



# ***Freeman Flash***

**NEWSLETTER of the FREEMAN FIELD  
FLYING ASSOCIATION**

Volume XXIII, Number 6, **June 2021**

Larry Bothe, Editor

Website: [www.freemanfield.org](http://www.freemanfield.org)

## **Airplane Ride Day a Big Success!**

In spite of oppressive heat, and an area-wide cell phone outage that prevented the fuel pumps from being activated for about 1.5 hours in the afternoon, ARD was a resounding success. 30 ground volunteers, a dozen pilots, and 7 airplanes came together to take 286 people for an airplane ride. We flew from 9:10 in the morning until just after 6:00 in the evening.

When your editor got on the airport at 7:40 in the morning on Saturday, the whole field was immaculate. The big white tent (thank-you airport authority) glistened in the morning sun. All the grass was freshly mowed, and there wasn't a piece of trash to be seen anywhere. What a great way to present our airport to the citizens of Seymour and surrounding communities.

The fuel pump outage was truly a new thing. With the cell phone systems down, we couldn't activate the pumps with a credit card. Going over to a manual operation wasn't as easy as you might think. It was way more involved than unlocking the cabinet and throwing a couple of switches. Special codes have to be entered, and the airport office didn't have them. We never had the need to run manual before.

The contractor who maintains the pumps has the codes. OK, call him and get them. But wait, the phones are down. And it was Saturday, so nobody was where you might

expect them to be. It finally got sorted out, but it took a while. Once the ability to pump fuel manually was established, airport personnel stayed until the last ride was over, and all the airplanes were refueled. Thanks, Don (airport manager) and staff.

At the airport authority meeting on Monday evening, the situation was discussed. Don is working on a procedure to be able to go over to manual operation much more quickly, should the need arise in the future. Further, they are looking into obtaining a generator so they can pump fuel manually in the event of a power failure.

**No FFA meeting or newsletter in July.** It's hot, Oshkosh month, and we need a break. The August meeting (8/12) will be a review of our Oshkosh experiences. Bring pictures on a flash drive.

### **Other Airport News**

No big stuff, but a lot of little things are going on. The contractors who moved/extended runway 5/23 last year are back making some small necessary corrections. Low spots are being filled and seeded. Minor drainage problems are fixed. The electrical contractor has some of work to do on the lighting systems. All these things are on a "punch list" of necessary corrections. It's about over now, but we sure weren't finished when the runway reopened last October.

Other projects underway include painting the fuel farm and the rotating beacon tower. Both of those projects are nearly done. The fuel farm is getting new rotary hand pumps. They are used several times a week to pull fuel from the very bottoms of the tanks, to check for water and other contaminants.

## FFFA News

The June meeting was pretty much a discussion of how we would proceed with Airplane Ride Day.

No meeting or newsletter in July.

The August meeting will be "Tales of Oshkosh". If you go, take pictures. Put the best ones on a flash drive, and share them with other FFFA members at the August meeting.

**Dinner before the meeting:** A group of us meet at the Poplar St. Restaurant (513 S Poplar St, Seymour) at 5:00PM for a bite to eat before each FFFA meeting. Please join us for dinner. We talk about whatever has happened to us lately in the aviation world. Information flows. Lots of fun!

## Museum Archives

### News of the Freeman Army Airfield Museum



*The Freeman Army Airfield Museum is a completely separate entity from the Freeman Field Flying Association. Some of our board members (L. Bothe, K.*

*James) overlap. The FFFA on occasion supports the museum with gifts of money for worthy projects.*

*FMI [www.freemanarmyairfieldmuseum.org](http://www.freemanarmyairfieldmuseum.org).*

The search for buried WWII airplane parts, especially engine parts, was suspended while we got ready for Airplane Ride Day. But ARD is over now, and Joe Clegg hopes to get back to searching soon. We have permission to search on some property adjacent to that which is owned by the airport authority. A quick electronic pre-search has identified some promising places to check further.

Besides the additional Capt. Richard Freeman memorabilia we received last month, the museum acquired some Tuskegee Airmen items, and we have the CAP items recently given to us by Mike Hildreth. Now we need to decide what to move around, and where to make room to get these additional items on display. It's a pretty big project.

