

ARIZONA SOARING ASSOCIATION

Air Currents 2nd Quarter 2003 2nd Quarter 2003

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Air Currents

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2003 Air Currents Deadlines

- 2nd Quarter - June 1
- 3rd Quarter - September 1
- 4th Quarter - November 15

Send submissions to:

Paul Jorgenson, Editor
ke7hr@cox.net

Flying to the Grand Canyon

Arnie Jurn (AJ)

May 30th proved to be a good enough day to go to the Grand Canyon. The Grand Canyon is one of my favorite places to fly. Mike Stringfellow had forecasted the possibility of making flights to the north during the week. I had to take this opportunity! Flying to the Canyon can be a wonderful challenge. This is my recap of what happened on Friday, May 30, 2003.

I took my new ASW-27B to the airport on that Friday. This was my 15th flight in my new glider, but who is counting! I considered putting water in the glider on this flight. Mike the Strike strongly recommended putting water in. I had enough time so I wheeled AJ over to the watering hole and I believe I filled the wings to about $\frac{3}{4}$ full. Mike said "just fill 'er up" but I was not ready for that yet. I need to get some equipment to measure how much water I really put in. I had to drain some water in the right wing to get them to balance. At last, I was ready to go.

On the runway, I was busy mentally going through my checklist. Roy shows up and announces he is 62 years old today. **Happy Birthday Roy!** Roy and I have been friends for so long. Those years have just flown by! (Could not resist.) Boy, running a soaring business for as many years that he has, I just hope he has many more years. Roy is a good friend to all of us in soaring.

AZ2 shows up and wanted to know what is going on. I told him I was going to try for the Canyon. I am ready and it is a little after 12 o'clock. The takeoff is normal and 2T finds me a thermal over cow town at 1500ft. Wow, the water does not seem to degrade my ability to turn or climb. This is great!

Eventually, there are six of us trying for the Canyon, WA, 18, AJ, CH, GW, and one other pilot. It looks like 5000 ft MSL is all it is working to for now. I move over to the west dam parking lot and it is working a little better. I get to 6700 ft. From there I push onto Turf North and Castle Hot

(Continued on page 3)

First 300K of 2003

from the ASA Web Site

Tony Smolder:

The seasons first 300K flight was logged March 28, by CH. Despite the strong NE winds CH managed to get in 189 miles around the following task: 154,104,127,97,13,104,154.

Maximum altitude was 15.5K over Mingus Mountain!

He was the only one to fly XC, several others flew local. Awesome CH dude!

Cliff Hilty Reply:

Thanks Tony, It was a very tough day with good lift (4-5 kts. Average - max 8 kts.) but, extremely windy with very long periods of 6 kts. of sink. It took over 2.5 hours to get to the clouds. After several attempts of going straight north to get there, I was able to go west to Rio Vista Hills and then north to contact them between Yarnell and Coopers. Just a note here, it looks like there is a new landing strip at the south end of the fields at Coopers we should check out, if any one is up that way. Anyway, from there I went straight down a thin cloud street to Mingus and turned Mingus at 15.5k. I proceeded to get hammered down to within 1k of landing at New River road 6 miles out of Turf. All of that with a 20-30 kt tail wind. Amazing! I should have been able to make it back with 6k left over and I was on the upwind side of the Bradshaws for that ride! I caught another good thermal over the hills west of New River and was able to fly out to Bean and back to New River and home. 4.2 hrs and a lot of pucker.

CH Ventus B

500K flights early in 2003

Tony Smolder:

4 more 500K's were logged April 19, with MM, KC, NC, and TS1 flying between 317 and 329 miles. Good cu's with the only negative being the wicked sink between thermals, with some -8kt down averages!

April is turning into a record month of 500K flights with an even dozen flown to April 19:

4/5 - CH, MM, TS1 - 1st 500K's of 2003

4/18 - CH, AJ, 66, IC, TS1

4/19 - MM, KC, NC, TS1



How Much Drinking Water? An electronic discussion.

One SURE thing about the Discussion Forum on the ASA web site - if you ask a question, you will certainly hear some opinions. The following snippets were extracted (and edited) from the "How Much Drinking Water?" thread. Full text and other replies available on the web.

Gil Kirkpatrick : How much drinking water do people normally carry during the summer months?

