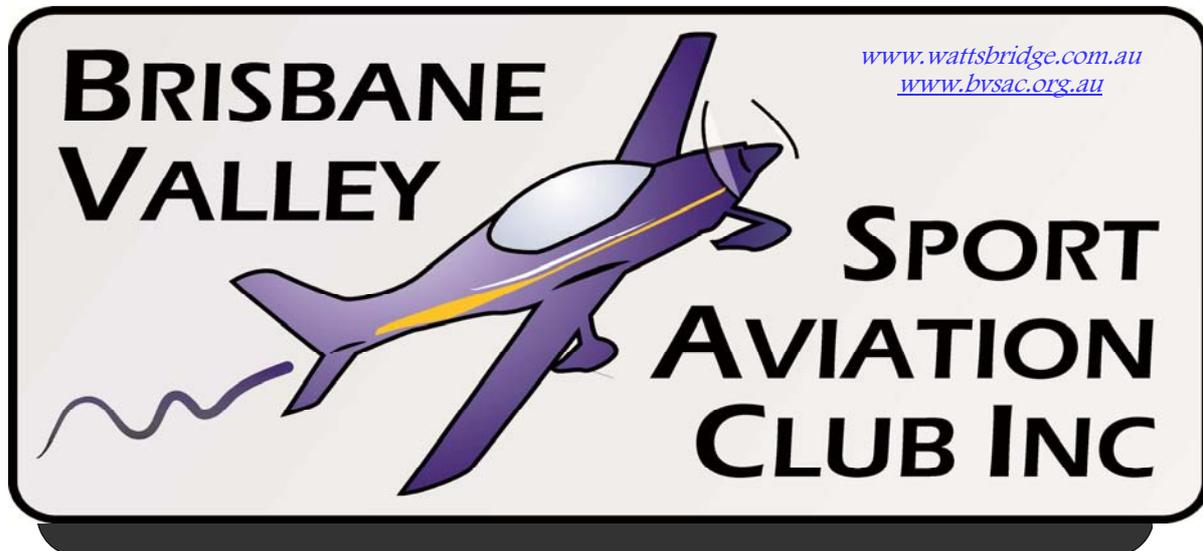


# BRISBANE VALLEY FLYER

NOVEMBER - 2015



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



Bill Finlen in his beautiful and unique D H 85 Leopard Moth at Bonah

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### Flying the Classics – the Cessna 120/140 – the mother of 2 seat light aeroplanes.



An early Cessna 120

In 1946, when factories were cranking-out little airplanes like elves making cookies, Cessna didn't want to be left behind. They had done their own marketing studies and they were convinced a world awash in ex-military pilots and GI's waving their GI bill checks would want airplanes and lots of them. How totally wrong could they be?

Cessna had to start from scratch because they didn't have a design ready to go. Most other manufactures had been cranking out two-place training/recreational aircraft since before the war. Considering these early Cessnas, it's pretty obvious they studied the Luscombe; there are too many configuration and performance similarities to believe otherwise. It would have been simple to note that pre-war airplane's size, construction and success and took their own design from there.

#### 120/140 Model Differences.

The littlest Cessnas are not easy to tell apart and, indeed there are a number of subtle differences between the three basic models of two-place classic Cessnas, the 120, the 140, and the 140A.

First of all, the 120 and 140 were initially produced concurrently. It's unclear, however, whether the 120 was to be an economy model of the 140 or the 140 was to be the luxury version of the 120. However significant the marketing department thought the differences to be in 1946, the gap has narrowed to zero, since most consider the airplanes to be nearly interchangeable. The 140A, however, signalled a relatively major design review and improvement.



A shining example of a Cessna 140

#### The 120 and 140



Early 120 control panel

All Cessna 120s and 140s originally had fabric wings, two steel struts and completely aluminium structure. A few have had the fabric replaced with metal in the half century since their birth. In fact, a few of the airplanes were even converted to tricycle gear. Don't ask why, we don't understand either. Both airplanes had the 85 hp Continental, although the 140 had an electrical system as standard equipment. These days it's seldom a 120 is seen without an electrical system. However, it's a fact that a straight, clean 120 sans electrical will out fly

the rest. In little airplanes, weight is everything.

The visual differences between the two models include items which only the 140 has: the rear quarter windows and long, skinny flaps. We'll discuss the flaps later, but they shouldn't be the

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deciding factor between buying one model or the other. Then, as if things aren't confusing enough, a lot of 120's have magically sprouted the quarter windows of the 140.

