

# BRISBANE VALLEY FLYER

May - 2014



Watts Bridge Memorial Airfield, Cressbrook-Caboonbah Road, Toogoolawah, Q'ld 4313.



**Rob Knight flight tests his 95-10 Colby-503 after a partial rebuild.** (See page 3.)  
(Photo by BirdsIPhotography)

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**28/03/2014 : Tecnam Astore next-generation LSA achieves FAA special airworthiness certification and will receive its North American debut at Sun n' Fun 2014 currently being held in Lakeland, Florida, in the USA**

The Tecnam Astore is an all new two seat, low wing, single-engine aeroplane that offers superlative performance, featuring state of the art avionics, including the all new Garmin G3X touch screen glass flight display system.



The Tecnam Astore

The airframe is entirely built in metal with fairings and upper radome in carbon/glass fiber with epoxy matrix.

Low operating costs are assured through Tecnam's close association with Rotax. All of this results in a remarkably efficient aeroplane, with customers being offered a choice of how they want their Tecnam 'Astore' powered, be it with the Rotax 912ULS2, the all new 912iS" or the turbo charged Rotax 914UL2 engine.

This new Tecnam product includes a new ergonomically designed interior allowing for enhanced all round visibility, control and switches that can be easily reached and the use of softer materials affording a more comfortable flight.

The Tecnam 'Astore' design affords the pilot the smoothest and most pleasurable flight with innovations such as an Apple iPad® mini supplied with each aircraft as standard. The Levil G Mini, using its WiFi connection, provides a full Primary Flight Display on the iPad® mini using compatible third party applications such as Air Navigation Pro or similar. Additionally, the pre-installed dedicated app will compute the actual Weight and Balance, provide checklists and include all the Pilot Operating Handbook sections.

The Astore is already established as a sales success for Tecnam. A good number of them are currently in production, with a number already earmarked for US customers, many of whom placed deposits last year.

"For over 65 years Tecnam has built its reputation through the development of innovative, stylish and affordable aeroplanes for all aspects of General Aviation flying." said Paolo Pascale, Tecnam's Managing Director.

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## The Colby-503, 95.10, Ultralight

By Rob Knight

As a keen photographer and pilot, it occurred to me that a small, single seat aeroplane that I could hide in a trailer might benefit both worlds. A deeper look quickly highlighted the advantages of a simple 95.10 aeroplane so I started scanning the magazine used aircraft advertisements and checking the listed aircraft on websites. Several quickly appeared and further research gave me an indication on their practicability and ease of wing removal to suit the trailer situation.

The most favourable I found at the time was a Flight Star for sale in the nether regions of Melbourne. The ad stated that it was owned and had been rebuilt by a LAME so I got in touch. The difficulties that I initially encountered made me wonder if he really wanted to sell it and I decided to bite the bullet and drive the 3700 km and view the machine.

I saw an article that referred to a local Brisbane Flight Star owner/builder, Colin Thorpe, and called him to discuss what I needed to be looking for in this type of aircraft. Ever affable, Colin invited me down to view his in the hanger at Heck Field so he could show me. We struck a date and in due course met at YJCW. I liked what I saw and Colin gave me several important items to be vigilant in checking.

A week or so later I called Colin again to get further details and Colin suggested that his aircraft was going to be surplus to requirements as he was building a Morgan Cheetah. Instead of driving nearly 4000 km to look at a maybe, I could buy his. He added that his was not totally a Flight Star as he had modified it and had registered the type as a 'Colby'. His offer was definitely interesting because the Melbourne version had only a Rotax 377 on the sharp end, Colin had just fitted a 503 but had not yet test flown it. His suggested sale price was fair so I agreed to look at his more carefully and, as he didn't have a current pilot certificate, I would do the test flight for him.

