



# Hangar Talk

The “Lightning” Newsletter

March 2010 - Volume 3, Issue 3



## Carl and Pat Beatrice’s Lightning of the Month

Please submit a photo of your Lightning for future “Lightning of the Month” consideration.

The newsletter goal is **to get the word out** on happenings at Arion Aircraft, and **to give a voice** to Lightning **builders and flyers**. To be successful we need your inputs. So it is not only a way for the factory to provide Lightning news, but it is your newsletter as well, and its success will depend on you getting involved to spread the word and to help other builders and flyers. So think of this newsletter as an “exchange of information publication”. Send your inputs directly to: [N1BZRICH@AOL.COM](mailto:N1BZRICH@AOL.COM).

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**And now, the rest of the news.**

**March 2010.** After all the snow we have had here in Virginia during the month of January and February (OK, you guys from Minnesota, New York and Wisconsin, don't laugh – it was an unusual *global warming* winter for us), I am happy that the month of March is finally here, even with the wind it normally brings.



Above photo shows the current headquarters of the Lightning newsletter. Normal snowfall for this area of Virginia is only about an inch, maybe once a year. Last Saturday we got between 8 and 10 inches, and so far this Saturday, 6 Feb, we have about 4 with maybe a total of 6 expected. Global warming.

And just so you know we have had enough of winter for this year, I offer the photo below.



At least it won't be too long until all of us will be planning our trips to Sun-N-Fun. But until then, this March 2010 issue of the Lightning newsletter has a great article about a trip around Australia. Once again we have an outstanding travelogue with some great photos by one of our Aussie mates, Peter Mitchell. In this article, Peter recounts a great trip that he and a buddy recently made around the northern part of Australia during August and September of 2009. I know you will enjoy Peter's writing and his great photos.

Another part of this month's issue that I am sure you will enjoy is the recounting of the recent Light Sport Aircraft Expo that was held in Sebring, Florida, during the later part of January. We owe a big thanks to Tex Mantell for his photos and to Mark Stauffer for his write-up and photos. The Sebring write-up is in the News from the Factory Section.

Enjoy Peter Mitchell's latest Australian Lightning trip.

## Around the top end (of Australia) by Lightning

By Peter Mitchell



**Peter Mitchell** built Lightning serial number 58 and completed it in October 2008. He now has 220 hours on it and his major trips are annotated on the map below.





## Lightning Tracks

I was getting itchy feet for a trip again. In November 2008 I had flown my new lightning home from Kingston S.A. to Bunbury W.A. with a friend of mine, Chris Bell. We talked about doing a trip around Australia in 2009, and at last it was all coming together. I had developed great confidence in the Lightning aircraft and the Jabiru 3300 engine, with a number of flights in WA. During Easter 09 I flew solo to Narromine, travelling through Kalgoorlie and Forest, around the Eyre Peninsula and up as far as Bourke, coming home around the Great Australian Bight. Altogether the aircraft had now done 150 hours of trouble-free fun flying.

**Sunday, the 23<sup>rd</sup> August**, the weather forecast was OK. There were a few small fronts coming in from the southwest, but to the North where we are heading, the weather only got better. We took off at 10am and flew coastal north, past Mandurah and up the corridor along Perth's beautiful beaches at 1000 ft. Once clear of controlled airspace we climbed, and headed for Carnarvon, 520 nm to the north. The scenery over Shark Bay and Monkey Mia was particularly beautiful, and then it's across the water to Carnarvon. Landed just after 2pm for fuel and then we were on to Coral Bay just 100 nm away. The airstrip at Coral Bay is clay and can be rough, but this time it had been recently graded and was in excellent condition. Landed on 18 and tied down. The Ningaloo Resort people picked us up at the airstrip and delivered us to the resort which is walking distance to everything in this small holiday town. Great food and friendly people.

**Tuesday 25<sup>th</sup>**. We planned to fly to Broome today, overflying Onslow, Karratha and Port Headland, with a stop at Port Headland. The coast up over Onslow is interesting but the view of the development at Karratha was mind blowing. The whole area for miles around is just ship berthing facilities, storage, stock piling and processing for the iron ore, natural gas and salt. You can really see why this area is the economic powerhouse for Australia. We landed at Port Headland for fuel and lunch, then on to Broome 340nm north. Coastal and low level all the way. What beautiful scenery, hardly a cloud in the sky and the sea a magnificent blue. Made our in-bound call 30 nautical miles out and came in on 28 very low over the top of China Town and the „Sun“ open air cinema. We went to the movies that night and experienced a 737 on late finals only 200 feet above our heads. It was the best show all night.



**Approaching Karratha Salt Farms**



**Karratha Industry**

Broome is a favorite of Chris's and we planned 2 nights here. We stayed at the Roebuck Hotel which is right in town, has comfortable rooms and a pool. We hired a small car to get around and headed out to Cable Beach to take in the sunset, then back to the Roebuck for dinner. If you are in Broome you mustn't miss the crocodile farm; it's sensational.



**Broome Resident**

**Thursday** morning we departed for Derby, 90nm north. I wanted to meet Paul White and Don Cowley who both fly J230 Jabirus, and have successfully overcome some minor problems with the Jab in very hot climates. I had the opportunity to check out his engine and the second oil cooler which he has installed with ducted air. I also have a second oil cooler but Don's system is better than mine. I'll copy his when I get home. We took the opportunity to gap the plugs and do a check over.

We fueled up and took off heading for Talbot Bay and the Horizontal Falls, Mitchell Falls and the Mitchell Plateau. It was then on to Mt Elizabeth Station where we were to stay the night. The whole coast from Derby and over the Buccaneer Archipelago is magnificent. Rugged peninsulas spear out into the ocean and valleys go inland for great distances. The Horizontal Falls in Talbot Bay occur because of the huge

6m tides in the area. Fully landlocked inlets are only opened to the sea through narrow passages in the rocks. The water rushes through these narrow openings at great velocity when the tides are right. Talbot Bay had 3 tourist ships at anchor, and a busy sea plane base. Operators use Cessna Caravans fitted with floats to fly tourists in from Broome, or they come by small tourist ship. They then transfer to rubber duckies for an exhilarating ride up the horizontal falls. We had to content ourselves with a low level overfly, or several.

On to Mitchell falls overflying the Bonaparte Archipelago, the country just got more and more rugged. The Mitchell River doesn't have a lot of water at this time of year as it's well into the dry season, yet the sheer ruggedness of the falls area make it worth a look. There were two helicopters operating, flying scenic's over the falls, so we had to stay at 1000ft agl while they operated at 500 ft. Landed at Mitchell Plateau to stretch our legs. We met Bob, an old character who was camping next to the strip; he has lived in the bush for many years and was an interesting bloke to yarn with. On the final leg to Mt. Elizabeth Homestead we had to stay low because of headwinds, and were well "shaken and stirred" by the turbulent conditions. However, the view down low of this rugged pastoral region made it worthwhile. We did a quick low level over the homestead to let them know we had arrived and landed on 22. Most stations have excellent dirt strips as they never know when an accident may happen and the flying doctor has to be called. They provide good accommodation and excellent meals. We met a number of other tourists all in 4-wheel drives and swapped stories over dinner. There are many stations which have accommodation and are flyer friendly most operate small and very personal tours, which will give you a good look into station life.



**Ord River Dam**



**Buccaneer Archipelago**



**Horizontal Falls at Buccaneer Archipelago**





**Chris dozing**

**Friday 28<sup>th</sup>**. We were heading for El Questro but had to fly to Kununurra first for fuel. We had done a lot of flying since the last drink at Derby, lots of scenic's and low levels and it was fuel management time for the 160nm trip to Kununurra . Fuel levels were checked and I calculated that by backing off a tad to 115 knots I'd have my reserve. Beautiful morning to be flying and several alternative airstrips if things did not go as planned, only problem was, there was no fuel available on any of them. I noticed that Chris was not having his usual doze, but was surreptitiously glancing across at the Dynon 180, to check the fuel remaining. He sought reassurances several times that we would have enough. A wicked thought occurred. If I ran the left tank completely dry before switching to the right, I'd have some fun. Just as the engine faltered I called out "O my god" and looked across at Chris with a horrified look on my face. His reaction was spectacular. I thought he was going to have heart failure there and then. I was roaring with laughter so much, the Lightning was jumping all over the sky and I'd never previously heard such language coming through the intercom. I was still chuckling and Chris was still giving me heaps when we landed in Kununurra. My son James was working in Kununurra, driving machinery. I had no idea where he was so I got a shock when his smiling face appeared on the other side of my bubble canopy when I pulled up at the bowser. He just happened to be laying concrete near the fueling point when he recognized the yellow Lightning landing. It was great to see him. I had timed the trip so we could spend Saturday and Sunday nights in Kununurra with him. We fueled up and took off on the short hop to El Questro. The strip is situated in a valley between tall ridges. It was after midday and hot, the thermals were in full operation. With the winds and thermals swirling around the wind sock was of little help. I set up for 32 but had to do a very short final because of a high ridge, only to discover at 50 ft agl that I had a 15 knot tail wind. Around we went between the ridges and did a short field landing on 14. Not quite text book, but good fun. Accommodation here is fabulous. Beautiful timber self-contained units with balconies, overlooking the Chamberlain River. We made ourselves at home, and booked onto the sunset tour. This included a 4 x 4 tour, a boat trip up the Chamberlain River Gorge, followed by champagne and nibbles on a height overlooking the Chamberlain George and homestead. It was a sensational afternoon and the guide was very knowledgeable and great company.