140's received an up-dated instrument panel in 1948 which eliminated the "old-fashion" looking central cluster of instruments. A new floating panel spread the instruments across the cockpit. Radios are usually mounted left of the pilot's control yoke.



Cessna 140 control panel

The "140A" model was introduced in 1949, presumably in an attempt to jump-start falling sales. About 525 were built, including a small number of "Patroller" versions with Plexiglas doors, 42 gallon tanks, and a message tube though the floor. The same fuselage was used, but the 140A wings were a complete redesign. The blunt, rounded plan-form disappeared, being replaced by the "modern" semi-tapered shape. When Fowler flaps were later added, these were the wings which would be used on the still-to-come 150s. The C-85 was replaced with a C-90 in the 140A.

140A wings are stressed-skin aluminium, which eliminates the need for the second strut. This is why "A" models have a single, aluminium strut. The ailerons run the entire length of the tapered section and the tips are squared off. The flaps were shortened, but are several inches wider than straight 140 flaps and seem to be a little more effective.

### Flying Characteristics

Each classic airplane has its own flying personality and so does the 120-140. It's important to remember it's a post war design. Most of its contemporaries were originally designed before the war



The nice lines of the Cessna 140

to perform on the A-50 or A-65 so they are smaller and lighter. The C-120/140 is a bigger airplane and is a little heavier feeling and flying than something like a Luscombe or a Taylorcraft. It doesn't feel quite as much like a maple seed in the wind, as do some of the others. Make no mistake, however, it is still a very light airplane. Depending on the model, they'll weigh-in empty at 950-1000 pounds and gross at 1,425 pounds (525 pounds useful).

The first thing you'll notice on boarding a 120/140, is that getting in isn't much of a hassle. Although some purists de-cry the use of control wheels rather than sticks, having the floor free of obstacles does ease entry.

Once in, the next thing you notice is that seeing over the nose is possible with only a slight stretch. With a cushion behind them, the average-height pilot can see the centreline without stretching. The cockpit is slightly narrower than the latest C-152, but about the same as its contemporaries. This makes it fine for the FAA-standard 170 pound pair but gets crowded rapidly as crew dimensions increase.

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Unless converted to key start, the airplane has a separate pull-to-start handle which, to a pilot used to modern Spam cans, seems unusual. Once the engine is running, the straight exhausts are evident even at idle. On takeoff they really bark. It's hard to believe we all used to fly these without headsets, as a matter of course. No wonder we're all half-deaf.

If the tailwheel is in even remotely good shape, the airplane will taxi nearly as effortlessly as a nosewheel airplane, needing an occasional tap on the brakes to make sharp corners. The excellent visibility makes it that much easier.

Take-off performance is directly related to the amount of weight on board. As with all lightly wing loaded, low-powered airplanes, the two-place Cessnas are different airplanes solo or dual. In no case, however do they float off the ground like a Cub or Luscombe. Actually, they takeoff remarkably like a Cessna 152, although without as much ground roll.



When the tail is raised during takeoff, the spring gear is immediately noticeable because it doesn't have the solid feel of a bungee gear and "wallows" just a little. Here, it feels almost exactly like a Citabria and for the same reason. If the wind is on the nose, the airplane will track almost perfectly straight. It will, however, try to gently turn into a crosswind. A little rudder pressure takes care of that.

If the crosswind is a real howler, the pilot will have to work to keep the wing down because the ailerons don't get effective until there is a fair amount of wind going across them. Somewhere around 25-30 mph, they start coming alive.

The handbooks say a Cessna 140 will climb at 700 fpm at sea level and gross weight. There are probably some that will do that, but most are closer to 500-600 fpm in that situation. As density altitude increases expect climb to go down accordingly. Most pilots use fuel load as the variable factor. With 22 gallons usable and a fuel burn of only 5 gallons per hour, leaving 60 pounds of fuel on the ground, still gives a two-plus hour endurance and affects climb performance noticeably. Here again, overall performance is in the ball park with the C-152.

The climb and cruise performance of 120/140's varies drastically. The primary factors are propeller installed and weight, with rigging coming close behind. 100-115 mph (87 – 100 knots) is the normal range. With a climb prop, which is good for at least 100-150 fpm extra climb, expect to be at the bottom of the speed range. The cleaner airplanes with a cruise prop will easily touch the top end, 115 mph. Weight also changes cruise drastically. It's not unusual for an airplane to give up 10 mph to carry an extra person and full fuel.

