



**A BRANCH OF THE LIGHT AIRCRAFT ASSOCIATION PROMOTING RECREATIONAL AVIATION IN THE
SOUTHWEST**
www.devonstrut.co.uk

The Devon Strut is twinned with RAA Toronto Region, EAA Chapter 14 San Diego and Chapter 20 SAAA Australia

DEVON STRUT NEWS – July 2017

Chairman's Chat

by David Millin

Following the cancellation of our Dunkeswell fly-In at the end of April, the re-run on 3rd June turned out to be a success, but only just, as the weather in the afternoon was quite unsavoury. Without doubt, the poor forecast for the afternoon dissuaded some of the longer distance visitors from attempting the journey. The event also coincided with Aero Expo and the Torbay Airshow, the NOTAM for which may have put off some of the more faint hearted. Nevertheless, and under the circumstances, we had a reasonable number of arrivals (>40) who benefitted from the chance to see the Blades and have a look inside the Catalina, both of which were positioned at Dunkeswell for the Torbay Airshow. The fly-in also featured a flea market administered by Brian Lyford, where some aviation bits and pieces were successfully traded. The Devon Airfields Heritage Museum was also open for visitors.



Less than ideal conditions have dogged our events this year but finally we enjoyed fair weather at Farway Common on 17th June. Coincidental to our event was the Fly-UK Round Britain Microlight Tour. From their point of origin at Chiltern Park, the microlighters' first stop was Farway Common. This meant lots more burgers were required together with carefully considered aircraft parking. At the end of the day we totted up 82 aircraft booked in with 150 burgers, 100 sausages and several gallons of tea consumed. Special thanks go to Terry Case for kindly welcoming us to his airfield. Chris Jackson officiated over the BBQ all day which was kindly loaned to us by Nigel Nicholson. Thanks also go to Frank Snell and Martin Ryan who untiringly assisted all day by lending their skill and experience to safely and efficiently marshalling arrivals and departures and to Tony Gibson, Brian Lyford, Graham Hawkins, John Robinson and Michael Bland who helped Chris with the BBQ. (plus anyone else we've missed off the list!) Dave Burrows, ATC Manager at Exeter Airport made special provisions to handle the extra traffic and, as requested, most pilots contacted Exeter Radar. However, disappointingly, just a few pilots departing Farway and heading west did not exercise common sense and good airmanship! It is important that we communicate with ATC services in the interests of safety and for living in harmony with our neighbours. Have a look at the following link on the related subject - <http://www.ftnonline.co.uk/2017/05/15/who-owns-the-air>. On the subject of communicating with ATC, you will also find this of local interest. *Pooleys Update - AIRAC 08/2017 - Effective 20 July 2017 Dunkeswell - All outbound air traffic are to contact Exeter RAD/APP directly after departure.*

Devon Strut members were invited to join the Devon & Somerset Microlight Club at their summer bbq at Dunkeswell Aerodrome on 24th June. This turned out to be a cracking event with properly priced beer and burgers. Nick Tomes manned the BBQ to a backdrop of the Foo Fighters streamed direct from Glastonbury. It was a fantastic evening to catch up with old friends and to make some new ones. The party went on well into the night and the last man standing got into his sleeping bag at four in the morning! *I wonder who that might have been?* Bacon baps started the next day at 08.00 and we had the marquee and everything packed away by about 11.00. Put it in your diary for next year!

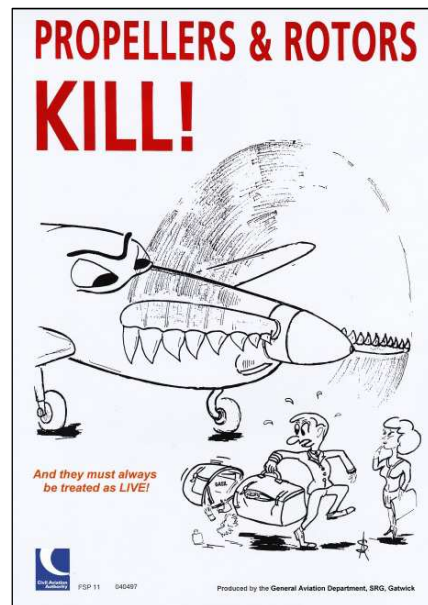
The CAA has opened the second tranche of applications for 8.33kHz radio funding from their European grant. See details at <http://www.caa.co.uk/General-aviation/Aircraft-ownership-and-maintenance/8-33-kHz-funding-application>