In September 2013 I flew down to YJCW with Peter Davies, my syndicate partner in our Lightwing. The weather was not as good as I had hoped it might be with a 15 to 18 knot wind blowing from 300°M, across both 28 and 36. Colin was waiting for us and we checked out the aircraft. Although not ideal



Colin and me preparing for my departure at Heck Field

conditions, we went ahead with the test flight anyway. The engine performed perfectly on the first and second flights. The second was necessary because a foreign body had blocked the pitot tube soon after take-off on the first flight. Apart from a small difficulty in getting the mixture right for starting, the machine was fine and the appropriate money changed hands. We fuelled her, refitted the removable doors, and I departed for the 40 minute flight back to home-base Boonah in this one-of-a-kind, Colby-503, which I now owned.

The flight went well. It was a new aeroplane to me and the lower cruise speed than I was accustomed to made me feel as if I was driving a helicopter. The roads went past slowly and several cars passed me on the leg from Beaudesert to Frazerview. Then a pelican took a look; a bit too close for me. I hoped that she didn't have love on her mind and was looking for a mate. I didn't want her to misunderstand the situation. Boonah appeared and right on schedule the mechanical turbulence I had been experiencing ceased. There was no traffic except Peter, a couple of miles behind in the Lightwing, and soon I was rolling gently along 04.

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The following weekend, keen to put some more light under the tires, I pulled the aircraft out of the hanger and started a pre-flight which was uneventful until I checked the load spar, the one at the aft end of the pod and onto which the undercarriage legs and inboard strut ends were bolted. It was showing some slight distortion with end compression and wrinkling around the inboard undercarriage leg attachments. Colin had replaced the chrome molly tube leg frames with steel leaf springs from another ultralight and these were proving not to be quite the success we had both expected. These legs had only done five landings and none had been even slightly hard. There was only one answer – sling the aircraft, remove the wings, disassemble the pod, and remove the spar. Then manufacture a replacement spar and reassemble the aeroplane. Oh yeah – just a couple of weeks work!

The wings came off, the pod was supported on stands, and the toolbox began living in my truck. With the load spar in my hands I got on the phone to cost and compare re-build materials. The original kit spar was a bit too light for the load imposed on it so looked at alternatives. Eventually my good friend at skyshop.com.au clinched the deal and I ordered the tube and spacer material – in chrome-molly. The weight increase was not significant and the strength far greater.

My local engineering shop looked at the old spar and offered, for a very good price, to take my new materials and manufacture a replacement spar identical in all dimensions to the original. They apologized for not being able to do it immediately and asked for 24 hours which was near enough to immediate for me. True to their word I collected the shiny new spar with its perfect fitting spacers the following afternoon. One of the attachment bolts holding the load spar was bent a little so I called in at Superior air parts and purchased replacement nylock nuts and bolts. I also bought primer and finish coat paint so I could corrosion proof the new spar.

Re-assembly was initially quite quick. I had Colin's kit assembly manual and notes and the drawings enclosed were a tremendous help. So much so that in just two weekends the spar was back in place and the pod frame attachments double checked for tightness and integrity. Then I put the original undercarriage frame legs back onto the airframe, attached the wheels, replaced the leg stops and ordered the necessary rubber shock cord to re-bungee the frames from Rope Galore in NSW. While I waited, I added a slip/skid indicator, an electrical Master Switch, and a fuel on/off tap, all items not included in the original aircraft. Now on my ninth logbook I guess you could say that I am too set in my ways to be comfortable without these bits and bobs.

The shock chord arrived and I bound up the frames with bungee cord until they looked like horizontal puttees, taking care not to exceed the number of winds specified in the kit details. I ignored the recommended means of attaching the ends – knots can come undone. Instead I clamped the ends with stainless steel jubilee clips. I took the pod off the stands and again she stood on her own three wheels. The wings returned and the struts were replaced and again everything was double checked for integrity including control hinges, cables, and cranks.

Then a series of strange events took place, not just to me, but to a few other aircraft as well. Firstly, when checking the wiring to the electric fuel pump, I noticed my aileron connection at the back of my stick was showing far more thread than I remembered it having when I did the integrity check on the wings. It was loose. The locking nut was loose and the main nut was held to the connector by about half a turn on the thread. I had never experienced this before. Was I going nuts or had the control linkage been tampered with? I re-set it correctly and tightened it before painting the nuts with orange paint so any further movement would be immediately visible.

