



Chapter 54 News

July 2002 Meeting

- Monday July 8, 2002
- Social Hour at 7 p.m.
- Meeting at 7:30 p.m. Chapter House, Entrance B, Lake Elmo Airport
- Program: **Using Anywhere Map on Your PDA.** T.J. Horsager, a single/multi-engine pilot flying a Mooney and Aztec from Fleming Field, is a member of the Friends of Fleming Field, and works for Sun Country Airlines. He enjoys flying, and will give a demonstration of Anywhere Map software on a Personal Digital Assistant (PDA). Both software and hardware for the GPS moving mapping system will be on display and TJ will answer questions after the presentation.

Flying in Europe

John Renwick



As part of an ongoing relationship of shared flying experiences, I went flying in Europe for a nine days with my friend, Steve Markham, and his wife, Kay. Steve and Kay live on a small farm near Reading, England, where a few dozen sheep keep the grass runway trimmed for their two SIPA 903 aircraft.

SIPA is an acronym for Soci t  Industrielle Pour l'Aeronautique, a French aircraft manufacturer no longer in business. After WWII there was a shortage of pilots in France, and the French government sponsored a contest for a design for a trainer aircraft to be built at government expense and given to French flying clubs. The SIPA 903, designed by Yves Gardan (who also designed the Horizon, made by SOCAT, the Rallye, the Minicab, and other fine French aircraft), won the competition; 100 were initially built, followed by another twenty. Like the J3 in the US, this is an airplane in which many French pilots learned to fly in the 1950s. Only 12 are flying today.

Of wood and fabric construction, the SIPA 903 was originally powered by a 75HP Mini  engine of French de-

sign that turned out to be unreliable; most now are powered by C90s. Gross weight is 1447 pounds; empty is 954. It cruises at 106 mph at 2200 rpm, burning 5.4 US GPH; with flaps fully extended it stalls at 31MPH. Takeoff and landing are at 50MPH, climb and approach at 70MPH.

Because it was designed to be built at government expense, it has some nice features like a lovely tapered wing in which no two ribs are alike, smooth pushrod and ball-bearing controls, a very reliable and durable braking system, hydraulic tailwheel suspension, and so on. Visibility is superb once the tail is raised. The flaps have just two settings, and when fully extended they are breathtakingly effective. Aerobatics are no longer approved. With a well-controlled approach at precisely 70MPH, a wheel landing at 50mph is nearly perfect every time. Steve never does 3-point landings, because with a wide cockpit and short fuselage, airflow over the tail is disrupted in the tail-down position. Close-set main wheels make the takeoff and landing roll a bit of a challenge; this was by design, because the French government was interested in training fighter pilots as well, and they wanted a trainer with similar ground-handling characteristics to fighters of the

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President's Column

by Dale Rupp

Summer has just started and here I am thinking about going to Oshkosh for the EAA Convention, or as is it is now called: AirVenture. I have been going to the convention since Rockford, Ill., in 1960. The last few years I have heard a few people say they are not going because it is too big, or they have seen it all before, or it is too commercial. Some of this might be true, but I have found that I enjoy AirVenture the most when I plan to concentrate on only a few activities. I have my plan worked out already and here it is.

For the last half dozen years or so I have volunteered as ground crew for the Ford Tri-motor from 8:30 till noon. This gives me a chance to meet old friends and even get a chance to fly the Ford a few times from the right seat for a few minutes when I am helping spot traffic. Volunteering is a great way to be involved in the convention. All you have to do is find an activity that appeals to you, then ask one of the volunteers who is in charge and offer your services. If you go to the volunteer desk and ask for an assignment, they will only send you to some place you might not enjoy. You pick the job and you will be happier.

The second item on my plan is to buy a few items at the Fly Market and commercial exhibits. I need a new headset. I will have a list of items to purchase and also the price charged by the major catalog companies. This way I will know if I am getting a good deal or not. In building my RV-6, the most valuable purchase I have made at the Fly Market is a bag of mixed rivets. When I haven't the right size in the ones supplied with the kit, I always can find a few in the mixed bag.

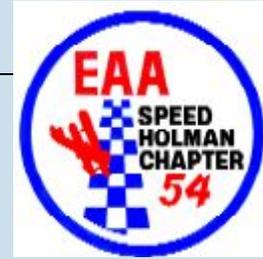
The third thing I plan on doing is look at RV-6s to see how other builders got around a problem I had or might have. Once you have built something, it is much easier to admire other peoples' work. After Bill and I had done the rib stitching on the L-2B, I spent a lot of time the next year looking at rib stitching on some of the beautiful Class airplanes. There are some real craftsmen out there.

