

August 2012
Newsletter No. 143

AIRTOURER ASSOCIATION



Dedicated to the preservation and continued airworthiness of VICTA and AESL Airtourer Series Aircraft



NEWSLETTER

<http://www.Airtourer.asn.au>

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Articles for inclusion in the Newsletter should be submitted direct to John O'Halloran at the contacts listed above. The next Newsletter will be published in November 2012. Contributions and or advertisements are to be with JOH by 15 October 2012.

Advertisements - Free for Association Members

Small advertisement (3 to 4 lines) \$20.00

Large advertisement \$40.00

Cheque to be made payable to the Airtourer Association. Post with copy direct to the publisher.

Editorial

I know it's only a month since you received the last Newsletter and membership renewals but I was determined to get this one out on time.

Thanks to those who have already renewed and we look forward to receiving the rest of the renewals soon. The first one was from Mark Barnett who paid even before he received the renewal form, the email notification of the last Newsletter was sufficient prompting for him. Thanks Mark!

I've just positioned COI with Alan Wood for modification with the new fuel gauge. I plan to pick it up and fly directly to Parkes for the President's Fly-In.

The Events Committee will be meeting about the time you receive this issue and the full details of the fly-in including program and registration forms will be mailed out in the next week. These details will also be placed on the website as soon as they are available.

See you at Parkes!

Safe Airtouring,

John O'Halloran

Cover Photo: Henry Millicer with Airtourer Serial No. 1, VH-MVA, at Bankstown in 1963. Next year marks 50 years since MVA was first registered (see page 11). Photo courtesy of Museum Victoria.

Disclaimer

The views expressed are those of the contributors and not necessarily those of the Publishers, the Airtourer Association or the Airtourer Co-operative Ltd.



Letter to the Editor

Hi JOH,

Just a quick note to thank Alan Wood and Bill Miller for their efforts above and beyond the call of duty to get a fibreglass spinner to me for MVE. The first one disappeared thanks to Australia Post, but a quick call to Alan and a confirmation call from Bill resulted in a replacement arriving this morning. Hopefully Australia Post will find the lost spinner and return to sender! Anyway, thanks gentlemen, your efforts are greatly appreciated... I'm off to see my tame LAME for fitting!

Mark Barnett

Vale Pam Lawson



The Association was saddened to hear of the passing of Pam Lawson. Pam and Gerry have been long time members of the Association. They were regular attendees at or Fly-Ins flying their Airtourer 100, MTI, from Adelaide.

Our thoughts and prayers go to Gerry and the family.

Victorian Mid Winter Fly-In Barbecue Lunch

John Treble

Mid-winter in Victoria is not the most inviting time of year and definitely presents risks if planning a flying get together. Therefore, the attendance of 24 was a good turnout for this year's Victorian Mid Winter Fly-In at Jon and Monique's residence on their airstrip at Riddell. Since Riddell is an outer suburb of Melbourne, the poor weather early in the morning simply meant that most members had to fall back to driving rather than flying. Nevertheless, two Airtourers did fly in to join the four aircraft based there.

We were truly grateful to Jon & Mon for welcoming us into their home to celebrate this year's mid-winter gathering.

At some time or other, most of us would have thought how nice it would be to have a property large enough to have a landing field with your Aircraft hangared just outside the back door!!!

It was just another great way to spend some quality time together with Airtourer

friends as we usually do.

The barbecue was cooked to perfection served with an array of yummy salads followed by coffee with a delightful selection of home made cakes.

By late afternoon and after an enjoyable day the time had come for everyone to make their return journey home.

Once again we thank Jon & Mon for inviting and catering us for an enjoyable few hours.

Those who attended were:- Jon & Mon, Chris & Michelene, Ian & Sue, Gerry & Denise, Stan & Bonnie, Andy & Jane, Bruce & Dot, Niel & Kathy, John & Doreen, John & Marjie, Doug & Lorraine, Beryl and Mike.

Aircraft were VH-DWT, VH-LVU, VH-SHR and VH-CRK.



A Tale of Two Propellers

Bill Miller

Bill Miller is a tool maker by trade but his hands on skills cover a wide range of aircraft construction techniques. One area of speciality was making propellers for home built aircraft in Australia, and, as the article and report establishes, in the US as well. (editor.)

