

Illinois Valley Beacon

May 1996

Volume 3 Issue 5

Breakfast

Saturday, May 4th at **Doc's Mt. Hawley Inn**, 8412 N. Knoxville Avenue, just East of Mt. Hawley Airport, beginning around 8:00 AM. See you there!

May Meeting

We will meet on the second Wednesday of the month, May 8th at 7:30 p.m. at the **First Christian Church**, 6400 N. University Ave. at 7:30 p.m. The First Christian Church is located just north of the new Post Office on University Avenue.

Young Eagles

Chapter Young Eagles Coordinator Brian Briggerman has extended an invitation for an introductory flight to every child at St. Edward's School in Chillicothe.

Over 140 potential Young Eagles have received an invitation to take flight at the Marshall County Airport in Lacon on Saturday, May 11th, starting at 9:30 a.m.

Brian is scheduling these Eaglets in flights of 10 every half hour. Volunteers are needed. Both ground crew and pilots with aircraft are needed to hop rides. If you can help these Young Eagles take to the air on Saturday May 11th, please give Brian a call at 274-5472.

Hangar Update

Ground has been broken for your new Chapter hangar at Mt. Hawley Airport.

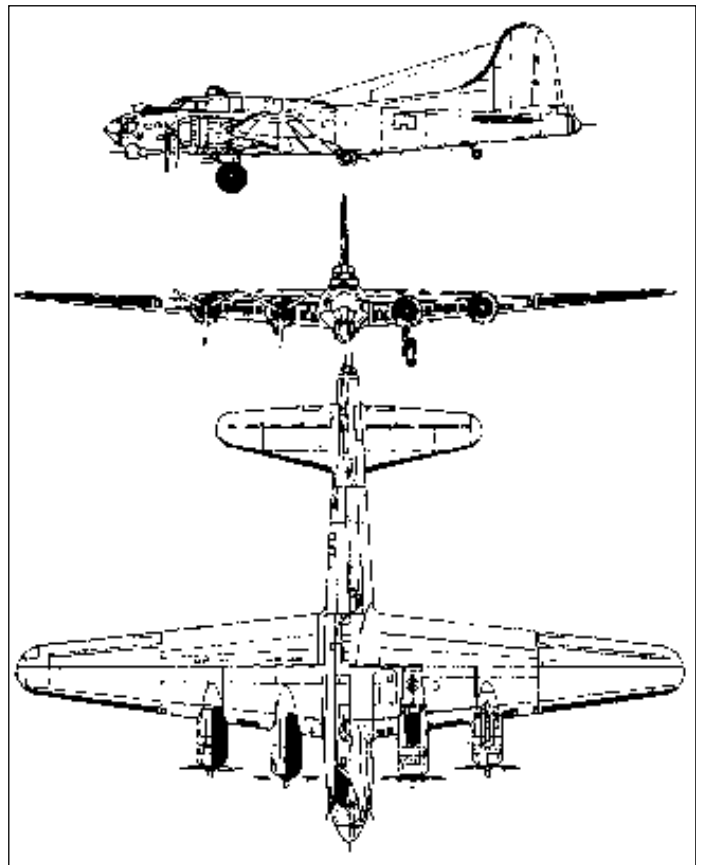
Depending upon the weather, the concrete floor may even be poured this week. Once the floor is in, it will be just a few days before the steel is erected and the hangar is taking shape! After breakfast at Doc's this Saturday we are all going to go over and take a look.

B-17 Returns

Oshkosh's B-17 "Aluminum Overcast" will once again be on tour this summer. Chapter 563 will coordinate the

return visit at the Greater Peoria Airport. The "Flying Fortress" will be on display at the Byerly ramp June 10th thru the 12th.

A majestic aircraft of extreme durability and adaptability, the B-17 "Flying Fortress" made its mark in history as one of the most famous heavy bombers of World War II.



While the B-17 does not remain in great numbers, the legacy of the airplane and the "can-do" spirit shown by those who designed, built, maintained and flew the "Queen of the Skies" leave each of us an aviation legend which can not — and should not — be forgotten.

Volunteers are needed for all phases of this event. We need persons to handle selling tickets, organize crowd control, set up tents and haul equipment, sell refreshments and many other tasks.

The Civil Air Patrol has agreed to help again this

year with crowd control. If you can help in making the visit of the B-17 a success, please call Morrie Caudill at 685-8547.