The next time out to the field I found my windscreen had "become" broken. The left front corner had been twisted upwards until the lexan cracked right across it. Other aircraft had fuel stolen and yet another, I found out, had had parts removed from their design positions and the attachment nuts, bolts and washers taken. My aircraft also lost a cushion from its open cockpit around this time.

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As time permitted I repaired the windscreen. I had decided to get Richard Eacott, the eminently capable Rotax man, to check over the engine. I had already done a check of my own and found the carburettor attaching grommets had small cracks and purchased replacements from Richard. He did the inspection for me and found no issues.

The big day came and I was ready to start the engine and carry out taxi tests and maybe a couple of strip runs. The fresh southerlies in the morning were forecast to drop in the afternoon and I spent nearly two hours looking over the aircraft and doing an extremely thorough pre-flight. All I found was a cigarette burn hole right through four layers at the fabric join under the rear fuselage. Alas the wind didn't drop so after I had patched the hole I gave the idea away. I have no idea why my fabric had been damaged or who might have done it.

It was three weeks before all the stars were in alignment again and I could wheel the Colby out of the hanger. I chocked the wheels and did another pre-flight during which I removed the carburettor bowls and cleaned all residual fluid out. With two friends to assist, I put 12 litres into the Colby's tank and turned the ignition switch to ON. I called "Clear Prop" and pulled it over. No luck – I tried again - and again. I suspected it was lean so I squeezed the bulb primer and left as much pressure in the lines as possible. Eventually we got it sort of running but when I checked the RPM I couldn't accept the tachometer reading – it just didn't make sense. I switched it OFF. We pulled the carburettor bowls off to check again. They were clean. We opened the idle a little to see if that helped but it still wouldn't run. Then I noticed the vacuum line from the crank case was disconnected at the pump and shut down. The brass, right angle connector that carried the vacuum line to the pump had been ripped out of the back of the pump with such force it had bent it. This was deliberate. We pushed the plane back into the hanger. I checked the electronic tachometer and found that someone had reset it to a four stroke arrangement so was indicating quite incorrectly. I removed the battery and we left the field.

I ordered a new pump off Richard and fitted it. Then I asked him to do yet another check on the engine, in particular to set the air jets and the idle. Once done, and with the settings adjusted correctly, on the first day with light winds I went out to the field and pre-flighted it. The engine started without difficulty and I was able



Test flight take-off

to do six strip runs, the last two with the wheels just off the grass. However, by the sixth run the wind was getting up and, with an all up weight of only around 220 kg, the gusts had more control than I did.

The following Saturday was windless. An early start saw me adding another ten litres of fuel before carrying out two more strip runs as a final control integrity check before I made the greatest commitment one can make. The two circuits I

subsequently made were without issue. The Colby flew *hands off* in the climb at the right speed with full power, and the same at cruise. What more could I wish for? All the effort the previous 7 months had required were lost in the joy of the flight. Now I just need a good forecast for next weekend.

[WARNING MESSAGE – ALWAYS CHECK YOUR AEROPLANE THOROUGHLY – there are nut cases walking among us?](#)



Yep! It does fly!



# ALL-IN FLY-IN 2014

**Watts Bridge Memorial Airfield Inc**  
**31<sup>st</sup> May 2014**  
**9:00am - 4:00pm**

**Catering By: Beyond Limits**  
**Supporting Youth For Education**

All pilots and aviation enthusiasts are invited to the Watts Bridge Airfield Open Day, showcasing the diversity of all forms of recreational aviation.

The All-In Fly-In is an all day event with on-field catering and coffee available.

Entry is free with no landing fees.  
Aviation fuel is available on the airfield.

Richard                      Liz  
0412-317-754                  0419-369-963

**If it flies - It's welcome at Watts Bridge !**  
**[www.wattsbridge.com.au](http://www.wattsbridge.com.au)**



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## **UAV Pilot Charged with Felony (Note that it is inevitable that these problems will occur here in Australia, too)**

By Stephen Pope

The details of what really happened are still under investigation, but what is known is that the owner of a video-camera-equipped Hexacopter flying near the scene of a car accident in Springfield, Ohio, earlier this week was charged with felony obstruction after police said he refused to land his UAV even as a medevac helicopter prepared to touch down.