In the early days of the Ultra Light Aircraft Association (ULAA), now the Sport Aircraft Association of Australia (SAAA), we were trying to build aircraft cheaply. In reality there was no such thing as building cheaply, it was all relative. The aircraft approved by the Dept. of Civil Aviation included Turbulents, Minicabs, Jodels and possibly the simplest of the lot, the Evans Volksplane. These aircraft were usually powered by VW engines.

The report attached relates to a propeller for an Evans VP II, an aircraft that was not a great performer.

The report refers to a "Hegy" prop. Ray Hegy was possibly "the" prop maker for homebuilts in the US. I met Ray in 1970 on my first visit to Oshkosh and we became friends. When he heard I was making props for the homebuilt movement in Australia he gave freely of his knowledge. I was fortunate enough to spend time with Ray in Marfa Texas working alongside him in his workshop.

The other prop mentioned in the report is a Rehm. Harold Rehm was another prop maker for the US homebuilding community and a friend of Ray Hegy. Rehm wanted to make props for Gypsy Major motors in the US but had no drawings or reference material. He was discussing his

predicament with Ray Hegy at Oshkosh in 1974, and Ray, knowing I had approved drawings for Gypsy motors in Australia, suggested Harold contact me. I was able to provide the necessary drawings and additional information on how to make and fit the metal leading edges.

He also asked me if I had made props for the VP II and if so how did they perform. I advised that I had and that the performance appeared reasonable. It must be remembered that the VP II was no Corby Starlet, with two people on board you had to pedal pretty hard! At the time the Hegy prop was the benchmark for the VP II.

In 1974 I was at Oshkosh where Ray Hegy was giving one of his regular forums on making propellers. He had invited me to take part in the forum so I had taken three of my props with me. I was concerned about checking in the props as baggage and was given approval to carry them in the cabin. You can imagine the looks from the other passengers when I walked onboard with the props. I simply said that they were spares in case the jets failed.

At Oshkosh that year Ray showed my props to a number of builders and designers including John Monnet and Ken Rand. Ken had broken his prop at Oshkosh and it happened to have one of the correct pitch and diameter. Ken promptly bought it to fly back home.

However, I digress!

When it comes to props of a particular specification, there is usually little difference in performance from one manufacturer to another. The static revs are generally the same as is the cruise speed.

However there can be small differences in climb speeds and revs. A higher revving engine propeller combination can lead to greater engine wear, higher temperatures and higher fuel burn. In the report from Evans Aircraft that follows, the Rehm prop gave similar or greater rate of climb yet ran at lower RPM with the associated advantages in engine life and running cost.

In the comments at the end of the re-

port, Evans mentions a wood spacer. It was made up of multiple layers of plywood and Ray Hegy used them on his props. Many builders did not use them because of the drive loads on the face. I felt in a similar way and didn't use spacers with my props.

The reason for this article in an Airtourer Newsletter? The Rehm prop in the report was actually a Bill Miller prop!

Please see the report on next page

Share Available



Victa Airtourer 150 VH RQH, based Archerfield.

Fully maintained, hangared and aerobatic.

From \$80/ hour wet.

\$4,200 neg. Call John 0402 993 069 for details

Propeller For Sale

Fixed Pitch Hoffmann Wooden Composite HO23HM-183 152

Serial No. 76661

Suitable for 150/160HP Engine.

Overhauled in 1991, nil hours since.

\$2,000

Glen Caple (08) 9417 0050 or Mobile 0421510282

Evans Aircraft

P.O. Box 744 LA JOLLA CALIFORNIA 92037

Aug. 18, 1975

Dear Mr. Rehm:

Ran a test on your prop Sat. morning and found it completely satisfactory. It was a quite hot morning, so the rate of climb on both props tested was far below the previous test of yours and Hegys props. However, you will be interested to know that your prop slightly out climbed Hegy's, and at a lower rpm!

	<u>Hegy 60"10½</u>	<u>Rehm 60" 10½ (Miller Prop)</u>
Static RPM	3150	3050
Climb RPM	3350	3150
Time to 1000'	104 sec.	101 sec.
Rate of Climb	580 ft/min	595 ft/min

The above times were averages of 3 runs each, but when one allows for inaccuracies in climb speeds and timing, it is probably safe to say the props had the same performance but yours did it at a lower RPM which indicates more efficiency. I note that your prop has a slightly wider chord out in the working area and this probably accounts for the lower max rpm, however it is questionable whether a little more rpm and a little better climb would be worth any more effort particularly when the lower rpm contributes to lower fuel consumption and longer engine life.