Tony Smolder: You should have to urinate at least twice on a 4 hour flight! The most important part of hydration is the pre-flight phase. I usually drink enough before take-off that I have to go in the first hour and then sipping on the hose I go again at hour 3 or so. For a 5 hour flight I usually go once again at hour 4. On a 5 hour flight I will land with almost nothing left in a 100oz Camel-back.

As it says on the label "Hydrate or die"

Steve Koerner: I think a matter which is closely related is how you dress for flying; this is particularly important here. Wearing white (or light tan) long pants and a white hat reduces the heat load and hydration requirements by a lot. The times I've tried to fly in shorts, I've been distinctly hotter and I've needed to drink more.

(Continued on page 9)

(Continued from page 1) *AJ - Flying to the Grand Canyon*

Springs, where I found a thermal on the north eastside to go to 8700 ft. Things are looking better, but I am not convinced it is a Grand Canyon day.

A crucial decision has to be made whether to go up the west side or the east side of the Bradshaw Mountains. I looked at the cu's going both ways and I was not impressed with the looks of either side. I chose the line on the east side mainly because it ran straight for Mingus Mountain and the clouds looked great there. By 1 o'clock I crossed over the eastern peak of the Bradshaws at 9000 ft heading north.

Fifteen minutes later, I managed to get to the east side of Towers Mountain and climb to 11,000ft - things are looking better but not spectacular. None of the clouds are working and I stop at anything going up to gain altitude. Over the radio, I heard 18 and WA going on the West side of the Bradshaws and they had no luck there. Another reason I choose the east side was that there are more choices of landing strips if things did not work out for me.

Passing Cordes Junction, I made it to 11500 ft but the thermals do not seem to be there for a Grand Canyon flight. Mike said the forecast for cloud base was 17,000 for the Canyon, but so far it does not look like we are going to get those high cloud bases. By 1:45 I have gotten to the north side of the Prescott Soaring club site at 9900ft. I have flown under a number of good looking cu's, only to be disappointed. I keep tip toeing northward hoping to find something that will get me higher. CH has caught up with me and he is not faring any better. At 2:00 I have gotten to Paulden and climbed to 12,000 ft, the best for the day so far. Cloud bases look higher to the north, GREAT! Maybe there is hope for the Canyon after all. By now 18 and WA have aborted the idea of trying for the Canyon. That leaves CH, AJ, and GW.

I haven't heard much from GW but I guess he is still coming north. Half way between Paulden and Williams I managed to get to 13,600 ft. Cloud bases look better going north. The cloud shadows look healthier too. Flagstaff is all OD and it is slowly moving to the west, but I think it will not bother us. Approaching Williams, I found a cloud going to 14,000 ft. Things look a lot better northward. Big cu's and higher cloud bases are everywhere and the Canyon is getting closer! This is getting to be FUN!!!

Half way between Valle and Williams, I found a cloud and work it to 15,500ft. I think this is it for height. The clouds begin to work better and I see 600 to 800 fpm lift. It is 2:45 and it appears that I will make the Canyon by 3pm. CH announces he is turning at Williams and heading home. With no water ballast, he says the winds are his concern and he wants to make it back. GW says he is at Williams and heading to the Canyon. Now it is the two of us.

At 3 o'clock I turn at the Canyon airport and head for home. Wow what a view! My next task is to concentrate on getting home. It really looks good to the south and west. The stuff from Flagstaff is getting closer to our area but not a real threat, just lots of virga. There is lightning maybe five miles away, but not that scary. By 4 o'clock I am at Paulden and down to my lowest point since coming north 11,800 ft. Things got weaker for lift. Coming back into the Prescott area showed no improved soaring conditions. Working southward at 4:26 pm I managed to get back up to 13,000. I am 70 miles out. My computer SAYS I can make it to Turf. There is a lot of real estate to cover yet, so it is hard for me to believe the computer.

I head southward and hear that GW made it back to Ashfork at 10,000 ft. Good going GW! Pushing on south, my glide slope improves. It isn't long and I have 1,000 ft over the glide slope, then 2,000 and finally 3,000 ft. Finally, it is obvious that I will make it with no sweat. At 5:06 I finally made it back to Turf about as high as I can get with a flight like this.

I really enjoy making the Canyon flight. In fact I look forward for any good weather opportunity that will allow me to make that flight. Flying over such beautiful country is my reason to soar. One gets to see the Canyon and everything in between. Every time I do it, the flight and the landscape are different. There is some really magnificent country to cross and it is usually a challenge to fly over it.

