



THE SPORT FLYER

NEWSLETTER OF THE SHELBYVILLE EAA CHAPTER 1326

President	Mark Stauffer	443-618-1782
Vice-President	Randy Kelly	661-400-0203
Secretary	Sharon Tinkler	
Treasurer	Leigh Kelly	
Newsletter Editor/Writer	Randy Kelly	661-400-0203
Guest Editor	EE Zurg	unlisted

**March 2023
Volume 19,
Number 3**

Ch-1326 Website: <https://chapters.eaa.org/eaal326>

Chapter 1326 meets monthly on the Fourth Thursday of the month in the Shelbyville airport at 1800 (or 6:00 PM, whichever you prefer.) Any changes of meeting date and venue will be announced in the newsletter or by text message.

Kommandant's Korner

Hello Chapter members and readers of this newsletter. Happy first day of Spring!

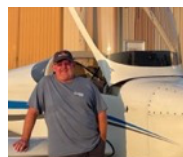
First, a little bit of Chapter housekeeping. Annual Chapter dues are due! They are actually due in January, but we haven't made much mention of them. Please, if you haven't paid your annual dues, do so this month. With the small size of our chapter, and reasonably low cost of our dues, it doesn't even cover the cost of our annual insurance bill to EAA HQ. But every little bit helps. Also remember that local chapter members must be national EAA members, so please keep up with your national dues as well. As I talked about last month, EAA membership opens up a wealth of information on a wide range of topics, so please remain a national and local member of EAA.

As you'll see in the schedule of events later in this newsletter, we're forgoing the normal 4th Thursday night meeting this month and substituting it with a Saturday trip to the Beech museum in Tullahoma, TN on April 1st. This is a result of your chapter trying to do some fun and interesting things for the membership. There will be a write up of the outing in next month's newsletter.

I am looking for pilot and ground volunteers to reinvigorate our Young Eagles program. The number of these volunteers will drive what type of Young Eagles event we can host. National Young Eagles Day is the 2nd Saturday of June, and it would be great if we could host a small event at Shelbyville Airport. If we're not able to pull that off, then I would like us to try to put on an event later in the year. However, the ability to do any of this is dependent on volunteer pilots and ground crew. If you are interested in volunteering, please reach out to me directly.

Your chapter continues to try to host events that you will find interesting and fun to attend. If you have a suggestion please let us know so we can see if it is feasible for us to do. We continue to strive to be more than a "breakfast" chapter and your suggestions and volunteer efforts will help us accomplish that goal.

I look forward to seeing everyone at this month's breakfast. Please stop by to say hi and enjoy a great breakfast!