### **Approaching El Questo**

**Saturday morning** we left early for a scenic flight over the Bungles and then on over Lake Argyle and finally to Kununurra. The best way to see the Bungles is by air and we did 2 circuits before giving our outbound call and heading North over the Argyle diamond mine, Lake Argyle and on to Kununurra. We had a great 2 days with James acting as tourist guide. We toured through the vast irrigation area, saw the Ivanhoe river crossing and visited the old Durack Homestead.



**Relaxing in Kunna Nurra. Actually, this could be another topless centerfold photo.**



**Monday** morning James dropped us at the airport at 6am for an early start. We planned to stop off at Daly River on our way to Cooinda, which is the airport for Kakadu. Tiger country all the way still the scenery over Bonaparte Gulf is fabulous. Daly River was an eye opener. It's an Aboriginal settlement and it's neat as a pin. People are clean and well dressed; everyone is happy and friendly and returned your greetings. There were no children to be seen for apparently they all attend school here. I don't know what their secret is but it was wonderful to see. We walked back to the strip for the final leg up to Cooinda, buoyed up by what we had seen.

Cooinda is situated in Kakadu National Park and we had booked into the Cooinda Lodge for 2 nights. Neither Chris nor I had been to Kakadu so we were keen to see it. That evening we went on the „Yellow Waters Crocodile Tour“. The sheer number of crocks and amount of bird life is amazing. At one stage we slowly motored alongside a 5.5 meter male, as he patrolled his territory looking for any other males that may have intruded. Heaven help any other male croc that had designs on any of his wives.

Tuesday afternoon we went on the „Animal Tracks“ 4 x 4 tour and it turned out to be a highlight of the trip. Our guide took us across magnificent country, explained all about native tucker which we sampled, and then out to a station where the aborigines raise buffalo. That evening we stopped overlooking the vast wetland, full of buffalo and birds of all sorts. Dinner was cooked native style using an open fire and a huge sheet of paperbark which the guide had taken from a tree earlier in the afternoon. No frying pan or aluminum foil here. The buffalo steak, barramundi and billy tea were superb.



**Dinner at Kakadu**

**Wednesday 2nd.** We were heading for Jabiru, 26 nautical miles to the north, for fuel, then on to Borroloola 300 nm to the east. We fueled at Jabiru and took off circling around the huge Ranger Uranium

mine and then southeast over some more spectacular country with rugged escarpments cut by deep river valleys. Eventually the Gulf of Carpentaria came into view to the north with its extensive mudflats and mangroves. The thermal activity had started early. It was a rough trip for the last hour before we landed on 02 to be met by my niece, Ursula, who works here. Borroloola is an aboriginal community and it's hot and dusty. Ursula's home is a „Queenslander“ ideal for this climate. We stayed here two nights and toured out to a number of outlying areas. Fishing is the main tourist attraction. I especially enjoyed spending time with my niece who is very knowledgeable on all things Territorial, having lived and worked in the territory for 15 years.

Thursday afternoon was maintenance time. We had flown nearly 25 hours so it was oil change and check over time. I had posted the oil to Ursula to save weight. We changed the oil, gave the Lightning a thorough check over, and fueled up at the credit card bowser.

**Friday**, and we headed for Karumba 290nm on the far southeastern side of Gulf of Carpentaria. We over flew Robinson River, Woollogorang, Bourke Town, and then onto Karumba. This country is all very flat with many rivers and streams crossing the mud flats and mangroves which border the coast. Great scenery, but I wouldn't want to have to put down. The cloud formations were particularly spectacular this morning with lots of large cumulus. I couldn't resist my favorite game of cloud playing, swooping down through holes and banking around shear cloud walls and generally throwing the plane around as if it were a slalom track. All good fun and Chris bore it all with quiet stoicism. Landed on 03 at Karumba, which is right next to the ocean, and walked the short distance to town for brunch. If you are a keen fisherman you would like Karumba, but we couldn't see many other attractions. Fueled and headed off for Weipa 390 nautical miles to the North. We have a 12 knot headwind, but there's beautiful scenery with many rivers, real crocodile country, a few small settlements dotted around and again spectacular cloud formations. Weipa is a large export port for Bauxite, it is also a great fishing place. I have been here before and enjoyed great ocean fishing and superb barramundi lure fishing up the Mission River, but don't swim, as you will see plenty of crocs on the river mud flats and small savage river sharks will often attack your fish before you can boat it.



**Near Burktown**



**Karumba**

**Saturday** morning, and Thursday Island beckons only 130 nautical miles to the North. We overfly Cape York, Chris is clicking away furiously as you have a view of the Arafura Sea, then Australia and then the Coral Sea, all in one shot. We fly low over the Cape and then on over the ocean to Horne Island.

Approaching Horne we hear 2 ultralights take off and a short time later we passed a Jabiru J160 heading back to the mainland. The landing field is on Horne Island and you take a short bus and ferry trip to Thursday Island. As soon as we landed a fuel truck pulled up next to us and we are ready for the flight next day. Thursday Island is a beautiful place with about 5000 people. Most work in the fishing and crayfish industry and they are very fun loving and friendly lot. In the morning there had been a hospital bed race around the islands 5 kms, in which it seems everyone either participated or watched. The main street was a buzz, and that afternoon was the grand final of the Islands rugby league competition, which most people attended. It was exciting and noisy and played in good spirit. We hired a taxi for an hour's tour of the island and it was well worth it. All the homes are so neat; most have a boat as the people love the sea. There is a lookout on top of the island and a gun emplacement which was built in 1900's to deter the Russian invasion. We went to the crayfish export plant and saw the painted and green crays all very beautiful and many colored. They are exported live to Japan where they fetch an enormous price.



**Cape York**

**Sunday 6th** we were off to Cooktown with a stop at Lockhart River. We flew over Cape York and coastal all the way south. Its magnificent flying with coral atolls dotted all the way. Occasional pleasure boats are sighted. What a magnificent area for boating if you like a large chunk of sea and Islands all to yourself. We landed at Lockhart River to stretch our legs. It's an old World War 2 Liberator strip and bombers would fly from here to bomb Bougainville. We met a local named Bob, and when we commented the strip seemed rather short for a fully loaded Liberator he told us there used to be remains of a number in the creek at the end of the strip! On to Cooktown, where we stayed at Milkwood Lodge for 2 nights. We hired a car and toured around the area. The Captain Cook Museum is not to be missed.

**Tuesday** and we are heading for the Whitsunday's and Shute Harbor. This is tricky flying. It's controlled airspace around Cairns and Townsville and I'm not qualified to fly in it. I decided to head for Cape Kimberley and from there direct to Cape Grafton, flying under the step at 1000 feet, 7 nautical miles seaward of Cairns. I rang Cairns control and advised them of my intentions. They couldn't have been more helpful. I'd also spoken to Townsville and advised them that I would be flying west of the town under the step and under 2500 feet through the „gap“, they too were helpful. Both checked that I had a transponder and asked me to call them when I was approaching. Cairns tower asked me to squawk 1200 and then kept me and all other traffic informed as I flew low over the ocean about 8 nautical miles off



shore. From Cape Grafton we flew over the beautiful Innisfail, then on down low through the Hinchinbrook Passage. At Blue Water I called Townsville approach and squawked 1200. We then stayed below 2500 feet through the gap and on to Donnington Airpark where we landed. I love flying through new country. The gap was challenging as we had cloud cover at 2800 feet agl, the ground at 2000 ft and controlled air space at 2500 feet. We also had peaks right and left going up into the cloud. It was quite bumpy and interesting flying. At Donnington Park we were met by Ray Smith who was very welcoming and made us coffee. He is an interesting old bloke and just loves to meet other flyers, so drop in. On we went to Whitsunday overflying Bowen. Landing on 36 Shute was a doozy. It is situated between two high ridges, the wind was funneling down at 20 knots and turbulent. I was too close to the strip on downwind but there was a ridge close on my right. One continuous left turn onto finals and, „where’s the airstrip gone”. It’s disappeared. Finals turned out to be sharp dog leg to the right when the strip suddenly reappears close under the nose. Hell I was way too high, add flaps close the throttle, cross controls and side slip down into one of my best landings. I must do this more often! Taxied up to the tie down point where we were greeted by an attractive young lady who complimented me on my landing and informed me that „they” were all out watching as pilots landing for the first time usually „stuff it up”. I positively glowed. This had been a challenging days flying and I had enjoyed it immensely. Shute Harbor is a beautiful place and the houses there have spectacular views over Shute Harbor and the many islands off shore.