In cruise, the airplanes are among the most comfortable and stable of the breed. Visibility is excellent, although, with your eyes just barely below the wings, it's a good idea to raise the inboard wing to clear before turning. Once the airplane is "on the step" and trimmed, it'll fly a straight line until running out of fuel although it will ride the tiniest thermals. Of the airplanes of its type, it is one of the more stable cruisers, primarily because it is heavier. It also has some of the best over-the-nose visibility in cruise. A headset, however, is mandatory for comfort and hearing protection.

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When landing, thermals aside, the airplane will hold approach speed reasonably well if trimmed to it. If the pilot tries to hold speed by hand, rather than trimming, however, the airplane seems to want to pick up speed. At 60-65 mph on final the airplane gives the pilot all day to set up the approach.



A beautiful sight, a perfect classic

Also, compared to something like a Cub, it is a lousy slipping machine. In fact, if you don't get the speed down to around 65 mph (about 55 knots), a slip has almost no effect.

Most 140 pilots don't bother with flaps on landing because they have only a marginal effect. They do increase drag slightly and kill just a little float. 140A flaps seem more effective and worth using.

A three-point landing is almost a non-event, as long as the airplane touches down straight with no drift. Even if put on crosswise, however, the airplane just jumps and jiggles and has little tendency to swerve quickly. This is one of the strong points of the spring gear. It is very forgiving of misalignment on touchdown. Even if the airplane does decide to head for the bushes, the rudder is quite effective and a quick punch is generally all that's needed to set it straight. It is only marginally more demanding than a Cub and about the same as a lightly loaded Citabria.

Wheel landings take a little getting used to because the airplane seems so close to the ground. If the pilot just tries his best to hold the airplane barely off the ground, letting it find the runway itself with no help from the pilot, it will roll on smoothly. If the pilot tries to "help" it find the ground with a gentle push, a bounce is in the offing. Fighting the urge to push is the most important ingredient of a wheel landing with spring gear.

The Cessna 120/140 series has always brought a premium price in the two-place classic pack for a reason. The airplane's near-modern utility combines with a structure that can weather the elements in outside storage better than most to make it very attractive. This is an airplane with a foot in both camps; classic and contemporary and combines the best of both

### FLY-INS Looming

<b>Saturday November 14</b>	Murgon	Angelfield Breakfast Fly-n
<b>Saturday November 14</b>	Caboolture	Vietnam Convert
<b>Saturday November 21</b>	Dunwich	Straddie Breakfast Fly in
<b>Saturday November 28</b>	BVSAC Clubrooms	BVSAC Christmas Party. See page 8
<b>Sunday November 29</b>	Canungra	Inaugural Fly in. See page 9

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### First Customer-Built SubSonex Personal Jet Flies



**October 22, 2015** - EAA and Sonex Aircraft extend their congratulations to Redge Greenberg, EAA 861049, of Durango, Colorado, who made the first flight of SubSonex serial number JSX0003 on October 15th: the first customer-built SubSonex Personal Jet to fly. "I flew the SubSonex this morning, for about 35 minutes, all went well," wrote Greenberg. "My regards to Dwight Tolfer who was a big help for me during the construction project that was done almost entirely in my garage."

Greenberg received the first SubSonex kit delivery in February 2015, an Ultra-Quick-Build kit with optional Triton Trailer. The SubSonex is sold as a Quick Build Kit only, leaving very little work for the customer, and providing almost everything needed to fly with the exception of avionics and paint. According to Sonex, two Quick-Build Kit versions are offered: an EAB-compliant kit for the traditional builder including pre-built wings, fuselage and canopy; and an Experimental Exhibition category Ultra- Quick-Build Kit with no 51percent rule restrictions. The Ultra-Quick-Build customer will install outboard wing panels, engine and fuel system, bolt-in the retractable landing gear, install avionics, electrical systems and controls, install the supplied BRS, fiberglass components and upholstery, and add paint.

"I hold commercial glider, helicopter, and single engine land licenses, accumulating 4,500-plus hours in numerous aircraft," wrote Greenberg, "but I never got the chance to fly a jet. I first saw the prototype of the SubSonex at Oshkosh, and followed the development for over a year. When Sonex offered the jet as a kit, I was first in line. Like my RV8, the SubSonex is aerobatic, but the Sonex company also included a ballistic parachute for extra safety."

With two SubSonex JSX-2 factory prototype aircraft now flying, Greenberg's SubSonex makes number three in the worldwide fleet, with six more customer kits currently under construction.