Mark

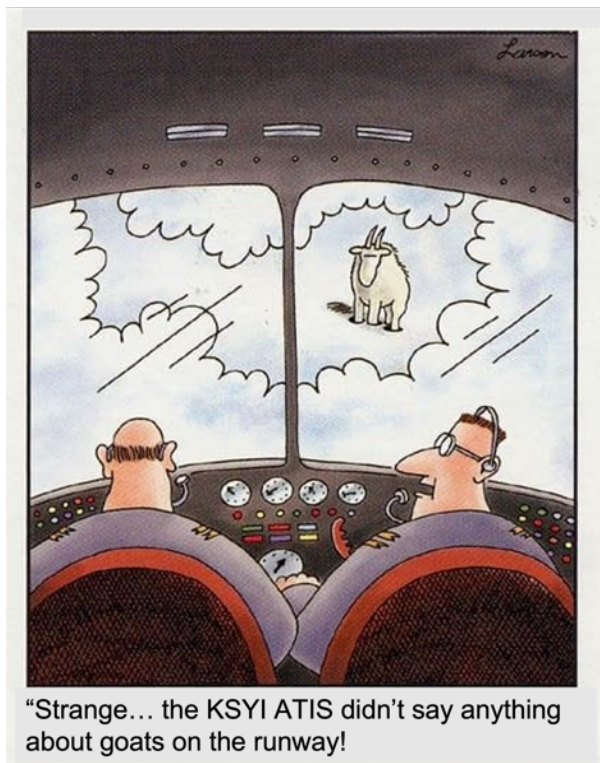
Last Month's Meeting

Preface: Ch-1326 leadership has been trying to get away from the “regular 4th Thursday meetings” which tended to be business meetings, and move towards events with more social or technical events. As part of this, the previous month’s “business meeting” was conducted by virtual conference (WebEx conference room). “Offline” the board decided to have a video night and that the consensus was that an EAA technical program would be the program for the February meeting. Sooo – we’re tossing the summary of that technical video meeting down into the *Technicians Korner* of this month’s *Sport Flyer*.



Randy Kelly
Staff Writer

February 25th, 2023 EAA Fly-in Breakfast



Apologies to Gary Larson – though this IS pretty close to his original caption though. 😊

As usual, the “setup minions” coordinated to meet to pull out the airplanes and setup for the breakfast on the day prior to the breakfast, in this case, the morning of Friday 24 February. With a “normal” contingent of 5 minions, the setup was easy work, and we were out of the hangar in at most an hour and a half.

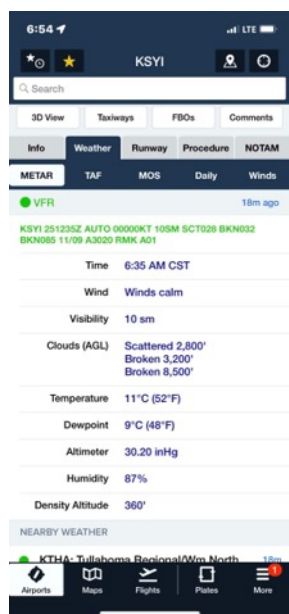


For those of you who remember, the January 28 breakfast was a beautiful day with light winds and comfortable temperatures. After everybody being cooped up all winter, we had a BIG crowd. Unfortunately, the weather forecast for Saturday the 25th of February was ugly. Rain was predicted the night and early morning before start time, and a predicted dewpoint spread of less than 4 degrees pointed towards low ceilings. Ch-1326’s policy is never to cancel a scheduled event on a forecast, so even with bad weather looming, we were planning on feeding anybody that drove or even flew in. Randy sent out a confirmation email Friday confirming that that the breakfast was still on.

Saturday morning, the first Ch-1326 minions arrived around 0600 to start the coffee pots perking and fire up the ovens for the biscuits. A couple of the regular crew were out sick that morning so we had a smaller than normal crew, but we had enough people to cover all the stations. Although the weather looked better than originally predicted, it was still not pretty, and we were wondering if somebody might actually fly in.



Low ceilings off the approach end, but doesn't look TOO bad.



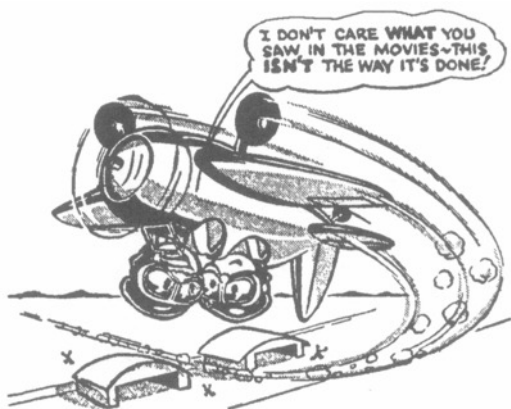
METAR not looking too bad. Maybe we'll get some folks.

About the time we needed to start the grills and start cooking, the ceiling dropped lower and the rain began.



Looks pretty gloomy outside now. Here comes the rain!

Despite the weather our first regular customer arrived shortly after 0700, even before the coffee was ready. A few folks rolled in right after the normal 0730 serving time, and the 0800 rush was significantly lighter than usual. Folks seemed happy to eat and talk though, and everybody seemed to be having a good time.



Mark Cannon greets our first customer.