Summing up, I will keep this prop, and we should settle on it for the 1800 and the 2100 engines. I will also now install some of the Polyurethane film tape on the leading edge and see whether that effects the performance and durability. If it works out well, I will report to you.

It has been nice working with you, and if you develop anything new in the future that requires testing, let me know.

Sincerely,

W.S. Evans

P.S. It took this long to run your test because we were without an engine for two months. I should mention that I feel better flying a prop without the wood spacer.

The CASA Ageing Aircraft Management Plan (AAMP)

John Day

With the 50th Anniversary of the Airtourer approaching I thought it would be appropriate to make the effort to go to one of the CASA AAMP industry presentations. Due to other time constraints the only one that I could make it to was up in Brisbane so off I went. The presentation was held at the Brisbane Convention and Exhibition Centre and was attended by about 60 people. The presenters were Mr. Mike Higgins from CASA and Dr. Bob Holdsworth who has been consulting to CASA.

The cornerstone of the presentation was that everything, including aircraft, ages but the rate of ageing varies with a variety of factors and is not simply a function of calendar dates. Given this basic fact Australia has an ageing aircraft problem and the primary area of concern is the General Aviation sector of the industry. The reason for this focus on GA is primarily due to high capacity aircraft being better supported by their manufacturers with specific ageing aircraft programs and the aircraft being subject to a more robust system of maintenance. The average fleet age is also much lower. CASA also recognise that there is no "one size fits all" solution to the problem of ageing aircraft.

Some interesting figures were quoted:

- The average age of the VH registered piston engine fleet is approximately 40 years old and includes around 14000 aircraft

- Of these 14000 aircraft 8700 are potentially "of concern"
- Out of these 14000 aircraft around 1800 are used by AOC holders and 700 are potentially "of concern"

The true "age" of an aircraft is determined by a combination of:

- Time since the date of manufacture
- Hours and cycles flown
- Type of flying the aircraft is or has been engaged in
- Certification basis
- Standard of maintenance
- Cleaning, hangarage, salt exposure

In order to try to quantify the true "age" of an aircraft CASA is developing a tool that will assign a weighted value to these factors. This will allow owners and maintainers to make decisions on appropriate maintenance and expenditure to slow the aging process and hence reduce risk. CASA made the point more than once that a significant proportion of aircraft owners do not understand their responsibilities regarding the airworthiness of their aircraft.

THE REGISTERED OPERATOR IS RESPONSIBLE FOR AIRWORTHINESS NOT YOUR MAINTENANCE ORGANISATION.

This tool should be available on-line latter in the year and would be valuable to both current owners and those considering the purchase of an aircraft.

The presentation continued on to discuss the life of an aircraft. All aircraft have a life beyond which it is either unsafe or uneconomic to continue to operate the aircraft. The determination of this life is influenced by many contributing factors and rather than repeat them here you should download the presentation from the CASA website and consider it yourself.

casa.gov.au

Home>Education>Seminars and Workshops>Ageing Aircraft

(the presentation is near the bottom of the page)

Within this presentation there is also considerable discussion about different types of corrosion and also components that are managed on an “on condition” basis. “On condition” does not mean replace when broken. It requires items to be inspected to determine their future airworthiness. To inspect these items they have to be accessible. The point was also made that many components start to deteriorate from the day that they were made so an unused item that was manufactured 20 years ago may be at the end of its life without having ever been fitted to an aircraft. This is particularly true of electrical components.

The age of many aircraft in the Australian GA fleet places them well beyond when the manufacturer anticipated retirement from service. In CASA’s research they found that those 40 plus year old Cessna’s out there were designed for a life of 18 years. That means that the metals, plastics and electronics were intended to provide reliable service for about that length of time and after that the aircraft

would be scrapped and, hopefully, a new one purchased. Clearly the original maintenance schedule or the CASA schedule 5 may no longer be appropriate and as such discussion is required with your maintenance organisation to design an ongoing inspection plan that will capture developing problems early so they can be rectified before becoming dangerous or extremely expensive to resolve. The availability of inexpensive boroscope and thermal imaging tools can significantly reduce the need for disassembly to inspect in areas with poor access.

Whilst the need for additional man hours spent on inspections beyond what may routinely be done in a typical annual/100 hourly inspection may be seen as an additional cost it will be far more cost effective than allowing problems to develop over time. Follow this link to have a look at CASA schedule 5.

http://www.austlii.edu.au/au/legis/cth/consol_reg/car1988263/sch5.html

As you can see this is a very generic document and may need to be added to for your particular aircraft.