GW got back about an hour later. Congratulations to Steve Koerner on a great a Canyon flight! Thank you God for providing such a great environment to fly. I hope to see you all at the field for the next Grand Canyon flight.



Calendar of Events

June

- 1 Newsletter Deadline
- 3 Board of Directors Meeting (last for summer)
- 7 - 8 ASA Contest Series - Turf (was Bisbee or El Tiro)
- 29 Start of Region 9 Contest (through July 5) - Hobbs, NM

July

- 5 End of Region 9 Contest - Hobbs, NM
- 19 - 20 ASA Contest Series - Estrella

August

- 2 - 3 ASA Contest Series - Turf
- 9 - 15 Tonopah 1000K
- 16 - 17 ASA Contest Series - Estrella
- 30 - 31 SW Soaring Championships

September

- 1 SW Soaring Championships
Newsletter Deadline - Write Something!
- 2 Board Meeting (first of the fall)
- 6 - 7 SW Soaring Championships
- 12-14 Sedona Weekend
- 20 - 21 ASA Contest Series - Turf
- 23 General Membership Meeting (first of the fall)



Bats. The OTHER flying mammal.

June 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

August 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

NTSB Final Accident Report on Hans Heydrich

NTSB Identification: LAX02LA277. The docket is stored on NTSB microfiche number DMS.

14 CFR Part 91: General Aviation

Accident occurred Saturday, September 07, 2002 in Peoria, AZ

Probable Cause Approval Date: 5/13/03

Aircraft: Schempp-Hirth Ventus-B, registration: N114RP

Injuries: 1 Fatal.

The glider pilot radioed to an FBO that he would be attempting a landing to a boat ramp near a lake. Witnesses at the lake reported that they initially observed the glider flying west, "very low" over the lake. A few witnesses, who were in boats and heading west toward the boat ramps, reported that the glider passed directly overhead and was between 100 and 300 feet above the water. The glider initiated a climbing left turn, stalled and, subsequently, impacted the lake. A review of the maintenance logbooks and examination of the glider by an FAA inspector did not reveal any pre-existing anomalies with the glider.

The National Transportation Safety Board determines the probable cause(s) of this accident as follows:

The pilot's abrupt maneuver, which resulted in an inadvertent stall.

Full narrative:

On September 7, 2002, at 1615 mountain standard time, a Schempp-Hirth Ventus-B non-powered glider, N114RP, was destroyed when it impacted Lake Pleasant while maneuvering near Peoria, Arizona. The glider was registered to and operated by the pilot. The private pilot, sole occupant of the glider, sustained fatal injuries. Visual meteorological conditions prevailed, and a flight plan was not filed for the 14 Code of Federal Regulations Part 91 personal flight. The local flight originated from the Pleasant Valley Airport, Peoria, Arizona, at 1400.

The glider pilot radioed the Turf Soaring School, located at the Pleasant Valley Airport, and stated that he would be attempting a landing to a boat ramp area along Lake Pleasant. Witnesses at the lake reported that they initially observed the glider flying west, "very low" over the lake. Witnesses, who were in boats and heading west toward the boat ramps, reported that the glider passed directly overhead and was between 100 and 300 feet above the water. The glider made a left turn to the south, out over the water, pitched-up, and "stalled." One witness reported that the left turn occurred "suddenly". Subsequently, the glider entered a descent and impacted the surface of the lake. Examination of the glider by an FAA inspector did not reveal any preexisting anomalies.

The pilot was issued a private pilot certificate, with a glider rating, on December 10, 1995. According to the pilot's logbook, between January 20th, 2002, and the time of the accident, he had accumulated a total of 237.1 hours in gliders.

On April 9, 1982, the 1981-model glider was issued a special airworthiness certificate in the experimental category. On March 24, 1998, the glider was registered to the current owner/pilot. On February 16, 2002, the glider underwent its most recent condition inspection, at which time it had accumulated a total of 2,035.6 hours. A review of the glider's logbook did not reveal any uncorrected maintenance items.