Rachel Bole's and Sharon Tinkler's smiles brightened up the hangar. 😊

Every time we looked outside, the weather seemed to be worse, but to our surprise a Diamond DA-20 aircraft taxied up to the main ramp, and a few minutes later, an MTSU instructor and student walked in the door. Turns out they were on an IFR training sortie to Huntsville and on their way back to Murfreesboro, a convective SIGMET was issued, which made continued flight to Murfreesboro inadvisable. Being wise pilots, they diverted to KSYI to wait out the weather - and eat some breakfast. (Hopefully we gained a new Ch-1326 follower.)



Sole IFR arrival during breakfast.

As usual, we fed the KSYI line folks who were working the line that morning (they were not busy as there were only 2 aircraft there all morning). Also as usual, the work started slacking off after 0900, but we still had a few customers. We shut down at the normal 0930 and started the cleanup and accounting.



The "linefolks" showed up early since there weren't airplanes to park and fuel.

The final "informal" tally was more than 30 people, which was about 1/3rd of our January crowd, but given the dreadful weather, we still counted it another successful breakfast.

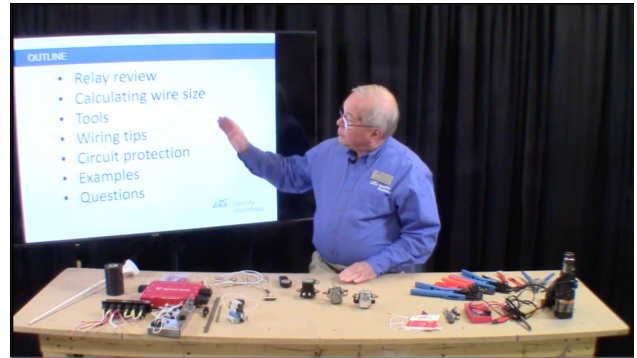
Randy Kelly
Staff Editor



Evil Editor Zurg: For those of you who may NOT be EAA members, I'd like to note that one of the benefits of being an EAA member is access to a number of informative maintenance and "building" videos at the EAA.org website, as well as access to various volunteer technical experts both at the national and chapter level. With that in mind, here's staff writer Randy's quick report on the video shown at the February meeting.

Technicians Korner: A Few Gems from EAA's "Basics of Wiring" Webinar!

The February Ch-1326 meeting was a public replay of the "Basics of (Aircraft) Wiring" webinar conducted during the EAA 2023 "Homebuilders Week" by EAA SportAir electrical workshop instructor Dick Koehler.



We chose this specific video for our first video night because we felt this was a subject that would be of interest to both homebuilders and production aircraft owners. The fact that the video was over an hour long, and the hope that we would have a larger than normal group to see the program drove a requirement to find a larger venue that would allow us to stay as long as we wished. The Heritage Realty Group of Shelbyville was kind enough to allow Ch-1326 to use their Real Estate Agent's training room as a venue. The Heritage training room also had the advantage of a larger screen TV and better sound system than available in our usual venue.



Six Ch-1326 EAA members showed up for this initial program, which was less than hoped, but given that it was a "work night" (and school night) event, we were not displeased with this initial showing. It is beyond the scope of this article to review all the aspects of this introductory video to aircraft wiring, but there were some very interesting "factoids" and tips that surprised even some of our experienced EAA members, such as:

1. First, the "bible" for aviation electrical connections and best practices (as well as most

other aviation repair issues) is Advisory Circular AC-43.13-1B.