"I'm not an idiot," 31-year-old Kele Stanley told the Associated Press after being arrested, saying he would have landed his remote controlled aircraft immediately had he known the medical helicopter was en route.

Police tell a different story. Officials say a Clark County sheriff's deputy told Stanley to stop flying his Hexacopter because the helicopter was preparing to land, and that he refused, according to the Associated Press story. The helicopter was able to land and depart safely from the scene.

Stanley is facing a felony charge of obstructing official business and misdemeanor charges of misconduct at an emergency and disorderly conduct. He pleaded not guilty during a court appearance on Monday.

Stanley said he was shooting video of the crash scene, which he planned to turn over to local TV stations, as he has done before.

The FAA prohibits any use of remote-controlled UAVs except for limited hobbyist flying. A judge recently ruled that the FAA currently lacks the legal authority to impose such a strict ban. That ruling has been appealed, so for now the FAA restrictions remain in force.

### **FLY-INS Looming**

<b>May 10</b>	Murgon (Angelfield), QLD	<a href="#">Angelfield Brekkie Fly-in Murgon</a>
<b>May 11</b>	Gatton, QLD	<a href="#">Gatton Airpark Breakfast Fly-in</a>
<b>May 16</b>	Sunshine Coast, QLD	<a href="#">SCAC Friday Clubhouse BBQ &amp; Bar</a>
<b>May 17</b>	Dunwich / Stradbroke Island, QLD	<a href="#">Straddie Fly-in Breakfast</a>
<b>May 17-24</b>	Thargomindah, QLD	<a href="#">Piper Society Annual Flyaway</a>
<b>May 17</b>	Kyneton, VIC	<a href="#">Biggest Morning Tea Fly-in</a>
<b>May 31</b>	Watts Bridge memorial Field, QLD	<a href="#">Watts Bridge ALL-IN FLY-IN 2014</a>

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## Mystery Aircraft (April Issue)

What's this?



ALAS

No one was able to identify this aircraft – the forerunner of the Piper Vagabonds, Pacers, Cubs, and Tri-Pacers.

## Mystery Aircraft (April) issue

The mystery aircraft in the April issue of the BVSAC Flyer was a Taylorcraft BC-12 D1 Model, built in 1946.

## Joke for the Month

Basic Flying Rules: (Cont)

12. Never trade luck for skill.
13. Remember, gravity is not just a good idea. It's the law. And it's not subject to repeal.
14. The probability of survival is inversely proportional to the angle of arrival.
11. Speed is life. Altitude is life insurance.

## BirdsiPhotography

Want an air-to-air or ground shot of you and your dream machine? It's easy to arrange and will cost less than you might think. Grab the phone and contact Peter Davies or Rob Knight on 0400 89 3632, or email [kni.rob@bigpond.com](mailto:kni.rob@bigpond.com)



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## **Keeping up with the Play** (Test yourself – how good are you, really?)

1. As the angle of attack on an unstalled wing is increased the centre of pressure:  
 A. Moves forward toward the leading edge and this is a stable action.  
 B. Moves rearward towards the trailing edge and this is an unstable action.  
 C. Moves upwards, away from the aerofoil upper surface.  
 D. Remains stationary.
  
2. Compass deviation is caused by which of the following?  
 A. The difference between magnetic north and true north  
 B. Imperfect magnets in the compass.  
 C. In-flight turbulence.  
 D. Extraneous electromagnetic fields within the aircraft.
  
3. Adverse yaw when entering and exiting turns can be minimized by which of the following?  
 A. Not using ailerons to turn.  
 B. Having frise ailerons fitted to the aeroplane.  
 C. Maintaining low angles of bank.  
 D. Having differentiated ailerons fitted to the aeroplane.
  
4. In a skidding turn:  
 A. The angle of bank is too shallow for the rate of turn.  
 B. The angle of bank is too steep for the rate of turn.  
 C. Aileron drag from the crossed controls helps keep the angle of bank constant.  
 D. Aileron drag causes the angle of bank to reduce.
  