A couple of points of encouraging news are that Roserrow is now open for business again and Plymouth airport has taken a step forward in the fight to recognise what an airfield can offer a city. See: <http://www.flyplymouth.com/> and <http://www.flyplymouth.com/news>.

On a point of safety, it is thought that even if a man *could* live forever, he would not. Sooner or later fate would eventually take a hand and his life would be cut off by the mathematical application of chance. This thought occurred to me recently whilst walking past an invisible disc of death. We all know the dangers of propellers but how many times would one have to wander in the vicinity of the scything blades before the product of chance was realised? It happens! It also happens with jet engines too and according to statistics, on an increasing frequency. So, we are not going to live as long as Doctor Who but let us try to manage the full 'three score year and ten' without incident.

The next flying event in Devon is to the fascinating and picturesque Lundy Island on Sunday 23rd July. PPR is essential from Pete White (01752 406660 or 07805 805679) who heads up the Lundy Team. Although this event is not organised by the Devon Strut, we have made John Colgate's Pilots' Briefing downloadable from the Strut website. Lundy is a popular venue to fly into with plenty to see so why not bring your tent and enjoy an evening in the Marisco Tavern on the Saturday evening?

Blue Skies, *David*.



Halwell Rotax Engine Thefts

Linzi Berryman (Police, Community Messaging Officer, Devon and Cornwall)



Residents in the vicinity of aircraft / airfields:

Officers are investigating reports of thefts of aircraft engines which took place in South Devon overnight 13/14th June 2017. We are asking for all residents/businesses in the vicinity of aircraft / airfields in Devon and Cornwall to please make observations for any suspicious activity. If you see any suspicious activity, please contact the Police on 999. If offenders are still in the area at the time of your call, please make a note of registrations and descriptions. If you have any information please phone 101 quoting crime CR/047200/17.

Aircraft owners:

We ask all owners of Rotax-powered aircraft and airfields in general to double up on their security. Some engines have been 'clinically' removed, others have caused damage to airframes that have led to them being written-off.

It is recommended that owners consider a PIR alarm linked through to a mobile phone and if possible CCTV that can be viewed remotely at the hangar as well as CCTV covering the approaches/entrance and images recorded and downloads available to be viewed. If you see any suspicious activity around an airfield, please contact the Police on 999.

Please pass this information on to those it may be relevant to.
Thank you.

Dunkeswell, Sat 3rd June

(With thanks for their photographs to Una Allman, Tom Brearley, Chris Parsons, Richard Horner & John Hope)





Farway Common

(with thanks to Chris Jackson, Richard Gibson, Sophie Smith & Tom Brearley)



Flying Frugally

<http://pointsforpilots.blogspot.co.uk>

by Klaus Truemper

There are several definitions of efficient flight. For example, a flight could be considered most efficient if (1) the least amount of fuel is used to cover a given distance; or if (2) the least amount of time is spent in the air for the given distance; or if (3) the least amount of fuel per knot of speed is used.

In the landmark technical paper *Fuel Efficiency of Small Aircraft* (AIAA-80-1847,1980), B. H. Carson argued that the third criterion, which minimizes expenditure per knot of airspeed, is a good compromise

between the first two criteria, which minimize fuel used or time in the air. The airspeed producing the least expenditure per knot is now known as the *Carson speed*. The optimal speed for the first criterion is the *best-glide speed*.

Carson's paper establishes a neat formula that links Carson speed and best-glide speed. It says that the Carson speed is the best-glide speed times $\sqrt{\sqrt{3}} = 1.31607$, where *sqrt* denotes square root. Let's round this factor to 1.3 for the discussion to follow.