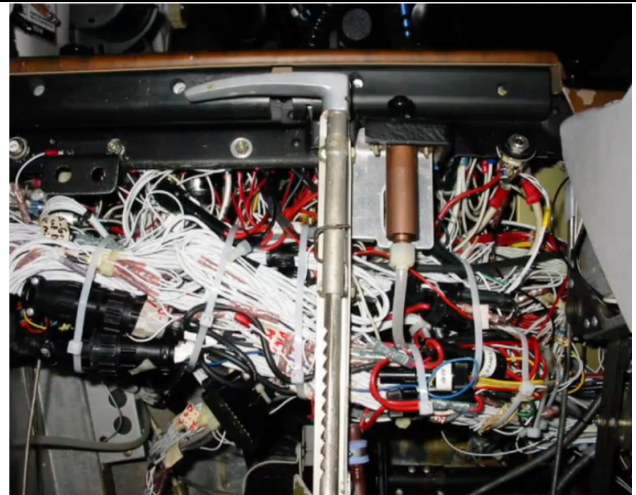
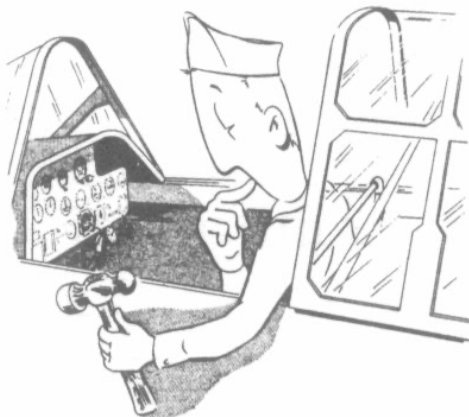
2. Aircraft starter relays are mounted so that the actuator plunger is mounted horizontally rather than vertically. Although it may not seem obvious at first, having the “spring loaded” plunger oriented to the horizon rather than vertically will prevent inadvertent starter actuation during higher-G excursions of the airframe. (Anybody that’s ever engaged the starter of their car while the car is running, knows this is bad. 🤯)

3. Military specification (Mil-Spec) aviation wiring should be used for any wiring inside the cabin. The big reason is that automotive and non-mil-spec wiring has Poly-Vinyl Chloride (PVC) insulation, and PVC gives off toxic fumes when overheated or burned. (The reason this is more dangerous in an aircraft cockpit versus a car that you can just get out of is pretty obvious. 🤢)

4. The gauge of wire needed for a specific purpose depends on the amount of current being pulled, how long the current is applied, and the length of wire runs needed to run an accessory. Dick Koehler gave a very good explanation in the video of how to determine the appropriate wire gauge using the charts in Advisory Circular 43-13-1B.

5. If you are using a “stud” as grounding post for multiple grounds, you should only have a maximum of 4 grounding wires attached to that stud.

There were several other memorable facts as well as some “horror photos” of some wiring jobs.



A “rat’s nest” of wiring under a C-182 panel that Dick Koehler worked on.



The “after” photo of the 182 after Dick had done all the tips he talked about. Big difference!

This video as well as the other technical videos from the 2023 EAA Homebuilders Seminar are available to EAA members in the video section of the EAA.org website.

<https://www.eaa.org/videos>



Randy Kelly
Staff Writer

Project Police Aircraft Spotters Quiz



Evil Editor Zurg

Last month’s spotters challenge was another unique prototype which flew and

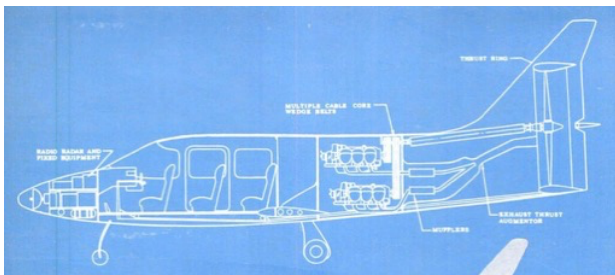
provided a number of valuable lessons to its designers.



A few days later, Project Police member Michael Knight submitted the correct answer; “Bede XBD-2. But I had to look it up. Another new one on me.”

Way to go Michael. Next, I must give credit to Jason McDowell of Flying Magazine for the research details on this gem as well as the picture above. The tail number, N327BD was omitted because it was too obvious of a clue. Here’s the backstory in a nutshell:

Aeronautical engineer Jim Bede, who was later known by the experimental aircraft community for his innovative designs (the BD-1 whose redesign became the American Aviation AA-1 Yankee, the BD-4, and the BD-5), was tasked with designing a new short takeoff and landing (STOL) aircraft. The BD-2 was a “clean sheet” design, and unlike the traditional big wings, big slats, and big flaps STOL designs, Bede designed an aircraft with twin engines driving a single shrouded propeller, and 160,000 pinholes in the wing from which air was sucked by pumps driven by the two engines for boundary layer control.