**Wednesday** was a relaxing day and we took a boat cruise to the nearby islands. A very pleasant and relaxing way to pass the day.



**Airlie Beach**

**Thursday 10th** and we start our trip home. First stop Longreach 314nm, where we want to visit the Qantas Museum and the Stockman’s Hall of Fame. After the fabulous scenery of the past week the flight to Longreach was a bit dull. We arrived about 11.30 after battling headwinds all the way and finally pulled up at the fuel bowser. A couple arrived just after us in a savannah, so we talked aircraft and flying. It’s

only a short walk to motels. The Qantas Museum is a really great display of old aircraft memorabilia of early days of flying. It takes you through the history of Qantas from its earliest beginnings in Longreach up to the present day. There are many engines from the early days, several old aircraft and the static display of the 707 and the 747. The Stockman's Hall of Fame just a short walk away is also a must. It displays all things pertaining to early Australian bush life with many thousands of exhibits. It would take a couple of days to do justice to these displays.



**Qantas graveyard, Longreach**

**Friday** and it's on to Alice Springs via Birdsville. We have had plenty of tailwinds since we left home but it was headwinds yesterday and it looks like headwinds all the way home. It's blowing around 10 – 15 knots so I will try different heights see if I can get more favorable winds. It's a 660 nautical mile day with Birdsville half-way, so we start early. I cruise at 125 knots but the ground speed is now 100 knots at 4500 feet so I drop down to 2500 feet where it is a little better. We keep the main dirt road and small settlements in site as we pass Stonehenge, Windorah, and Betoota before we sight Birdsville at 11.30. The single strip is bitumen and right in town. The previous week was the Birdsville races and there were 150 light aircraft in town. The wind is really howling across the strip and there is no cross strip. This is going to be interesting. On finals I'm heading 30 degrees left of the keys, straighten up late, wing down to hold straight, and do an acceptable landing. The wing must have been very close to the bitumen. Pulled up at the gas pump, fuelled up and headed into town, 100 meters away. There are only 30 permanent residents in Birdsville to run their race meeting every year. It's a huge event with people coming from all over the area, and it lasts a full week.



**Birdsville**



**Birdsville cake shop**

After lunch we took off for Alice Springs 330nm over the Simpson Desert. No roads not even tracks, no water no habitation of any kind until we reached the Alice. Must have been a terrible place for the early pioneers. The sand hills run north south as far as the eye can see, with very little other relief. Our trusty Jab 3300 never gives us a moment of concern as it hasn't ever since I started it back in October 2008. Headwinds slow the trip and it is of no use to go high as the winds are even stronger, so we stay low and after about 3 hours there in the distance is Alice Springs. Alice is controlled Airspace so I can't go directly there and instead we head for Bond Springs, an ultralight and glider landing strip 10 nautical miles north of Alice. The CFI at Alice Springs is a mate of mine, Cliff McCann, and he flies over with his senior instructor Jackie Chan in a 172 to meet us. Cliff joins me in the lightning while Chris jumps in the 172 with Jackie for the short flight to Alice. Cliff has a great set up here, comfortable club rooms plenty of hangar space and the satellite strip at Bond Springs for the ultralights and gliding. The lightning fits into the club's huge hangar along with several other aircraft and a helicopter. There is a very nice CT in there which Cliff offers me a flight in the next day. I haven't flown a CT so I'm very keen. Cliff's wife Jan has kindly invited us to stay with them for the night and they gave us a great time showing us around town and we had a fun evening at the local Chinese restaurant. Chris is due to leave me here, flying back to Sydney on Qantas at 1pm the next day. Cliff and I are going flying in the CT in the morning and after seeing Chris off I'll head for Warburton 450nm away. I can then fly Warburton to Bunbury the next day. The flight in the CT is very interesting, I enjoy flying different aircraft but I guess I love that big 6cyl Jab in the lightning, it's just got so much more grunt than the Rotax.



**In the hangar at Alice**

Before departing Alice, I climbed the tower and spoke to the controller. He gave me a run through to make sure I was familiar with procedures and the departure track to avoid Pine Gap.

I got away at 2.30, and it has to be a nonstop trip 410nm to Warburton to beat the light. It's a headwind, but only 10-15 knots, thank goodness. The aircraft performs better with only 1 occupant and we are flying at over 130K TAS using 22 liters per hour. I get about 10 knots more for the same fuel burn at height but because of headwinds I'll be staying low today. I enjoy flying long distance over Central Australia. It's probably not to everyone's liking, but outback Australia has always interested me, I've travelled a fair bit of it by road, and now seeing it from the air provides a whole new understanding of distance and remoteness. I pass Ayers Rock and have to forego a scenic this time and head for Docker River, then Giles and after nearly 4 hours sight Warburton. I landed and was quickly surrounded by a crowd of Aboriginal children all throwing questions and me and touching the aircraft. They are a happy, friendly



group and ask thoughtful questions. I tied down and gave them a good look over the Lightning. They were very good and we all walked off together to the settlement. The roadhouse is very basic, just a donga but I managed to talk the manager into selling me a frozen BBQ pack so the worms were satisfied.

**Sunday 13<sup>th</sup>**, and home beckons. Took off early after a thorough preflight check, and headed for Kalgoorlie. Again it's my kind of country, great colors in the early morning light. Only 5 – 10 knots of headwind and no thermals this early. Huge dry lakes dot the landscape, there's escarpments and enormous areas of red earth. The colors are fabulous. Landing at Kalgoorlie can be a bit tricky. I have landed here many times and it often has strong gusty winds, wind shear and thermals. This time however it is completely benign. 10 knots straight down the runway. Pulled up at the BP and met a friend fueling a 172. He was president of the local Kalgoorlie aero club and they were having a club day today. I was invited to the club house for coffee. Met a nice crowd of blokes and had a very welcome coffee. Didn't hang around long as home and my patient wife Jenny beckoned. Kalgoorlie to Bunbury I know well having flown it a dozen times. One hour out of Kalgoorlie and I'm over farmland again. I have not seen farmland since 1 hour after we left Shute 3 days previously. Australia is indeed a vast land but only a very small amount is arable. The crops look fantastic. WA unlike the rest of Australia is having a great season with plenty of rain. It's only a 10 knot headwind and 3 hours later the West coast and Bunbury are in sight. It's been a fabulous trip and I've enjoyed every day of it. Chris was great company, you could not ask for a better travelling mate. Still we have known each other for a while having met in Primary School. I land and Jenny is waiting for me together with our dog Tim who goes berserk when he sees me. It's great to be home with those you love. Has anyone got any ideas how to get a reluctant wife to fly?



**Chris at Bond Springs**

A few vital statistics. I first flew my Lightning in October 2008, and turned over 200 hours on completion of this trip. The trip itself took 50 hours in total and we flew 6,500nm with many scenic diversions. The lightning uses 22 liters per hour on average, flying at 125 KTAS at low altitude and 135 at 22 lph at height. The aircraft's Jab 3300 engine has been completely trouble free throughout its life and has never given me one moment's concern. My only modifications have been to replace the valve guides with sleeved guides, which greatly reduced oil consumption. The only other mod is the fitting of a second oil radiator to reduce the oil temperatures on very hot days. I change the oil every 25 hours and do thorough

servicing and inspections. Emergency equipment included water, food, life jackets, first aid kit and Epirb. All necessary navigation gear was taken and the „Pilots Touring Guide“ and „AOPA airfield directory“ were invaluable. The trip was planned in advance but we changed some destinations and length of stays enroute. Accommodations, taxis, hire cars and fuel etc were all booked enroute and we had no trouble whatsoever, in fact the whole trip of 22 days went off without a hitch of any kind. I'm wondering where to go to next.

I'll be at Oshkosh this year and I look forward to meeting many other Lightning Flyers. I'm helping with a group of 20 young people aged 15-17 who are all studying Aviation as part of their schooling, and who all wish to go into either commercial aviation or the air force, so I'll probably be pretty busy. No, I'm not a school teacher. See you all in July.

**Great write-up Peter, and I look forward to meeting you at Oshkosh. Those of us at OSH use the Lightning booth as our operations center and generally spend some time there each day. We also generally have an official Lightning get together on one day; usually on the day that Nick gives the Lightning forum. As you said, see you all there.**



Beautiful Lightning, Peter. Thanks for sharing your adventure with us.