**We could certainly slow the aging process down if it had to work its way through the senate.**

**BRISBANE VALLEY**  **SPORT AVIATION CLUB**

**Christmas Party**  
**28th November 2015**

All club members, their families and friends are invited to the Brisbane Valley Sport Aviation Club's end of year holiday celebration - the BVSAC CHRISTMAS PARTY which is being held in the Clubrooms at Watts Bridge Memorial Airfield.

Festivities start at 10am with nibbles and drinks after which a generous two course lunch is served at 12 Noon.

The cost is \$25 per person paid on the day. RSVP is essential.

**BOOKINGS ARE ESSENTIAL FOR CATERING PURPOSES !!**

RSVP by email by 22nd November 2015

Wayne & Lyn      [president@bvsac.org.au](mailto:president@bvsac.org.au)

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### Mystery Aircraft (November Issue)

What's this?



### Mystery Aircraft (Last Issue)



This is a Helvie Classic.

Built in Australia, it is based on the general lines of a Baby Ace.

## Aircraft for sale

Rans-S-7S Courier. \$Below build cost.



Contact Ken Edwards.  
Mobile: 0438 178 869  
Email: kenedwardsqld@gmail.com

A double winner at NATFLY 2011, this delightful aircraft is powered by a ROTAX 912US AIRMASTER which swings a CSU with a 3 bladed prop.

To date there are 280 hours on both engine and prop. It carries a Garmin SL40 VHF with IC5 system., a Garmin GTX 327 transponder and altitude encoder, and a Garmin GPS (colour)

It has STOL performance and cruises at around 90 knots at 25" Hg and 5050 RPM.

Flightscope **AVIATION**

Canungra International Airfield

# Inaugural Canungra Fly-In

Sunday, 29<sup>th</sup> November 2015

9.00am – 3.00pm

Flightscope Aviation invites you to the 2015 Inaugural Canungra Fly-In! All pilots and aviation enthusiasts are invited to join us for a great day for everyone and everything aviation. All aircraft are welcome: Recreational, GA, Vintage, Light Sport, Motorgliders, Paramotors, Gyros, Microflights and more.



The inaugural Canungra Fly-In is an all-day event with on-field catering, cold drinks, tea/coffee available.

**ENTRY IS FREE WITH  
NO LANDING FEES**

Premium Unleaded (MOGAS)  
available all day.

Trial Introductory Flights available  
Start your summer flying schedule  
and join us at our inaugural fly-in.

## CANUNGRA INTERNATIONAL AIRFIELD - YCGA



ELEVATION: 140 ft AMSL  
FREQUENCY: 123.45 UNICOM  
RWY DIRECTIONS: 14/32 & 03/21 - LEFT HAND COTS  
RWY DISTANCES: 750 mtrs  
STRIP SURFACE: GRASS  
GPS POSITION: S 127°55'22" E 153°08'56"  
NOTES: rwy 21 inclines towards the west

### AIRFIELD INFORMATION:

- Location: Lot 15, Four Mile Lane, Boyland
- Elevation 140'
- Circuit Height 1100'
- UNICOM 123.45
- Area Freq: 119.50
- Full NOTAM service not available
- All ACFT to conduct MIN of 3 circuit legs
- RWY 21 slopes uphill
- Noise sensitive area to N - avoid flying over wire
- Related charts: WAC 3340, Brisbane VNC, Gold Coast VTC
- Premium Unleaded (MOGAS) 95 available

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

1. An aircraft's dynamic vent has been "bumped" and slightly bent sideways. Which of the following option would most likely to occur during flight?
  - A. A reduced IAS reading because the dynamic pressure sensed will be reduced.
  - B. An inaccurate Altimeter reading because the balance between the static pressure and the dynamic pressure has been adversely influenced.
  - C. The airspeed is likely to be HIGHER than the instrument reading.
  - D. Option A or option C could be correct, depending on specifically which way the dynamic vent has been displaced.
2. Comparing twilight periods in low latitude positions to twilight periods in high latitude positions:
  - A. The twilight period at 5° latitude is less than that at 50° latitude because the sun crosses the horizon at a higher angle at higher latitudes.
  - B. The twilight period at 5° latitude is less than that at 50° latitude because the sun crosses the horizon at a lower angle at lower latitudes.
  - C. The twilight period at 5° latitude is less than that at 50° latitude because the sun crosses the horizon at a lower angle at higher latitudes.
  - D. The twilight period at 5° latitude is less than that at 50° latitude because the sun crosses the horizon at the same angle at all latitudes.
3. From the following select the most correct statement.
  - A. The further effect of yaw is pitch about the lateral axis.
  - B. Washout decreases the angle of attack inboard along the wing's span.
  - C. An impulse coupling provides a hot, fat, retarded spark for starting.
  - D. Form drag = total drag minus induced drag.
4. A TAF depicts weather within what distance of the observation point?
  - A. 5 nautical miles.
  - B. 10 kilometers.
  - C. 10 nautical miles.
  - D. 12 kilometers.
5. Ahead of the passage of a front, which of the following typically depicts the wind change?
  - A. Backing and increasing.
  - B. Veering and decreasing.
  - C. Backing and decreasing.
  - D. Veering and increasing.