Videos & Books

The Oshkosh Chapter video and book sale was a great success. In fact, after our first order came in, there was enough additional interest that Treasurer Al Phipps was able to put together a second order.

However, we now have an orphaned video tape. Al says he remembers a phone call inquiring about a tape on aerial photography entitled "Aviation Photography Made Easy". The call came before a second order was definite and he forgot to write the callers name down.

Now we have the tape, but don't know who was the interested Chapter member. If aerial photography is for you, please phone Al at 693-2943.

A Pilot's Ramp Rights

Within the last month one of our Chapter members, Joe Fox, has experienced a ramp check. When the FAA comes calling, the following article might help you.

Ramp checks are one way the FAA enforces safety. Conducted at random, they can increase a pilot's stress factor (especially if the pilot is a student). But this need not be the case if pilots clearly understand their rights and have a pre-established course of action should such a situation arise.

First, failure to adhere to two FAR's can set a ramp check on the wrong heading.

FAR 61.3(h), Inspection of Certificate, states: "Each person who holds a pilot certificate, flight instructor certificate, medical certificate, authorization or license required by this part shall present it for inspection upon request of the Administrator, an authorized representative of the National Transportation Safety Board, or any federal, state, or local law enforcement officer."

FAR 61.51(d), states: "a pilot must present his logbook (or other records required by this section) for inspection upon reasonable request by the Administrator, an authorized representative of the National Transportation Safety Board, or any federal, state, or local law enforcement officer."

If pilots always have their pilot and medical certificates on their persons when they fly, they will generally not have a problem, unless their medical has expired. Pilots need not have their logbooks with them when they fly, unless they are students on a solo cross-country (or recreational pilot flying in circumstances listed in FAR 65.51 (d) (3).

In other words, pilots holding private certificates or better need not present their logbooks on the spot. Students and recreational pilots should have their log in the situations described in FAR 61.51, and they should have the proper flight instructor endorsements.

With the above in mind, keep the following checklist in a convenient place, and instructor's might consider giving it to their students.

RAMP RIGHTS

1. **ATTITUDE:** Don't panic. Be polite and cooperate. Belligerence has never helped anyone.
2. **AUTHORITY OF REQUESTER:** Ask the inspector to present his or her FAA identification for your inspection, and copy the information on it. Inspectors don't wear a uniform, so their ID is the only way you can verify their authority to conduct the ramp check.
3. **WITNESSES:** If at all possible, have one or two witnesses present to listen and to observe the ramp check, in case there is some future dispute about what actually occurred during it.
4. **INQUIRE:** Unless the information is volunteered, ask why the ramp check is being conducted and what the inspector will be doing during it.
5. **NO WARRANT NECESSARY:** Keep in mind that an inspector does not have to have a warrant to conduct a ramp check, but he or she must observe that you are the pilot of the aircraft. There is no "**Miranda Warning**". These proceedings are civil in nature.
6. **DON'T VOLUNTEER INFORMATION:** If questioned, cooperate with the basics; give your name, acknowledge that you are the pilot, and show the required documents the inspector is authorized to request. You need do no more, and babbling on has turned many a ramp check around for the worse.
7. **AIRCRAFT INSPECTION NOT INCLUDED:** The inspector does not have the right to touch or

board your aircraft. If he or she is about to do so, courteously ask him/her to refrain.

8. **NO RETALIATION:** If you feel your being harassed, treated discourteously, or discriminated against, keep your cool and remain courteous and cooperative. After the ramp check, you and your witnesses should immediately and independently document what happened. Then seek legal advice to protest the inspector's actions. The inspector must be reasonable and you should be caused no undue or inappropriate burden.

9. **NO LOSS OF CERTIFICATE CUSTODY:** Inspectors have no right to confiscate or retain your pilot certificate. They only have the right to "inspect" it. You need not give up your certificate.

10. **CONTINUED AIRCRAFT OPERATION:** Finally, do not allow the inspector to ground you or your aircraft based on a ramp check. Take the inspector's advice into consideration, but the final decision is yours.