## **News from the Factory**

Once again this year, the Lightning factory team went to the **US Light Sport Aviation Expo in Sebring, Florida**, in late January. This show, now in its sixth year, continues to grow and has become the leading show in the nation for showcasing light sport aircraft and the associated aviation equipment and supplies. All the major manufacturers have a presence there and the attendance continues to increase every year. The Lightning team kept busy showing the Lightning and Nick flew many demo flights during the course of the show. Two Special Light Sport Lightnings, LS-1s, were sold at the show. Moonshine Aviation, the new Florida Lightning Dealer owned by Max Voronin and Olena Manakina, were also there and helped run the Lightning booth each day. Moonshine Aviation is located at DeLand Airport and will have their demo aircraft flying by this spring with a goal of having it at Sun-N-Fun in April.

My thanks to **Tex Mantell** for sending some photos of the Sebring Light Sport Expo and to **Mark Stauffer** for additional photos and a write-up about the show.



Tex's photo of the Light Sport Aviation gate.



The Lightning and Jabiru booths.



Two more of Tex's photos – canopy breaker tool (in case you find yourself upside down in a corn field) and the Sebring Airport fuel farm which has car gas (maybe for those Rotax engines that require it).





**Nick getting ready to depart on another demo flight.**



**LS-1 on display. Nick up front and maybe Max on the left and Tex on the right looking in the cockpit. That might be Olena in front of the left wing.**

### **Mark Stauffer's report on Sebring.**

This was my first year to attend the U.S. Sport Aviation Expo in Sebring, FL and I was quite surprised and impressed by the size of it all.

**Pete and Nick** flew down on Monday to attend the ASTM meetings held on Tuesday and Wednesday before the show. **Katie Bosman, Mark "Possum" Phillips and I** flew down in two Jabirus on Tuesday to get ahead of the weather that was headed for Tennessee on Wednesday. We had a light headwind but beautiful weather and were able to make it to Sebring in about 5 hours of flying time. The flight gave me plenty of time to play with the new Garmin G3X system that **Ben Krotje** installed in their new J-230 Demo. I'll write a little more about the Garmin unit in a future article but I'll just say right here that it's a very nice unit and fairly easy to use if you're familiar with Garmin products. Also in this new demo plane are a row of switches put out by Aveo. We just installed a set of these in **Jim Johannes'** Lightning and

they are very nice. They are a bit more expensive than a standard switch but the finished product is outstanding. Just another possibility for those of you still designing your panels.



**New Aveo switches on the left and the Garmin G3X system on the right.**

While **Pete and Nick** were in meetings, **Katie, Mark and I** set up our booths and prepped the planes for the show. There was a flurry of activity throughout the grounds as vendors arrived and starting getting ready for opening day on Thursday. While waiting to meet up with **Pete and Nick** for lunch, the three of us wandered over to a good vantage point to watch the Indy style cars run laps around the Sebring racetrack. We didn't know if these were teams testing their cars for the upcoming season or drivers going through the Skip Barber Racing School but it was fun to watch nonetheless.



**Sebring Airport and sports car racing circuit.**

The show opened on Thursday under cloudy and breezy conditions but that didn't seem to keep the crowds away. Throughout the weekend Lightning owners came by the booth to say hi. We had the pleasure of seeing **Pat and Carl Beatrice, Paul "Bear" Bryant, Jim Johannes, Tex Mantell, Jim Goad, Bob Hass, Buddy Carlisle and Greg Crouchley**. If I missed anyone else please forgive me! Also, we got to know our newest dealers a little better. **Max Voronin and Olena Manakina** are the owners of **Moonshine Aviation, LLC** our Florida dealer. **Max and Olena** picked up their Lightning kit from Custom Fiberglass in Wisconsin on Monday the 18th, stopped by Shelbyville on Tuesday to get their engine, got to Deland, FL on Wednesday to unload and started helping us in the booth bright and early Thursday morning! Wow, what a week! They were a tremendous help to **Nick** and me and will be wonderful representatives for Arion Aircraft.



There was a lot of enthusiasm surrounding the Lightning and that kept **Nick** busy with demo rides every afternoon. **Nick** averaged around 6 - 7 demo rides each day and everyone that got out of the plane had the "Lightning Laugh". 🤪 Everyone I talked to spoke about how much better the Lightning handled compared to other demo rides they'd taken during the show. We talked to many serious individuals looking at both Lightning kit and LS-1 aircraft and, if this show is any indication (and we think it is), this will be a very busy year for Arion!

Finally I'd like to recognize two new members to the Lightning family. **Ed Ryan is the new owner of an LS-1 that will be built for him in the next month.** **Ed** came to the show to get a firsthand look at several other aircraft and if I understood him correctly the Lightning wasn't even on his list. He happened by our booth and I offered him a demo ride for the next day. **Ed** took several demo rides on Friday and around 7:00 pm, under the dome light in the front seat of our rental car, he signed the contract and gave me a deposit check for a brand new LS-1. Expect to see **Ed's** plane in our booth at Sun-N-Fun.

**Our other newest Lightning owner is Tom Herbert.** **Tom** is from Titusville, FL and flew down Saturday morning with his friend and CFI in his friend's RV-8 to get a ride in 325AL, our LS-1 demo plane. After that flight **Tom bought 325AL** right there at the show. He did allow us to give more demos that afternoon and, just so **Nick** wouldn't have to walk home, he allowed us to take her home one last time where we'll perform an annual and add a couple of items to the plane. After we perform these services we're planning



on delivering 325AL to Tom sometime next month. **Please welcome Ed and Tom into the Lightning community!**



**Nick is talking to Jim Johannes and Ken Wilson.**

We left Sebring Sunday afternoon to get a head start on the weather that was coming into southern Florida on Monday. We planned an overnight in Gainesville, FL and settled in for the night to watch the NFL playoffs. Monday brought clear skies but forecasts of turbulence and gusty winds. At this point we had four Jabirus and one Lightning heading back to Shelbyville. We picked up an extra Jabiru on our way home so the guys at Jabiru USA could perform an annual and some maintenance for the owner. The headwinds varied between 30 - 45kts and sometimes as high as 50kts! We continued climbing throughout the day finally flying as high as 9,500' to get above the worst of the turbulence. The landing in LaGrange, GA was a bit "sporty" because of the gusting crosswinds but all the planes handled it well. About 90 miles southeast of Shelbyville we had to come down to get under overcast skies at 5,500' and the last 30 miles or so was flown in light snow. What a change between sunny, 80-degree Florida and cloudy, 35-degree Tennessee! Total flight time back from Gainesville was about 5:15.

As you can see this year's Sebring show was a great success for us. The best thing we can do for our Lightning community is get out there and fly our planes and talk to other pilots about the Lightning. Recognition of the Lightning name and Arion Aircraft is growing mainly due to you, our owners. Also, many thanks to Buz Rich, the newsletter editor. Every serious individual I talked to had read and enjoyed the newsletter. **Please help Buz out with articles and e-mails so he can keep newsletter fresh and informative.** Our next big event is Sun-N-Fun. We look forward to seeing all of you there!

**Mark Stauffer**

Production Manager, Arion Aircraft  
2842 Hwy 231 North, Shelbyville, TN 37160  
(931) 680-1781

**Here's a link to an AvWeb video of Nick and other industry leaders talking about the economy and the LSA market. <http://www.avweb.com/eletter/archives/bizav/1557-full.html#201905>.**



## Lightning Sales Update

Well things have been very busy here in Shelbyville. As you saw in my short write-up of the show, we had a very successful time at Sebring this year. Shortly after our return from Sebring we took an order for a kit, with builder's assistance here in Shelbyville, from **Ken Wilson** of Guntersville, AL. **Ken** will start building his kit with us during the last week of April.

As many of you may have already seen, the Lightning LS-1 had a great write-up in the March issue of Plane & Pilot. The day that issue hit the newsstands our phones started ringing. We've talked to at least a dozen serious buyers and have entertained a couple of visitors here in Shelbyville. Just this week we sold two more LS-1 Lightnings. The first one will go to **Philip Beeson** of Winter Haven, FL and the second to **Bob Ponti** of Dallas, TX. We'll be starting on **Philip's** bird next week and **Bob's** shortly thereafter. Please welcome our two newest members to the Lightning family.

**Ed Ryan's** LS-1 is at the paint shop right now and we hope to get it back next week to start final assembly. **Ed** will visit with us in March for transition training and will fly his plane home from Sun-N-Fun after we show it off in our booth.

On the 21st of Feb **Moostang Mike** hits the road to pick up kits from Custom Fiberglass in WI. **Mike**, being the GA native that he is, just loves heading to WI in the middle of winter. He says the change of scenery does him good!

We're starting to explore a couple of new panel options, a Garmin G3X system and a Dynon Sky View system. We've had customers start to ask for them so we're looking into offering them in LS-1 aircraft. The Sky View looks very promising but it doesn't look like all the functionality will be available until around Oshkosh. As I told you in the Sebring piece, I flew a J-230 down to Sebring and back with a dual screen Garmin G3X panel and it worked very well. It will be another great panel but it will come at a premium. When we have final pricing we'll let you know.