Last year I didn't attend any of the forums. This year I will attend at least the RV forum and maybe some FAA forums. I will have to wait and see what the FAA has to offer. I am interested in the new Sport Pilot proposal and what they have to say about Sept. 11. Of course I will stop in at the FSS to see how the weather is developing. We always seem to get afternoon build-ups in the northwest. It is nice to look at the radar in the FSS to see how they will affect the evening.

The last and most enjoyable part of Oshkosh is camping with family and friends. We have camped in the same spot every year and have a great time eating the fresh sweet corn and grilling some beef, pork, chicken or turkey. In the evening we will have a COLD beer or two and maybe a glass of wine to go along with the good airplane talk. For some this is the most important part of going to Oshkosh.

Is there too much to see at Oshkosh and is it too commercial? Yes it is unless you have a plan to do it your way. Start compiling your plans now and then work your plan at Oshkosh. I think you will enjoy it more.

EAA Chapter 54



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Chapter member meet on the second Monday of every month at the Chapter House, Entrance B at Lake Elmo Airport (21D). The House is at the base of the airport beacon.

The newsletter is printed on the first Monday of every month. Parts of the newsletter may be re-printed with appropriate credit.

21D RCO 118.625

21D Unicom: 122.8

TPA: 1932'

Runways: 4-22 (2497' x 75')
14-32 (2850' x 75')

Technical Counselor Report**Paul Liedl's Kitfox**by **Bill Schanks**

Paul Liedl is a very goal oriented person. He chooses a goal, he investigates the possibilities, he decides on a course of action, he begins the project and then moves forward on the task at hand until it's complete. I have previously been witness to his determination. I did the Technical Counselor reports on the building of his Kitfox series 5, which he completed in a little over a year from the time he took delivery on the kit until the first flight. (There is an article in the Chapter 54 Web site. Go to www.eaa54.org and click on *people* and then find Paul Liedl to read it.)

He has just reinforced my respect for his tenacity by completing a set of homemade aluminum amphibian floats for his Kitfox. He took delivery on the float kit last summer; in fact it was delivered while he was attending AirVenture 2001. He came home, inventoried the pieces in the kit, (with the help of Jerry Sarracco), and began the work in September 2001 and the airplane flew with the completed amphibian floats in April 2002; less than a year.

Paul had always wanted a floatplane; he received his floatplane rating way back in '69 and hasn't flown off water since. He's kind of lived with this dream of owning a floatplane all these years. When he decided to build a Kitfox, that was what he had in mind and that is why he opted for the bigger engine for his airplane. He originally had a three-bladed Wharp drive propeller, but there was the possibility of cracks develop-

ing in the hub so he chose a three bladed wooden prop and had it repitched for added RPM.

He originally decided on a fiberglass float kit. But after further investigation he discovered the floats were 100 pounds heavier than advertised. He had already made a deposit, but got it back. He then used his frequent flyer miles to take a trip to Vancouver to check out the lighter Murphy aluminum kit. The floats could be purchased already complete, ready to install, or as a kit. The ready to install version would cost an additional \$5,000.00 and the parts would have to be shipped somewhere in Asia for assembly and then shipped to Paul. No estimate on how long that would take.



He decided on the kit version and ordered it June 2001 and, as was mentioned earlier in this article, took delivery in August of that year.

The pieces came in big boxes and would require a lot of work. You could just about build a Thorp T-18 with the same amount of effort. The sides and top came as flat pieces and would require a lot of cutting and shaping. The pilot holes were already drilled. There was a lot of shrinking and stretching necessary but a shrinker-stretcher came as part of the kit. Paul borrowed another one from Dennis Hoffman so he wouldn't have to keep changing the jaws back and forth for stretching operations. The chines also had to be formed with a stretcher-shrinker.

Paul somewhere in his earlier life was into boating so he is familiar with all the nautical terms; forward, aft, inboard outboard, hull, keel etc. While doing the inventory of parts, he discovered a box full of rivets, over 12,000+. He then knew he was in trouble. Each rivet needed to be dipped in pro-seal and then placed in the proper hole to be pulled. If he had used a regular hand puller, he would now have "Popeye" biceps. He wisely purchased a pneumatic rivet puller. He says it worked great and it's still in good shape, even after all those rivets.

Those of you that complain about rib stitches and how tedious they are, consider this: If there are 12,000-plus rivets and they are used to fasten three sheets of metal together, that must mean that there are at least 36,000 holes. Each hole needs to be drilled and deburred, and then the sheets need to be clequed together after they are coated with Pro-seal and then the rivets are dipped in pro-seal and stuck in the proper hole and pulled tightly for leak-proof integrity. The rivets are called closed-end rivets and are manufactured by the same people that make the cherry-max rivets and resemble pop-rivets.

