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Photo Credit: Andy Buchan. Flying a GT450 in Nepal



**Photo Credit: Peter McLean. Yarrawonga Flight Training - Australia**

## Chairman's Welcome .....

As you can well imagine, it has been a manic few months since the closure of Rochdale. However, a significant milestone was the launch of the HypeR trike at the Popham Trade Show earlier in the year. Given that the initial design work started in 2014, this was the first time that we had really got to grips with how the trike handled in the air. We are taking on board the constructive feedback we have received at the show and on the forums and, while there is still some further development work to do, the HypeR is a real joy to fly and very comfortable, even for someone of my size. All of this is a real tribute to Bill's hard work and talents.


The other main focus for us has been getting the supply of spares up and running as quickly as possible. A key element has been in staff recruitment, which has proved more difficult than planned or anticipated. Fortunately, after a number of false starts, we now have Michelle and Jessica who are really getting stuck in and are becoming very valuable members of the team.

Despite this, and a myriad of other issues, the supply of spares is perceptibly improving all the time and we are working towards getting 90% stock spares being dispatched within 24 hours. We continue to improve the systems and service, so that we reach the target performance levels. Interestingly, there seems to have been a surge in the spares demand for the older machines, particularly the Blade's and Alpha's, which adds to the challenge but is also satisfying.

Please bear in mind that Michelle and Jessica are now the primary points of contact for all enquiries.

If you would like to contribute to the next newsletter or have an interesting story or photographs that you think our international audience would be interested in, please contact Tim Jackson. [tim@pmaviation.co.uk](mailto:tim@pmaviation.co.uk). Everything will be considered.

Finally, we are very appreciative of the support that is being shown to us by owners and we are working hard to ensure that your faith in us is justified as we continue to improve our delivery performance, processes and structure.

  
**Andrew Cranfield**



# Mike Booth - Model Maker and Designer



After ten years of designing and display flying the UK's only all composite 1/4 scale Spitfire, Mike Booth, who's offices are based within P&M's Manton works, decided to tackle a new and unique project, a 1/3 scale, YAK3.

Mike is a "dyed in the wool" designer and pattern maker who has worked commercially in motor racing composites and for Airbus Industries. He is also a commercial artist and in 1989 established the 'Flying Legends' brand name and logo for scale drawings and models "par excellence". [www.supermarineworks.com](http://www.supermarineworks.com)

Starting in October 2014 with drawings and a degree of self sourced parts, Mike made good progress with his new aircraft under the roof of Manton, while working occasionally helping the team with building PulsR aircraft, using his outstanding pattern making skills to great effect.

His skills enabled him to complete and test fly a compelling rendition of, what is often regarded, as the 'Russian Spitfire'. Mike says "She flies beautifully"

## Statistics of Mike's Yak3.

**1:3.2 scale.**

**3 metre wingspan.**

**Bespoke 150cc inline twin motor.**

**27kg AUW.**



# Introducing the **HypeR**



The HypeR is the exciting all new flexwing from P&M Aviation built to give you more room, more comfort and more fun. Designed as a result of extensive market research, the HypeR gives the pilot, passenger and instructor the ultimate freedom to enjoy the skies due to its low drag design, cantilever sprung undercarriage and fully adjustable front and rear seating positions making it the perfect flying experience for all shapes and sizes.

The quickly removable wrap round screen significantly reduces wind buffet for both the pilot and passenger and the all composite body panels ensure loose items are securely contained. The huge underseat storage area also makes the HypeR ideal for the long distance adventurer.

An optional BRS parachute fitment is available allowing a maximum take off weight of 472.5kg and the 65 litre fuel tank ensure long distance flying without the worry of fuel stops. The Rotax 912ULS is housed underneath a quickly removable cowling, allowing unrestricted access for routine maintenance.

The HypeR is mated with the proven GTR 13sqm strutted wing which offers unrivaled trim speeds from 55-95mph with complete confidence. The STARS (stability and roll system) provides ease of handling at all speeds and in all conditions.



# TRIG

Approved Dealer



# Maximum Flying Fun



HyperR landing at the Popham Microlight Trade Show 2016



Engine:	Rotax 912ULS	Stall Speed at MAUW	39mph
Wing Area:	13sqm	Trim Speed:	55-95mph
Empty Weight:	260kg (with BRS)	Empty Weight:	248kg (Without BRS)
Max Take-off weight	472.5kg with BRS parachute	Max Straight & level:	105MPH
Max Take-off weight	450kg without BRS Parachute	Rate of Climb at MAUW:	1000 ft/min
Never Exceed Speed:	120mph	Rate of Descent at MAUW:	410 ft/min

# Flexwing Syndicates by Andy Buchan

For some reason it seems to be a sin to mention 'flexwing' and 'syndicate' in the same sentence. Yet GA and 3-axis microlight pilots have had Group owned aircraft for many years - and it may be a particularly good way forward for flexwing pilots today.