From the "It's a small world" department, I fielded a sales call from a gentleman in SC that was interested in an LS-1. He was in the process of selling his Sport Cruiser and was interested in replacing it with a Lightning. While talking again the following day when he mentioned **Philip Beeson's** name, whom I'd just sold an LS-1 to the day before. I didn't say anything about it but was wondering how in the world a guy from SC knew a guy in FL that just bought an LS-1. In a follow-on conversation with **Philip** I found out the connection. **Philip** had called this gentleman to inquire about his Sport Cruiser and left a message but didn't hear back from him for a couple of days. In the meantime **Philip** met up with **Lynn Nelsen** and got a ride in **Lynn's** Lightning and shortly after that called us and bought an LS-1. When the gentleman from SC did return **Philip's** call, **Philip** had to tell him "sorry, but I just bought a Lightning". We still look forward to working with the gentleman from SC to help him replace his Sport Cruiser.

While **Philip** was getting a ride with **Lynn Nelsen** they met up with **Bobby Thomas** at the Winter Haven, FL airport. **Bobby** is a DAR in MD, WV and VA area who has signed off most, if not all, of Green Landings' Lightning builds. **Bobby** has become a "snow bird" and owns a winter home next to the airport in Winter Haven. **Bobby** is also a personal friend of mine and was my tech counselor when I started my Zenith project several years ago in MD. He's also a big fan of the Lightning.

One last thing. We want to personally thank **Lynn Nelsen** for bringing two people into the Lightning community. **Lynn** had talked to **Tom Herbert** before Sebring and that, along with a demo ride from **Nick**,

was instrumental in **Tom's** purchase of our demo N325AL at the Sebring show. And, as I mentioned above, **Lynn** gave **Philip Beeson** a ride that subsequently led to **Philip** buying his LS-1. We've always maintained that one of our best marketing tools is you, our customers and readers. So with that in mind please continue to fly and tell others about your "jet". Your enthusiasm for your aircraft does so much more than any magazine ad ever could.

Until next month,

Mark  
Production Manager,  
Arion Aircraft

## Current Lightning Dealers



**Arion Lightning, LLC**, contact Nick Otterback, Shelbyville, TN, 931-680-1781, [www.flylightning.net](http://www.flylightning.net)



**Lightning Southwest**, Greg Hobbs, Marana, AZ, 520-405-6868



**Green Landings Flight Center**, Ryan Gross, WV, 304-754-6010, [www.greenlandings.com](http://www.greenlandings.com)



**Lightning North Central**, Tom Hoffman, Neenah, WI, 920-836-2318



**Lightning Northeast - Jabiru Power Solutions, LLC**, Dave Jalanti, NY, [dave@jabirups.com](mailto:dave@jabirups.com)



**Lightning Australia**, Dennis Borchardt, Kingston SE, South Australia, 08-8767-2145



**Lightning Brazil – Cimaer Ltd**, Claudio Nunes, Brazil 24 900-000, 21-2637-3605, 21-9451-9700



**Russia and CIS – AVIA-NIANIA**, Moscow, Russia, + 7495518-62-75, [avianiania@mail.ru](mailto:avianiania@mail.ru)



**Lightning Florida**, Max Voronin, DeLand Airport, FL, 386-873-9995, [www.moonshineaviation.com](http://www.moonshineaviation.com)

## News from the Dealers

Here is the latest news from Dave Jalanti, the Lightning and Jabiru dealer in New York.

Hi Buz,

My project is complete except for the ID placard and wheel pants. The hold-up for first flight is the FAA. Since the Albany FSDO in error had me register the plane as EAB when the intent was to register it as

ELSA, I had to write the registry office in OK city a "set aside" letter. They are sending me a letter in return letting me know the forms and details I need to follow to change the registration to ELSA. Meantime, Pete and Nick have already given me what I need from them so that will help. Once I have every detail together, I'll apply for the ELSA registration..... then wait. Meantime, our 4000' turf runway is clear and I have done some taxi testing and seated the brakes. The runway is a bit rough to begin with and now, between frost heaves and the lumps and bumps being frozen solid.... man it about shakes your teeth out! I think the gear legs used on the first two LS1s and my plane don't help as they are real stiff. I don't like abusing the plane so I have parked the plane until after I have the airworthiness certificate and I'm ready to fly. Then after that first launch, I'll probably go to Columbia Co Airport 5 miles away to do my first landings on pavement.

Another plan is; I may hire Nick to come up and look the plane over for anything that needs changing and to assure the FAA guy who will be inspecting the plane that it complies to the factory requirements for ELSA. If I do that, then I'll most likely have Nick do the first flight as well.... weather permitting and all that stuff.

Dave Jalanti  
Jabiru Power Solutions, LLC

**The next dealer update is from Max Voronin, in DeLand, Florida.**

Hello world!

Just a quick little update to let y'all know that we are doing good and that N787FL is on schedule. Provided the paint shop and everybody else involved behave, the demo will be at Lakeland for the show. Anyway, if anyone wants to stop by, we are at KDED - DeLand, FL, on the southwest end of the field. Some 50 yards northwest of the F-14 if you are driving. Phone number is 386-873-9995 and we are usually here 7 days a week. Be sure to ask for some coffee!

Max  
Moonshine Aviation, LLC  
917 Biscayne Blvd #5  
DeLand, FL 32724

**And the last dealer update for this month comes from Ryan Gross at Green Landings in West Virginia.**

Attached are a few pictures of **Greg Crouchly's** Lightning and also the Garmin G3X system that will be installed in **Dave Cummock's** Lightning.



**Nice Jet, Greg!**



**Greg Crouchly's Lightning interior.**



**Dave Cummock's Garmin G3X system.**

Ryan Gross  
Green Landings Flight Center, Inc

**And finally this is from the Green Landings Hangar Rat (apparently some rodent that has moved into their main hangar for the winter months:**

Not been getting enough sleep with all the activities. Kit sales are moving, **Ryan** picked up kits # 13 and # 14 (kits sold by GL) last week and will be getting #15 next month, or as soon as possible. Several more customers are "pending events"...i.e. sale of the Cessna, sale of a partly built Van's kit, kids college graduation, etc. It should be a busy summer. **Ryan** is looking to sell 8 Lightnings this year, so only 5 to go.

**Greg Crouchley's** bird is sitting in the hangar staring at the doors. They still have 2 feet of snow against them! His jet features a sharp paint job, the GL wing tips, and a clever interior. GL is blessed with a great painter and a creative interior man. His panel sports a MGL Voyager with all the bells and whistles, including the new MGL Com. Will let you know what I hear about the panel as **Greg** works the bugs out. Just as soon as the snow melts off the runway, that bird will be soaring.

Green Landings will also be the site of the first Garmin 300 installation in a Lightning! The panel is waiting for the arrival of the goodies. The airframe is painted and is being assembled, so it won't be long before the new builder is enjoying both plane and panel. It will have auto pilot, weather; the whole 9 yards.

While literally chewing away at the Feb 2010, Sport Aviation magazine, I noticed on page 77 that **Albert Wachtmeister's** Lightning got some recognition. Good Job **Albert!** He was one of the early builders, first flight Nov 30, 2007, who took his time building at Green Landings. Some want to build quickly, some want to take their time. I don't care, just leave me a few pizza crusts and a few half-empty Pepsi's and I will be happy.

My big decision is whether to ride along to Sun-N-Fun. **Greg's** Lightning should be in the Booth there, but it might be hard to hide in. A couple others may make the trip, so I may just hide behind the seat!



Love, Dougie, the Green Landings Hangar Rat



## News from Builders and Flyers

This first input in the builders and flyers section comes from Carl and Pat Beatrice, our favorite couple from New Hampshire (in the summer) and Florida (in the winter). Throw me in that briar patch. They are providing a short write-up of their trip to last year's Lightning homecoming.

After what seemed like endless days of rain and delayed homecoming dates, the weather finally broke enough to hold the homecoming from Oct 9-11. We flew our Lightning between weather systems on October 8 from Sanford ME to Shelbyville (865nm). The enroute weather was decent, but constant rough air at all altitudes, and of course the usual headwinds (+/- 18 knots) Total flight time was 7+40 with two stops (Bloomsburg, PA and west of CRW.)

The weather during the homecoming was both good and not so good. The air race on Saturday was canceled due to weather. Not everyone made it to fly-in due to weather here and there, but the small group that was there had a great time getting together and getting to know each other, as well as swapping tips on the Lightning.

The Arion staff went above and beyond in providing their facilities, some very interesting lectures and fun and games. The Saturday PM creeper race was one of the highlights among others. The best part was the people.