The Jackson County Historical Society, which runs the History Building at the fair, is once again having WWII as their theme for 2021. But instead of having our fire truck, this time they are thinking of some sort of daily living display. Our museum president, Joe Clegg, thinks taking things that illustrate the technology of the era would be more interesting and informative. We're sorting out what to take to the fair.

On the heels of our successful Airplane Ride Day fund-raiser on June 12th, we are already planning to do it again in 2022. We're accumulating notes and suggestions about how we can refine/improve on the activity. If anyone has ideas about that, please contact Larry Bothe at [faafmuseum@gmail.com](mailto:faafmuseum@gmail.com).

## FFFA Member Activities and Accomplishments

**Lance Bartels'** son, **Nolan**, soloed in a glider last week, and did well with it. Nolan is 14 years old, the minimum age to fly a glider alone. Congratulations, Nolan.

**Steve Morse** bought **Frank LaGreca's** 1/3-share of the 7EC Champ also owned by **Tom Hallow** and **Larry Bothe**. Steve is a somewhat rusty private pilot. Now he needs a taildragger endorsement and a flight review.

## LSC Glider News – Weather for Record-Setting Soaring Flights

By "UPS" Bob Walker

Last month's LSC article focused on the record glider flights launched from Seymour

during mid-May. I'm happy to report that Dr. Bob Walker was officially awarded two Indiana state soaring records for his flights during this time (free out and return distance of 279 miles, and free distance with up to three turn points, 343 miles). These records are the result of preparation, experience, airmanship and ideal weather conditions.

This month's article takes a closer look at the ideal weather conditions that contributed to these record flights. Admittedly, this article gets a little technical, but it provides the basics for predicting soaring conditions. With little additional effort, this same data can be used by any pilot (that's you) to predict cloud cover, convective activity and turbulence.

Disclaimer: There is not enough room in this article to fully address the Skew-T graphs. For brevity, I've left out any discussion of wet adiabats. These curves are important for predicting thunderstorms and cloud depth. In addition, the Skew-T graphs used in this article were computer generated and scaled to reduce clutter. The NWS (National Weather Service) graphs and online models are far more cluttered.

### How Does the NWS Collect Atmospheric Data?

There are 69 weather stations in the conterminous U.S. that launch weather balloons twice daily. The two closest stations to Seymour are Lincoln, IL and Wilmington, OH. During a balloon's ascent, the attached radiosonde transmits temperature and dewpoint for altitudes beginning at ground level and extending up to 115,000 feet. In addition, GPS is used to track a balloon's location and speed. This is how the winds aloft are measured.

### How Does the NWS Present the Data?

Once collected, the NWS computers use the radiosonde data to augment sophisticated weather models that run on supercomputers. Fortunately, the NWS also publishes the data for use by pilots on a Skew-T graph. Figure 1

shows a basic Skew-T graph, without sounding data. Notice that the thin gray lines of constant temperature are skewed to slope up, left to right. You probably guessed that the "T" in Skew-T are these temperature lines.

The Skew-T graph also has lines of equal pressure, lines of constant water vapor/gas ratio, dry adiabatic lines and wet adiabatic lines. That's a lot of lines! The lines are a graphical representation of the thermodynamic characteristics of the standard atmosphere. The graph takes the place of some complex formulas used to define the standard atmosphere.