Best-glide speed is not a constant for a given airplane, since it goes up with payload. Thus, Carson speed also goes up with payload. This complicates the use of Carson's formula.

So far, we have assumed no-wind conditions. But typically there is some wind aloft, and we are actually interested in efficient groundspeed, where it is not quite clear how we would want to define efficiency for that case. The definition should somehow take advantage of the push of tailwinds, and should judiciously deal with headwinds.

Here we suggest a simple rule that accommodates these goals while using both Carson speed and best-glide speed. Recall that best-glide speed depends on payload; indeed it increases with payload. For small two-seaters, we ignore that aspect and use the best-glide speed when the plane is operated single-pilot and with some reasonable amount of baggage, say 50 lbs.

Exact measurement of that best-glide speed is not easy. The excellent paper *Maximum Endurance, Maximum Range, and Optimum Cruise Speeds* by R. Erb explains some ways for doing so. A simple method whose precision suffices for our purposes, first estimates the airspeed with minimum sink rate, which is called the *max-endurance airspeed*. Carson's paper establishes that best-glide speed is max-endurance speed times $\sqrt{\sqrt{3}}$.

To estimate max-endurance airspeed with single pilot and 50 lbs of baggage, go to sufficient altitude, like 3,000 ft AGL. Pull power, let the airplane slow down and adjust trim gradually until the airplane has minimum sink rate. Now increase engine power just enough that the propeller turns in a high idle. Ideally, the rpm should be such that the propeller neither pulls the plane nor creates a drag. Then trim again to get minimum sink rate. The airspeed accompanying that sink rate is an approximation of the max-endurance speed. The difficult part of the estimation process is done.

Now, using Carson's formulas, we estimate the best-glide speed by max-endurance speed times 1.3, and then the Carson speed by best-glide speed times 1.3. For my Zenith 601HDS, this approach produces a best-glide speed estimate of 70 kts and a Carson speed estimate of 90 kts.

We now use the estimates for best-glide speed and Carson speed in an easily applied rule for efficient flight along a given route.

First, determine the altitude with most favourable wind. Of course, you can only consider altitudes where you can legally fly. On the basis that the best wind is a tailwind, plan to go to the altitude that gives us that best wind, fly the course and monitor the ground speed. If the groundspeed is higher than the Carson speed, pull the power until one of two things happens: The groundspeed becomes the Carson speed, or the indicated airspeed drops to the best-glide speed.

Climbing to altitude: For comparatively low fuel consumption and good forward visibility over the nose, climb at best-glide speed and a modest rate of climb, say 300 ft/min.

Suppose you have a headwind. Then gradually increase power and stop whichever of two events occurs first: Ground speed increases to Carson speed, or 75% of rated engine power is used.

What about crosswind components accompanying head- or tailwinds, or differing payloads? Ignore all those aspects. They are implicitly accounted for in the following *Frugal Rule*:

(1) Go to altitude at best-glide speed with modest climb rate, say 300 ft/min.

(2) Fly the course to take care of crosswind corrections and reduce or increase power depending on whether groundspeed is above or below Carson speed.

(3) Change power as described to achieve groundspeed = Carson speed. But stop decreasing power when indicated airspeed reaches best-glide speed, and stop increasing power when 75% of rated power is reached.

We used the rule on a recent flight of 530nm. Flying mostly with a tailwind and with a significant crosswind component, we reduced power until indicated airspeed = best-glide speed. The crosswind component required a significant heading correction.

At indicated airspeed = best-glide speed, fuel consumption dropped to a miserly 2.1 gal/hr. The entire trip took 6 hrs, including time for a refuelling stop and required a total of 14.2 gal of fuel. In automotive terms, we achieved 43 mpg and travelled at an average speed of 86kts (100 mph), including the time for the stopover.