The attach points to connect the floats to the airplane

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Magnetos furnish the high voltage necessary to fire the spark plugs for most aircraft. Magnetos are a self-contained high-frequency generator and have been around for over 100 years. Today, the use of magneto ignition is common on aircraft and small engines where the self contained feature, with no battery required for the primary voltage is an advantage. The reason magnetos are not common on automobiles today is the magneto requires a means of boosting and retarding the spark for starting and also the spark advance is not as easily programmed as a battery ignition system.

The current available magnetos have their roots in the 1920s. The first really reliable magneto was the Scintilla magneto, which was made in Switzerland. In the U.S. the same magneto was made by Bendix under license. By the WWII era, almost all the big magnetos in the U.S. were Bendix magnetos. Smaller engines, such as the A-65 Continental, also used Case and Eisemann magnetos, but there was a Bendix magneto available for them too. Today, there are only two manufacturers of aircraft magnetos, TCM (Teledyne Continental Motors) which bought the rights to the Bendix magnetos, and Slick, which is a Unison division.

The magneto creates its high-tension spark by rotating a permanent magnet between the pole shoes and stator. When the lines of force between the two is at its maximum, the points open and the primary current induces the secondary current in the coil which creates a spark which is routed through a distributor and ignition wires to the spark plugs.

If a magneto fails, there could be several problems. An electrical fault could be an open or shorted coil. A bad condenser will soon show up badly burned points. The condenser has two purposes: it eliminates arcing and burning of the points due to self-induction of the primary current and also assists in the instantaneous collapse of the primary voltage, thereby increasing the output of the secondary.

In the Slick magneto, it also acts as a noise suppressor for the primary circuit. To check a coil, an ohmmeter can be used. For an S-20 series Bendix, the primary (long wire) should be .2 to .6 ohm. Secondary resistance should be 12,000 to 16,000 ohms. In the Slick mags, primary resistance should be .5 to 1.5 ohms for most models and secondary resistance 7,500 to 16,500.

If there is a mechanical problem, like a failed bearing, worn cam, eroded distributor or stripped gear it can be seen visually.

To facilitate engine start an impulse coupling is used on most small aircraft engine magnetos. The impulse coupling retards the spark 25 to 35 degrees and then "snaps" creating a hot spark at approximately top dead center for optimal starting. Other starting systems include the "Shower of Sparks" and the older booster current, which fires a trailing electrode in the older model magnetos on which this system is used.

Back in the 1920s, they tried retarding the points in the magnetos of that time for engine start, but they soon realized that the spark became very weak when the points were retarded. Older Bendix magnetos still have the retard lever but

they are all saftied in the full advance position now.

One of the biggest concerns with magnetos is the various AD notes the FAA has mandated. There are several on the impulse couplings. The TCM (Bendix) magneto impulse coupling must be inspected every 500 hours for wear on the impulse coupling pawl and stop pin. In my experience, these are good for 2,000 to 3,000 hours before they show signs of wear. The older parts have riveted construction and for the last 10 years or so they have used pins and snap rings to mount the pawls.

Slick magnetos have certain serial numbers, which must be inspected for loose stop pins.

There are several older AD notes, which must be verified as having been accomplished if you are dealing with a new (to you) airplane. Bendix S-20 coils must now be red. The old amber colored coils are no longer legal. Also, the rotating magnets must be round, the older flat sided ones are obsolete.

Even the old Eisemann magnetos have an AD note on the coil dating back to 1969.

I found one with an illegal coil just a couple of years ago!

Even if you are not operating your engine in a certified condition I recommend full compliance with all the AD notes. Nothing can ruin your whole day more than an engine failure and a good pair of magnetos is an excellent way to prevent an engine failure!

Welcome to our new EAA Chapter 54 Members!

Please join me in welcoming our newest member, **Tim Foss**. Tim lives in Marine on the St. Croix and is currently building a Kitfox series 5 to replace the one he lost in the wind storm two years ago. The Kitfox project will be moved to Lake Elmo Airport in the next month for painting and final assembly. Welcome aboard, Tim!

Please join me in welcoming **Michael Solomon** as the newest member to EAA Chapter 54. Michael is a private pilot with both single and twin ratings and owns a 1965 Cessna 310. Hope to see you at our next meeting on July 8th, Michael.

Please join me in welcoming **Scott Olson** of Lake Elmo, **Jon Cumpton** of Roberts, WI and **C. Alan Brantingham** from St. Paul to EAA Chapter 54.