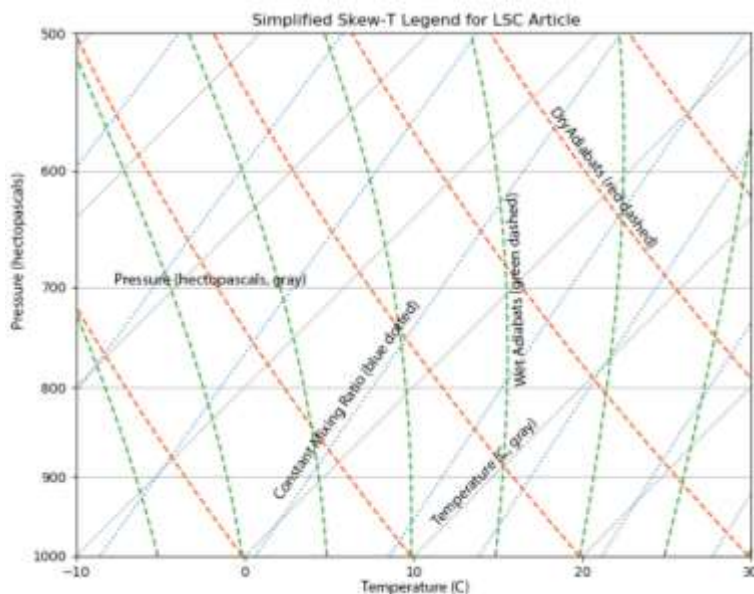


Figure 1

### How Can the Skew-T Predict Soaring Conditions?

Refer to Figure 2, which is Skew-T graph from May 14<sup>th</sup>. The solid red curve shows the actual temperatures, and the solid green curve shows dewpoints recorded by the radiosonde. These two curves describe a vertical cross section of the atmosphere.

Good soaring requires rising air! The Skew-T graph can quickly show if a parcel of air has the buoyancy to become a thermal. In Figure 2, if the ground temperature reached 20°C and a parcel of air began to rise (due to some

triggering mechanism), it would cool at the rate of 3°C per 1,000 feet (red dashed line) – this is the dry adiabatic lapse rate. Notice that the rising parcel remains slightly warmer than the surrounding air, resulting in buoyancy. It continues to rise to a pressure of approximately 680 hectopascals (slightly higher than 10,000 feet). Above this altitude, the atmospheric temperature remains constant for nearly 1,000 ft. At this altitude, the thermal would stop rising and its temperature would equilibrate with the surrounding air – said another way, the parcel of air bumped into relatively warm air.

The Skew-T can also be used to predict the cloud base. Refer to the blue highlight in Figure 2. It begins at the altitude slightly above ground level and follows the line of constant mixing ratio (i.e., ratio of water vapor to air) until it intersects the dry adiabat for the rising parcel of air. At this point, the rising air becomes saturated, and clouds form. On May 14<sup>th</sup> scattered cloud bases were predicted to form just above 10,000 ft.

One more thing to note, the Skew-T graph also shows wind barbs on its right edge. On May 14<sup>th</sup>, the winds were nearly calm.

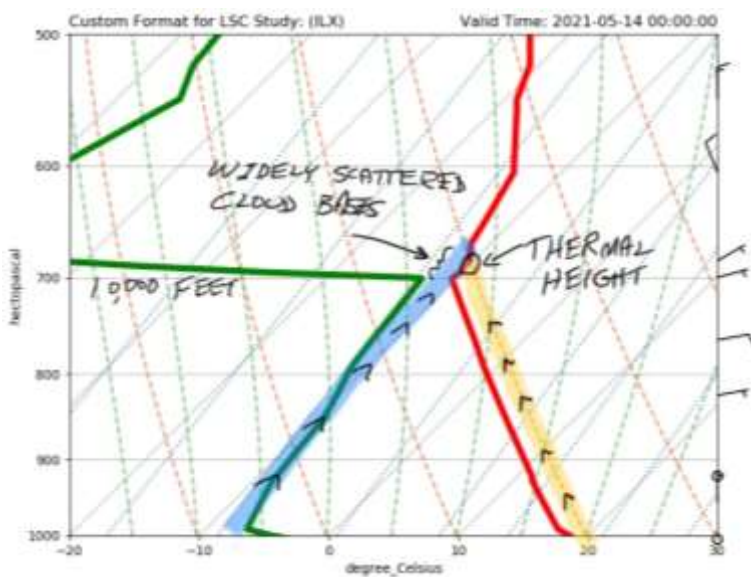


Figure 2

### Let's See a Skew-T for a Weak Day of Soaring

Figure 3 shows the Skew-T for Sunday, June 20<sup>th</sup>. Notice the maximum thermal height was only 3,500 ft. There were also mid-level clouds above 3,500 ft. There's a dramatic difference between a record day and a weak day. On the record day, the atmospheric temperature smoothly followed the dry adiabat. The air mass was dry and cool. The winds were light, and the ground heating created conditions for excellent thermals.