Nineteen years ago at Caunton Airfield I had 5 students who each wanted to buy their own aircraft - all of which would have been secondhand and elderly (the aircraft that is). I put the students together, they went out for a drink to get to know each other - and clubbed together to buy a nice new shiny Quantum 582. The syndicate on that aircraft lasted for about 8 years with a changing group of owners who then bought a Quantum 912 and then a Quik 912S. Their syndicate gained them good aircraft which they could afford to maintain properly and friends to fly with.

Today in 2016 flexwing syndicates seem a particularly good idea. **Reasons in their favour include:**

1. **Cost.** Put simply, if three or more of you own an aircraft the cost is shared 3 or more ways. Instead of buying a secondhand machine a syndicate can buy a new one with all the benefits that brings.
2. **Safety.** A Group owned aircraft will usually be professionally maintained and have more than one set of eyes inspecting it on a daily basis.
3. **Longevity.** Modern flexwings use 4-stroke engines with a 2000hr life. Airframes properly looked after will also last that long. A Group owned aircraft may get more hours than an aircraft owned by one person but modern designs will go the distance.
4. **Modern hangarage.** Most flexwings today are stored fully rigged in a hangar. This makes them much more suitable for Group ownership than previously when machines were rigged from the bag for each flight.
5. **Flying Friends.** A syndicate will introduce you to like minded people with a common interest. Others in the Group can help get you back flying if for some reason you have a break - and providing costs are paid by each member on an hourly basis you won't be paying out too much during the time you are not flying.
6. **Sharing the load.** In a syndicate one person will be trustee and look after the paperwork, another may be in charge of maintenance while another may look after day to day aircraft cleaning. All chores, but not so much work when shared.

**So are there any disadvantages?**

1. **Aircraft availability.** Everyone thinks they will fly 200hrs in a year - few do - and with a small syndicate of up to 5 people it is surprising how infrequently two people want the aircraft at the same time. Modern on-line booking systems can help avoid problems, as can email and texts between the owners.
2. **Aircraft damage.** Hull insurance on an expensive aircraft is always a good idea - and most syndicates ask that if a machine is damaged that the person responsible covers any excess.
3. **Someone hogging the aircraft and flying loads of hours.** Running the aircraft at the right hourly rate so that depreciation and maintenance are well covered means that the high hours owner will help the syndicate build up funds - for the next new machine!

**Probably the two most important things in any syndicate, however, are sharing with the right people and having a robust but simple syndicate agreement that all agree with.**



## The Welsh Solution to Hangar Rash



Craig Gorvett and Joe Danials from Bryncoch, Neath, West Glamorgan. Wales have come up with the cost effective way to hangar their trike by modifying a shipping container to take their Pegasus Quantum 582. It also has a sink with running water at the back and a table and chairs with tea making facilities for those non flying days.

## Need a new Sail? Turn you old Sail into something useful.

Just ask for details. Anything considered



## Kent Scouts unveil their new GTR



The Scout County Commissioner for Kent Dean Harding and Brenda Stubbs, the widow of Bill Stubbs who was the ground crew manager for the microlight operation unveil their new aircraft, a brand new P&M Quik GTR.

G-CISI, named after Bill Stubbs, in honour of his long service and dedication to the microlight team as Scout Leader for the 17th Tonbridge Air Scouts, is the sixth new P&M aircraft that the Kent Scouts have had in 27 years of operation. Previous to the latest acquisition, Kent Scouts owned and operated 2 x Pegasus Qs, 2 x Pegasus Quantums and 1 x P&M GT450.

During this time many thousands of young people have experienced the freedom of flying microlights.

IT'S A WRAP!



# IT'S A WRAP!

Fed up with painting composites, P&M Aviation's Bill Brooks has turned to vinyl wraps for colourful schemes for the company's microlight aircraft





Gary Berdeaux's swoopy design shows off the sexy curves of the PulsR. The white was the first panel to be laid down. It is actually a very light sparkly silver.