Given that you are responsible for the airworthiness of your aircraft you need to ensure that up to date documents are used. The Co-op can supply the latest versions of the Illustrated Parts Catalogue and the Maintenance and Repair Manual together with revisions to the AFM.

CASA will release a discussion paper in August for industry to respond to in the following months. From that feedback a Notice of Proposed Rule Making (NPRM) will follow which will most likely start some changes in the way GA aircraft are inspected. It is however unlikely that private aircraft will have any particularly onerous

changes place on them.

NOTE:

In order for the Co-op to better appreciate any issues that may exist within the fleet we encourage all owners and maintenance organisations to contact us at:

co-op@airtourer.asn.au

Please outline any maintenance issues but particularly those that may be considered age related and where applicable submit a Service Difficulty Report (SDR) to CASA.

Heard at the Hangar Door

About the time you will be first reading this Newsletter **Alan Wood** will be celebrating his 90th birthday. Congratulations Alan!

Doug and Lorraine Stott are currently visiting the EAA Airventure at Oshkosh. Doug likes to be constantly "in touch" so there have been a stream of photos and updates on facebook from various points in the US. **Stu Hilsberg** will be joining them in Oshkosh as well.

Beryl Marshall has moved from the farm into the township of Lockington. She still has the welcome mat out as well as the parking meter, but unfortunately she hasn't got a landing strip. However, if you fly into Echuca she will pick you up from there. Visits by appointment, 'cos she's often not home! (Are you surprised?)

Marilyn Anderson, (Airtourer 115 MVE), starts at Darling Downs Aero Club in Toowoomba as a full time instructor later this month... at last her dream comes true. She did about 12 instructional hours with the Air Cadets at Amberley recently and loved it, so she'll keep that up as well. Partner Mark Barnett thinks she's a brave girl, after flying Airtourers he's not a fan of Traumahawks!

For Sale



Airtourer T6-24, VH-LVV

Manufactured 1971, TTIS 4630, TTeng 1360, TT Prop 70.
Ex Singapore Air Force machine. New leather interior & chin scoop.
Transponder & GPS. Very good condition inside & out.

\$72,000 + GST ono

Email: marty@recreationalflyingco.com.au

The 2013 Convention and AGM

THE BIG ONE!

The 8th of March 2013 will mark 50 years since Serial Number 1, VH-MVA, was first registered. Although the aircraft was actually built in 1961 it was flown on a Permit during the certification process so it has been decided to celebrate the 50th Anniversary of the Airtourer Type to coincide with the date of placement on the Australian register.

We would like to invite all Airtourer Association Members, (and that most definitely includes our overseas members), to come to this milestone event to be held next year in conjunction with the 2013 Convention and AGM. In addition we would like to invite anybody with a close association with the aircraft such as former employees of Victa Aviation.



Full details of the event will be published later in the year but the important details are as follows:

LOCATION: Mudgee NSW
DATES: 15th – 18th March 2013

Mark this in your diary now.

Calendar of Events

PRESIDENT'S FLY-IN "Back to Parkes"

The President's Fly-In will be a "Back to Parkes" event, on the weekend of the 21st, 22nd and 23rd September.

The Events Committee will be meeting as this issue goes to press. They will send details in a mail out. Additionally, check the website for the latest details around mid August.

VICTORIAN BRANCH CHRISTMAS FLY-IN "Back to the High Country"

This years event will be a "Back to the High Country" at Mt Beauty over the weekend of 8th & 9th December.

2013 CONVENTION and ANNUAL GENERAL MEETING "The BIG ONE"

The 35th Convention and AGM will be held at Mudgee over the weekend of 15th to 18th March 2013.

Calendar of Events is on the Airtourer Association Website, with updates to be included, as they become available.

Welcome

Robin and Michelle McAdam from Hong Kong and/or Redcliffe who have recently purchased Airtourer 115, VH-MQL. Rob is a pilot with Cathay Pacific Airways, hence the Hong Kong connection.

Ross McBride who bought VH-CNO recently as a project plane from the estate of the former owner and Airtourer Association member Tony Jakson. Steve Death at Hazair in Albury will be restoring it to flying condition and upgrading it to Super 150 standard. It was certified in August 1963 as a 100 and last flew in 1982. Ross intends to have it flying again by August 2013, 50 years from first flight and 31 years from last flight. We look forward to seeing it at the President's Flying in 2013, wherever that may be.