Bede’s innovative design had several advantages. The boundary layer control (BLC) system increased the available angle of attack (AOA) of the wing providing more lift and a slower speed. The twin engines used a series of belts and clutches allowing propulsion and the BLC to operate even during a single engine failure AND eliminated the asymmetric thrust problem of most twins. Additionally, the two Continental O-300 engines were mounted on slide out racks that Bede claimed would allow an engine changeout in about 30 minutes. Bede also claimed (and I suppose he had at least some test data) that a well-designed propeller shroud could increase the available thrust of a propeller by up to 100%, so the XBD-2 would get about the same thrust as a twin with the single prop, and the lower drag of the design gave the XBD-2 a best L/D of about 18/1. (L/D about halfway in between a C-182 and a Schweizer 2-33 glider.)

Quoting Jason McDowell’s Flying magazine article: “The basic performance figures of the XBD-2 (were) impressive. At 9,000 feet, max cruise speed was said to be 179 mph at 16 gallons per hour. Max rate of climb at maximum gross weight was listed as 1,050 feet per minute with both engines operating and 720 feet per minute with one engine shut down, and the service ceiling was 21,000 feet on two engines and 14,500 feet on one.

Takeoff distances were similarly impressive. While the company didn’t specify at what weight the numbers were achievable, they claimed only 300 feet was required for the takeoff roll, and 500 feet was required to clear a 50-foot obstacle.”

Like many “technology demonstrators”, the XBD-2 never made it to production and no derivatives were developed. The sole XBD-2 is on permanent display at the Manitowoc Airport in Wisconsin. (Editor’s note: while “officially” there were no derivatives of the XBD-2, I ask the reader to look at the basic planform/shape of the XBD-2, then go look at the shape of the BD-5.)

OK, this month’s challenge is this interesting homebuilt beauty, recently spotted by

Project Police member and staff editor Randy Kelly.



EE Zurg's note: contrary to my usual practice of NOT providing any clues to my quiz answers, I'm going to make an exception in this case. YES, the "fuselage" IS an aluminum extension ladder. Additionally, the main spars in the two wings are also aluminum extension ladders. I'm sure the very thought of hardware store ladders as major aircraft structural members makes our Ch-1326 Tech Reps itchy.

As usual, send your answer or best "edumacated guess" to Staff Editor Randy Kelly, at electriccrow@pobox.com.



Project Police Tales Wanted

EAA members OR aviation enthusiasts. Do you have an

interesting project you'd like to talk about or show us? Have you seen an interesting or unusual aircraft? Do you have an interesting maintenance or build story? Snap some pics and write up a short report or make some notes to give to our staff writer Randy Kelly for inclusion into *The Sport Flyer*. We're not picky. *We don't care if you're from OUR EAA Chapter, some other EAA Chapter, or just an aviation aficionado* – we'll publish your story anyway. ALSO, later in this issue you'll notice an *EAA Chapter 1326 Technical Assistants*. These are EAA and/or other aviation technology enthusiasts who may or may NOT be a real expert in that area, but are

willing to share their knowledge and building expertise with other members who need some help (or just a sympathetic ear) while accomplishing their build. If you are able/willing to serve/help in this capacity, please contact Randy Kelly at electriccrow@pobox.com.

Chapter 1326 Mission Statement

The Mission of the Shelbyville Sport Flyers Club, EAA Chapter 1326 is to enhance the quality of aviation life for its members by providing information about aviation, flying, and mechanical/maintenance knowledge shared by fellow members, guest speakers and special events which respond to the expressed needs and desires of all members.