5. When carrying out a straight and level stall a pilot experiences a sudden and powerful left wing drop. This is most likely caused by:  
 A. The aircraft yawing to the right.  
 B. The left wing stalling before the right wing.  
 C. The aircraft being rigged incorrectly.  
 D. The pilot holding left aileron at the point of stall.

ANSWERS: 1. A, 2. D, 3. B, 4. A, 5. B.

If you have any problems with these questions, call me(in the evenings) and let's discuss it! Ed.

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## **BRISBANE VALLEY SPORT AVIATION CLUB Inc**

### **MINUTES OF THE 05.04.2014 GENERAL MEETING**

<b>MEETING LOCATION:</b>	Watts Bridge Memorial Airfield – BVSAC Clubrooms
<b>MEETING DATE:</b>	5 <sup>th</sup> April 2014
<b>MEETING OPENED:</b>	10:15AM
<b>MEMBERS PRESENT:</b>	16
<b>APOLOGIES:</b>	Ian Ratcliffe, Peter Ratcliffe, David Ratcliffe, Malcolm McKenzie
<b>VISITORS:</b>	Nil
<b>NEW MEMBERS:</b>	Nil
<b>MINUTES:</b>	March 2014 meeting of the BVSAC Inc. Proposed: Danny Fowler   Seconded: Mike Smith   Acceptance motion carried.
<b>PRESIDENT'S REPORT:</b>	No report.
<b>SECRETARY'S REPORT:</b>	Emails regarding South East Queensland Astronomical Society using the clubrooms.  Emails regarding Caboolture Gliding Club using the clubrooms.  Quotations regarding concreting the hangar floor. Michael Brook paid for 12 months hangarage. ING Deposit documents.  Certificate of Classification for the clubrooms has been granted. A vote of thanks for the people who made the clubrooms a reality: Mal McKenzie, Ian, Peter and David Ratcliffe, Mike Smith, Peter Freeman and Wayne Petty: Carried by Acclimation.
<b>TREASURER'S REPORT:</b>	Priscilla provided a financial statement advising that the BVSAC Bank Account Balance is \$20,055.10 and provided a summary of the major income and expenditure items.
<b>WBMA REPORT:</b>	Bruce Clarke noted that with the rain and warmer weather that spring is back and advised that assistance with keeping the grass mowed would be appreciated.  Bruce commented on recent political announcements and media speculation regarding increasing the Wivenhoe Dam wall by 8 metres and suggested that it would be infeasible to do so based on previous engineering and environmental evaluations. Watts Bridge is currently zoned as low level farming. The value could be increased by focusing on tourism, community participation and education.  Bruce spoke about the Toogoolawah Students Building Group and how it was receiving great community support, especially with the ANZAC 100 Year remembrance.
<b>BUSINESS ARISING:</b>	Discussion of the hangar floor concreting was moved to General Business. There was no other business arising.

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## GENERAL BUSINESS:

The quotations for concreting the hangar floor were tabled.  
Concrete Aero Slab – Coominya \$20,311.50  
Hulby's Concreting – Toogoolawah \$19,500.00  
It was agreed to accept the quotation from Hulby's Concreting.  
Mike Smith lead discussion of what needed to be done prior to concreting.  
It was agreed that Mike would co-ordinate the concreting with a target date of either the first or second week in June, dependent on the availability of the contractors.

The meeting was reminded of the All-In Fly-In and the club participation in that event.

Neil Bowden proposed that the clubrooms be treated externally for spiders and other insects with a residual spray 3 to 4 times a year.

The building of cupboards on the North Western end of the clubrooms was discussed.

This is to allow for setting up of the club's television and storage for other assets, library etc.

Wayne Petty volunteered to carry out the construction of the cupboards.

## NEXT MEETING:

The next meeting will be 3<sup>rd</sup> May 2014 in the BVSAC Clubrooms Watts Bridge at 10:00AM  
A BBQ lunch will follow the meeting.

## MEETING CLOSED:

There being no further business, the meeting was declared closed at 10:56AM  
A BBQ lunch was held after the meeting.

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