZ 'Felix' is to be restored to conform as closely as possible to the configuration of A24-362 which served with 43 Squadron RAAF as OX-V. This aircraft was flown by Rees as a member of 43 Squadron. Of course the HARS Cat is an amphibian while those flown by 43 Squadron were flying boats.

During his time with 43 Squadron, Rees, who was the youngest crew member, flew 21 sorties, approximately 420 hours of operational flying. This included mine dropping off Hong Kong and Surabya (Indonesia); bombing raids in Celebes; barge harassing (at night) and bombing raids in the Timor area and anti shipping strikes. At the end of the war, Rees flew his Catalina to Japan and Singapore to bring home Australian POWs. This was for Rees a sad experience, especially collecting the poorly treated POWs from Singapore.

Rees left the RAAF around 1946 and joined Australian National Airlines (ANA), flying DC3s, DC4s and Bristol Freighters. Rees was to stay with ANA for 10 years before commencing employment with QANTAS. Rees spent the next 22 years with QANTAS, based in London, Tahiti and Sydney flying DC4s, the L1049 Super Constellation, Boeing 707s and 747s.

Rees married June Weston in 1949 at Brisbane. They have raised three sons, all of whom fly but are not employed within the industry. After early retirement from QANTAS, Rees became the personal pilot for Keith Lord, flying his Beach Duke twin engine plane, as well undertaking numerous other flying jobs.

Rees was also an active member of the Scofields Flying Club and became one of the organisers of the bi-centenary Richmond Air Show. He subsequently became the Deputy Chairman and Director of Displays of AIRSHOWS Down Under. In this role Rees visited air shows such as Berlin, Farnborough, Oshkosh, Singapore and Paris, gathering acts and exhibitors for Australian air shows.

Through an association with Bob De La Hunty, Rees became acquainted with HARS and became a member in early 2000.

112 YEARS SINCE LAWRENCE HARGRAVE FLEW HIS BOX KITE

On 12 November 1894, Lawrence Hargrave, the Australian inventor of the box kite, linked four of his kites together, added a sling seat, and flew 16 feet.

By demonstrating to a sceptical public that it was possible to build a safe and stable flying machine, Hargrave opened the door to other inventors and pioneers.

The Hargrave-designed box kite, with its improved lift-to-drag ratio, was to provide the theoretical wing model that allowed the development of the first generation of European (and American) airplanes.

In the 1890s a small number of inventive technologists were working to translate infant aviation theory into airplanes. Leading the race was Hargrave, a quintessential nineteenth-century gentleman scientist of independent means.

A gifted explorer, astronomer, amateur historian, and practical inventor, Hargrave devoted most of his life to constructing a machine that would fly. He believed passionately in open communication within the scientific community and would not patent his inventions. Instead, he scrupulously published the results of his experiments.

The first successful aircraft incorporated three crucial aeronautical concepts developed by Hargrave; the cellular box-kite wing, the curved wing surface, and the thick leading wing edge (aerofoil).

The Wright brothers had access to Hargrave's work through the aviation annuals published by James Means, and Octave Chanute's *Progress in Flying Machines*. Chanute, who corresponded with the Wright brothers, devoted a section of his book to Hargrave's experiments. But the Wright brothers, constrained by politics and patent problems of their time, admitted no influences.

Octave Chanute wrote in 1893 that...

> 'If there be one man more than another who deserves to succeed in flying, that man is Mister Lawrence Hargrave of Sydney'

STANWELL PARK BEACH, THURSDAY 9 NOVEMBER 2006

Today approximately 900 school children from nine local schools participated in events on the beach to celebrate the 112th anniversary of the day in 1894 (which was actually 12 November 1894) when Lawrence Hargraves successfully demonstrated a lift-off, powered by the wind, of a box kite of his own design.

Not to let an opportunity fly by, HARS added to this special day with a wonderful display from five of our own flying machines. These included our Neptune, Dakota, Cessna 180; and two Winjeels. It is anticipated that this will become a yearly event.

MUSEUM BUILDING DEVELOPMENT

Robert Greinert

Fabricated steel sections for the Museum Building started to arrive in January 2007. We have been disappointed with the delay, however, the project is now proceeding with hopefully a completion in the near future.