If you are in a hurry, then you may argue that the frugal rule leads to airspeeds that are too low and flying times that are too long, and that argument is correct. However, we fly our aeroplane, not just to get to a destination, but to spend time in the air and experience our world in three dimensions instead of just two as done by car travel. The frugal rule lowers the cost of such flying.

CAA Publishes Skyway Code

The CAA's new Skyway Code is designed to provide private pilots with easy, quick access to the key information they need and includes:

- Pilot responsibilities
- Pre flight checks and flight planning
- Airspace rules and regulations
- Using aerodromes
- Risks and Emergencies
- Flying outside the UK
- Links to useful safety and regulatory resources

As well as covering the regulations it includes examples of radio phraseology, tables to work out crosswind components and ground marshalling signals. The Skyway Code can be viewed online or downloaded for later use. The latest version will always be available here: <https://caa.co.uk/General-aviation/Safety-information/The-Skyway-Code>

- The Skyway Code PDF for easy printing <http://www.caa.co.uk/CAP1535P>
- The Skyway Code PDF with easy navigation for on-screen use <http://www.caa.co.uk/CAP1535S>

Plymouth Airport

This summer sees the public examination of the Plymouth & S W Devon Joint Local Plan prior to the formal adoption by the 3 councils in the autumn. Under the Plan, Plymouth Airport is safeguarded for aviation uses in accordance with the wishes of Plymouth City Council. FlyPlymouth have a plan to open Plymouth Airport, firstly as a GA hub and then some years later, they envisage airlines could commence flying from there. They suggest these initial intentions can be strengthened if letters of support are sent to FlyPlymouth for submission to the Planning Inspector.



Raoul Witherall who heads up FlyPlymouth has asked for letters of support both from GA pilots who would fly into Plymouth and also from those who may be interested in basing their aircraft there. Raoul has said the planning inspector will view letters from GA pilots as having the most credibility. Chris Howell has spoken with Raoul and explained to him that for Plymouth to be attractive to light aircraft pilots, the airport would need to be very GA friendly, much like Gloucestershire Airport is, with landing fees and hangar rates that are affordable and not sky high, as at Newquay and Exeter.

If you wish to support the re-opening of Plymouth airport, then please help by writing or emailing your support to: FlyPlymouth, Office 18, Genesis Building, 235 Union Street, Plymouth, PL1 3HN or mail@flyplymouth.com

Testing for Ethanol in Mogas

After receiving several enquiries about the availability of “blue buds” for testing mogas for the presence of ethanol, I’ve been able to secure the availability of another batch of buds. If any Strut members wish to place an order for buds please drop me an email. Each bag of 25 buds will cost in the region of £3 plus p&p. Regards, *Mike Mold* mike@mikemold.plus.com.

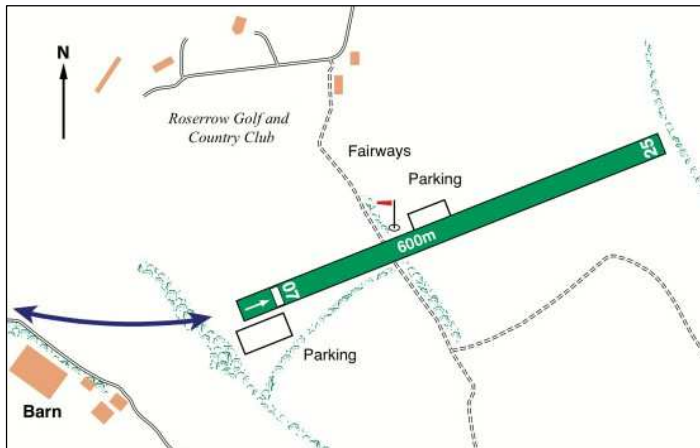
Roserrow has re-opened <http://www.thepointatpolzeath.co.uk/air-field>

The airstrip at Roserrow near Polzeath in Cornwall has recently re-opened after a year of closure following the creation of a road across the grass runway. In previous runway diagrams the road was depicted as a track leading from the golf course and clubhouse to the village of Pityme and thence joining the public road to Rock on the coast. The track was upgraded last year to a hard road which was elevated above the level of the runway and effectively made the strip unusable. However, the strip has now been tended by the golf course groundsmen and was re-opened to visiting aircraft on 16th June.