That's it. These are your "**RAMP RIGHTS**". All pilot should be aware of their responsibilities and obligations, as well as their rights. Every airman should be aware of the limits to a ramp check as part of safe aircraft operation. *Reprinted from "Flight Paths" July 7, 1995, at the suggestion of Chapter member Dave Cook.*

Civil Air Patrol

There will be a State-wide Civil Air Patrol meeting on Sunday, May 12th at the Greater Peoria Airport, starting at 8:00 A.M. Chapter member Fred Genge is an active CAP member. He has suggested that it would be helpful if some of us were able to attend that day. Contact Fred if you can assist with the CAP program.

OIL ANALYSIS by M. Caudill

If someone were to suggest that you spend another \$13.50 every time you change your oil, just to find out how dirty it is, you would tell them very quickly where to go and how high to jump. Oil changes are expensive, especially if you use a multi-grade oil. But that is exactly what an oil analysis will tell you except that the dirt is broken down into nine metals plus Silicon, which is dirt (sand).

The nine metals are Fe (iron), Cr (chromium), Pb (lead), Sn (tin), Mg (magnesium), Cu (copper), Ni (nickel), Al (aluminum), and Si (silicon) which is really a metal of which the oxide SiO₂ is Silica, which is sand. The size of these particles is very small.

These small pieces of metal pass through your oil filter (smaller than 10 microns), they flow through the oil pump and then through the crankshaft bearings and onto the cam. The particles are so small that they do no damage. The oil film in the bearing clearance is many times thicker than these metal particles.

But remember, the particles are generated by metal to metal contact at some point in the engine run. Not all areas have that oil film all the time. Highly loaded gears, valve guides, compression rings, and cam lobes are likely to go metal to metal at some time in the cycle and that is when the metal particles are generated. If the clearance is correct (temperatures of all the components is normal) and there is no corrosion, the particles will be in the micron range and cause no problems.

An engine goes through constant dimensional change from startup to shutdown and cylinders change (cool) before the hotter internal parts causing interference fits. When an engine breaks in, it is establishing minimum and maximum fits from cold to hot and there is a lot of wear taking place, depending on how accurate the clearances were during assembly.

The chart below is the history of my C-150. The oil changes are 25 hrs. apart. The first 100 hrs. are low, good numbers. Then I had to ream the exhaust valve guides due to a sticking valve. The iron and chrome doubled. Copper tripled. Nickel and Aluminum increased. Magnesium and Silicon took a large jump.

After another 175 hrs. (bottom of the chart), everything is back to normal except for Iron, Nickel, and Copper. I believe the readings would have been a lot lower had we disassembled the cylinders instead of reaming the valve guides in place. The valve guides (copper) and the valve stems (iron and nickel) are still breaking in (wearing) a little more than they were 250 hrs. ago.

It is obvious that oil analysis is sensitive to changes in the engine and this experience to date gives me confidence that it is a good tool to monitor the health of your engine.

I also know from experience that oil analysis will not detect catastrophic failure of a corroded cam. This type of failure is too fast (large particles) and only your filter or screen will show the problem. It's a good idea to use all the tools available to you when your life is on the line!

AIRWORTHINESS ALERTS

submitted by Al Lurie

Fe	Cr	Pb	Sn	Mg	Si	Cu	Ni	Al
2	1.3	3.93	1	0.4	5	3.5	0.3	3
6	1.2	7.51	4	0.7	7	3.9	0.7	2
6	0.8	6.68	1	0.6	4	3.1	0.3	2
5	0.8	7.51	3	0.2	2	3.3	0.9	1
At this point the exh. valve guides were reamed								
11	1.6	6.74	1	5.0	10	11.6	0.5	5
10	2.4	5.84	1	0.8	3	12.3	1.8	3
11	1.0	4.74	0	1.0	3	13.0	1.0	3
9	1.0	5.62	0	1.8	4	12.0	0.9	3
10	0.4	2.21	0	1.6	4	10.9	0.8	2
11	0.7	3.74	4	1.7	5	10.4	1.1	5
10	0.7	3.85	1	3.2	5	8.5	1.0	3

Aeronca Model 7AC Champ Engine Air Intake

The pilot reported engine power dropped to 700 RPM during cruise flight. Engine Power did not respond to throttle lever movements, and the condition resulted in an off-airport landing.

An inspection revealed the engine air intake "butterfly plate" had separated from the shaft and was blocking engine air intake. The "butterfly plate" was attached to the shaft by spot welds which had broken. The submitter recommended checking the attachment of the "butterfly plate" to the shaft for security at every opportunity. Part total time - 3,556 hours.