The building program is now running three and a half months behind schedule and has significantly impacted on other subcontractors engaged to manufacture the Museum Building.

Our local roofing and flooring contractors are standing by waiting for the 'GO' button to be pressed and it will be interesting to see if we can make up for lost time. Our friends at Lysaghts are once again coming to the party and my thanks to Dean Riebolge for his endless support and enthusiasm

The front of the Museum Building is a bit 'industrial' in its appearance and in order to make it look more like an Aviation Museum Building we engaged an architect of high repute to provide some suggestions. You can imagine my surprise when I discovered that his last brief was the new Asian Elephant enclosure at Taronga Zoo. Apparently there are similarities.

Needless to say this gentleman turned out to be brilliant and came up with some quite amazing ideas which the Committee is currently exploring. Would anybody out there know where we might acquire the rear fuselage section of a Hercules or Caribou? If so please call me urgently.

John Davis soldiers on with the electricity situation. Once again my thanks to John for his Herculean efforts in this mini series saga.

The main priority is to get the forward ground floor area up and running as quickly as possible in order to cater for the projected visitor numbers and the facilities they require. At the end of the day, visitor numbers and the cash flow opportunities they present are the key to a financially independent Museum operation.

Finally, a special thank you to the small army of workers and supporters out there who are making this all possible. I could not do this without your assistance.

A BLACK CAT PURRS OVER CANBERRA!

Around May last year, work began on a restoration project of Catalina VH-PBZ, starting at the tail and working forwards.

First, the horizontal and upper vertical stabilisers were removed, followed by the leading edges. These units were cleaned internally, thoroughly inspected, repaired and underwent anti-corrosion treatment and removal of effected parts. The exterior was paint stripped, surface treated and then refinished.

While all this was happening, work on draining the fuel tanks commenced and any defects repaired ready for a detailed inspection.

It was realised that the engines would also required some restoration work and this was scheduled to take place as manpower became available.

Repair work was also required for the tail plane leading edge. The elevators were removed to allow for repairs to be carried out due to hail damage. This included both fabric work and painting.

The tail section was removed and parts of the aircraft body were paint stripped to allow metal repairs.

Other restoration work included: modifying and repairing the engine stands; removal of the nose strut to

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RESEARCHING OLD CRASH SITES

Jose Cordoba

Researching old crash sites involves researching history, talking with relatives and witnesses, organising expeditions and studying the sites in detail involving the use of old courts of inquiries photographs and files that I find at National Archives.

One of the surprising aspects of this hobby of mine is that you don't have to travel far from the Wollongong region to find many of these historical sites. One such crash site that I have researched is located right here at Albion Park. The crash occurred on 18 December 1961.

Summary of crash

At approximately 1020 hours (EST) on 18 December 1961, a Bristol Freighter 170 Mark 21 Aircraft, VH-AAH, engaged on a freight service from Sydney to Launceston, made a forced landing near Albion Park NSW. The aircraft was unable to maintain height after a simulated engine failure practice had been carried out. The aircraft was extensively damaged and a passenger injured.

The aircraft was under the command of Captain L Van Praag and was piloted under supervision by Senior Commercial Pilot Mr LM Carrick. Mr LG Jaycock was acting as Radio Operator under supervision, while Mr WJ Taylor was carried as a non-paying passenger. The aircraft was operated by Pacific Aviation Ltd of Brisbane.

History of the flight

The flight plan was submitted by Captain Van Praag on 18 December 1961, specifying a departure time of 0930 hours (EST), the flight to proceed on a coastal track via Wollongong and Nowra at a flight level of 6000 feet. The fuel carried was 633 Imperial gallons for an estimated flight time of three hours fifty minutes with one hour fifty five minutes reserve fuel. The flight plan was approved by Air Traffic control subject to the aircraft, after take-off, remaining below the controlled airspace until advised that the climb to operating height was approved.

Bristol 170 Freighter VH-AAH having its removable internal hopper loaded with fertiliser at Cootamundra in 1958. (Photograph by Ben Dannecker)

Crash site

The aircraft departed from Kingsford Smith Airport at 0948 hours (EST), the take-off being executed by Captain Carrick from the Captain's seat, while Captain Van Praag occupied the First Officer's position. The aircraft proceeded, in VMC conditions, to Botany Heads and then continued on a coastal track, as flight planned, at 1500 feet. At 18 DME from Sydney, the aircraft was approved by Air Traffic Control to climb to 6000 feet.