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

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

--ooOoo--

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

**Minutes of the BVSAC Annual General Meeting held on the 11<sup>th</sup> November 2014.**

Location: Watts Bridge Memorial Airfield – BVSAC Clubrooms.

**MEETING LOCATION:** Watts Bridge Memorial Airfield – BVSAC Clubrooms

**MEETING DATE:** 10<sup>th</sup> October 2015

**MEETING OPENED:** 10:41AM

**MEMBERS PRESENT:** 13

**APOLOGIES:** Sandy Walker, Scott Meredith, Peter Ratcliffe, Ian Ratcliffe, Glenda Faint, Neil Bowden, John Innes, Rob Knight, Mike Smith, Liz Cooke.

**VISITORS:** 3

**NEW MEMBERS:** Nil

**MINUTES:** September 2015 meeting of the BVSAC Inc.

Due to an over site, the Minutes of the September Meeting were not formally approved.

The September Minutes will be presented to the November Meeting for approval.

**PRESIDENT'S REPORT:** Wayne Petty thanked everyone for their support and encouraged everyone to work together for the good of the club. Wayne indicated that he has plans for future initiatives for the club in 2015/2016 and encourages members to put their ideas forward and participate throughout the coming year. Enjoy your club!

**SECRETARY'S REPORT:** Richard Faint outlined the inward and outward correspondence for the (busy) month. This included emails to those member who had not renewed for 2015/2016, emails to members regarding flying events in the district as well as distributing the newsletter etc. The club's WBMA land purchase assistance was co-ordinated by the secretary, entailing numerous emails to members to promote the initiative, organise the documentation and facilitate the funds transfers. A package was received from RA Aus promoting an increased awareness of human factors in aviation. A safety vest, key rings, car stickers and pamphlets were passed on to the members.

**TREASURER'S REPORT:** Priscilla Smith provided a financial statement summary and advised that the BVSAC ING

account balance is \$550.19 and that the BVSAC NAB account balance is \$26,000.44.

It was noted that the NAB account balance was inflated by funds from

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members in support of the WBMA land purchase which are in the process of being transferred to WBMA.

Priscilla tabled financial documents for those members requiring additional details.

### **WBMA REPORT:**

WBMA President Bruce Clarke thanked the club and its members for their generous support for the purchase of the airfield land. Bruce advised that the future of the airfield is assured, but indicated that donations or loans are still welcomed.

### **BUSINESS ARISING:**

Nil

### **GENERAL BUSINESS:**

Richard Faint requested that those members who had offered loans in support of the WBMA land purchase return their documentation promptly. Documents were available for those who required them. He advised that the BVSAC had entered into an agreement with the WBMA for an amount of \$24,600 with further pledges yet to be fulfilled. It is anticipated the total club contribution could be \$30,000.00

Members were reminded that the BVSAC Christmas Party is to be held on Saturday the 28<sup>th</sup> November. Catering and other details will be finalized at the November meeting.

### **NEXT MEETING:**

The next meeting will be 7<sup>th</sup> November 2015 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 10:53AM  
A BBQ lunch was held after the meeting.

--ooOoo--

## Aircraft for sale. Skydart - \$5000



The hrs are 233, smooth 447 engine, 3 blade prop, instruments: ASI, ROC, ALT, COMP, HR METRE, RPM, EGT, CHT. Presently replacing fuel lines and giving it some well deserved TLC. ROC on a good day around 800 fpm. 654 total landings. An unprecedented panoramic view that even beats a Drifter without ruffling your hair and a very comfortable semi reclined seat which gives it a very enjoyable flying experience. Skins a bit daggy but serviceable. The fuel burn is 12 L/hr. at 5200 rpm and it cruises at around 65 knots.

Contact Bob Hyam. Tel: 5426 8983