Several pilots have reported back on the condition of the strip and we're grateful to the feedback provided by Bob Willcox, Mike Challoner and Peter Chapman. There is still a minor transition in level between the grass strip and the road but it is considered safe and has been used by several aircraft without incident since the re-opening. One point raised by a couple of Strut members is that the warning signs for motorists using the road to beware of aircraft are not very visible and have either been missed or disregarded by motorists, so this has been drawn to the attention of the golf course owners. Thanks to Bob Willcox for the current photo (*below right*).



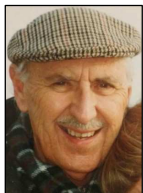


Mike Challoner suggests: If I were landing on 07, I'd either land on the steep uphill bit and slow to taxi *before* the road, or if the wind is acceptable, just *after* the road. The slope off the road is acceptable to me (RV6) and the only concern is if there is a cyclist or car coming from Rock, so just be aware!

Landing on 25, no worries, you will be stopped by the road. When taking off on 07, I start from on top of the road itself. The windsock is next to the road and the grass has been cut and removed, so all is fine there.

Peter Chapman has offered to liaise with the golf course management if the Strut wants to have a scramble to Roserrow, including organising a member of the golf club staff be in attendance to control car movements on the road whilst aircraft are landing and taking off.

Members' News



Bill Parkhouse RIP. It is sad to relate that after a prolonged period of illness, Bill passed away in Exmouth hospital on Wednesday 7th June, aged 88. Although not a flyer, he was always keen to hear about Strut events, members' news and to attend local fly-ins. In his more active days he was an enthusiastic volunteer with the booking-in at our Dunkeswell fly-ins and looked forward to opportunities to fly in the editorial Jodel at Watchford Farm. He was a true gentleman and we offer our sincere condolences to his wife Gerry, son Gary and daughter Louise – *Ed*.

Congratulations to **Robin Hughes** on passing his written exams and conversion training from M/L to NPPL SSEA at DSFT, Dunkeswell and is now cleared to fly his Emeraude (*right*).



Welcome home to **Terry Smith** after several months in hospital in Bristol. We're looking forward to seeing Terry airborne again in his Henstridge based Zenair 601.

Having updated the Robin Flying Group's fleet of aircraft at Exeter Airport to 8.33kHz radios and mode S transponders, **Dermot Richardson** is now an authorised Trig dealer and can offer discounts on Trig equipment to other Devon Strut members. Contact Dermot on info@robin-flying-group.org or 01404-812880

Congratulations to **Lauren Richardson** who was awarded a Framed Address at the Air League's Annual Reception on 30th May at St James' Palace in recognition of her work with STEM and the Amy Johnson Project. <http://www.airleague.co.uk/the-air-league-annual-reception-2017>

Nigel Ramsay is overhauling his VW engine and would be grateful for details of any machinists who can be recommended to bore out a 1600cc cylinder head to 1834cc and drill and tap it for a second spark plug. Please contact Nigel on bebedriver@gmail.com

Una Allman has sold her Piper L4 Cub G-LIVH (*right*) to Brendan Proctor at Dunkeswell but Una will be able to continue flying it.



Chris Howell has recommended a useful website from the American company Uni-Tech, <http://thestrombergspecialist.com/index.php> relating to Stromberg carburettors. It has a wealth of resources including the supply and overhaul of the Stromberg NA-S3 used on many small Continental engines. Additionally, the site has ADs, SBs and newsletters relating to Stromberg carburettor design, operation and maintenance.

Adverts

Rotax 912 80hp for Sale. 1340hrs. Complete rebuild IAW Rotax O/H procedures by Kevin Dilks of SAS. Engine inhibited, boxed and dry stored ready for use with the BaP3 project (Zenair CH701A which alas is also for sale) as we have not been able to find a workshop. £5,995 ovno. Jim Gale 07887 906789.

