

Hello Folks,

Firstly before we start an apology from me, summer has blazed into the UK with temps. up to 38deg Celsius, and with it was the World Cup (some small time soccer tournament), and Locally the Farnborough International air-show, which both conspired to stopping your Editor from sitting down at the PC and even thinking about typing any of the current hopper news.

Now that both are successfully completed, and having completed my share of children duties, I can now focus on the newsletter again. I guess it is a legacy of its own success that when the magazine doesn't turn out on time, folks ask where it is? Believe me it takes some putting together.



However in a full packed edition what better way to start than a very recent jpeg by Kev.McLaughlin from the Silverstone /Stowe House event on Friday July 28th with a great backdrop for a Duo chariot!

Content

In this eighth edition we have for you details on:

- 1, Ed Speak - witterings from your editor.
- 2, Essential Extra's - a GPS solution by David Tanzer
- 3, Features section-
 - First portion of How to build a hopper by Greg Winkler
 - The Shirley Pack Suspension System for ultra light ballooning By Curtis pack
- 4, Updates on the website.
- 5, Gallery pages- New balloons and editors' choice of jpegs sent to him
- 6, Manufacturer News / Updates /Event News.
 - Including Details of the OMM 2006

Ed Speak- By Steve Roake

I must confess the newsletter has survived a year! Okay it has only been eighth issues including this version but none the less a year has passed by since I first put finger to keyboard and as a milestone, it pleases me to see that slowly the content is beginning to come in on a more consistent level. The hopper list now also passes a significant level with over 200 of you subscribed worldwide and talk on various levels still remains high with various topics.

One such topic that recently came from an American subscriber who wanted to know the possibilities of holding a Swiss Hopper meet, which naturally was picked up by our local man on the scene Richard Sergeant. I whole heartedly support any move to promote events in Europe for our chosen form of ballooning but remain

cautious about trying too many too quickly and ask that those of similar disposition to myself support our first Euro Hop when it takes place in France in September of next year before we try a second event. Again, I do know that Barbara Reed has some great ideas in mind for our week in France with plenty of local support and enthusiasm from her community .More details on this event nearer the time.

Please don't forget the latest gathering of XLTA was August 4th-6th in the Seattle area. Following on from the last XLTA meet, let's hope the weather was kinder to all concerned this time, however many people reported, that even without the flying the last event was very beneficial with the impromptu display of bottom ends and discussion attached. <http://www.xlta.org/> for all the latest info on the growing success that is XLTA.

Other topics that have been /are being discussed on the yahogroups list include a great discussion about the ultimate hopper fan, going into technicalities that blow me away! I have never thought about the prop tip speeds in relation to the RPM of the engine, or the quest to get the ultimate efficiency from a 2.5hp fan motor. Long may they continue I say, and if our Swiss correspondent Richard Seargent gets his proposed quick build kits together, Lets hope we get the story of it all right here in the newsletter?

Essential Extra's.... David Tanzer Talks us through his GPS setup.

I have a Dell Axim X51v Windows Mobile 5.0-based PDA. I use this PDA for all manner of things (maintaining my contact list, schedule, etc.), and I wanted to use it for navigation in my car, balloons and airplane. The first step was to GPS-enable the PDA. I chose to purchase a Garmin GPS10 Bluetooth receiver (<http://www.garmin.com/products/gps10>). The GPS10 is a small

(fits easily in the palm of your hand) 12 channel WAAS-enabled receiver that can communicate with any Bluetooth-capable device. It is waterproof and contains a magnetic base so you can attach it to the roof of your car if you wish. I purchased the GPS10 bundled with Garmin's road mapping software, which is well suited to navigation in a balloon. I paid approximately \$210 U.S. for the GPS10 and software. The software contains detailed maps of the entire United States, and various other maps of countries around the world are available. I have my map configured to display magnetic heading, speed, altitude, vertical speed, time and max. Speed. The map itself is highly detailed and easily readable. Among other things, the map will show you the street address of your present location, so it is easy to tell your chase crew where you are located. The software also has a myriad of other features—wants to find a nearby Mexican restaurant? No problem. Just touch the search and food & drink icons, and select "Mexican," and you'll quickly have a list and the GPS can then offer driving directions to get there.