# IT'S A WRAP!

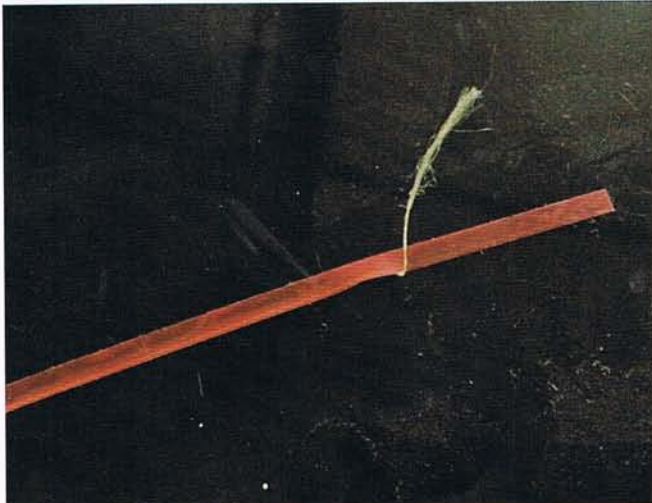
## TOOLS OF THE TRADE



3M 1080 film is available in a wide range of colours, finishes and effects.



The film is heated with a hot air gun, stretched to contour and smoothed down with a felt-edged plastic squeegee, which also expels air bubbles.



Wrap cut tape – a 3mm low tack plastic tape with a Kevlar thread on one edge used for cutting a perfectly sharp edge.



Stipple brush for ensuring all air is worked out around protrusions such as rivets.



1 Stage 1 – the outline for the first colour is marked out with wrap cut tape and the first vinyl film laid on. The thread is peeled back, cutting film like a cheese wire and the tape carrier removed.



2 Stage 2 – wrap cut tape is laid along the edge of the first film with an overlap of 2mm to the thread. The second film is then laid down over the top.

**T**he story goes that a good many years ago, a law was passed in Germany that all taxis had to be finished in beige. Now beige has not been a particularly fashionable car colour since the Austin Allegro, or my Reliant 3-wheeler. The long-lasting Mercedes and BMW German taxis, which should have had a good resale value, did not sell well because few people wanted to buy a beige car.

Around 1990, a vinyl company, KPMF (Kay Premier Marking Films) realised that taxis could be wrapped in the regulation beige from new so that when the time came to sell, it could be peeled off revealing a pristine, and saleable, gloss black paint finish.

Incidentally the sole reason I got a Reliant (for the princely sum of £50) was to transport hang gliders as they would not fit on my beloved Norton Commando. I will leave the dubious handling of the loaded Reliant to your imagination!

### AESTHETIC AND TECHNICAL FACTORS

The vinyl wrapping idea began to really take off with digital printing of vinyl films for advertising, for example, on vans and over the past 10 years or so, vinyl wrapping has become a big hit with car customisers. From its beige beginnings there are now several manufacturers of films produced in a wide range of colours and finishes. Some of the effects used are not achievable any other way, especially satins, chromes and films with textured surfaces.

For aircraft, one exciting possibility is to have the film produced with drag-reducing micro-grooves, inspired by shark skin. These grooves have been shown to reduce turbulent drag by a few percent as well as delaying the transition of laminar to turbulent flow on an aerofoil (ref. 1 and 3 at the end of this article).

It is well known that owls fly silently, in part due to micro serrations in the leading edges of the feathers which act as vortex generators. Commercial jets have now become so quiet that aerodynamic noise becomes significant, so perhaps owl technology could make them even quieter. Professor Lilley, who died last year, produced a paper on the subject (ref. 2). Riblet or micro grooved films will become more widely

“Some of the effects used are not achievable any other way, especially satins, chromes and films with textured surfaces”

available soon. It's a hot topic for research and there are several patents on drag-cheating film products.

### WHY VINYL WRAP?

Our American agent, Gary Berdeaux, is a talented graphic artist and told us the PulsR would never sell in the US in its boring white paint scheme with stickers and proposed a whizzy black/red/silver design. Since I knew the surface temperatures would be acceptable from my trials with the all-black prototype, we accepted the challenge. I had also had enough of painting composites – there had to be a better way or at least, an alternative.

The PulsR was an ambitious first project, with lots of compound curves. We have to put a vertical split line in the black film at the nose (fortunately virtually invisible) and two people are needed to stretch the heated film around this shape.

Finishing structural composite mouldings is a complete pain. For secondary structure and fairings, polyester gel coats on polyester mouldings are effective, give a good hard finish but are heavy and tend to crack after some years. Brushed gel coat can be 1-1.5mm thick and heavy – 1kg+ per square metre, which is more than the laminate may weigh! Spray gel is better, more like 0.3-0.5mm thick but requires a booth with a forced air mask. Paint is the lightest, around 0.1mm, 110g per sq m.