During the climb, at 4000 feet, approximately abeam Wollongong, Captain Van Praag reduced the throttle on the starboard engine to simulate an engine failure condition for the purpose of checking Captain Carrick's technique. Captain Carrick carried out the feathering procedure and the aircraft proceeded on one engine for a short period. Operation of the aircraft at this stage was stated by the crew to be normal in all respects. The time was approximately 1006 hours (EST). Captain Van Praag called for resumption of normal flight and Captain Carrick unfeathered the starboard propeller. Normal power could not be obtained. However, the starboard engine remained at a maximum indicated power of 40" boost and 2400RPM.

The aircraft at this stage commenced losing altitude and Captain Van Praag, who thought that Captain Carrick had made an error during the unfeathering procedure, repeated the feathering and unfeathering exercise. Again, power would not improve and remained at 40" boost and 1950-2000 RPM. Power applied to the port engine at this time was 44" boost and 2400 RPM. Captain Van Praag assumed that he had a propeller malfunction in the starboard engine and ordered a return to Sydney. A message to this effect was received by Air Traffic Control at 1008 hours (EST). At the completion of a 180^{0} left

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RESEARCHING CRASH SITES
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hand turn, heading for Sydney, the aircraft had descended to approximately 2000 feet.

At this stage, in view of the serious loss of height, Captain Van Praag decided to assume complete physical control of the aircraft and ordered a change of crew locations so that he could fly the aircraft from the Captain's seat. At the completion of this re-allocation of duties, the aircraft was in a position 38 DME from Sydney, four to five miles off the coast and at an altitude of approximately 1000 feet. Captain Van Praag made a decision to land at Albion Park Aerodrome and carried out a left hand turn planning an approach to the northern strip. Vision at the time was affected by smoke from Wollongong Power Station and use was made of the NDB (Wollongong) at Albion Park to plan an approach.

Power was increased on the port engine to full power (46.5" boost and 2800 RPM), with full open throttle and full fine pitch on the starboard engine, which was still indicating approximately 40" boost and 1950-2000 RPM. At this, the maximum power available, the aircraft still lost height, and it soon became evident to the aircraft Captain that it was doubtful whether the aircraft would reach Albion Park.

Height continued to be lost until impact with a tree occurred, followed by gradual deceleration of the aircraft as continued impact with trees progressively removed major components. The aircraft slid to a standstill, in an upright position, heading approximately 100^{0} to port of its approach path. Evacuation of the occupants was carried out promptly, the passenger, Mr WF Taylor, being partly thrown from and partly extricating himself from the damaged and partly open nose doors. The time of final impact was approximately 1020 hours (EST) and the crash site was approximately 2000 feet East of the northern end of the North-South strip at Albion Park.

A summary of the investigation conducted by CA Treanor, Sectional Aircraft Surveyor, concluded the following:

1. L Van Pragg, the Aircraft Captain, held a valid Senior Commercial Pilot Licence which was valid for this type of aircraft.

2. LM Carrick, Captain under supervision, held a Senior Commercial Pilot Licence which was valid for this type of aircraft.

3. LJ Jaycock, acting as Radio Operator under supervision, held a Senior Commercial Pilot Licence which was not rated for this type of aircraft, nor its radio equipment.

4. The Certificate of Airworthiness for this aircraft was valid.

5. The Certificate of Registration for this aircraft was valid.

6. There was no evidence of any defect or malfunctioning in the aircraft, engine, propellers, governors and accessories which may have contributed to this accident.

7. The aircraft was being operated at less than the maximum permissible all-up-weight and the centre of gravity location was within limits.

8. The procedures followed by Air Traffic Control were in accordance with the instructions for Search and Rescue as specified in Airways Operations Instructions.

9. Although passenger seats were available, the Aircraft Captain did not ensure that the passenger occupied a proper seat.

10. Subsequent to an engine failure exercise, the aircraft lost height rapidly and while attempting to carry out an unscheduled landing at Albion Park, NSW, height could not be maintained resulting in the aircraft forced landing approximately 2,000 feet from Albion Park Airstrip. The aircraft struck trees which eventually removed major components of the structure until it came to rest in upright position 615 feet from the point of initial impact.