Scott is a private pilot with a 1946 Ercoupe and he has already been talked into become the membership director for Chapter 54. Jon is flying a 2001 American Champion Explorer/Citabria out of RNH and is also a member of EAA Chapters 790 and 25. Alan is currently building an Europa, Tri-gear, Motor Glider and hopes to get tap into the Chapter's vast knowledge and experience to make the project go a little smoother.

Welcome! I am sure you will find your association with the Chapter a rewarding experience.

TECHNICAL COUNSELOR REPORT (Continued from page 3)

have to be designed and manufactured by the builder. Weight and balance problems have to be worked out by the builder also. Ideally, the step should fall directly beneath 30% of mean aerodynamic chord. Because of the struts and angles and height of the airplane above the floats, he had to install the floats so the 30% of MAC would fall about a foot and a half in front of that. In order to achieve the recommended condition he would have to move the floats so far forward it would put the airplane out of balance. The fittings that attach the struts to the fuselage, and to the floats, had to be designed and built from scratch. They are machined out of solid aluminum block.

Paul went to his friend, Jim Olson toolmaker extraordinaire, for help. In order to fully appreciate the workmanship in the fittings, it is necessary to see them. There are other jobs of machining that Jim did as well. No one person can build one of these airplanes by themselves and Paul is quick to relate that. He says one of the most difficult things to do is mention everyone that has contributed without the fear of omitting someone that deserves recognition for a contribution.

Paul works hard and fast and the completion day was getting closer. Because of so much time having passed since he obtained his floatplane rating, Paul thought it would be a good idea to get current. He made a reservation at the famous Ray Brown school of Floatplanes in Florida to coincide with his trip to Sun 'n Fun and took some dual instruction in order to be current for the test flight. The first flight on floats was sometime in April of 2002. The flight was successful and since then he's flown over 30 hours on amphibian floats.

The installation of amphibious floats has added considerable drag and consequently has slowed the airplane's cruise performance by 18 MPH. Rate of climb was reduced by around 800 feet per minute and fuel consumption went from 6 to 7 GPH. "So what?" he says. "This is really fun!" I've been trying to convince him to attend AirVenture 2002 by way of the seaplane base; so far he isn't totally convinced he wants to go. I think he should go, that will really be fun. Let's look for him at Oshkosh.

(There are more pictures, and full-sized versions of some of the ones shown here, in the newsletter section of the EAA Chapter 54 Web site at <http://www.eaa54.org>. If you're reading the PDF online version of the newsletter, just click here to see them. If you're not reading the PDF version, why not choose this method of delivery, and see these pictures in full-quality color?)



A new insurance problem? Transition training

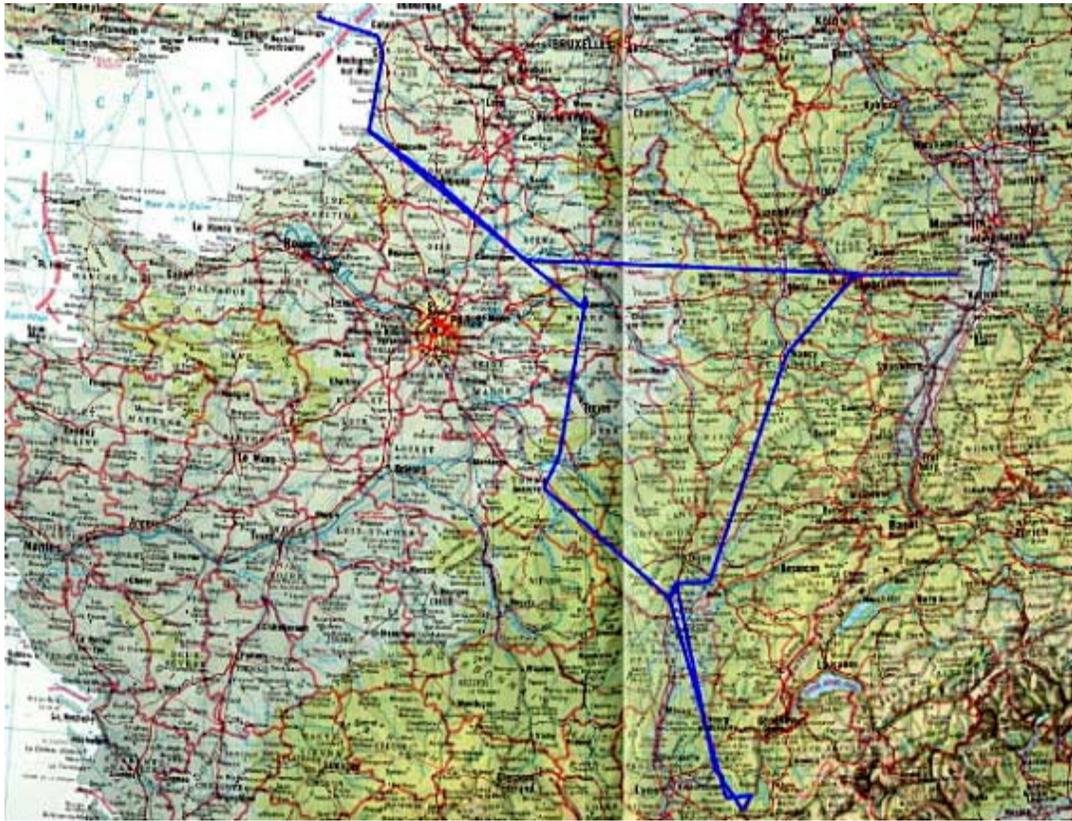
Recently on one of the RV lists, a member said he was having trouble with insurance coverage. Here is what he reported:

1. There are few CFIs with FAA waivers to give transition training in their own RV's. One is here in Atlanta and I spoke to him at length about the recent developments and my comments are based solely on conversations with him.
2. Insurance rates for a CFI giving transition training have shot to over \$4,000 annual premiums
3. Van's (Ken Scott) is aware of the problem. No solution exists for these CFIs yet.
4. Formal transition training for this particular CFI have halted due to the enormous cost involved.
5. According to several insurance companies, and I checked with mine, if a CFI (or friendly private pilot) is right seat and an incident occurs, and it is determined through evidence that training was occurring, the insurance company will treat the flight as a training flight and will look to the policy for coverage. And unless you have specific coverage for training, you will not be covered. So if I, a normal private, go to help a buddy who is about to

fly his RV by letting him left seat my RV, and the insurance company determines that I was letting him fly to become familiar with the RV, and an incident occurs, I would not be covered.

I am extremely concerned about where this is headed for builders. Neither the FAA nor Van's, should want newbies flying RVs without some stick time in an RV. Yet the current system is driving these pilots to fly without having had some stick time. I write this to make pilots and builders aware of where this is headed. When I received my insurance in December 2001, the insurance company was mostly concerned with how much RV time I had. They wanted a min. of 25 hours of RV time and a CFI endorsement in an RV, to keep my premium below \$2,000. on an \$80,000 hull. So I had to get my hours through a friend's RV and through the transitioning training of a CFI who owns an RV and had the appropriate waivers from the FAA to allow for it.

Now, neither the CFI, nor my friend if he was smart, is available. What's a builder going to do now? Lie? I hope not. But his options are dwindling. Know this: the insurance company will look for every opportunity to not pay a claim. There are plenty of holes for them to jump through. Please don't give them one.



(FLYING IN EUROPE Continued from page 1)

day. Responsive and quick, it is truly a pleasure to fly!

Both SIPAs were last in the air together back in 1981, so this outing was an important occasion for Steve. We flew as a formation, with Steve doing the navigating and radio talking. We did most of our flying in France, and the pair attracted appreciative looks wherever we went; especially from some of the older airport denizens who had learned to fly in them. The rare classics broke the ice nicely on more than one occasion! For Steve, the highlight of the trip was flying the two in formation with a third aircraft to take pictures and videos over German mountain landscape with castles in the background.

There was to have been a fourth person on the trip: Ted Gardner, who is a good friend and keeps a lovingly restored, pristine Piper Vagabond at another farm strip a few miles from Steve's. But Ted had a conflict and had to withdraw from the plan a few weeks before we were due to start, so we had to answer the question: can a US-licensed pilot legally fly a British-registered aircraft in Europe? Ted (who recently retired from the British Civil Aviation Authority) wrote the CAA to ask. They said yes, as long as a pilot is properly licensed by an ICAO member country, they can legally fly a British-registered aircraft in the UK; however the CAA could not speak for other European governments - we would have to ask them. Ted then wrote to the French, German, Swiss and Italian authorities. The French and Italians didn't respond, so we assumed no problem. The Germans replied with a formal letter of permission; the Swiss did the same, and followed up with a bill for 170 Swiss francs (\$112) - the fee for granting permission to fly two British aircraft into Switzerland.

This is because the SIPAs have a "permit to fly" issued by the British Popular Flying Association - if they had a full Certificate of Airworthiness then it would have been free to go there. The permit to fly is the way most European countries license home built aircraft and vintage aircraft that are no longer supported by a company or organization.