The next step for me was to configure the GPS for use in my airplane. I won't go into a detailed description of this software because it isn't terribly relevant to flying balloons, but some of our readership may be interested. I purchased two software programs from Control Vision: Anywhere Map (<http://www.anywheremap.com/aviation-gps.aspx>) and Pocket Plates (<http://www.anywheremap.com/approach-plates.aspx>).

Anywhere Map is a full featured, very impressive, aviation moving map navigation system. Pocket Plates contains all instrument approach procedures ("plates") and airport diagrams for the entire U.S. Anywhere Map cost \$99 and Pocket Plates cost \$95 for the package and initial six months of coverage. Thereafter, the cost will be \$145 annually. By way of reference, I previously subscribed to paper plates from Maine down through the

Virginias, and that got me a sizeable chart case full of paper for about \$150/year. Now I have complete U.S. coverage with easily selectable charts that are back lit for comfortable use at night. As well, keeping my plates current is almost effortless.

So now I wanted to use my system in both my cloudhopper and my "regular" balloon. The PDA is somewhat fragile, so I needed something to protect it for use in the balloons. I elected to purchase an OtterBox 1900 PDA case (http://www.otterbox.com/products/pda_cases/1900/). The OtterBox 1900 is a rugged, waterproof case specifically designed for PDAs. It has a clear, flexible membrane under a flip up clear hard plastic cover so you can use the PDA with a stylus. It is a very impressive unit. It retails for about \$100, but I purchased mine on eBay for about \$80. I then needed a way to attach the PDA to my leg (for use in the cloudhopper) and to an upright in my regular balloon. I purchased two OtterBox 1900 vehicle mounting kits at a cost of \$19.95 each. The mounting kit is a holder that the OtterBox snaps into securely. The holder is designed to attach to many of the mounts available from RAM (<http://www.ram-mount.com/>). I then purchased a RAM Body Mount Base (<http://www.gpscocity.com/item-ram-mount-body-arm-mount-base/rambmla1.htm>) to attach to one OtterBox mount and a RAM belt clip (<http://www.gpscocity.com/item-ram-mount-rubber-belt-clip-with-octagon-button-clip/rap271bc.htm>) and base with octagon button (<http://www.gpscocity.com/item-ram-mount-round-plate-with-octagon-button/rap293.htm>) to attach to the other OtterBox mount. The former is for use in my hopper. The Body Mount Base simply screws to the back of the OtterBox mounting kit and allows me to strap the kit to my leg. The PDA inside the OtterBox 1900 then snaps into the mounting kit. For safety's sake, I attached a small lanyard and clip to attach the OtterBox to a belt loop on my pants in case the unit was to get

knocked loose, but that's highly unlikely. I attached the octagon button to the back of the other OtterBox mounting kit I purchased. The RAM belt clip is then simply strapped to one of my basket's uprights and the mounting kit is then attached to the belt clip and, voila, my GPS is mounted at eye level.

Finally, I purchased a small cell phone case which I strap to the rim of my fuel tank, which holds my GPS10 securely.

So now I have a setup that allows me to navigate in my car, balloons and airplane, and I can also use the PDA for the myriad other things one can do with these units. I am very pleased with my setup.

Jpegs of David's GPS can be seen below and many thanks for the Essential Extra's contribution.