11. The probable cause of the accident was that the ignition or fuel supply were not returned to normal after the engine failure practice. This allowed the starboard engine to windmill and produce drag such that the aircraft could not maintain height with the power available.

12. Failure by the Aircraft Captain to feather the malfunctioning engine was probably a contributing cause of the accident.

UP COMING EVENTS

Saturday 17 February and
Sunday 18 February
Temora Flying Weekend (Catalina)

Saturday 24 February
Wings over the Illawarra (80 x SAAA aircraft; Temora Aviation Museums Canberra, Meteor and Hudson; RAAF Roulettes; and 76 Squadron Hawk)

Saturday 10 March
War Memorial Flypast (Neptune, Catalina, C47)

Saturday 20 March through to
Sunday 25 March
Avalon (Connie, Neptune, Catalina, 2 x C47s)

Saturday 7 April
Sunday 8 April (Easter)
Temora Flying Weekend Connie, Catalina, Neptune and 2 x C47s)

Saturday 14 April
Sunday 15 April
Coffs Harbour (Connie, Catalina, Neptune, Drover)

ANZAC Day 25 April
Shellharbour Memorial Service and March (Connie, Neptune, Catalina, 2 x C47s, Winjeel, Tiger Moth)

Saturday 19 May
Sunday 20 May
Temora Flying Weekend (Connie, Neptue, Catalina, C47's x 2)

Saturday 30 June
Sunday 1 July
Temora Flying Weekend (Neptune)

Friday 3 August
Saturday 4 August and
Sunday 5 August
Wide Bay International Airshow Bundaberg (Catalina, Drover)

Saturday 4 August through to
Friday 10 August
Diggers and Dealers, Kalgoorlie (Connie)

Sunday 28 October
Edinburgh RAAF Airshow (Neptune, Catalina, C47)

HOW DO YOU MOVE A GRUMMAN TRACKER?

Geoff Timms

As most of you would already know we (HARS) are the proud new parents of a bouncing baby Tracker. There was some talk around the traps that I might get a Tracker to move however, up until that call actually comes you tend not to think about how hard it will be to move, but how good it will be to have a Tracker.

Anyway, as luck would have it, that call came from Robert Greinert and I thought "you little beauty our very own Tracker" and then he mentioned how big it was going to be without its wings, and I thought, "you little bugger, our very own nightmare". The smallest that a Grumman Tracker can be reduced to for transport by road was going to be 8 metres wide. Yes that's right, 8 metres, 26 feet wide! That's more than 2 lanes wide (length and height were not going to be a problem).

To be able to transport this wide load and be successful I knew was going to be more than I could do with borrowed equipment and that I was going to have to call in some hired help. The big question was, but who? I was talking to Robert on the phone about some of the problems we were faced with and some of the ideas I had. Robert said he had some old photos of the Tracker in question from when it was moved to Alexandria some 16 years ago from Nowra. He scanned and e-mailed me the photos and I immediately recognised the trucks in the photo as being Brambles Heavy Haulage of Port Kembla. Then, armed with this knowledge, I got on the phone and called Brambles but was soon told "they are now known as BIS Industrial Logistics". I said "you can call yourselves what you like mate, but have I got a job for you" and half expected them to say "you have to be kidding". Adrian Cline was the man on the other end of the line and he calmly and quietly said "yep no worries mate we can do that".
Now that we knew it was going to be possible to transport to the Illawarra Regional Airport, we got down to the nitty gritty of the planning side of things.

Steve Woodward, the driver who moved our 'Tracker' out of Nowra to Qantas at Alexandria all those years ago, drove to Alexandria in a company car one morning to assess the site and to measure the Tracker to enable wide load permits to be submitted to the RTA and Police Force. Once BIS submitted all the permits all we could do was wait because when you move a load this wide the Police tell you when you will travel on the roads. The RTA only tell you upon which roads you will travel and not when.