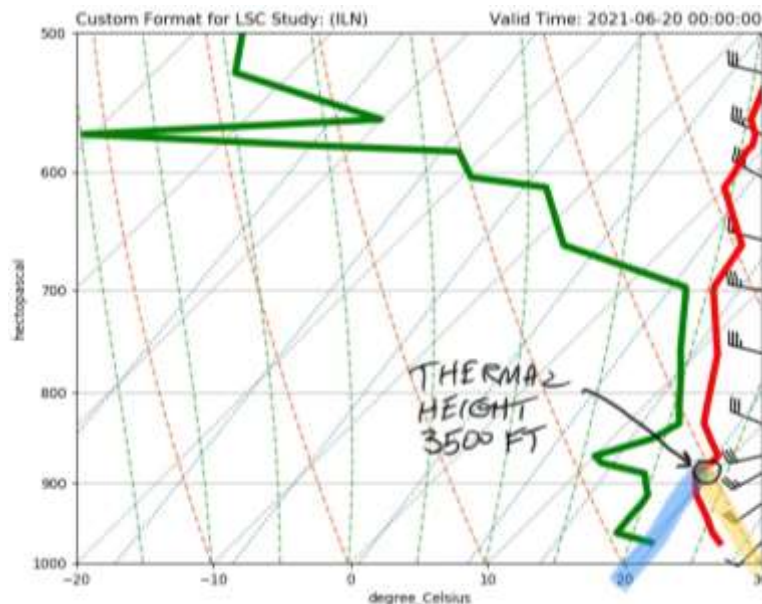


Figure 3

### Conclusion:

This article was a struggle between oversimplification of a complex topic and providing far more detail than necessary. There are a few takeaways I hope to convey. First, the Skew-T graph is a basic tool for predicting and understanding soaring conditions. It's easy to predict thermal height and cloud bases. Second, the Skew-T is also useful to pilots flying other equipment, from general aviation to transport category. It can provide clues to convective development, cloud depth and turbulence.

Safe flying.



## Medical Minute – Heat Exhaustion

By Aaron Frey, MD, MBS, AME

Family Med Cntr, Seymour, IN, 812-524-3333

It has been said, “If you don’t like the weather in Indiana, wait a minute.” Despite the fact that there can be wild weather changes from day to day.... or even hour to hour, one thing is for sure: temperatures are bound to get hot. In the warmer months of the year when temperatures can reach the 100s, the temperature inside of your plane can soar upwards of 170 degrees Fahrenheit while sitting on the ground. For most of us, with the exception of a handful of the very fortunate, our aircraft are not equipped with the modern luxury of an air conditioner. In these settings, temperatures are more than uncomfortable; they are downright dangerous.

In general, the human body is extremely efficient at regulating core body temperatures in the cold. However, as ambient temperatures rise, we become less adept at thermoregulation. It will come as no surprise to you that our hypothalamus, or the “thermostat” of our body, is “set” to 98.6 degrees. Our body dissipates heat by means of sweating, increasing blood flow to the surface of the skin which can then be transfer heat to the air or surrounding objects, and losing heat through breathing. As ambient temperatures rise, all mechanisms of heat dissipation become less efficient.

Heat exhaustion, the precursor to heat stroke, can be recognized by some subtle symptoms. Not all airmen will experience the same symptoms in the same order, and for this reason, each person should stay attuned to their own warning signs. An airman might experience racing heart, weakness, light headedness, loss of coordination, headache,

abdominal cramps, nausea, or muscle cramps. A person will also experience profuse sweating. If these symptoms are experienced while on the ground, remove yourself from your aircraft, shed unnecessary clothing, hydrate yourself, and seek air conditioning. If in the air, airmen should immediately head toward the closest airport, and open all air vents and direct them toward their body. If feasible and safe, shed unnecessary layers of clothing, shade yourself with items in the cockpit, hydrate, and land as soon as

feasible. Do all things necessary and safe to cool yourself, even if it means having a passenger fan you. If left unattended, heat exhaustion can lead to unconsciousness or bodily harm.