Flying in Europe is definitely more expensive than in the US. Landing fees of around 10 to 25 dollars are common, especially in the UK. Charts have to be bought from the governments of their respective countries, and they cost more than ours do. Fuel costs more, as we all know. Typically we would fly an hour and a half, land and fill the tanks, and the bill for both aircraft (fuel and landing fees) would be around \$100. The best advice is just to pay what it costs happily, and not let it interfere with the joy of the trip. As it turned out, our fuel and landing expenses for the trip divided by the number of hours we flew amounted to about \$60/hour for each aircraft. It's very common to find a fine restaurant overlooking the runway at French airports, so there's pleasure to be had upon landing. (Here we would call it a *gourmet* restaurant; there, it's just a good one.) It's common for smaller airports to close between 12:00 and 2:00, so the pleasure may be practically inescapable. I'm no longer so impressed with the \$100.00 hamburger!

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The rules are slightly different over there. Europe also has Class A, Class B, etc. airspace, but not with the same meanings as in the US. In Class D airspace a transponder is required. You can't go anywhere in France without crossing military routes that go from 800' AGL to infinity. In controlled airspace we were sometimes held to 500' AGL because of military operations, and more than once we got a good look at a flight of Mirages. Steve suspected they saw our little planes as targets of opportunity.

You can speak English with ATC everywhere, but at the smaller airports in France you may have to use some French. Ted furnished us with a cheat sheet: take-off is *le décollage*, landing is *l'atterissage*; downwind is *vent arriere*; final approach is *finale*; runway is *la piste*, etc. All three of us have had some schooling in French, so this wasn't a big problem.

Our route took us across the English Channel (22 miles) to France, then to champagne and Burgundy wine country. We wanted to visit three other SIPA owners in Switzerland, but as we flew up the Rhône toward Geneva we encountered rain with carburetor icing, so we chose a convenient airfield and spent the night in Morestel, a pretty little village with a castle from the middle ages. One of the joys of any trip by light aircraft is the unplanned stops and the interesting things you can discover by dropping in somewhere more or less at random. As usual, the food was great!

Because we didn't get into Switzerland, there was no chance to continue through the Alps into Italy. Instead we flew back up the Saône to Nuits St. Georges (more *vin de Bourgogne*), then to Landau, in Germany's Rhine valley, where an old friend of Steve's flies gliders. If you ever get a chance to be launched by a winch in a glider, don't pass it up! 400 meters in 40 seconds: like a rocket launch, and very smooth.

Our last day flying was the most challenging, and contained some of the high points of the trip for me. At Amiens (France) I learned a lesson about landing aircraft of the SIPA's particular configuration: they can be hard to keep on the runway with a gusty left crosswind! (No damage, other than a chip in the prop finish from being over gravel on the runway edge.) After a memorable meal in the airport's fine restaurant, we headed for the Channel crossing. On the English side it was even windier. The SIPAs wanted to jump out of their chocks. Steve scoured the airport for tie-down material while Kay and I held on to the airplanes. Four men in microlights had crossed a little ahead of us, and their four aircraft were tightly packed against the terminal building, using most of the available lines and weights. Taxiing was going to be a real problem. We thought hard about strategy, and at length decided that Steve and Kay would each take a wingtip and walk me out to the runway for takeoff; then Kay would walk Steve's wing out while I circled overhead. That all worked beautifully, and we formed up on our last leg back to Steve and Kay's farm.

Heading into the setting sun, we found our forward vision almost totally obscured by a film on the windscreens - salt spray from sitting on the ground near the coast! The landing at Steve's would be into the sun; what to do? Fortunately there's always some rain in England, and a passing shower took care of the problem very nicely. By the time we arrived the wind had calmed a little, and the final touchdown on the sheep-tended grass was the best of the trip! Time for a pint or two of England's best, then to bed - sweet dreams!

This trip was a rare privilege. If you ever get the chance, seize it!



On June 15th Bob Waldron, Dennis Hoffman and I flew to Voyager Village for lunch. I thought the three airplanes looked nice together. Couldn't fit them all into one photo, so I had Photoshop combine two for a panorama shot.
- John Renwick.

Treasurer's Report

By Paul Liedl

Cash on hand	\$ 26.00
Checking Acct.	\$2032.61
Savings Acct.	<u>\$3872.27</u>
Total	\$5930.88

Income in March consisted of \$150 in individual dues, \$15 in contributions, \$69 in hat sales and \$4.01 in interest for a total of \$205.01. Expenses for the same period were \$458.62. They consisted of \$51.00 in chapter house expenses, \$54.72 for newsletter publication / distribution, \$105 for banquet expenses, and \$247.90 in building improvements.

What's in YOUR e-mail?