At 1553, the weather observation facility at the Deer Valley Airport (DVT), Phoenix, Arizona, (located 14 miles southeast of the accident site) reported a few clouds at 12,000 feet, visibility 10 miles, wind from 150 degrees at 10 knots, temperature 88 degrees Fahrenheit, dew point 66 degrees Fahrenheit, and an altimeter setting of 29.77 inches of Mercury. At 1634, a special weather observation was issued from DVT, and the following weather conditions were reported: scattered clouds at 2,500 feet, broken clouds at 6,000 feet, and overcast clouds at 8,500 feet. The visibility was reported as 2.5 miles in heavy rain and mist, wind from 230 degrees at 14 knots gusting to 26 knots, temperature 77 degrees Fahrenheit, dew point 73 degrees Fahrenheit, and an altimeter setting of 29.81 inches of Mercury. The remarks section of the observation reported that the peak wind occurred at 1626 from 210 degrees at 26 knots, the wind shifted to 230 degrees at 17 knots, rain began 5 minutes after the hour, rain showers with unknown intensities to the southeast and southwest, and lightning observed in the distant southwest.

An autopsy, performed by the Office of Medical Examiner of Phoenix, Arizona, did not reveal any preexisting disease or medical condition that contributed to the accident. The medical examiner classified the cause of death as accidental. Toxicological testing was performed by the FAA's Civil Aeromedical Institute of Oklahoma City, Oklahoma. The tests were negative for ethanol and drugs.

Final Glides

Kevin Harrenstein (Fish) passed away after his struggle with thyroid cancer that started August 2002. His memorial service was held Saturday April 5th.

Previous ASA member Steve Johnson died of heart failure while enjoying his morning bicycle ride. Steve was 54. Services were Monday, May 19th.

Cliff Hilty - Flight to Jean, NV, er, Bullhead City, AZ April 19, 2003

Tony Smolder:

Attempting a flight to Jean, NV, CH fell victim to the Colorado river suck and ended up at Bullhead City. Bob Blakemore and Rick Rubscha departed Turf approximately 5:15 PM with the CH party van and trailer in tow. Latest report at 10:00 PM was CH in van and sleeping like a baby - after all, he found the local bar after landing and has been there since 4:00 (6 hours). You can guess his physical condition! Check back in the morning for more news on this epic and sure to be costly \$\$\$ retrieve, or better yet come to the clubhouse tomorrow late afternoon and get the word of mouth news from CH who has promised an appearance!

More epic flying tomorrow! TS1

Bob Blakemore's Reply:

Following a four hour flight, without so much as a beverage, 2B and GZ mounted CH's big wheeler and headed north, destination not certain. Spotty cell reception added to the difficulties but voice mail and text (yes low power text message) carried the day. Along the way, we received several inquiries regarding our ETA. Some misunderstanding as to how damn far it is to Laughlin NV. The expectation (CH) never seemed consistent with the reality.

No matter, his former friends remained calm and determined to give him the full dose once we arrived. Finding Laughlin as it turned out was the easier of the two missions. The Riverside Bar & Lounge, without GPS, ended up to be the bigger adventure tucked away deep inside the Casino machinery. But, by listening carefully, we were able to detect that familiar voice, moving hands, and of course song - "I've got that lovin' feelin', wo wo wo wo."

Yes, he had that "lovin' feeling" and a sway to go with it. Quite a sight there among an older group of citizens. The greeting was brief, the dinner far to cheap, but, off we went to the airport to find the plane and begin the trek back home. 2B and GZ shared the driving while CH (worn out from the days activities) reclined. With the Moon high in the sky, we arrived at Turf at 2:15am. All was well and another AFRR adventure in the history books.

Tah Tah , GZ

Cliff Hilty's rebuttal:

Yes, as is rumored, I fell victim to the Weber curse and did not make it back! Of course, I am not sure if not intending to make it back has anything to do with that. Alas, I didn't make it to where I had intended to go either! And as for my former friends, GZ and 2B, I very much appreciate their patients, fortitude, and just plain support of this somewhat adventurous, if not just plain stupid, pilot. After all, who would try and cross three mountain ranges with cloud base less the 2k above them. Alas, this was not the down fall, it was the change in air mass and increasing volume of wind after the first mountain range that finally led to my dismay. Getting past Bagdad in record time, only to get down to 4.5k in the Wickiup/Parsons area and struggling to stay aloft, I was able to get in between the clouds and terrain, to head over the Hualapai Mountains and a glide to Ford Motor Company. (Looks like a lot of choices to land there but not sure of the reception.) Another run across the valley, with 6kts down and even more wind, to work up the east side of the Black Mountains. Again, at 4K scraping the rocks and into the Mohave Valley, with final glide to Sun Valley airpark (nice strip from a 1000 feet looks plenty wide and 4k long). A couple of low saves there and another 1.5hours and two attempts to get over the next ridge to go into Kidwell (Cal-Nv-Ari) with no joy. I managed only to get 19miles out of Kidwell and 50 out of Jean. With more wind and less lift, it seemed prudent to go ahead and land.