In the mean time, some HARS engineers and other volunteers worked to reduce the aircraft to its smallest size for transport. When there were enough parts I was able to obtain a truck from HARS members Allan and Joy Lever to move these items. There were two loads that were made up of wings, tail, props and other parts related to the Tracker project. I moved these loads myself and I must give a huge thanks to Allan and Joy for once again helping HARS with the use of their truck. Allan's trailer was unfortunately loaded at the time and hence unavailable, so I was able to borrow a trailer from Tasfreight. Both the truck and trailer came free of charge.

We were now into the next working week and it was about Wednesday when I received a call from BIS to say they had received permission from the NSW Police and RTA and that the load will travel at 01:00 Monday and be off the road by 05:00 Monday morning. The requirements stipulated by the Police were that four company escorts and two Police Highway Patrol escorts were required to keep the load safe and to keep the general public a safe distance away from the load.

I drove the HARS Daihatsu as one of the escorts and I was positioned at the front of the truck with the other three company escorts at the rear of the truck. The two Police Highway Patrols played leapfrog by going ahead to block roads when needed and then dropping behind when needed. There was one part of the Princes Hwy in between President Ave and Rock Point Rd Kogarah, where we had to cross onto the northbound lanes for our southbound trip. This was because the turn into Rocky Point Rd was too narrow on the southbound side. "Why go down Rocky Point Rd I hear you ask?" That's the way the RTA permit said to go! There were a few close calls where we had only an inch or so in between shop awnings and traffic lights and it wasn't until we got onto the freeway south of Waterfall that we actually got up to 50 kmh.

Most of the trip went without a hitch but there were some parts where we had to stop and reverse and manoeuvre in between traffic lights or other obstacles like trees and shop awnings etc (26ft wide don't forget). The truck, escort cars and Police were all on channel 40 on the UHF CB and the usual chit chat was firstly from me or the Police informing the truck of approaching dangers or other road conditions like tress etc. Then it was the rear escort car's turn to talk by saying "left a bit, left a bit more, ok your clear" or "right a bit no no no stop. Back you come, your going to hit". Sometimes it was only 20 or so metres to the next hazard

then the same chit chat happened all over again. There was a big sigh of relief when we finally got to the freeway after about 3 hours of intense city driving at 0 dark o'clock.

The entrance to the Illawarra Regional Airport was the last challenge. We had to go in via the southern entrance, which is only normally available to northbound cars, as the main entrance had some very low trees. By going in this other entrance we had to remove some one-way road signs so as to get through.

We parked outside the Hangar 2 site and waited for the sun to come up and for John Martin to cook our breakfast before moving the truck into position for Jim Hambly's crane to unload the Tracker. I then towed the aircraft around and backed it into Hangar 1. That was the end of an at times nervous but exciting night.

I would like to mention at this time that BIS Industrial Logistics did this job at about $6,000 off the normal price for a move of this size.

The companies involved with this move were: BIS Industrial Logistics; Tasfreight; Lever's Interstate Transport; Jim Hambly's Cranes; Botany Cranes; Coates Hire; NSW Police; RTA; and of course a large number of HARS members.

Thank you to all involved.

Its been a long night...

A BLACK CAT PURRS OVER CANBERRA

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replace the steering collar and piston seals; changing the brake control cables; work on the stabilisers, rudder and elevators, including painting, was completed; the elevators were reinstalled; and the airframe underwent its annual inspection.

December 2006 saw the tail refitted to the aircraft and elevator trim rigging completed as were the fuel tanks. The fuel plumbing was upgraded and metal repairs were almost complete, particularly the large repair under the tail.

By early 2007 inspection holes in the fabric area adjacent to the rear spar were fitted to enable a more detailed inspection of the rear wing spar. After many hours spent in the confined and uncomfortable left fuel tank removing loose sealant and paint ready for repairs, work was finally completed. Those HARS members who undertook this work should be pleased to know they won't be required to repeat this task any time in the near future.

By the end of January 2007, all tail work was completed and painted. The annual inspection had been completed and engine runs carried out. A minorsetback with #2 generator caused by a defective oil seal caused a few hours of extra work. With only the installation of the repaired float gearbox and one or two minor jobs and a whole lot of paperwork, PBZ was almost ready for flight.

On 29 January 2007, PBZ flew for approximately one hour with all systems functioning OK. The brake and elevator trim indication required minor adjustments, but the engine and electronics had no problems. This was quite a feat considering all the work that had been done over the past six months.