Finally, ensure that you are set up for success while flying in the heat. Avoid flying during the warmest times of the day, dress appropriately, and ensure you are adequately hydrated prior to taking to the air. Certain medications can also decrease heat tolerance, including but not limited to, decongestants, antihistamines (see April article), and certain blood pressure medications, specifically diuretics such as

Lisinopril, Hydrochlorothiazide, and Losartan. As always, consult your doctor or local AME for specific questions or guidance.

If there is something you would like to read about in future articles, please email me at [adfrey86@gmail.com](mailto:adfrey86@gmail.com) with suggestions. Until next time, stay cool and fly safe!

Safe Skies, Aaron

*Ed. Note: Boy, is this ever a timely article, with respect to our recent Airplane Ride Day. Two of our pilots (I was one) and one of our ground crew actually experienced the onset of heat exhaustion that day.*

### Heat Exhaustion

#### Symptoms

- Dizzy
- Headache
- Heavy sweating
- Nausea or vomiting
- Weakness or muscle cramps
- Excessive thirst

#### What to do

- Hydrate
- Open vents and direct toward you
- Shade yourself
- Remove extra layers or tight fitting clothes, if feasible and safe
- Land as soon as feasible

## Ford Tri-Motor at Columbus

The EAA Ford Tri-Motor will be visiting Columbus (KBAK) June 24-27, promoting "The Spirit of Aviation" and providing rides to the public (\$\$). Thursday the 24<sup>th</sup> will be media/VIP day; rides for the general public will be available Friday, Saturday and Sunday. *Ed. Note: A ride costs \$77.*

The Tri-Motor visit is sponsored by Columbus EAA Chapter 729. They are looking for ground volunteers to help with the event. If you would like to help out (and probably get a free ride), call Brad Stinebring at 812-350-9771.



At BAK 6/24/21. Brad Stinebring in yellow shirt.

## Airline Perspective --

By Adam Springmeyer

Adam is up to his ears in alligators out there in Pittsburgh, PA this month. He will return with an article for the August edition. (No newsletter in July.)

### Seymour Glider Operation Information

The Louisville Soaring Club would like aircraft flying at SER to know that the gliders almost always operate off runways 14/32. However, that does not mean that the wind favors 14 or 32. The gliders and tow plane use 14/32 because it is convenient to where the gliders are stored. ... All the gliders have radios. When approaching the field, especially on weekends, call addressing *Seymour Glider Operations* and ask where the gliders are; they will tell you. It actually works best, when glider operations are in progress, for power planes to use 5 or 23. FMI [www.soarky.org](http://www.soarky.org), or call Mike Carlson, President, 502-321-6349.

### FFFA Officers - Contacts

**Karen James**, President, 812-498-4482  
[Flygirl172@me.com](mailto:Flygirl172@me.com)  
**Jan Sipes**, Vice President, 812-522-9446  
[sipesj@hotmail.com](mailto:sipesj@hotmail.com)  
**Brett Hays**, Secretary, 812-528-2186  
[brett.hays@smithlawservices.com](mailto:brett.hays@smithlawservices.com)  
**Larry Bothe**, Treasurer/Membership, 812-521-7400  
[LBothe@comcast.net](mailto:LBothe@comcast.net)  
**Barty Moffett**, Board, 812-528-0012  
[barty@barty.com](mailto:barty@barty.com)  
**Tom Hallow**, Board, 812-569-4293  
[thallow@3cbb.com](mailto:thallow@3cbb.com)  
**Zach Grant**, Board, 317-201-4293  
[L1011jock@sbcglobal.net](mailto:L1011jock@sbcglobal.net)