Now, the choices were Sun Valley or Laughlin/Bullhead city. If any of you out there are thinking, why would you land a glider at a busy control towered runway as opposed to a perfectly good, almost non used private strip with million dollar homes on it, I sympathize with you. I ran this through my head for the entire 1.5 hours while I was trying not to land at either. What I came up with is that "There was no booze, no women, and no entertainment at the million dollar strip". So my human urges over came any inhibitions I might have had regarding talking and "Listening" to ATC. In short, they were very accommodating there allow-

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(Continued from page 6) CH Flight to Bullhead

ing and even suggesting that I land on the taxiway long and roll out to the last turnout where they had an airport employee help me push my plane off the runway and tie down, then give me a ride to the free water taxi across the Colorado River to the casinos! All in all, a wonderful place to land. In my defense, I took my sturdy crew to the most expensive restaurant for a wonderful Prime Rib dinner. It's not my fault that the entire bill for this dinner was only \$36.00. It was also not my fault that a \$10.00 bill (playing the video poker machine) allowed me to drink free for 4 hours.

Soooooo, does anyone wanna fly to Jean Next weekend?

CH Ventus B

Paul & Dawn "Take a Sentimental Journey..." Look up... "Is it a bird? Is it a plane? Yes, it is a Boeing Model 377 Super Guppy!"

Scottsdale, AZ – May 18, 2003: A small group of aviation enthusiasts ventured down to Tucson's Pima Air & Space Museum. A good road trip – just wanted to share for those who may have not been. ENJOY!

A little background...

The Pima Air & Space Museum opened to the public in May 1976 with 75 aircraft on display. Today the museum collection is over 250 aircraft, occupying 80 acres of land. The entire museum property covers about 150 acres. A diverse display of military and private planes, helicopters, homebuilts (experimental), hang gliders, ultralights, gliders/military sailplanes, military drones and missiles were available for viewing. Displays included Beech, Bell, Boeing, Bumble Bee, Cessna, Convair, DeHavilland, Douglas, Focke-Wulf, Grumman, General Dynamics, Hughes, Kaman, Lockheed, McCulloch, McDonnell, Northrop, Piasecki/Vertol, Pits S-1 Special, Piper, Ryan, Schweizer, Stearman, Vought, Waco & Wright, just to mention a few.



Ready, set, go... OK, comfy practical shoes on – check; water – check; sunscreen – check; hat /sunglasses – check; ready to have a great time – check! Let's go...we've got 80, yes 80 acres to cover!

"Hangar One", the main entrance, houses and protects fragile fabric-covered aircraft and static displays. A replica of the Wright Brothers plane is one of the first things seen here. Around the corner is a tribute to women in aviation, showcasing accomplishments along with challenges of society barriers of the time. A Lear jet and one of the smallest planes ever built, the *Bumblebee* share wing space in same hall along with a simulator.

Then you step outside...

Literally hundreds of planes, as far as your eyes can see - all makes, models, sizes, shapes and vintages were tied down outside. Really rather surreal. My eyes were immediately drawn to a Douglas VC-118, more recognizable known as *Airforce One*. Presidents Kennedy and Johnson used this one. We toured the plane viewing its rare "captured in time" elegance, which at that time was state of the art. We whispered amongst ourselves...come on, the 60's was not that long ago...was it? (To coin a phrase..."we've come a long way babe..."). Adjacent to *Airforce One* was a Lockheed C-121A *Constellation*, General Eisenhower's original "*Columbine*" which had been assigned to him during the early fifties for exclusive use. This "*Connie's*" second claim to fame is it served in the historic Berlin Airlift. Oh my gosh, I love history - this is so cool!!!



Located on the property are several specialty hangers, displaying planes and more precious memorabilia. "Hangar Two" houses an aviation research library, an artifact collection and the Arizona Aviation Hall of Fame, along with aircraft and other static display all honoring Arizonan's whose impact to aviation is of significance. This was hugely impressive. The

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(Continued from page 7) Pima Air Museum



names, the faces, the accomplishments, simply amazing!

"Hangar Three", the World War II Memorial hangar. Contains a magnificent collection of original WWII bombers, transports and fighters, including a B-24 Liberator. A World War II barracks houses historic World War II displays and an extensive collection of aircraft models.