A **1/8 share** has become available for the **Piel Emeraude CP301 G-BKFR** based at Eggesford. Share cost £1,500 and monthly sub of £45. 100 plus hours and tail wheel experience preferred, however a coach is available if tailwheel conversion is required. Please contact Mel Gale at percycp301@gmail.com or phone 01805-804575 and leave a message.



RANS S6-116 For Sale G-BVFM (left) is a Group A aircraft, MAUW 499kg (1100 lbs) with a Rotax 912 UL (80 HP) which was commissioned in May, 1994. She is in good condition having been hangared all her life with airframe and engine both approximately 1064 hours. The engine is on condition but has good compressions and uses no oil. The fabric cover was renewed in October, 2002 and the Permit in March, 2017.

Some spares, equipment and all records are included in the sale. She has a 66" Warpdrive ground adjustable prop and 2 wing tanks holding a total of 48 litres. Consumption is about 15 litres per hour. Maximum useful load is 456 lbs (207 kg). Vne is 120 mph (104 kts). Equipment includes Icom radio (not 8.33), Airbox Aware GPS, Garmin 295 GPS, Mode S Txpdr and 2 place intercom all run off the aircraft supply. Also 2 fire extinguishers and a CO detector. I am devastated at having to sell but an eye problem leaves me with no choice. £14,500 Call Francis de Beer on 07979 945 586

Jabiru SPL 450 G-BZST For Sale (Group A), built in 2001 with full height rudder, always hangared, airframe TT 832hrs, engine & prop TT 74 hrs, 8.33 radio, mode C transponder, C11GPS, A/H & Turn & Slip. Covers & some spares. Exeter based. £15,500.00 ono Contact David: 01626 833015 or mobile 07941 877443.



Zenair CH701 G-OBAP 3/4 assembled Youth Build a Plane project, looking for a new co-ordinator and home as an educational project or available for immediate private sale. Contact Jim Gale 07887906789 or Brian Lyford 07710214414.

Jodel D112 Restoration Project for Sale. Repair work required on wing. Inspection at Watchford Farm. Price negotiable. Please contact Mike Mold on mike@mikemold.plus.com 01404-891587, 07884-36164 5 <https://afors.com/index.php?page=advview&adid=39087&imid=0> Photos at <http://tinyurl.com/jutlm5p>

Piper Tri-Pacer - One tenth share for sale in well-maintained vintage Piper Tri-Pacer G-BUVA based at delightful Oaksey Park near Kemble. £2,100. Please contact Graham Clark on 01454 618218 (evenings best), or cgraham978@aol.com

G-BBKZ - Cessna 172M – Hangared at Exeter. Non-Equity share available. Engine and propeller (approx. 400hrs) – Excellent performer. 2 Com/Nav, ADF, Transponder A/C, Life jackets, lightweight life raft, McMurdo GPS locator. Monthly standing charge: £105.00 per month £72.00 per hour wet. Commitment deposit: £495.00 (fully refundable with 6 months' notice). For further info contact: john@tiptonuk.eu – 07591-588226.

TECNAM ECHO P92 AIRCRAFT G-CBAX built 2001, JAB2200 solid lifter engine, Pro Pilot autopilot 3 axis linked to Garmin colour GPS296, electric gyro turn indicator, new ATR833 radio, transponder, compass, new prop, EEI fuel flow indicator, permit valid Apr 2017, always hangared at Dunkeswell. Price £24,000 ono Contact Leo Collier 01404-831195.



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Strut Fly-Outs 2017

(Fly-outs are not organised by the Strut but are suggestions for members)

Sunday 23rd July - Lundy fly-out [Pilots' Briefing](#)
(PPR essential from Pete White on 01752 406660 / 07805 805679)

1st - 3rd Sept - Sywell LAA Rally
(Info - <http://www.lightaircraftassociation.co.uk/2017/Rally/fly%20in.html>
Booking Slots - <http://www.sywellaerodrome.co.uk/bookings.php>)



Tailpiece



DEVON STRUT COMMITTEE 2017

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