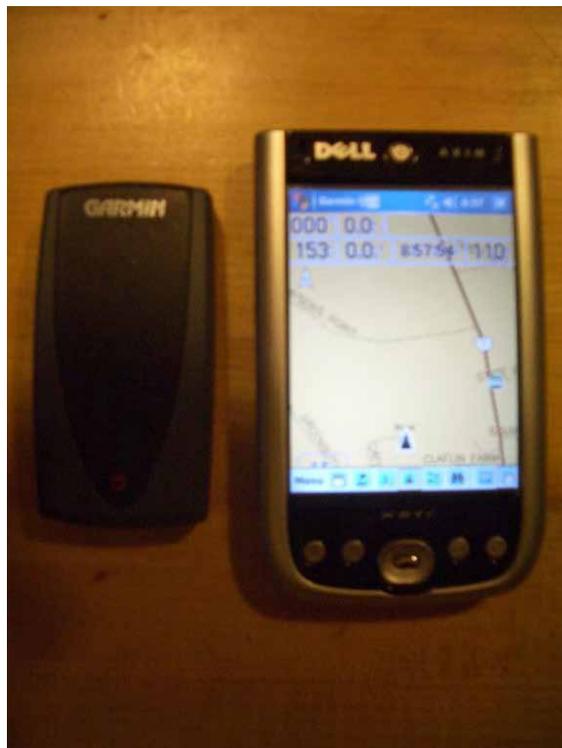
David Tanzer's neat Looking set up with Colour Display (Above)!



Clip Arrangement



Quick Access Dell PDA Holder



Garmin and Dell Size comparison

Features This month- Hopper building by Greg Winker In this first installment, Greg Winker introduces the subject of building a hopper and then over the next seven issues (can we wait?) will give us a detailed report on the ins and outs of home building.

Building a Cloudhopper

By Greg Winker

Introduction

We've had a long rainy season in Seattle this year. But then it's a long rainy season every year. This time around it seems to be dragging on especially long, since I didn't get to fly much last year. Our rainy season usually lasts from October to June and there are precious few flying opportunities during this part of the year. It's so bad, we've had to resort to "pilot's night at the pub" just to keep in touch with each other.

But homebuilders look at the glass half-full and recognize that bad weather also provides a silver lining - time for projects. And you know how guys like projects. Especially when they involve ballooning, hanging out in the garage and the occasional beverage! Speaking of beverages, I think I'll open some "pilot helper" while I write this. Pht! Ahh... That tastes good. Let's continue.

A couple of months ago I completed my latest building project, a Thunder & Colt style 90K ft³ envelope. It went together relatively quickly and I managed to finish it about half way through rainy season. So with the ongoing gray skies and intermittent drizzle, I find I have some extra time on my hands. Time I can put to good use thinking about the next project.

One thing I've noticed with all of my projects is that I've never fully documented them. Do you remember the Pink Floyd lyrics from the song Free Four? "The memories of a man in his old age, Are the deeds of a man in his prime." That speaks to me. I need to write down some memories for later.

I've been building balloons since 1972 and so far have made six envelopes. These projects have all been "normal shaped" balloons. For envelope #7, I'm planning to do something a little bit different. Because of that, I think it would be worthwhile to document the entire process – soup-to-nuts. Along the way, I'll even explain what soup-to-nuts means.

In addition to the personal memories, I expect it will be interesting for other homebuilders to watch over my shoulder to see how I go about building a balloon. People tend to do things differently; especially regarding the details. So sharing the experience with others and receiving feedback should be a part of any building project. Passing along knowledge and hopefully learning some new things along the way are also important goals for this project.

As I mentioned in the title, this balloon will be a cloudhopper. I have promised Steve Roake at the Cloudhoppers Monthly Magazine first crack at the article. Right now I plan to write it in eight parts, taking a close look at each phase of the project. Here is what I expect it to look like:

- 1) Why a Hopper?
- 2) The Design Process
- 3) Locating the Parts
- 4) Basic Fabrication
- 5) Finishing off the Envelope
- 6) The Bottom End
- 7) Certification
- 8) Flight Tests

After the initial series of eight parts, I expect to have a few follow up reports to share some of the unusual flights I have planned.

So when can you expect to see the articles? In essence, this will be a series of progress reports. No progress - no report. It's that simple. So before I can put pen to paper, provide photographs or upload video, I'll actually have to spend some time in the garage.

Looking at the calendar, I see we are getting close to our short flying season here in Seattle. Over the next few months I expect to spend a lot more time flying than building. Still, you should look forward to eight installments coming to you over the next year or so.

Questions and feedback are encouraged. This is best done by posting a message to the hopper list or the homebuilders list. That way we can all learn together.