On 30 January 2007 at around 9am PBZ departed Albion Park and flew in a westerly direction to Canberra where it performed a flypast over the War Memorial on behalf of the 'Skippy Squadrons'.

Standing on top of Mount Ainslie just behind the War Memorial watching and listening to PBZ as she performed the flypast was a wonderful sight to behold. Congratulations and well done to all members involved in this restoration project, for today I saw a great black cat purr over Canberra!

EX QANTAS BOEING 707 RECOVERY

Frank Bowden

HARS had no part in this operation however, some HARS members were involved in the recovery team. This is a brief outline of the project.

On 16 December 2006 the ex Qantas Boeing 707 VH-EBA arrived in Sydney following a period of restoration in Southend UK.

This aircraft was first flown in 1959. It was line number 29, the first 707 for Qantas, the first jet aircraft on the Australian register and the first American jet airliner sold to a non USA airline. In 1967 Qantas sold it to another airline and in 1979 it was removed from service and converted to a VIP executive configuration.

A heavy maintenance check was carried out in Southend UK in mid 2000 with the prospect of the sale of the aircraft, however, the sale fell through and it was parked in a storage area.

In late 2004 the aircraft was noted parked at Southend with other stored aircraft, many of which were to be scrapped. This generated the interest of a number of individuals and the Qantas Founders Museum in Longreach, Queensland. A group of volunteers was formed and negotiations with the agents for the owners started in early 2005.

To establish what was needed to put it back into the air a group of four engineers including HARS member Bob Hodson travelled to Southend to perform some preliminary inspections.

These indicated that it was in reasonably sound condition so in January 2006 HARS member Frank Bowden and an ex CASA colleague conducted a review of the maintenance records that were in storage at the small village of Kimpton. The records were quite complete and showed a good maintenance history. A report was submitted to the Qantas Founders Museum indicating what work would be necessary for the issue of a Certificate of Airworthiness and the decision was made to proceed with the recovery.

Negotiations seemed to be progressing fairly well so an initial volunteer work

Above:Ex Qantas Boeing 707 VH-EBA prior to start of restoration. Below: Home at last!

party, including Bob Hodson and Frank Bowden, travelled to Southend in June 2006. A contract was signed on 28 June and work commenced immediately cleaning, inspecting and removing components for repair or replacement. Other team members arrived and departed from time to time and another HARS member, Paul Hockey, also spent time working on the project. Apart from five Boeing Australia engineers and two current Qantas LAMES all engineers were retired LAMES. All were volunteers as were the operating crew who brought the aircraft home.

The luxurious VIP interior was in a sad state because the aircraft had been closed up for so long. There was mould and mildew on the furnishings and delamination had started on interior woodwork. However, having been operated for many years as an executive aircraft the exterior had a good coat of paint and while in service it had always been kept clean. It also had quite low utilisation since its airline days.

From (English) heat wave conditions in June to an incoming northern winter all work was carried out on the tarmac as no hangar space was available. Several unexpected obstacles were overcome such as the removal of the vertical fin and rudder and the removal of two engines for repair.

The aircraft was issued with a full transport category Certificate of Airworthiness but with limited flying hours and cycles. This action was taken to obtain extension or exemption from certain heavy and expensive inspections.

On 30 November taxying tests were carried out with HARS Flight Engineer Joe (Plucka) Plemenuk on board as a member of the operating crew and following two test flights the aircraft departed Southend for Australia on 8 December.

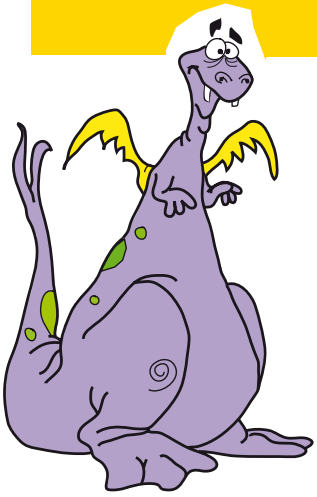
View the progress of the flight home at;
http://www.707.adastron.com/flyhome/diary-3.htm

Thumbs up for a job done well. Frank Bowden and Joe (Plucka) Plemenuk.

HARS members, Joe (Plucka) Plemenuk, Paul Hockey, Bob Hodson and Frank Bowden.