For structural epoxy mouldings, if moulded without a gel coat, the surface often tends to be porous or with little gaps, especially when using woven plies. Paint will not take to it. The surface has to be abraded and degreased,

then primed and flatted off before it can be painted successfully. This can easily take as long as moulding the part and is a horrible messy process.

What about gel coat? Unless clear gel coat is used, voids and imperfections can lurk underneath. Apart from concealing structural defects, when the part is post-cured (heated), voids will expand, causing blisters. Further, epoxy gel coats are not UV light stable.

Ordinary polyester gel coat is light-fast but does not adhere well to epoxy. There are some modified polyesters which can be used such as MGS (PRF) T30. For painting carbon or glass/epoxy parts, we find a thin, clear spray of T30 gel coat into the mould removes the porosity problem and gives a good base to paint on, but it still has to be abraded all over, primed and flatted off.

We have also tried spraying acrylic paint direct into the mould, but spraying paint onto release agent is tricky to do and a bit experimental at present.

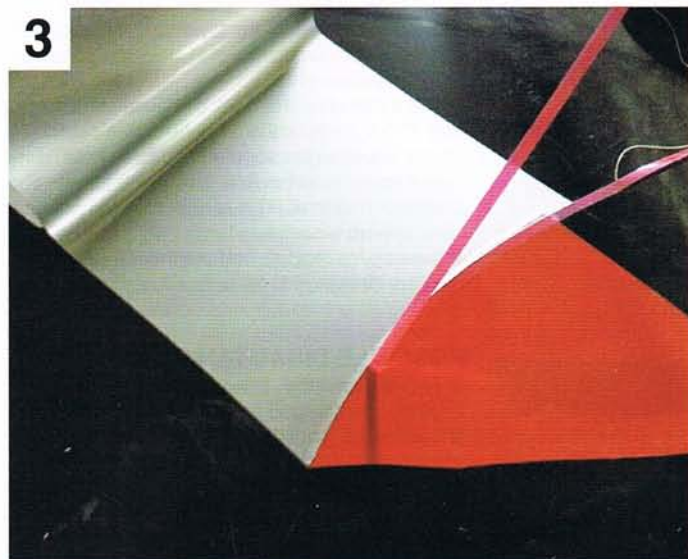
### COMPOSITES AND HEAT

The other restriction on composite aircraft is structure temperature. Cured epoxy resin has a glass transition temperature (Tg) above which it will start to creep and flow under a constant load.

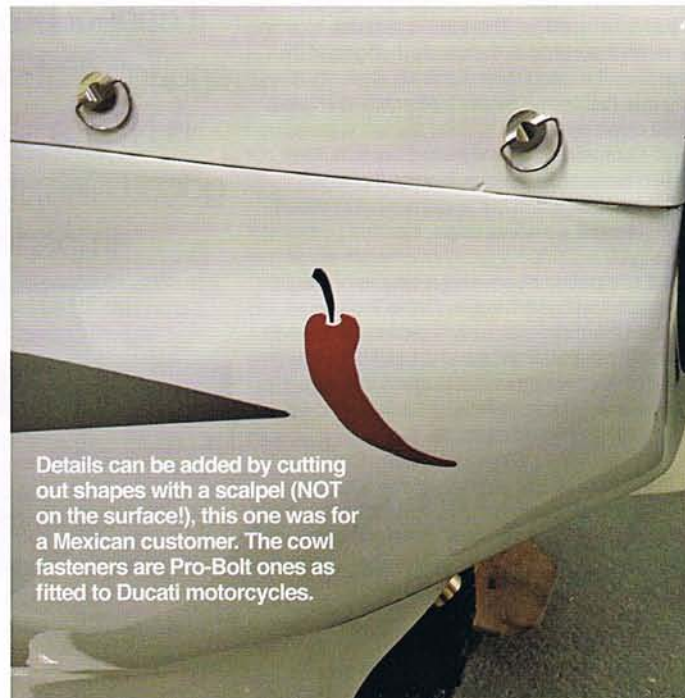
Typically for room temperature cured structures, the Tg may be 70°C or so, easily attained on a matt black surface on a sunny day. The surface has to be kept white or reflective to keep the surface temperature down. Post-curing the part to 80°C will raise the Tg to 90°C or so and higher Tg can be achieved using a high temperature system cured at 120°C or more, but the cost of tooling and processing goes up.