### Local Event Calendar at a Glance

----- No FFFA meeting in July  
Jul 17 French Lick Airport Day\*  
Jul 20 Flying Circus, Hagerstown, IN  
Jul 26-Aug 1, AirVenture 2021, Oshkosh, WI OSH  
Aug 12 FFFA meeting, 7PM, "Tales of Oshkosh"  
Sep 3-5 Red Stewart fly-in, Waynesville, OH\*\*  
(Cliff performs on Sept 4<sup>th</sup>)  
Sep 9-11 Midwest LSA Expo, Mt. Vernon, IL  
Sep 11-12 Greencastle, IN Airport Days\*  
(Biplane rides on Sept. 12<sup>th</sup>)  
Sep 25 Madison Air Show\*\*  
Oct 2 Bowman Field, Louisville, Air Show\*\*

\*\* Two asterisks mean Cliff Robinson will be performing an air show at that event; \*one asterisk means Cliff will be there offering Stearman rides, but no air show. If you want to see world-class aerobatics with no admission charge, attend one of the shows.

### Association & Meeting Information

**Freeman Field Flying Association** meets the 2<sup>nd</sup> Thursday of each month, 7:00 PM, at the Freeman Army Airfield Museum. No meeting in July. Christmas dinner in December. **Join FFFA:** Dues are \$10 per year. Send a check, payable to FFFA, to Larry Bothe, 1082 Governors Ln, Seymour, IN 47274-1135. Include e-mail address and phone number. ½ price after the 4<sup>th</sup> of July.

**Airport Authority** meets the 3<sup>rd</sup> Monday of each month at 7:15 PM, terminal building conference room.  
**Freeman Army Airfield Museum** board meets the 3<sup>rd</sup> Tuesday of each month, 6:00 PM, main museum building, Map Room.

**Freeman Flash** issues going back to 1999 are available if you contact the editor.

## Sell – Buy

Have something you want to sell or buy? FFFA members get a free ad. Send an e-mail to [LBothe@comcast.net](mailto:LBothe@comcast.net) to place an ad.

### **FAA Medical Examinations**

**Dr. Arron Frey, AME 812-524-3333**

2026 N Ewing St, Seymour  
3<sup>rd</sup> & 2<sup>nd</sup> class medicals performed

### **Cherry Hill Aviation**

Aircraft Maintenance & Annual Inspections  
Tube & fabric work a specialty  
Aircraft sales, rental & flight instruction  
**Lance Bartels 812-322-6762**

## **Help the Museum Amazon Smile**

Do you shop at Amazon? By going to [smile.amazon.com/ch/35-2060830](https://smile.amazon.com/ch/35-2060830) to place your order, you can help the museum. Amazon will give ½ of 1% to the museum, at no cost to you. Thanks for helping us this holiday season, and all year long.

### **Kroger Community Rewards**

Kroger Foods (includes Jay-C Stores) has a program similar to Amazon. Most Kroger shoppers have a Kroger “frequent shopper” card. Go to <https://www.kroger.com/i/community/community-rewards> and register your card, Kroger will donate ½ of 1% to the museum, just like Amazon. You only have to register once; after that it’s all automatic when you show your card at checkout.

### **Eagle Avionics**

Radio repair and installation, shop at BAK.  
Authorized dealer for Garmin, Aspen, Avidyne, Lynx (L3), Dynon, Stratus, and several others.  
**Contact Eagle Avionics for your ADS-B solution.**  
**Transponder & IFR certification at your airport**  
Call Andy Zeigler, 812-344-0468

### **Cliff Robinson Aerobatics**

Open cockpit bi-plane rides in 500HP Stearman.  
Acro and tailwheel training in Super Decathlon.  
Cliff Robinson, Madison, IN 812-701-9990  
[cliffrobinsonaerobatics.com](http://cliffrobinsonaerobatics.com)

### **Larry Bothe, Certified Flight Instructor**

Flight Reviews, Insurance Checkouts,  
Instrument Proficiency, Rusty Pilot refresher  
training, but no full certificate programs.  
**812-521-7400**

### **The Engraver**

**Trophies Plaques Gifts Plastic Signs**  
Quality Gifts & Awards, Aircraft Placards  
1520 Schleiter Rd, Seymour. 812-522-6181  
[www.engraverinc.com](http://www.engraverinc.com)