The next day, Sunday was not flyable to the northeast due to weather. Buz, Linda and a few others were able to fly out Sunday (east and southeast bound). As I recall, we stayed until Wednesday before the weather improved along our route of flight, and even enjoyed slight tailwinds

In recapping, a great time was enjoyed by all attending. On Saturday evening a wonderful meal was had at the Bell Buckle Cafe. A great big THANK YOU to all the Arion staff.  
Carl and Pat

Next, a big **CONGRATULATIONS to STEVE HACKER** for soloing his Lightning. The write-up below was on the Hummingbird Aviation blog on 10 Feb 2010.

**[Steve Hacker's First Solo In Lightning](#)** Posted by [Jeff Dalton](#)



Steve Hacker next to his Lightning

Over the past six weeks, Steve and I have been flying in his **Lightning** working towards his first solo in the aircraft that he personally built.

The weather has been a major challenge for Steve's flight training, being that it is January and February in Minnesota. Steve has been doing the preflight inspection in his hangar and then taxiing down to Hummingbird to pick me up for our lessons. Because of his hard work, I have only heard the stories of what it takes him to prepare for flying when the temperature is 0 degrees, the wind is blowing and the ramp has 6 inches of snow with an underlying inch of solid ice. By the time I get in the aircraft, Steve is somehow still smiling and telling me that it took him 30 minutes to push his aircraft in the day before because of the ice or letting me know how many times he fell on the ice while getting it out of the hangar, or about a slight mishap with the pre-heater causing the engine not to start. Once I am in the airplane, I immediately grab the towel and start wiping frost off the canopy. When it is below 10 degrees, wiping the canopy is a full time job and Steve has given me the title of wipe man. Like most Minnesotans, we have both treated the weather as just another thing to overcome.



**Steve Hacker after his First Solo and grinning ear to ear.**

**Steve also sent in the note below that is a good “I learned about flying from that” episode. So if you have modified your nose wheel to be able to use a tow bar, learn from Steve's message.**

Buz: I need to add another item to my checklist - remove tow bar from front wheel hub before taxiing.

Earlier this week, I pulled my Lightning out of Lima Lane to taxi down Alpha at FCM in Eden Prairie. I was going to pick up my flight instructor Jeff Dalton at Hummingbird Aviation. As I started moving, I heard some scraping noise and I immediately thought that my front wheel had iced up again but since I could steer the plane with the brakes, I ruled that out. Since I have been flying in very cold weather, and with snow and ice on the lanes and taxiways, I have been hearing different noise each time out.

As I kept on with my taxiing, I noticed that the noise would not go away which should have told me to stop then and there - but being a student pilot, and now on Alpha, I was reluctant to stop because there were two planes waiting to get on to Alpha. As I got closer to Hummingbird it finally dawned on me that it might be the tow bar but since I was now close to their ramp, I figured that I would continue on - secretly hoping that nobody would see me. As I reached the ramp, Bill Halpin, the mechanic at Hummingbird, came flying out the door with his arms up in the stop position. After I stopped the plane, Bill told me that I had been extremely lucky in that my tow bar did not strike some snow or ice, and kick back up in to the prop. Then after some good natured ribbing from everyone at Hummingbird, I proceeded with my lesson.

So how does one forget to remove the tow bar? Call it a distraction. The area in front of hangar had been a complete sheet of ice and it took me nearly 20 minutes to move my plane 30 feet. In the process, the snow melted off the hangar dripped on to my plane and it started to ice up on the wings. So I pulled out a bottle of ice melt spray and spent another several minutes wiping down the plane - all of which made me late for my lesson. Thus nearly a half hour after pulling my plane out of my hangar, I never thought to again check the tow bar. This day, I was lucky.  
Stephen Hacker

**Thanks for sharing the tow bar information, Steve. You may just have prevented some other Lightning flyer from having to buy a new prop.**

**Next is one more input from Steve. Actually, it is a question about using auto fuel and winter operations that others may also learn from.**

Buz:

For the past month I have been flying my Lightning using Shell 91 octane - non-oxygenated gasoline. (I use a Mr. Filter) During the fly-off period, Al & Tom only used 100LL.

Today while flying, my instructor Jeff remarked that the engine seemed to be running a little rough. The mag check showed no problem. Jeff said that he has also noticed this the last couple of times as well. Up until 4 weeks ago, I probably had a declining mixture of 100 LL as I went to straight auto gas, so I would say that I have been pretty much running straight 91 octane.

I called Danny Jones, my primary test pilot at Brennand to tell him that today - with temperatures around 30F, at 2500 MSL (1600 AGL) with no reported wind, that with full throttle, I could not get much past 2900 rpm, with a 10.4 fuel flow rate, and a speed of 120 knots. I then set fuel flow to 6gph, to get 2600 rpm and 103 knots. Dan thought this was a low for both settings. I mentioned how I was using auto gas, and he thought that switching back to 100 LL would improve things. He told me of a man who runs a Jabiru 8 cylinder at Brennand and by using 100LL and 91, approximately 50-50, that the results were far better than with just straight auto gas.

I would appreciate your comments.

Thanks

Steve

**Steve, I have several comments to your questions:**

**-First, are you sure there is no ethanol in the 91 octane fuel you are using? I have heard of stations saying they had fuel without ethanol, but when the consumer used an ethanol test kit, sure enough, there was ethanol. I am not sure where all the test kits are available, but I think the EAA still sells them.**

**-Next, remember auto fuel does not have the additives that aviation fuel does, so you may be getting some moisture, and at the temps you are flying at, perhaps some ice in the fuel. Auto fuel is more susceptible to vapor and moisture. Again, at the temps you are flying in, the intake tubes could be getting cold enough to have vapor form and thus induce water/moisture into the air/fuel mixture as it goes into the cylinders.**

**-Any or all of the above could be causing your slight rough running.**

**-Another thing to think about - that cold air you are flying in (and running the engine in) is pretty "heavy" air and actually the prop (and thus engine) is working harder to move that heavier air - particularly down low. I notice that every winter even here in Virginia with the higher pitch prop I am using. People running speed props will notice it even more than those with more of a climb prop. By the way, fuel flows will also be higher in the winter as the Bing carb tries to adjust for the heavier/thicker air.**

-Here is my bottom line. I only run 100LL. The better performance and the safety factor is more important to me than the few dollars I could save by running auto fuel. And I certainly don't want to take a chance of getting fuel with ethanol. Heck, I often go out of my way to get non ethanol fuel for my Corvette and truck. That gives me about 10 to 15 percent better fuel mileage than when I fuel up with the now standard city blend of 10% ethanol.  
Hope this helps,  
Buz

## **Reader Feedback**

**sgoose33@hotmail.com (Steve) sent in the following message. It looks like we have another future Lightning flyer in our group. And he seems to have a great sense of humor as well.**

I am reading through all of your newsletters trying to find a reason not to build a Lightning this summer. I am flying a Cessna 150 down to TN as soon as I can for a look see at the operation and hopefully a demo flight.

While reading your November 2009 issue and in regard to the Final Thoughts NPRM I believe that the: *"1000.1C Upon receipt of the above mentioned notice of impending comprehension, the Administrator will immediately rewrite the Federal Aviation Regulations in such manner as to eliminate any further comprehension hazards"*, should actually read:

*1000.1C Upon receipt of the above mentioned notice of impending comprehension, the Administrator will immediately offer the individual a position with the administration. (This will maintain the balance of apparent comprehension within the FAA.)*

Love the newsletter and look forward to a Lightning dream.  
Steve

## **Upcoming Events**

**Sun-N-Fun, Lakeland, Florida, 13-18 April, 2010**

**Lightning forums are Tuesday and Friday (13 and 16 April) at 1300 in Forums tent # 11.**

**The annual Lightning get together at the Lightning booth will be Friday, 16 April at 1100 or 1130 – TBD.**

**Virginia Regional Festival of Flight, Suffolk Executive Airport, 22-23 May, 2010**

**Sentimental Journey, Annual Cubs return to Lock Haven, PA, 16-19 June, 2010**

**AirVenture, Oshkosh, Wisconsin, 26 July to 1 August, 2010**

**4th Annual Lightning Homecoming and Fly-In, Shelbyville, ?? September 2010.**



# Flying Safety

**As an EAA Flight Advisor, I am often asked to help with everything from planning flight test profiles or a first flight in a newly completed home built or a newly restored vintage aircraft, to deciding on the right transition training when checking out in a new to the pilot aircraft. Sometimes these counseling sessions are face to face and at other times they may be via phone calls or emails. The key in deciding the right transition training is to look at the pilot's experience, proficiency, and currency. However, every now and then, specific questions come up having to do with basic flying techniques on specific aircraft.**

**Recently, I got a question from someone transitioning to a Lightning that I thought I would share with all the newsletter readers. Here is my email message back to this new Lightning pilot.**

You asked if maybe the cold weather might be having an impact on your tendency to bounce your landings. The short answer is no, even though the cold air is denser; therefore, the airframe and engine will like it. The wings might be able to develop more lift, but the average golden hands pilot will never notice that. So let me go over some other things that I think you should be concentrating on. But before I do, let me start out by saying, I think you are doing absolutely the right thing and taking the right approach to your flight training. You have found an instructor that you are comfortable with and you are flying your airplane on a regular basis. Good. By flying regularly (several time a week would be great) you will soon develop the skills, the experience and the proficiency to feel confident in your Lightning.