On our P&M PulsR flexwing, I operated it in a plain carbon finish for a UK summer with temperature recording stickers all over it. Thanks to the 'parasol' above, the only part except for the firewall bulkhead which exceeded 55°C was the nose, which is not a primary structure. However, for a rigid wing composite aircraft made with cold cured epoxy, at least the spar areas would have to be kept white (or chrome!).

With vinyl wrapping, a carbon or glass/epoxy part with no gel-coat can be taken



Stage 3 \_ second film excess is peeled off and plastic tape carrier removed, leaving a perfect clean joint with 2mm overlap.



Details can be added by cutting out shapes with a scalpel (NOT on the surface!), this one was for a Mexican customer. The cowl fasteners are Pro-Bolt ones as fitted to Ducati motorcycles.

## IT'S A WRAP!

out of the mould, inspected, defects corrected and filled with black pigmented epoxy filler and then directly vinyl wrapped. In this way considerable weight, time and cost could be saved.

### OTHER AIRFRAME MATERIALS

Metal aircraft can be wrapped in vinyl after they have been etch or epoxy primed. I have seen an American RV wrapped all over with a spectacular bird-like design. The owner has a digital printing company!

Wooden aircraft could be wrapped starting with a sealed ply skin. Open structures with ribs can best benefit from new technology coverings which are also structural, e.g. Oratex.

### REQUIRED MATERIALS

Three of the major brands of wrapping film are KPMF, 3M 1080 and Avery Denison. Of these I have tried the first two and settled on KPMF, at least for now.

I have tested KPMF up to 120°C; it did not degrade or peel off. I also tried putting petrol on it; there was no instant bad reaction, even when rubbing it with a petrol soaked rag.

On this basis after some test pieces I decided to go ahead and wrap a whole PulsR monocoque, which was ambitious as it has plenty of compound curves. I was assisted by Mike Booth, a graphic artist who also makes quarter-scale ultra realistic flying Spitfires. He uses engines bigger than I started flying microslights with!

Unless it's just a narrow stripe, to avoid bubbles, the film MUST have an air releasing adhesive. KPMF film has an adhesive backing with a micro grooved grid in it which allows trapped air to escape. The 3M film has a dusting of microballoons on the adhesive surface, also intended to allow the air to escape until it is fully pressed down. The 3M film has a slightly more glossy finish but the KPMF air release works much better. The adhesive in both films allows repositioning, both are applied dry.

For up to five years, the film can be peeled off without removing properly applied paint. I find it sticks down firmly and would be unlikely to peel off in flight (do your own tests!).

Apart from the film you will also need some wrap-cut tape. Some genius has devised this product which is a narrow (about 3mm) self-adhesive plastic tape with a thin Kevlar thread on one edge. The tape is laid down on the aircraft surface at the desired edges of the wrap film. If a panel with a point is desired, the tape can be looped around. After the vinyl wrap is laid down over it, the Kevlar thread is pulled out of its tape carrier and pulled back, cutting the film like a cheese wire. Finally, the wrap tape carrier is pulled out and the vinyl pressed down, leaving a perfect edge. Neat!

Then you will need a good quality hot-air gun, a scalpel, scissors and a couple of plastic squeegees with a felt edge. Extras include an infra-red thermometer, cotton gloves and a rivet brush. The rivet brush has short stiff hairs which can stipple down around a projection. I got my wrapping film from MDP supplies, who also supply all the necessary items.

### HOW TO DO IT

It cannot be emphasised enough that vinyl wrapping is NOT a short cut to a good finish; it shows every imperfection. However, micro-porosity in composites, which otherwise has to be sanded and filled, can be bridged by film.

“For up to five years, the film can be peeled off without removing properly applied paint. I find it sticks down firmly and would be unlikely to peel off in flight”

To get the general idea, there are several good YouTube videos on vinyl wrapping cars (e.g. ref 4), though you have to put your cap on backwards, be under 18, wear low slung baggy trousers and listen to 'Pendulum' at high volume for best effect. Start with some test pieces, an old helmet makes a good test for compound curves.

As with anything involving adhesive, the surface MUST be degreased, dry and free from dust. Silicone sprays are the worst for surface contamination. The part must also be well enough supported to take the load of stretching the vinyl over it and not move around.

First, lay down the desired edges of the first vinyl panel using the wrap-cut tape, the Kevlar thread will define the edge. For the main wrap, it is recommended to start with panels having mild compound curvature. The big secret is to keep the film under bi-axial tension. If you pull the film in one axis only, it will contract at 90 degrees and develop longitudinal wrinkles (due to the Poisson's ratio). Remove the adhesive backing and lay the film down in the centre of any bulge whilst maintaining some tension. Apply heat with the hot air gun as necessary until the film begins to move.