Defective Seatbelt/Shoulder harness Buckles On Amateur-Built Aircraft

The following article was submitted by the FAA's Manufacturing Inspection District Office (ANE-MIDO-44) locate at New Cumberland, Pennsylvania. Only minor editorial changes have been made.

"During an airworthiness certification inspection

of a completed Challenger II aircraft kit, it was discovered that the seatbelt assemblies supplied by the kit manufacturer, Quad City Aircraft Corporation, were defective. The buckle may inadvertently open on impact, thereby negating the safety value of these assemblies.

The source of these belts is not known; however, they are of the metal-to-metal type, having a plastic front overlay with a push-button release, not unlike the type of belts installed in many automobiles, including those manufactured by General Motors and Ford Motor Company.

The method used by the writer in testing these belts is to engage the buckle, then pull the belt assembly tight to simulate a load. By striking the aft face of the buckle assembly with the knuckles (recommend using a wooden hammer handle), a defective buckle will become disengaged.

We recommend testing all belts and harnesses which have buckles of this design. They should be replaced prior to further flight if this test causes buckle disengagement.

There was a televised new release on this problem approximately 1 year ago, as it impacted the automotive arena; however, we have been unable to obtain any automotive service bulletin, letter, or recall notice pertaining to this problem.

This office has notified all DAR personnel in this area to be especially watchful for this type of belt assembly, and to test these assemblies for this defect."

Cessna Model 152 Aerobat Elevator Control System

During a 100-hour inspection, the elevator torque tube was found cracked.

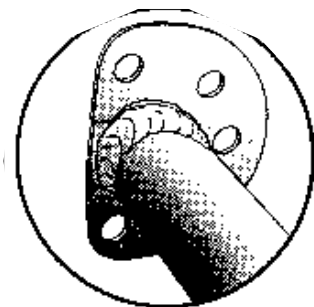
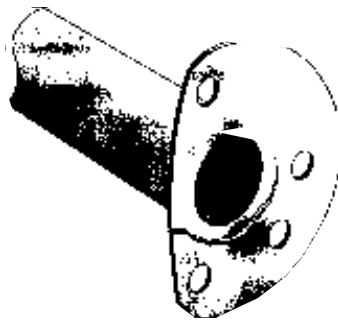
The right torque tube (P/N 0434155-2) was cracked adjacent to a weld which attached the mounting plate to the tube. (Refer to the illustrations,) This aircraft was used primarily for flight training; however, the maintenance records did not indicate any unusual occurrences or history of damage in this area. It would be wise to thoroughly check this area during scheduled inspections. Part total time -- 6,765 hours.

**Textron Lycoming Model 0-235
Push Rod Failure**

During a 100-hour inspection, the Number 4 cylinder valve clearance was excessive and required more than usual adjustment. The engine had been operating satisfactorily, and there was no indication of a problem in the maintenance records.

When the intake valve push rod was removed, the tube was found "rolled" which effectively shortened the push rod length. (Refer to the following illustration.) The insert on the valve end of the push rod was loose, and the submitter speculated this caused the insert to "pound"

against the tube, thereby rolling the metal downward. When the valves require "more than usual" adjustment, it would be wise to check for this type defect.



Calendar

**May 3rd thru 5th —
BRAINERD,
MINNESOTA**

Minnesota Seaplane Pilots Assoc. Annual Fly-In. Contact: 612/477-4538.

May 4th — ST. LOUIS, MISSOURI

Aircraft builders seminar sponsored by Wicks Aircraft and EAA Chapter 32 at Spirit of St. Louis Airport. Contact James Cone, 314/928-8703.

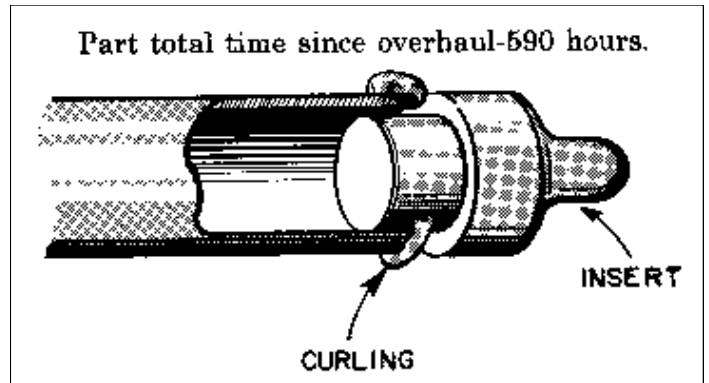
MAY 5th — McNABB, ILLINOIS

FLY-IN/DRIVE-IN Breakfast, Sponsored by EAA Chapter 948, the first Sunday of the month, from 7-11 A.M. at Hartenbauer's Airport on McNabb Road, rain or shine. Contact: 815/882-2371.