Good Floating!

Greg Winker. Coming up next month – Why a Hopper?

The Shirley - Pack Suspension System for Minimal Ultralight Balloons-By Curtis Pack



The Shirley pack Suspension System seen in full action during a flight!

When flying a cloud hopper style balloon, it is desirable to be able to face the flight direction. After using several systems (including a rigid hopper with turning vents, a tank sitter ridden saddle style and a seated sling type seat) this became a focus of our building team *, to seek a lightweight, simple, inexpensive, setup to allow the pilot to rotate in flight while keeping to our desire for a very portable balloon.

Goals included use of off the shelf products, easy assembly, light weight construction, safety with redundancy, ease of use, and comfort.

We have assembled and flown a system, which meets our ballooning goals.

The following components were used.

CMI Infinity harness - Fall tested, well proven and comfortable climbing harness are available for a reasonable cost with many sizes available and a peace of mind when hanging from them. We added leg pads for comfort.

Petzl P58-L Swivel - Rated for an 8000 pound breaking strength and a 1000 pound working load, this is used in a variety of work and play environments and each swivel are independently tested. It has a ball bearing action, which is very smooth and will allow rotation with a finger tip grip.



Kev-cord - Kevlar core rated at 1850 pounds break and is flame resistant. This Kevlar based cord allows the lines to be knotted and adjusted while still allowing a 900 pounds break strength even allowing for the knots decreasing

strength. 4 independent lines, each capable of supporting the entire load, give a sense of security.

Omega Lite Carabineers - a few grams lighter than conventional gear and easy to use. Locking

Homebuilt Chest harness - Used to position the pilot upright comfortably and provide a back up suspension harness.

Homebuilt Boland style reinforced aluminum 22-inch bicycle rim load ring - These non rigid, spring gimbaled, burner rings allow easy use and burner handling on inflation and provide a 4 point suspension platform for the harness to balloon junction. This type of ring is used on many experimental balloons and was an original Brian Boland contribution to simple burner attachment.

TBW T-3 burner- 10.5 pounds weight, loud and plenty of power – an old USA burner, light in weight and strong on output. The burner ring system can be modified to any lightweight burner. Remember this is a non-rigid system so the burner and ring will come down on a firm landing and must be guided with one hand. Best to keep the burner as light as possible.



There are distinct disadvantages of flying a non-rigid suspension system and one must be aware of flying conditions and environment when using such a system. The advantages allow portability (easy to transport and store) and flexibility (fuel tanks and burners are easy to change) with minimum weight.

This suspension system allows the pilot to rotate independently of the balloon and fuel tank. A full 360 degrees of rotation is possible in either direction allowing one to face forward or to the side depending on the preference for flight or landing. Our flight-testing is going well and the set up is comfortable for flights in the 30 to 40 minute range. Wind landings have been limited to 5 mph with no problems.

We have looked at the idea of a “safety” tether, which would back up the single point of the swivel. In theory the swivel and carabineer ought to be 100 % reliable but it is hard to convince yourself of that at times, so a loose tether would still allow a 720 degree rotation in either direction but would have to “unwound” in the opposite direction. In practice one does not swivel a lot, only moving to realign with the direction of travel and landing so this is not a large issue.

So far, our system is working well and meeting our goals in a lightweight, hopper style ultralight balloon. We are using this suspension on a 26,000 cubic foot homebuilt envelope made from 1.1 ounce calendared and 1.3 ounce, silicone coated, nylon fabric. It is truly a joy at the end of the flight to be able to carry the entire system and place it in the trunk of a car and drive away!

This system is entirely experimental for this use and we make no recommendation for this use. This system has helped us achieve our design goal but each individual must decide the risk they are willing to accept. We make no guarantee as to the use of these components or this system for ballooning or otherwise. Individual users assume and accept all risk.

* Building Team Members Bret Shirley and Curtis Pack
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A Happy looking Bret after the flight ... check out that smile!