The 390th Memorial Museum Building contains memorabilia from the 390th Bomb Group and the 390th Strategic Missile Wing. It also houses a meticulously restored B-17 Bomber. Within these walls was a tribute with such personal touches and honoring, it rivaled the emotional experience I found when I stood at Pearl Harbor.

Paul got quite excited as we turned a corner and his eyes viewed a nice tribute to the military use of the glider. The rest of our group attentively listened as he enthusiastically gushed out information, explaining this and that, lift, currents, moisture, basically the who, what, where and why of the sport. Quite the little question and answer time...Paul was delightfully surprised by the extend, depth and size of the tribute.

Early in World War II, military planners recognized a necessity to train the glider pilots who would be needed to fly the large troop and cargo gliders soon to be coming off production lines. The two-place Schweizer, the Air Corps' first glider trainer, was a design already in existence that could be quickly adapted for training duties. Of the 114 built, twenty were still being flown by civilian owners into the 1980s. A TG-3A held the women's altitude record for two-place gliders of 10,767 feet until 1967.

Technical Data (Copied from Pima Air & Space Museum's text.)

Type:	Training and Civilian Sport Glider
Crew:	Student and Instructor
Wingspan:	54 ft., 0 in.
Length:	27 ft., 0 in.
Height:	6 ft., 0 in.
Glide Ratio:	24 to 1
Maximum Range:	Depends on many factors
Maximum Speed:	N/A
Cruising Speed:	N/A
Service Ceiling:	N/A
Cost:	\$3,400 (Army contract)



"Hangar Four" On display a beautifully restored B-29 Superfortress bomber, the showpiece of the museum. Other WWII aircraft are displayed, including transports and fighters.

The Challenger Learning Center of the Southwest, an interactive math and science learning laboratory is also found at Pima Air & Space Museum and houses a North American X-15 Experimental Rocket Plane.

Somewhere along the way, in one of the hangars, a tummy or 2 started growling. Our group headed over to the museum's cute little ol' diner, complete with the red Formica counter top, swivel bar stools and real down home friendly hospitality. Burgers, hot dogs & fries served up quickly with smiles. After lunch Paul & I got side tracked, climbing into the massive wheel wells of various aircraft, basically get up close to look at anything that would allow us access. Several hours later, as the sun was setting we thought perhaps, it was time to go...oops, where's the rest of our group? Thank goodness we all took separate cars.

Most of the group echoed the feeling, I can't believe this is so close to home and I have never been there before now, thought. Where else can you get up close and personal with a B-52, a F-14, Lockheed C-121A, Hughes TH-55A, a Folland Gnat T. Mk 1 Prototype, a Boeing Model 377 Super Guppy, a Teledyne Ryna AQM-34 L Drone or a Hughes AGM-65 Maverick Missile? Sit in a simulator trainer or attempt to master space object retrieval?

(Continued on page 9)

(Continued from page 8) Pima Air Museum

We had a great time! Worthwhile trip – you bet! We were tremendously impressed with the museum staff and volunteers whose passion for the museum is profoundly evident. When asked they will readily share the stories hidden within. If you go, *which you must*, make sure to take the time and talk with them, the stories are rich in history, riveting facts, statistics and human interest, which honor and bring the magnificent men/women and their flying machines to life.

FYI & links

Located in Tucson, Arizona, the Pima Air & Space Museum is the world's largest privately-funded aerospace museum, funded by gate receipts, Gift Shop sales, memberships, donations and grants.