For 2D curvature, like a wing, the film can be laid down evenly all over. Avoid joints facing the airflow especially at the leading edge, use a generous overlap if a joint is needed here. Using the felt-edged squeegee, gently work any air pockets out to the edges before

“It cannot be emphasised enough that vinyl wrapping is NOT a short cut to a good finish; it shows every imperfection”

### REFERENCES

1. <http://m-selig.ae.illinois.edu/pubs/SareenDetersHenrySelig-20>
2. <http://www.bse.polyu.edu.hk/cpd/2009/20091202-Lilley.pdf>
3. <http://inter.action.free.fr/faq/riplets.pdf>
4. <https://www.youtube.com/watch?v=5JUyYkT3c1o>

smoothing it all down firmly.

If applying it to a compound, convex curve, hold the film above the part, remove the backing paper, pulling some biaxial tension (a helper will be required unless you are Vishnu). Apply gentle heat with the hot air gun and suddenly the film will go like a sheet of stretchy rubber. In this state it can be pulled down over the curve without wrinkles. Then, progressively heat and stretch the film over the form, working it down with the squeegee.

Work any blisters out, the air-release adhesive will normally allow all of them to be expelled. Any 'boils' that do remain can be lanced with the tip of a scalpel. With practice the film can be made to go smoothly over a complete hemisphere. If it wrinkles, a rapid pull on the film edge will undo the adhesive, which can be repositioned several times if required.

Once the panel is laid down, the edge can be cut using the wrap-cut tape. Remove the tape carrier and press down the edge. For an adjacent panel, which can of course be a contrasting colour, more wrap-cut tape is applied over the edge of the first panel, overlapping by about 2mm. A butt joint is not recommended unless the surface underneath is a similar colour. Then, lay the next panel down. When the edge is cut, you will have a perfect clean line between the two colours.

For edges of removable panels, extend the vinyl say 8mm over the edge and wrap it around.

For our PulsR design, we started with the silver stripe and made a template to get it symmetrical both sides. Then we added the red stripe and finally the black. We had to make a central split line joint at the nose, which is not readily visible.

So far so good – and we are still learning. It will be interesting to see how durable it is in the field.

### ADVANTAGES COMPARED TO PAINT

- For the homebuilder especially, a key advantage is that applying vinyl is a clean, non toxic process. The film will not crack or craze like gel coat.
- The weight is about 110grams/sq m (100 micron film) which is about one-third of the weight of gel coat and comparable with a top coat of paint.
- It is easy to produce multi-colour designs using the clever wrap-cut tape.
- Pearlescent, satin, matt, chrome and textured finishes are possible.
- The material cost is comparable to painting, from £10 – 30 per square metre. Including labour, we charged about £1500 for a three colour scheme on the PulsR, of which about £180 was materials. This is also a typical price for wrapping a complete large car.
- It is easy to change colour scheme – the films are designed to be removable.

### POSSIBLE DISADVANTAGES

- Two or sometimes three people are required to get the film around tight compound curves.
- The finish is less hard than paint. For light scratches, the film can self-heal on application of heat.
- Following an accident, the vinyl could hide some types of damage and would have to be peeled off to allow inspection.
- The best vinyls last 5-7 years on a car parked outside; paint can last 20 years or more. ■

# P&M Australia - Yarrowonga Flight Training Centre



Earlier this Year, Robin Kraike, Assistant Design Engineer flew out to our newest P&M dealer, Yarrowonga Flight Training in Victoria, Australia, to hand over the keys to their new PulsR, QUIKR and Quik GT Lite. These new aircraft add to the growing fleet of P&M aircraft already flying in the southern hemisphere.

The Yarrowonga Flight Training Centre which enjoys over 320 days of flyable weather each year is run and owned by Peter McLean and his wife, Anne. The centre is a flight training facility and an aircraft and pilot supply shop for the growing microlight population in Australia. The airfield has a 1.2km asphalt runway with VHF radio controlled lighting along with 10 or more other businesses arranged along the northern perimeter. Peter is the airfield manager and his school is currently the primary user of the airfield.

Peter's enthusiasm for microlight flying is infectious and with his high standing within the Australian microlight aviation community we look forward to seeing more P&M aircraft flying in Australia in the future.