It could be the next issue of Chapter 54 news. If you have a computer and access to the Internet, you can receive the newsletter in a PDF format. Don't have Adobe Acrobat Reader? Go to the Chapter Web site and follow the directions in the newsletter section. Subscribing to the electronic version of the newsletter saves the chapter money and keeps annual dues down.

Just send an e-mail to newsletter publisher Art Edlund and he'll get you switched to the electronic format. And if you've previously let us know you're switching to the electronic format, but are still getting the paper version, please send an e-mail to bcollins@visi.com.

-Bob Collins

My Checkride

by Marlon Gunderson

I had my checkride with Waldo Anderson on Tuesday and Wednesday June 11 & 12. I was to meet Waldo at Benson Airport Tuesday where I would use Steve Peterson's J5 Cub for the ride. My J5 has no electrical system and therefore no IFR capability. I was using Steve's J5 because his has an electrical system and is technically IFR capable, making it adequate for a checkride. I say technically because, while it doesn't have DG, turn and bank, or artificial horizon, it does have a needle gyro to indicate bank, and uses what Steve called "needle, ball, airspeed" for instrument flight.

Things started to go amiss Tuesday from the beginning. I intended to fly my J5 from 21D to my 9:30 a.m. Benson appointment, but at 9 a.m. there was still fog and ceilings below 500 feet, so I drove there instead. Waldo was there early and after looking at Steve's J5, already had a skeptical attitude about testing my instrument capabilities with that setup.

"Have you flown this airplane with a hood?" he asked. I hadn't; I had done my instrument dual in a Cherokee 140 with artificial horizon, DG, and turn-and-bank indicator. Waldo pulled out the Practical Test Standards and pointed to the "turns to a heading" requirement. "You need to be able to roll out to a heading with +/- 20 degrees; that's a walk in the park with a DG, but have you ever looked at what the compass is doing during your turn?" I had--in my airplane; it tilts sideways and spins and if you can read it at all it seems to have little discernable relation to whatever instantaneous heading the aircraft has. The compass was also about half out of fluid, which seemed to underscore the situation.

"Don't get me wrong", Waldo said, "I'm willing to test you in this airplane, but I can't relax the minimum standards you need to perform to, and I'd guess it's going to be almost impossible to meet the standards with this setup".

We agreed to fly on Tuesday anyway since we were already there and do as much of the test as we could short of the instrument portion, and then meet again on Wednesday and do the instrument portion with my brother's Cherokee 140.

Waldo started the oral test by reviewing the documents required for the aircraft. He asked what paperwork I needed in the aircraft. I responded: FAA registration, Airworthiness Certificate, and Operation Limitations including weight and balance information. He said there were five paper work requirements. I was stumped, I only knew of the three requirements. His five were: FAA registration, Airworthiness Certificate, Operation Limitations, Current and correct Weight and Balance document, and Equipment List. (editor's note: radiotelephone license? And how does "equipment" fit with the old ARROW acronym?)

Waldo had me perform the critical CG and weight calculations for the flight, and then reviewed my XC flight plan--from Benson to Thief River Falls. He presented the following scenario: we're 20 miles short of Thief River Falls and find that it is reporting 900-foot ceilings with 6 miles visibility. What do I do? I say that the magenta dashed line around the airport means it is class E to the surface, which requires 3 miles visibility and 500' clearance below the clouds, so I can't get in with a 900' ceiling and will have to go back to Fosston 15 miles back, which is a class G airport and also presumably doesn't have the ceiling problem if they are lowering towards our destination. That would be OK, but Waldo says there is a legal way that I can get into TVF. So I come up with this harebrained explanation: I need to be 500' above people and buildings and 500' below the clouds; if there is a runway approach that brings me only over open land, I can fly in at 400' agl. "If you land doing that, you've just got an FAA violation", Waldo says. "Tell me tomorrow what you did wrong and how you could legally get there". Of course the additional rule that prohibits what I suggested is that a 1,000' ceiling and 3 sm visibility is required within the lateral bounds of a class B,C,D, or E airport in order to take off or land at such an airport. What he was fishing for was a Special VFR clearance so that I could get in just flying clear of clouds. I knew of Special VFR, but had told myself that I would never choose to fly with 1 mile of visibility, and therefore knew that I would never have use for it. Waldo had just shown me a realistic scenario where I could find SVFR useful.