May 5th — ROCKFORD, ILLINOIS

EAA Chapter 22 Annual Fly-In, Drive-In Breakfast. Courtesy Aircraft, Greater Rockford Airport. 7:00 a.m. to noon. Contact: Wally Hunt, 815/332-4708.

May 12th — GREATER PEORIA AIRPORT



Statewide Civil Air Patrol meeting, starting at 8:00 A.M. Fred Genge will be providing us with more information about this event.

May 18th — DECATUR, ILLINOIS

EAA Chapter 274 Pancake Breakfast/Young Eagles Flights. Rain date 5/19. Contact: 217/935-2552.

May 18th — CARBONDALE, ILLINOIS

EAA Chapter 277 Fly-In Breakfast. Contact: 618/549-4064.

May 18th — DAYTON, OHIO

EAA Chapter 325 EAA Day at the Air Force Museum. Contact: 216/382-0781.

May 19th — LINCOLN, ILLINOIS

Logan County Open House Fly-In/Drive-In Breakfast, 8:00 am - 2:00 PM, at the Logan County Airport.

May 19th — MT. MORRIS, ILLINOIS

EAA Chapter 682 Fly-In Breakfast. Contact: 815/732-7268.

May 19th — ROMEOVILLE, ILLINOIS

EAA Chapter 15 Annual Pancake Breakfast at Lewis University Airport, 7:00 a.m. to noon. Contact: Peter J. Sotich, 312/735-1353. (after 6:00 p.m.)

May 19th — CANTON, ILLINOIS

Thirty-Fifth Annual Fly-In Breakfast. Contact: 309/245-4777.

May 19th — OGLE COUNTY, ILLINOIS

Ogle County Pilots Assn. and EAA Chapter 682 Fly-In Breakfast at the Ogle County Airport (Barnette Field). Contact: Glen Orr at 815/732-7268.

May 26th — PORTAGE, WISCONSIN

EAA Chapter 371 Fly-In Pancake Breakfast at Portage Municipal Airport. Contact: 608/742-7726.

May 31st thru June 1st — GALESBURG, ILLINOIS

27th Annual IlliNines Air Derby, starting at the Galesburg Airport. Contact: Rosemary Emhoff at 309/691-0375.

May 31st thru June 1st — BARTLESVILLE, OK

Biplane Expo '96, 10th Annual National Biplane Convention and Exposition at Frank Philipps Field. Contact: 918/622-8400.

June 1st — BLOOMINGTON, ILLINOIS

New Runway Dedication Fly-In Breakfast at Bloomington-Normal Airport. Contact: Norm Wingler at 309/663-7632.

June 1st and 2nd — RANTOUL, ILLINOIS

Rantoul Air Festival '96, at the Rantoul Airport. Contact: Ray Boudreaux at 217/893-9955.

June 2nd — McNABB, ILLINOIS

FLY-IN/DRIVE-IN Breakfast, Sponsored by EAA Chapter 948, the first Sunday of the month, from 7 -11 A.M. at Hartenbauer's Airport on McNabb Road, rain or shine. Contact: 815/882-2371.

June 2nd — BURLINGTON, WISCONSIN

18th Annual IAC Chapter 8 Fly-In. Contact: 414/282-3250.

June 2nd — OLNEY, ILLINOIS

Fly-In/Drive-In Breakfast. Contact: 618/723-2594.

June 2nd — DEKALB, ILLINOIS

EAA Chapter 241 Fly-In Breakfast at DeKalb-Taylor Municipal Airport, from 7:0 a.m. to noon. Contact: 815/758-8434.

June 3rd thru 29th — OTTUMWA, IOWA

15th Annual Light Aircraft Construction Workshop. 1-800/726-2585, ext 183.

June 8th — CANTON, ILLINOIS

Breakfast Buffet. Contact: 309/245-4777.