New Section for starting Next month

With so many people stateside manufacturing their own hoppers from scratch , I've decided to start a new section featuring the build processes .So if anyone wants to submit jpegs of work in progress for this new section no matter how far the project has got , please forward them to me . I'd like to get this section so that we see the various stages as the balloons develop.

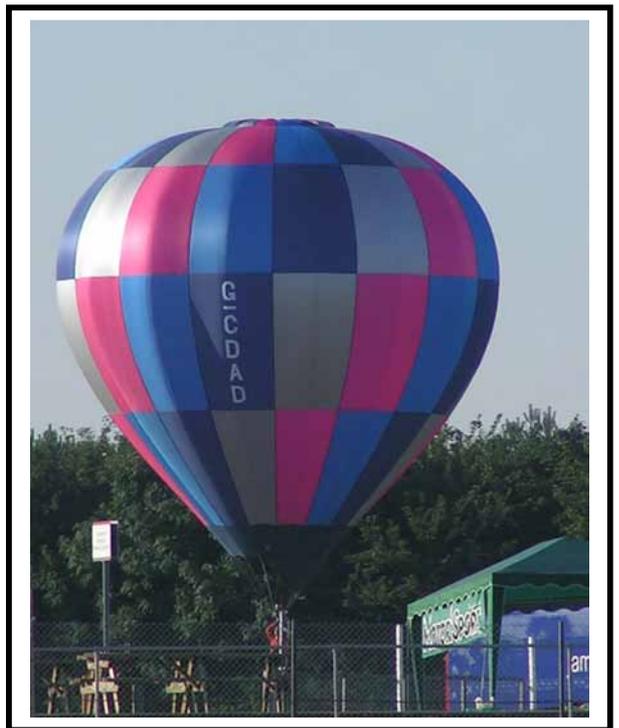
Thanks in advance for supporting this new feature, Bottom ends or Envelopes it makes no difference.

Gallery Sightings (New and Older action shots)

New Balloons from Ultramagic include;



Solo for Spain EC- (C/N 31/05), and Duo for Switzerland HB-QLI (C/N 42/12). John Tyrell and Jeff Lawton Hop at Stowe (below).





New Member Tony Shields from Hastings in Kent also took recent delivery of Solo G-CEAY (C/N 42/13) as seen on its test inflation.

Manufacturer Updates / News / Event Details

Bristol Balloon Fiesta News

The main manufacturers seem very busy at the moment with hopper updates, I saw Simon Forze MD of Lindstrands who advised me that shortly he will release to me details of the updated Lindstrand hopper with jpegs. One area already known to be improved is the turning ring which is being now made in Steel to prevent excess wear by the bearings as you swivel around. Details on the complete upgrade when I have them.

Neil Ivison (list member), reports that Cameron Balloons are also nearing completion of their new Hopper bottom end. Neil, a potential purchaser of a new Z- 25 will bring us news as he gets it of their new rig.

Ultramagic continue to develop their European Solo and Duo sales as can be seen from this months Gallery Shots, with sales to Switzerland, Spain and the UK recently.

And Finally , although denighed officially, a very good source tells me that Kubicek are hard at work developing their first dedicated Hopper system for launch this winter .Details when I get them , but rest assured you will hear it first here!

The "One Man" star of Bristol fiesta was our newest member to the group, Neil Roberts from Cardiff who brought along his Cameron Z-31 G-IHOP (great reg!). Seen below Neil performed some tethering on Friday morning attracting attention from amongst others PGD himself (Phil Dunnington).





Phil Dunnington (RHS) looks on and offers encouragement!



Neil Roberts Definitely having a good time at Bristol in G-IHOP !

The One Man Meet 2006 News from Phil Dunnington
Peak Practice-ILAM HALL STAFFORDSHIRE 13-15th OCT.

Come and hone your hopping at a new location this year. Unable to choose between Wales and the Lake District, we selected the glorious Peak District. Thanks to local professional Chris Davis, we have secured the use of National Trust property ILAM Hall surrounded by challenging landscape. Hopefully it is easily accessible from all of the UK.