A DRAGON STORY

Marjorie Howard



When my children were small, I used to tell them imaginary bedtime 'Dragon' stories, which they loved, but after a recent aviation weekend, I now have a real 'Dragon story' to tell, which I could never have dreamt up myself!

On the weekend of 26/27 August 2006 my husband Sandy flew the DHA-3 Drover to Watts Bridge in Queensland, with HARS members Tony Duggan, John Brownjohn, Frank Purvis and myself (catering). The flight time was about 5 hours, with a refuelling stop for the aircraft and passengers at Coffs Harbor. The DH-82A Tiger Moth also made the trip, crewed by Brian Acker and Russell Field. We all enjoyed the scenery along the coast, but were disappointed we didn't see any whales.

It was a hot dry Queensland welcome at the Watts Bridge aerodrome, which is east of Toogoolawah in the upper Brisbane River valley. It was the Queensland Vintage Aeroplane Group's annual 'Festival of Flight' fly-in, this year celebrating the 75th anniversary of production of the DH-82 Tiger Moth.

There were over 200 aircraft there and many 'flypasts' of wonderful vintage aircraft, including, a Mustang, Chipmunks (60 years young!), 2 Miles Falcons, a Genairco, a DH Dove, and various Yaks but the one that really caught my eye was the magnificently restored DH-84 Dragon, owned by Des Porter from Queensland. As it was parked next to our DHA Drover I had plenty of time to admire it, and was extremely lucky to be invited aboard for a flight to Caboolture and back, as Des had to drop off some passengers and there was a spare seat. It was an amazing experience to fly in this very special aircraft, especially as there are only 2 left flying in the world!! Needless to say, the Drover crew were very envious.

The interior was as classy as the exterior —a good looking machine! Painted burgundy and silver it really stands out in a crowd.

During WW2 Dragon production began in Australia at Bankstown, with RAAF Squadrons using Dragons at home and in Papua New Guinea as navigation trainers, search and rescue, aerial ambulance and general transport. By the end of the war, many Dragons had been written off, having been pushed to their limits in harsh conditions. Surviving Dragons were sold, some finding new homes with Qantas and the Royal Flying Doctor Service. Qantas used Dragons in New Guinea and the Northern Territory until May 1953.

It wasn't until I returned home that I discovered the fascinating history of this aircraft.

Des's Dragon story is one of personal triumph, which sadly, has its origins in a tragedy that occurred over fifty years ago. In 1954, Des's father Stan and his brother Keith were killed flying Stan's Dragon when it hit a tree and crashed into a creek. Des survived the impact and was saved by local residents who hacked into the plane with an axe.

Forty two years later, a successful businessman and married to Kathleen, Des happened upon an advertisement detailing several Dragon restoration projects. One of them had been owned by his father prior to the one which crashed, and was part of the estate of QF Capt. John Alsop. In August 1996 Des and his wife purchased the Dragon project and seven years later it was ready to fly. There was one problem —Des had never been behind the controls of an aircraft, let alone flown one, but being a natural aviator, it didn't take him long to gain his wings and take his Dragon up for her first flight in 49 years.

Des Porter's magnificently restored DH-84 Dragon

This aircraft is no 'hangar-Queen' and flies on a regular basis and to many air shows. It is fantastic to see all of these wonderful vintage aircraft being so lovingly preserved and flown, and the work that the volunteers at HARS and many enthusiastic pilots do, is just amazing. I feel very fortunate to be able to share and witness some of this enthusiasm.

Smile, action...

Photos showing a turning event at the Port Kembla workshop. Workers include Kevin taylor, Ian Gilbertson, Roger White, Alan Costigan, Glen Green, Arthur and Keith.

Photos showing the movement of the Southern Cross Replica as well as the transportation stand that has been built to hold the wing.

Time for a cuppa!

Might as well be comfortable while you work

Just enough rope to be dangerous

Who is this masked man?

Are you there Mike?

Ouch!

Cheryl and Peter Costigan with another purring cat in Canberra

Some people get all the oily jobs

Kev and Wendy in the 'departure lounge'

What I would do for a maid

What do Presidents and or Chief Pilots do on their way to Parkes... not a lot really!

Watch that last step!

I think I can reach it!