To contact Peter and Anne: [www.yarrowongaflytraining.com.au](http://www.yarrowongaflytraining.com.au) [yft@yarrowongaflytraining.com.au](mailto:yft@yarrowongaflytraining.com.au)





# The BHPFC 2016 Competition

for  
Human Powered Flight

Hosted by Sywell Aerodrome



The British Human Powered Flying Club (BHPFC), affiliated with the BHPA (British Human Powered Association) was formed to promote the sport of Human Powered Flight. This year's competition will be held at Sywell Aerodrome from the 16th - 24th July and Team Airglow supported by P&M Aviation will be entering.

Human powered aircraft are highly efficient in design and construction and are powered solely by the energy provided by the pilot. Weighing between 30kg - 45kg, the major structural elements of these aircraft are built from carbon fibre and require merely 0.3hp to fly.

The P&M Airglow HPA weighing in at 43kgs has had a good winning record to date due to its sleek and proven design. The team have spent the winter months training on the ergometer watt bike and have also fitted 'Airglow' with a larger propeller which will deliver the thrust to get airborne sooner and improve their performance on the shorter competition tasks.

To date there are 4 aircraft entered into this year's event of which one is from Bath University. Interest has also been shown from several overseas teams (Lithuania, France, Germany, USA, Hong Kong, China). Alec Proudfoot from the Californian DaSH team will be visiting to give a talk and assist as a marshal, and a Japanese representative from Team Aeroscepsy who are wishing to attempt breaking the distance record will also give a talk on the Sunday 17th July about their 36kg, 36m span aircraft Gokurakutonbow. Contact: Roger Warren - BHPFC President. [Roger.Warren@triteq.com](mailto:Roger.Warren@triteq.com) mobile: 07935901093



# Perranporth - Cornwall's Secret Microlight Gem



Perranporth Airfield (EGTP) is situated 2 miles to the southwest of Perranporth adjacent to the coast which makes it ideal for some spectacular cliff top flying. In 1924 the first flights were taken from the site and in 1941 the airfield was commissioned for the home of 21 different squadrons flying Spitfires, Avengers and Swordfish during the Second World War. The airfield was shortly decommissioned in 1946 but still has some of the best kept wartime structures.

The airfield lies within an Area of Outstanding Natural Beauty, and rare birds of prey, butterflies and wild flowers can be seen from the cliff-top walks nearby.

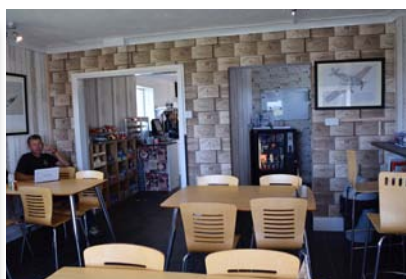
Perranporth Airfield is today run by Perranporth Flying Club Ltd and offers Air Experience Flights, Trial Lessons and PPL courses. Other activities taking place include parachuting, driver training and not to mention Cornwall Microlights offering flexwing and fixed wing microlight training and trial flights.

Perranporth is the only privately owned airfield in Cornwall to have tarmac runways. It is an excellent stopping off point for aircraft going to and from the Isles of Scilly, as well as being a good place to visit in its own right to enjoy the extraordinary Cornish coastal scenery.



Flexwing flying in Cornwall has grown rapidly since it started in July 2015 and they have a Quik GT450 which they use to teach their 9 students having regular lessons, 2 of which have come over from the more expensive GA side of aviation. Perranporth now has six P&M Flexwings in the hangar and provide a kitchen, briefing room, office, workshop and a room for all the suits and helmets. Cornwall is a beautiful place to learn to fly or convert your licence or for some local scenic flying.

If you are planning a visit to Perranporth please PPR on 01872 552856 or contact Gary Prisk on 07582 056347.





To mark the 25th anniversary year for Newcastle's Streetwise Young People's Project, Mandy Taylor, CEO of Streetwise organised a mass charity fly out of 42 microlights at the end of May to follow the River Tyne through Newcastle's controlled airspace.

Mandy who is also a microlight pilot said "At first light we thought we would have to cancel the Fly the Tyne event, as we woke up to thick fog but by 7.00am the fog had started to lift.

Many pilots made particular reference to the excellent staff from Newcastle Air Traffic Control and three of the pilots went on to fly up the coastline to Holy Island and had the joy of watching hundreds of seals swimming in the surf.

There were crowds of people cheering the pilots on from the ground and the local media have received hundreds of photographs from members of the public saying how wonderful it was to witness so many planes flying over their city.

Four of the Streetwise Charity Trustees came along as passengers and said they have never experienced anything so wonderful. One of the VIP passengers was also a local grandfather who's family had clubbed together to bid for his flight ticket on eBay. Needless to say he was speechless when he returned and said it was the best birthday present he had ever had.