Pima Air & Space Museum <http://www.pimaair.org/>

Arizona Aviation Hall of Fame <http://www.pimaair.org/aaahf.htm>



(Continued from page 2) **How Much Drinking Water?**

Bob Thompson: It isn't just water that your body loses... it also loses electrolytes (including salts), which is exactly why Gatorade was developed for the Florida Gators football team (and is now so widely used by lots of sports teams). Electrolytes are the "wiring system" of the body. Cut the wires on any electrical appliance and see how it works..... not well or kaput. Same thing for humans. Every summer 3-5 people die in the Grand Canyon that took plenty of water with them, but they died anyway (sometimes doing something "dumb" like walking off a cliff). With the wiring shorted out the brain doesn't work right, so sometimes people do "dumb" things (that can kill us). Ask any emergency room attending physician what they do immediately for patients that come in with heat prostration / dehydration... IV electrolytes injected directly into the system. Prevention sure beats fixing later, though. I carry 3 liquid items with me on soaring flights: 1 bottle/container of water to drink on the flight, 1 larger container of water for use if a landout occurs, and a bottle / container of Gatorade that I mix myself to about 5X normal concentration (I buy the dry powder at Costco and mix it myself). I freeze both bottles I use in the cockpit so they are cool to drink while flying. After a flight I also usually consume a quart more of concentrated Gatorade (frozen and now partially thawed by the end of the flight) that I leave in my truck... to re-hydrate and regenerate electrolytes. Both dehydration and loss of electrolytes present glider pilots some real physiological problems, as we not only sweat out water, we also exhale huge amounts as we get to higher altitudes (do to changes in water vapor pressure). Empty your bladder just prior to takeoff. A lot of the need to pee during a flight is more related to the body getting cold, which causes the blood vessels in the extremities to shrink (providing more blood to warm and sustain the body trunk and brain). The kidneys remove water from the blood to accommodate the volume reductions of the circulatory system. The only time I need to pee on flights is after I get cold. Warm socks and shoes and a pair of sweatpants can usually take care of that (along with a coat in the cooler times of the year). Pardon my being long winded, but I teach this stuff in my classes at ASU, I feel I lost a flying friend (whom I tried vainly to talk into using some electrolyte enhancing product like PowerAde or Gatorade) partially due to this situation, and I consider spreading proper information to be necessary. Think safe, fly safe, be safe.

Dr. Casey Lenox: OK I can't stand it anymore....I have to add my "doctors advice" to this discussion. I usually regret this for a variety of reasons but here goes:

When you sweat you lose much more water than salt. That pretty much says it all unless you have a long time to let me go into the physiology of renal function and electrolyte balance. Your body (even yours MM) does a superb job of balancing electrolytes, especially sodium and potassium. This is even in the face of extreme exercise and sweating. It can maintain the concentration of extracellular sodium and potassium within a very narrow range for extended periods without supplementation. If you exercise or sweat heavily for several days your total body levels of electrolytes is reduced and you need to replace some of those losses but for a single day of flying it would be highly unusual for you to require supplementation. As WA has pointed out, the typical American diet has plenty of salt in it.

Many companies have become very wealthy by convincing the weekend warrior population that their bodies require various supplements. It is simply not true. They like to quote data from studies with very low numbers, not peer reviewed and performed on athletes in extreme conditions and circumstances.

So....are drinking electrolyte supplements good for you? It probably doesn't hurt anything (at some point we should discuss the glucose part of all this which may hurt you). If they taste better to you and so encourage to drink more then that might be a good thing. You should choose the fluids carefully though since if they contain too much sodium they will in fact lead to water LOSS not

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(Continued from page 9) **How Much Drinking Water?**

gain (remember your body is trying to maintain that certain concentration). Are supplements necessary during a days flight....absolutely not. Will they make you go faster or farther....no.

Final line.....drink lots and lots of water. If you are peeing just once during a flight lasting 4-6 hours then you are probably not drinking enough. If you can see your pee, check it for color....it should be very light yellow. If it's darker than that you are already dehydrated. Drink more.

One special circumstance is for those folks that are on diuretics (water pills...usually for hypertension). Those can cause some baseline imbalances and you need to take extra care to get your levels within normal limits before exposing yourself to heat or exercise.

This is very basic but I hope it helps.

Mike McNulty: I've gotta go with the Doctors' learned opinion on this one. Everything he wrote allowed for the real problem of hyponeutremia under extreme (triathlons) and extended (canyon hikes) periods of sweating with water intake only. Our flying is a lot closer to playing golf or gardening in the sun than to either of those two extremes. He did not deny that the condition exists; he said it is not a likely problem for us.

Drink a lot of something. I usually drink Gatorade, mostly for the flavor.

Gil Kirkpatrick: Thanks everyone for the input; its been illuminating. To summarize:

1. I haven't been drinking anywhere near enough.
2. Gatorade (or similar) probably is not necessary for 5 hour soaring flights, but probably doesn't hurt. And it tastes good, so there you go.

FWIW, I Googled The Journal of Athletic Training at <http://www.journalofathletictraining.org/>. It appears to be peer-reviewed in some way, but its not clear how reviewers are selected or what their credentials might be. Its also sponsored by companies such as Aircast and Gatorade, so draw your own conclusions.

And, on to the next topic...