Chapter 1326 Calendar

EAA Chapter 1326 Board of Directors Meetings are now held on an unscheduled, as needed basis. If you need to know when, you're already on the e-mail notification list.

March Regular 4th Thursday meeting is CANCELLED.

March 25th, 2023; EAA Ch-1326 Fly-In Breakfast, 0730-0930, Sport Flyer Hangar, Shelbyville Airport.

April 1st, 2023; Beech Heritage Museum Tour, Tullahoma Airport. Time: Meet at KSYI airport parking lot at 0900. We will carpool to Tullahoma.

April 27th, 2023; Regular 4th Thursday meeting. Program and Location: TBD.

April 22nd, 2023; EAA Ch-1326 Fly-In Breakfast, 0730-0930, Sport Flyer Hangar, Shelbyville Airport.

May 25th, 2023; Regular 4th Thursday meeting. Program and Location: TBD.

May 27nd, 2023; EAA Ch-1326 Fly-In Breakfast, 0730-0930, Sport Flyer Hangar, Shelbyville Airport.

For a good summary of aviation related social and training events in Middle Tennessee, check out the website <https://www.socialflight.com/>

CHAPTER 1326 ADMINISTRIVIA

To join Chapter 1326, send your name, address, EAA number, and \$20/year club dues to: EAA Chapter 1326, 2828 Hwy 231 N. Shelbyville, TN 37160-7326, attn Leigh Kelly. NOTE: You must also be a member of EAA National (<https://www.eaa.org>, or call 1-800-843-3612, \$40/year National dues).

Contact our officers by e-mail:
 President/Flight Advisor Mark Stauffer:
 mark.stauffer1@gmail.com
 Vice President Randy Kelly: electricrow@pobox.com
 Secretary Sharon Tinkler: tinkler@me.com
 Treasurer Leigh Kelly: leighkelly@pobox.com

EAA Chapter 1326 Technical Assistants

Composite Construction		
Jack Bosse	Bossej3@gmail.com	
Wood Construction		
Brennan Lewellen	blewellenvw@yahoo.com	
Fabric Construction		
Brennan Lewellen	blewellenvw@yahoo.com	
Aluminum Sheet Metal Construction		
Kenneth Rutschow	Ken.rutschow@gmail.com	
Brennan Lewellen	blewellenvw@yahoo.com	
Jack Bosse	Bossej3@gmail.com	
Welding/Welded Steel Tube Construction		
Brennan Lewellen	blewellenvw@yahoo.com	

Engine Installation		
TBD		
Certificated Engines		
Kenneth Rutschow	Ken.rutschow@gmail.com	
Brennan Lewellen	blewellenvw@yahoo.com	
Jack Bosse (+ROTAX)	Bossej3@gmail.com	
Electrical Systems		
Randy Kelly	electricrow@pobox.com	
Instrumentation and avionics requirements for VFR/IFR		
Jack Bosse	Bossej3@gmail.com	

Inputs for the newsletter or any comments can be e-mailed to
 Randy Kelly at electricrow@pobox.com

From the **Project Police** legal section: As you probably suspected, contents of The Sport Flyer are the viewpoints of the authors. No claim is made and no liability is assumed, expressed or implied as to the technical accuracy or safety of the material presented. The viewpoints expressed are not necessarily those of Chapter 1326 or the Experimental Aircraft Association. **Project Police** reports are generally printed as they are received in the next "convenient" issue, with no attempt made to determine if they contain the standard aviator caveat of at least 10% truth. So there!

THE SPORT FLYER
EAA CHAPTER 1326 NEWSLETTER
C/O Randy Kelly
PO Box 767
Shelbyville, TN 37162-0767
<https://chapters.eaa.org/eaal326>

ADDRESS SERVICE REQUESTED

THIS MONTH'S HIGHLIGHTS:

- Kommandant's Komments
- March Fly-in breakfast reminder
- Technican's Korner: Wiring basics
- Evil Editor Zurg's Aircraft Spotters Quiz
- Monthly plea for "Project Police" participation for new stories