The format will be the time-honored one, with a few hardy souls going for a Friday night starter, whilst we all meet up for an initial get together in a local pub. Available accommodation ranges from Youth Hostels (not many qualified pilots there then!) to five star spars. Of course there's a lot to do around the area when we aren't flying.

If you would like to attend, just send an email to phil@gonewiththewind.uk.com listing your own contacts and balloon details. The meet is, as always, open to anyone with a 42 or below, so if you know someone I've left out it has no political significance and you can pass on this invitation. This is especially true of anyone from abroad.

2006 is probably our 25th year (I've lost count), so there's another excuse to come and help in the celebration. It is also sadly, the last year in which balloons without a CofA will be able to free fly, thanks to our "friends" in EASA.

More details when you confirm your interest.

Phil and Allie Dunnington
July 2006.

Ed Note- please support this event and when you contact Phil, just let him know where you got the details from .Last year he didn't think we (i.e. Cloudhoppers List) were interested in the OMM.

Kit for Sale - a couple are up for grabs, one in the USA one in the UK

STARSHIP is FOR SALE....

My request to take STARSHIP to Antarctica with me this year was, as was last year, turned down. Since I have limited time to fly my regular balloon, and STARSHIP has been flown only four times in the last two years, I think it might be time to find it a new home where it will get flown more often.

STARSHIP is a 28,000 cubic ft 1994 homebuilt. It was built by Rick Courtney, and I'm told most of the fabrication was done at the BalloonWorks in Statesville NC. I can't vouch for this - only what I'm told, but from a very reliable source. The first panel at the throat is nomex. Suspension lines are kevlar. The top is a Velcro parachute top and the envelope is equipped with two very responsive turning vents. It weighs on the order of fifty pounds, give or take a few. The system has 90 hours on it!

The undercarriage is a ten gallon tank fitted with 90 degree quick shut-off fuel valves routed by cable to D-rings on the shoulder harnesses to shut off fuel flow when desired on landing. The burner is a BalloonWorks/Firefly T3-017 mounted on a fixed-load ring. There is a five-point harness to secure you into the bosun's style seat. Tank,

suspension, and load ring are all powder coated white. All webbing is red and blue.

I have a thermistor/thermometer system for the envelope, a "scoop", three-point tether lines, and a slave inflation tank w/ quick connect/disconnect for the system - you get it all!

The TSUNAMI Inflation Fan was built by World Balloon, and has less than five

(5) Hours on it. The engine is a Honda GC160 rated at 5.0 horses coupled to a PAC P-tip Composite 24" propeller. It will inflate my 69K in about 15 minutes; the STARSHIP in about FIVE!

Both "cloudhopper" and fan as a package for \$3500. Separately, the "cloudhopper" goes for \$3000 and the fan at \$750. We can work out pick-up or delivery....

Pictures available on request, or will soon be seen on www.kissesoffire.com

Bob Redinger, prariepilot
Palestine(USA)

Cameron H34 Envelope, approx hours 90 and CofA until July 2007. If anyone wishes to view it can be available at Northampton Balloon Meet or Chatsworth Balloon Meet. Price: offer in the region of £1500. Contact Jeff Percival for more info at J Percival [jpercival@onetel.net]. Please note Jeff is advertising for a friend!!

Next Issue

In the next edition of the newsletter, I will be looking into the following items

- Next installment of Greg Winkers Hopper construction
- John Tyrell on how he got into hopping-with nice jpegs
- Mike Colliers Spanky new Homebuilt Hopper
- More updates on the Green Ice balloons
- A homebuilt Air chair bottom end from Nigel in Australia

Just a short note of thanks to all who contributed Jpegs and Articles this month for inclusion. Without your input there would be no newsletter, but in no particular order especially Kevin McLaughlin, Nikki Byrne, Tim Revel and Paul Dickenson, thanks for the support.

Fly Safe everyone, Membership stands at 215 plus (early August).

Steve

All articles for inclusion in future issues, please forward to the editor at Information@cloudhoppers.org and all feedback good, bad or indifferent will be welcome. In future we might even run a letters/email section. Views aired by contributors may not be those of the editor.