Now, to your landing questions. In your message to me, you made a comment that might be the real cause of your bounced landings. You wrote, "I made 5 landings and aside from the 5th which was just plain lousy, each time when I set down the plane, the plane bounced." The comment that hit me was "**I set down the plane**". That tells me you are trying to land the airplane, and to my way of thinking that is the wrong thing to be trying to do. Instead, you should be trying to **NOT let the airplane land**. Keep holding it off, saying to yourself, "Don't let it land, don't let it land." That is the mantra I use when teaching tailwheel landings. I am sure your instructor has stressed correct airspeed control, and for consistently good landings, airspeed is the key. But don't try to set it down. Try to keep it from setting down. Keep holding it off until you run out of elevator control and it drops in that last few inches you were holding it above the runway.

The next thing I am going to recommend, since you are still relatively new to the Lightning, is to memorize what the correct landing attitude or picture should look like. Sit in the airplane and have your instructor push down on the tail (on the fuselage just forward of the fin) to raise the nose up to the proper landing attitude. Now memorize this picture. Look for where the nose is in relationship with the horizon. Picture yourself on the runway and see where the far end of the runway would be. Now on your next landing, this is the nose position and picture you are trying to duplicate while you are "not letting the airplane land".

Now, here is a **secret Lightning technique** for landings. I actually only use this during very heavy cross wind landings, but I think it will help you get the picture of what the touchdown attitude should be **without searching for it with the stick**. Don't tell anyone I told you this, because it kind of goes against the old adage of not touching any switches during the landing and landing roll out. (The reason for not touching switches during the roll out is to prepare you for retractable gear airplanes so you don't inadvertently raise the gear during landing roll out when you are trying to raise the flaps). Anyway, Lightnings that I have flown can maybe just barely trim off the elevator back pressure on the stick when you have the flap setting of 30 degrees for normal landings. Most Lightnings cannot trim all the back pressure off when at 30 degrees flaps. So the old technique of a little more up trim during the round out to help hold it off (don't let it land, don't let it land) does not work in the Lightning because you already have full nose up trim. Here is the trick (if you have your flap switch on the stick grip) - just raise the flaps up slightly (just a tap of the flap up switch) during the round out. This change in flap setting will raise the aircraft nose for you, and thus help hold the nose off to keep the airplane from landing. It helps you hold it off - changes

the angle of attack. Remember, this is a very minor flap position change. Practice this at altitude in slow level flight to see the nose come up as you bring the flaps up just slightly. One other caution - if your flap switch is not on the stick (on the panel instead) this is probably not a good technique, so forget about it.

One other comment about a possible Lightning "ism". The Bing carb on the Jabiru engine has a spring that will push the carb throttle wide open in case of a throttle cable failure. It is a safety feature - better wide open than off. However, if your throttle friction is low, it is sometimes possible for the spring to cause the throttle setting to slowly increase without you meaning for it to. This can happen while taxiing out and you notice yourself using brakes to keep the speed down. Or, it can happen on final or even in the flare and you find yourself with power in when you wanted to be at idle. What is the answer? Easy, keep a hand on the stick and a hand on the throttle - that is the way you should be flying all the time.

The Lightning is actually a very easy airplane to fly (and land), especially when compared to other lightly wing loaded airplanes (all light sport airplanes are light wing loaded in order to achieve the low stall speeds). The Lightning's controls are very responsive (some might initially call them quick or sporty) but you will come to appreciate that. The controls are also very effective in all three axes. Because of the responsive and very effective controls, the Lightning can handle crosswinds that would ground any other light sport aircraft. The Lightning POH lists the demonstrated crosswind limit at 15 knots, but since I completed the flight test for the ASTM certification, I have actually landed a Lightning in a lot more than that. Now, I am not saying go out and try a direct crosswind of 15 knots, I am just saying that the very effective and responsive controls of the Lightning will allow a pilot that is proficient in crosswinds to land in conditions that would ground other light sport aircraft. Well, I am also saying the responsiveness of the Lightning's flight controls is one of the things that make the Lightning such a great airplane. You will come to appreciate all the design features that were built into this fantastic airplane.

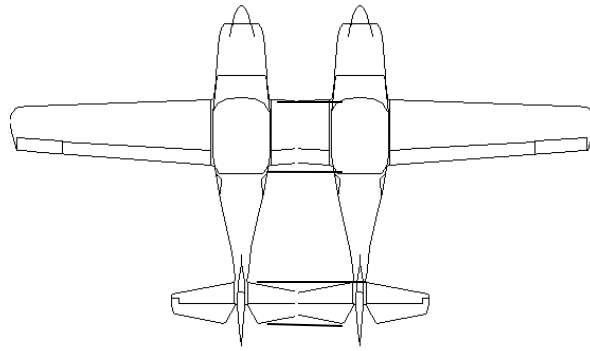
Have fun,  
Buz



## **Lightning Skunk Works**

**In a recent message on the Lightning email list, I think it was Bill Strahan that mentioned wanting a four-place Lightning. This possibility has actually been discussed previously in the newsletter, but as busy as Nick has been recently with the LS-1 Lightning model, no real work has been accomplished on this future model other than preliminary drawings. It's on the back burner for now, so to speak, but is something that is a definite possibility for the future.**

**Some of the design considerations for a four-place Lightning would be to keep the beautiful lines of the current Lightning and of course to maintain the outstanding performance and flight characteristics that we all love about this fantastic airplane. To that end, just making the current Lightning fuselage large enough to sit four adults would certainly require a much larger engine. Of course the Tennessee guys are a Jabiru dealer, so using that power source is another design goal. Since the eight-cylinder Jabiru is not currently being produced, Nick has come up with a design that would still use the six-cylinder version of the Jabiru – two of them. One of Nick's preliminary drawings of the four-place Lightning follows.**



When completed, this four place Lightning will be called the FM model (Lightning FM, or Family Model). A few questions having to do with the final cockpit configuration are yet to be decided. For example, how many control sticks will be included. Of course four, one for each seat, sounds like the best option so everyone can fly, but can you imagine the potential crew coordination problem as to who really has control at any given moment. If you only install control sticks in one cockpit, the other cockpit's instrument panel could have a fairly large screen TV for in-flight entertainment. And how about throttles? Of course the minimum would be two, one for each engine at one of the seat positions – the primary pilot-in-command seat. I am thinking that would be left seat in left fuselage. But other possibilities for the number of throttles are four, six or eight – depending on how many engine controls you want for each seat position. Lots of questions; but now you know the rest of the four-place Lightning story. Stay tuned.

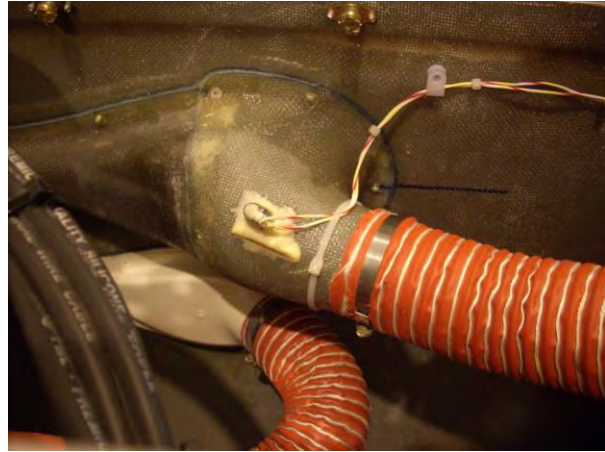
## Technical Tips

The first tech tip this month comes from Bear Bryant, down in warm and sunny Florida. He has recently installed a trickle charger in his jet so that that he could keep his battery topped off without having to remove any of the cowling. Here are Bear's words and some photos.

OK, so you just got your new plane built, the DAR has signed off on it and you begin to start working through your 40 hours. You sit there in the cockpit admiring all the nice and shiny instruments which you painstakingly planned into your panel. You check them all out and decide to “play” a little with the EFIS, radio, and autopilot and see how they interface. You decide to load a few waypoints into memory, then a flight plan-wow you're having fun. You get carried away and an hour or so goes by and you realize the battery has lost a lot of its voltage. Ahh, the process of recharging your battery: find a 12-volt charger, unlatch the cowling one camloc at a time, remove the cowling, find a nice safe place to put the cowling, hook up the jumper cables to the battery; ooops watch the pos/neg cables; make sure everything is connected securely, plug in the charger and wait for the battery to get charged. This certainly took a lot of fun away from doing any type of ground training or flight planning on the new instrumentation.