Eddie McCallum lead the first section of aircraft away and the last pilot, Duncan McDougall, ensured that Newcastle ATC knew he was the last pilot to complete the route. We ended the day with tea, cakes and a raffle which raised over the £1,000 for Streetwise Young Peoples Project which was great.



A big thank you to everyone who took part or volunteered to help. You are truly wonderful people with hearts of gold."

**Mandy Taylor**  
CEO Streetwise  
[www.streetwisenorth.org.uk](http://www.streetwisenorth.org.uk)



# All Smiles Down Under at Yarrowonga



# Mountain Flying with Marcus Dalgetty - Pegasus France

Mountain flying has come a long way in the last few years, and with the evolution of modern day microlights, we find ourselves being able to accomplish so much more.

So what is it that allures us towards mountain flying? After all we are simply a small entity at the mercy of great forces with potentially severe consequences. The challenge is to understand our environment and embrace the forces of nature in an attempt to align our flying skills with what is possible and what should be avoided. So the question is more an issue of understanding mountain conditions rather than trying to insist as opposed to persisting

From the age of 20, I chose to fly in the Alps on hang gliders and have been doing so every year since. Inspired by great pilots such as John Pendry, Robbie Whitall and Donald Mackenzie, I took my chances and made every effort to attain a competence in mountain flying with all of its complexities and challenges.

Many mistakes were made along the way and in some cases I was just simply lucky. Thermalling through the base of a cloud at 900 feet per minute and arriving above the tops with only the sunshine through the cloud, didn't seem odd at the time, but I do remember the disorientation which today makes me realise how lucky I was in my ignorance of mountain flying.

Today I still harness the same skills and understanding and with the grace of these skills, I am still walking the planet without taking the same risks that I used to do. As Einstein said "Insanity is repeating the same experiment several times expecting different results". Today I have no need to repeat the experiment of flying, in conditions where I expect an outcome that is not in line with the prevailing conditions.

I talk to many pilots who have a profound fear of flying in the mountains. The vast majority would fly right down the middle of the valley as a means of going from A to B as they are not looking as to how to optimise the flight. With eyes closed and full of apprehension, they will stay on the motorway and fail to enjoy the possibilities that can be exploited.

The French federation have a subject that we do not cover in the UK which is called "aerology". It is the study of the airmass and in particular local conditions, which can be optimised and exploited to make flying so much more fun whilst flying in mountains.



Being microlight pilots, we are a little bit set in our ways but there are so many things that can be done to enjoy the flying experience a bit more.

So when you are up there in your Flash 2 Alpha, Pegasus Quantum, GT450 or indeed your PulsR, then set 4000 rpm and try and get another 2000 feet in the thermals by circling and coring where the lift is strongest.

Not all flights need a destination, but to play with the forces of nature is great fun.

Flying in the French Alps also offers the opportunity of landing on the hundreds of small mountain strips. Some of the places we go involve landing on rough strips up to 25 degrees of slope. If that doesn't sound a lot, trust me, it feels pretty weird flying towards a mountain face with a runway in front of you that was conceived by someone who was surely from a mental institution who dared to say "yes a runway here in the middle of nowhere would be just the ticket.....let's put it on the steep part of the terrain too!"

Over the course of the years I have also had the pleasure of discovering the mountain strips in the Pyrenees. All in all they are less forgiving than the Alps with ungrooved surfaces which require greater caution. In either case the principal is the same but with different "aerology". In the Alps it's the combination of mistral winds with localised effects of anabatic or katabatic winds. With the Pyrenees it's the tramontane winds.



So where do we begin?  
First of all it is down to good preparation

You can have 15 knots of wind forecast on the South coast of England, but 15 knots of wind across the valley floor in the mountains means that you will shave some time off life expectancy if you insist rather than persist. Early signs of cumulus before 10am could also well be a sign of thunderstorms by lunchtime and in every valley the wind is different!! So if anyone is game on to fly into Aérodrôme de Gap-Tallard situated in the south-east of France in the foothills of the Alps and would like to experience the mountains or receive advice on flying conditions then I will be very happy to help. With a unique micro-climate and a variety of accommodation available, Gap Tallard offers 300 days of sunshine and 330 days of flyable weather throughout the year.

I hope to see you all soon.

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Photo Credit: Bill Studley. GT450 out of Gap Tallard flying towards Alpe d'huez, Meribel & Courcheval



Photo Credit: Martin Guggenbichler - Austria

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