My brain played another trick on me during the oral portion. I had committed VFR minimums to memory organized around the various visibility/clearance requirements. 3mi/500/1,000/2,000 is the most prevalent applying to numerous airspace classes and altitudes; 5mi/1,000/1,000/1mi is another, and 1mi/clear of clouds is another. Waldo asked me to start at 0 msl and go upward describing the airspace rule changes and requirements. When I got to 10,000 msl, I explained the transponder requirement, and then moved on to the oxygen requirements above 12,500, etc. Waldo said I missed another requirement at 10,000'. I couldn't think of it. If I had been asked what airspace requires 5mi vis 1000/1000/1mi cloud clearance, I would have easily identified the airspace above 10,000 msl (and >1200' agl), but asked the question the opposite way--what are the rule changes at 10,000? I couldn't identify the change in visibility and cloud clearance. I just hadn't studied it that way, and that is a better way to think about it. Waldo told me to review the airspace rules and be better prepared on Wednesday. That was frustrating; I thought I knew the material; I even had that specific information written on a half page summary of the FARs that I had prepared to study from, and I still was able to flub it.

By 11:30 a.m., the ceiling had finally lifted far enough at Benson to try some flying. We took off on my planned XC course. When we reached my first checkpoint, Waldo said,

(Continued on page 9)

MY CHECKRIDE (Continued from page 8)

OK Change course to Osceola. I turned towards the northeast, and started looking at my chart to confirm my rough heading. Before I could get a more precise heading figured out, he said, "OK, now change course to Anoka." I did about a 180-degree course change, looked up ATIS and dialed it in. Waldo said, "You'd better get tower soon, we're almost in class Delta." I dialed in Anoka tower, called and got no response, dialed it in again, correctly this time, and was cleared to right base for 27.

An Extra 300 had to circle to stay behind me on final. After landing, I requested a takeoff and departed Anoka to the north and did S turns, and steep turns for Waldo. He asked me to turn to a course of 90 degrees, which I did, and found the airplane headed northeast with a compass indication of 90 degrees. OK, lets go back to Benson said Waldo. I steered toward Bald Eagle Lake, and after a few miles Waldo pulled the throttle, "you just lost your engine, what are you going to do?" I set up my glide, identified a field, checked mixture, carb heat, fuel level, fuel valve, and throttle. "Assuming pushing the throttle forward like this doesn't work, I land in that field right there".

He lets me get low enough to see that I'm going to make the field into the wind and then adds power back in. When we get back to Benson I do two landings with slips to avoid going too low over helicopters that are spraying for mosquitoes a half mile short of the runway.

Waldo steepens the slip to full control deflections to demonstrate a more radical attitude. Steve explains when we are on the ground that he doesn't slip overly steep anymore since he broke a window doing it once. We call it a day for Tuesday and agree to talk the next morning.

On Wednesday we arrange to meet at Anoka Airport, where I pick up Waldo in my J5, and we fly together an hour north to Mora, where my brother has his Cherokee 140. Waldo quizzes me on the way up and I manage to answer correctly. On short final he asks me how my wheel landings are. "They're OK, would you like to see one?" I show him one. We pull the Cherokee out, take off, and climb to 2,500'. I put the foggles on and we do turns to headings, descending turns, etc.

He has me put my head down and puts the airplane in a banking dive, I return it to straight and level flight using just the instruments. Waldo tunes in a VOR station, and tells me to take up a heading that will bring me to the station. I do it. "OK, you can take your foggles off now; where are we?" I look down and see my Dad's farm. "In Arthur Township, halfway between Ann Lake and the Snake River, about 1/2 mile northwest of my Dad's barn." We do some slow flight and stall recovery on the way back to the Mora airport, and then he has me do a full flaps short field landing. We put the Cherokee away, and Waldo hand props the J5 for our return flight to Anoka. As we pass Isanti on the way back south Waldo hands me a small white piece of paper representing a long-time goal accomplished.



Bob Waldron took this photo of a beautiful Stinson trimotor that was spotted at both the Stanton airport and the Lake Elmo airport on



Jim Rygwall of Princeton FSS gave Chapter 54 a talk about the work of FSS at the June chapter meeting.



Todd Balsimo writes, "Just an update on my Challenger II project. Fuselage is coming together well. I getting ready to install the tailfeathers, dash, electrical and engine."



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Back Page Quiz

Question:

I am a CFI and am curious as to how long an endorsement to take the private pilot knowledge test is valid?

Answer:

Neither FAR 61.35, "Knowledge Test: Prerequisites and Passing Grades," nor FAA Order 8080.6C, "Conduct of Airman Knowledge Tests," indicates that the required endorsement for the knowledge test has an expiration date. Once taken and passed, the knowledge test is valid for 24 months in accordance with FAR 61.39(a)(1). However, be aware that if the knowledge test was failed, one must comply with the necessary training and endorsement specified in FAR 61.49 before retesting. For more information on CFI endorsements, see AOPA

June Meeting Minutes

Sorry! there were no minutes of the June meeting available at presstime.