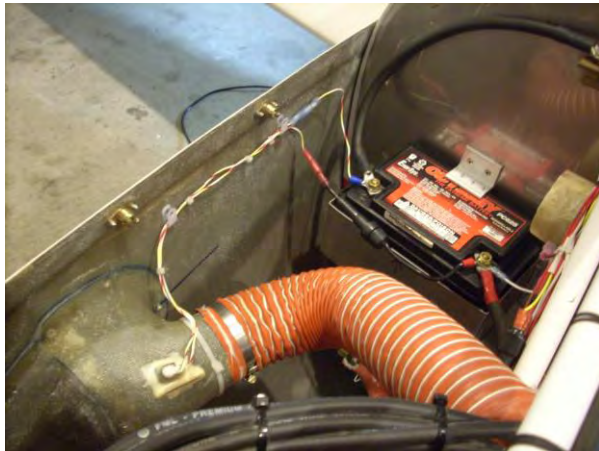
Since I wanted to “fly my jet simulator” almost every day, practice loading flight plans, automatically load the comm radio from the EFIS display among other things, this became quite a chore so I decided to wire

a trickle battery charging system into my Lightning so I wouldn't have to remove the cowling nor even a single cam-loc! Here's what I did.



I took an old 12volt power adapter used to charge cordless phones, router systems, etc and cut the wire away from the transformer (you don't want to use the existing transformer for the aircraft application). I picked up a female socket (purchased at any local electronics store), soldered the positive and negative wires to the female plug, and mounted it using a 2-part epoxy (yellowish color in photo) to the inside of the air inlet scoop on the passenger side of the cowling.

I then connected (soldered) two quick disconnect connectors in line so that whenever I had to remove the lower cowling I could just disconnect the positive and negative wires without having to remove the bolts at the battery terminals. I also put an in-line fuse on the positive side of the trickle charge line.



It works like a charm. Using the trickle charger allows the battery to re-charge overnight without overcharging the battery. Once the battery is fully charged the trickle charger automatically stops charging the battery. I picked up the trickle charger at a local auto discount store for about \$30.

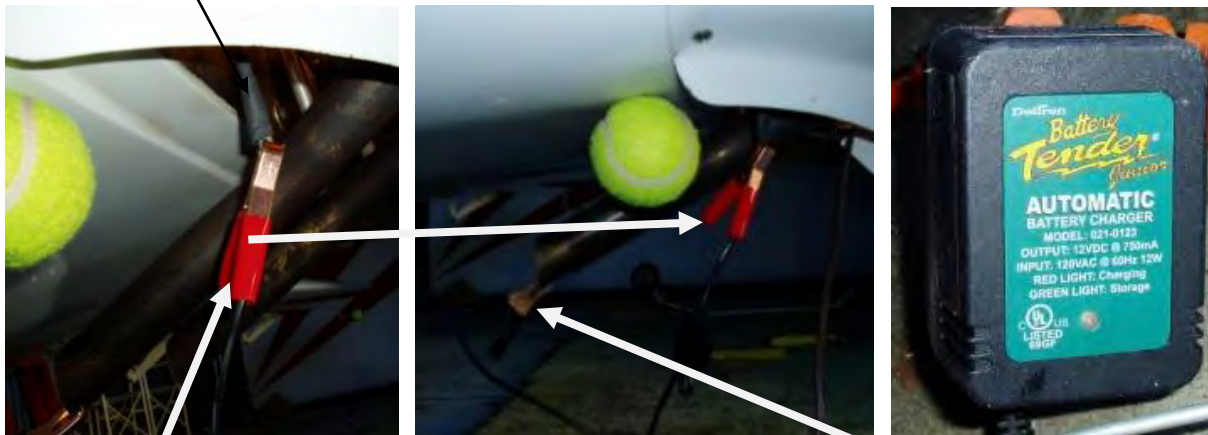
Now I can "play" in the cockpit and not have to be bothered about removing the cowling each time I do. This is also a good idea if you are not flying often in the winter months as the trickle charger will keep the battery "fresh" as well.



This is a pic from the outside of the cowling after installation.



Great installation, Bear. And you don't even have to get down on your knees like I do when I hook up my Battery Tender to keep my battery topped off. My solution to not having to remove the cowling to charge the battery was to run a wire from the positive side of the battery or solenoid down to the bottom of the firewall where I can reach it to hook up the positive side of the charger. The negative side of the charger just gets hooked to one of the exhaust stacks. The only possible "gotcha" is to make sure the positive wire cannot possibly touch the firewall or engine mount. I have a small plastic covering over it as shown below.



Positive (red) goes directly to the positive side of the battery or solenoid and the negative (black) is on the exhaust stack.

Next is the latest tech tip from Tex, a fuel measuring stick. You need one of these to determine exactly how much fuel you have in each tank as part of your preflight. Tex is suggesting that a plastic fuel tube that is commercially available can work. I might add, that as part of your building process, you should calibrate a fuel stick the very first time you put fuel in your Lightning's tanks. I suggest putting three gallons in a tank (left or right) and mark that on your measuring stick.

**Then six, then nine, etc., until each tank is full. Be sure to mark and use one end of the stick for each tank – left and right.**

One can build a fuel stick or you can get one from a pilot shop. A Cessna 150 fuel stick is almost perfect for the Lightning with the 11 gallon tanks.



**Tex's fancy plastic fuel stick on the left, and the wooden version on the right. The key is to mark either version with a permanent marker as you put fuel in your tanks for the first time. Be sure to annotate left and right tank sides of the stick since the Lightning left and right tanks hold different amounts due to one spar being slightly more forward on one side.**

**This next tip from Tex is another great example of his attention to detail and his simple solution to a potential problem.**

When working with the cowl off the plane it's easy to have a screw driver or wrench roll or fall onto the starter relay. A simple cover over the relay made from the bottom of a small juice container does the trick.



**Tex's next tip has to do with a possible interference of the oil return lines.**

The next time you have the cowl off your Lightning, check the clearance between the heads and the space between the pipes of the oil lines running from the block to the Tee fitting which supplies oil to the rockers. I have seen some wear from vibrations on these lines if they rub against the each other.



**And the final tech tip for this month is: You only need two tools in your tool box – a can of WD-40 and a roll of duct tape. If it doesn't move and should, use the WD-40. If it shouldn't move and does, use the duct tape.**

## **Other Items**

Everyone that flies a light sport aircraft is familiar with the rules and limitations associated with that type of aircraft. The limits are: a max weight of 1320 pounds, a max altitude of 10,000 feet (or with the latest revision of the rule a max of 2,000 feet above the terrain if you are flying in the mountains that go over 10,000), a max stall speed of 45 knots, and a max speed of 120 knots. But what exactly does that 120 knot speed limit really mean?

Actually the 120 knot or 138 mph speed limit for light sport aircraft is not quite as hard a limit as you might think. The limit applies to "VH" which is a new V-speed the FAA came up with for the light sport regulation and is defined as "CAS (calibrated air speed) in level flight at *max continuous power in standard conditions*". So if your engine can maintain max continuous power to 10,000, then your LSA could legally cruise at a true airspeed of about 144 knots which works out to 166 mph TAS. Max continuous power for the Jabiru 3300 is defined as 2850 RPM, and all of the Lightnings I have flown can still pull 2850 RPM at 10,000. So, if you want the higher true airspeeds on a cross country, go high. If the pilot can go higher (i.e., is not limited to Sport Pilot license rules) then cruise would be faster still.

So when planning your cross country, take a look at the winds at various altitudes, take a look at how far you are going, and take a look at the time to climb to your cruising altitude. And remember, higher altitudes mean higher true airspeeds and less fuel flow. Have fun.

## Final Thoughts

In the past I have often suggested that each of us should do all we can to spread the good word about sport flying and general aviation. Things like the Young Eagle program, taking neighbors flying, joining an EAA chapter and getting involved when your airport has an open house are all good ways to help provide a positive outlook about aviation. And believe me, with recent crashes and other negative happenings, our passion about flying and all things aviation needs all the help and support it can get in your local community. So now I am asking all of you to become **Official Goodwill Ambassadors of Aviation**. I am going to deputize you, so raise your right hand and repeat after me:

*"I, (state your name) having been appointed a Goodwill Ambassadors of Aviation, do solemnly swear (or affirm) that I will support and defend sport aviation against all enemies, foreign and domestic; that I will bear true faith and allegiance to the same; and will faithfully discharge all duties to support and promote sport aviation to the best of my abilities. So help me God."*

Now get out there and be a good deputy, a good ambassador of aviation. Keep our freedom of flight intact for the next generation of sport pilots.

Blue Skies,

*Buz Rich*

[N1BZRICH@AOL.COM](mailto:N1BZRICH@AOL.COM) (Contact me directly for newsletter inputs – I need your help to keep this newsletter both interesting and informative.)



They don't write songs about Volvos or Toyotas.