June 8th — DECATUR, ILLINOIS

EAA Chapter 274 Young Eagles Flight Day. Contact: John Scharff, 217/935-2552.

June 8th and 9th — WATERLOO, IOWA

My Waterloo Days Airshow '96. 319/234-7745.

June 9th — ROCK FALLS, ILLINOIS

EAA Chapter 410 Fly-In/Drive In Breakfast. Contact: William Havener, 815/626-0910.

June 9th — DECATUR, ILLINOIS

Decatur Aero Club Fly-In/Drive-In Pancake Breakfast at Hangar 104. Contact: Mark Bleavins at 217/428-1928.

June 9th — AURORA, ILLINOIS

EAA Chapter 579 Fly-In/Open House — Aurora Municipal Airport. Contact: 708/466-4193.

June 9th — LANSING, ILLINOIS

EAA Chapter 260 Pancake Breakfast, Young Eagles Rally — Lansing Municipal Airport, 7:00 am - 1:00 PM. Contact: 708/331-4276.

June 13th thru 16th — ST. LOUIS, MISSOURI

American WACO Club Fly-In at Creve Coeur Airport. Contact: 314/434-4856.

June 16th — LACROSSE, WISCONSIN

Father's Day Fly-In/Drive-In Breakfast sponsored by the LaCrosse Area Flyers Club. Contact: Steve Schnitz at 608/781-5271.

June 21st thru 23rd — DAVENPORT, IOWA

Quad City Air Show. Contact: 319/285-7469.

June 21st thru 23rd — OKC, OKLAHOMA

Gathering of Canard — Type aircraft at Clarence Page Municipal Airport. Contact Pete Peterson, 405/946-5003.

June 21st thru 23rd — GARDNER, KANSAS

WW-I Fly-In sponsored by the Great War Aeroplanes Assoc. Contact: Marvin Story at 913/788-5435.

June 27th thru 30th — MT. VERNON, OHIO

37TH Annual National Waco Reunion Fly-In. Contact: 513/868-0084.

June 29th and 30th — AURORA, ILLINOIS

Alexander SportAir Center Aircraft Building Workshop. Registration starts at \$149; contact Alexander SportAir Workshops, 1-800/831-2949.

July 4th — MT. MORRIS, ILLINOIS

EAA Chapter 682 Fly-In/Drive-In Breakfast. Contact: 815/732-7268.

July 4th — MONMOUTH, ILLINOIS

Annual Fly-In/Drive-In Breakfast. Contact: 309/734-7662.

July 4th — OGLE COUNTY, ILLINOIS

Ogle County Pilots Assn. and EAA Chapter 682 Fly-In Breakfast at the Ogle County Airport (Barnette Field). Contact: Glen Orr at 815/732-7268.

July 7th — McNABB, ILLINOIS

FLY-IN/DRIVE-IN Breakfast, Sponsored by EAA Chapter 948, the first Sunday of the month, from 7-11 A.M. at Hartenbauer's Airport on McNabb Road, rain or shine. Contact: 815/882-2371.

July 10th thru 14th — ARLINGTON, WASHINGTON

Northwest Regional EAA Fly-In at Arlington Airport. Contact: Jay Tolbert, President, 360/435-5857 or FAX 360/435-6480.

July 12th thru 14th — MATTOON, ILLINOIS

Sixth Annual WINGS Weekend '96 at the Coles County Memorial Airport in Mattoon. Contact: Dale Rust of the Illinois Division of Aeronautics at 217/524-5269.

July 12th thru 14th — BURLINGTON, WISCONSIN



WINGS Week-End

Be sure to mark your aviation calendar to include the Sixth Annual Wings Flight Proficiency Program. WINGS Weekend will take place July 12-14 at Coles County Airport, located between Charleston and Matton, Illinois, WINGS Weekend is sponsored by the Illinois Department of Transportation, the Federal Aviation Administration, and the Coles County Airport Authority.

The program is available to both pilots and flight instructors. Instructor can earn one of the first three WINGS Phases by providing the flight instruction required to three WINGS participants. An invitation is extended to all flight instructors who would like to volunteer their services for this major aviation event. If you would like further information concerning instructor or pilot participation, contact Dale Rust at 217/524-5269.


CHAPTER 563 OFFICERS

President: Morrie Caudill, 600 W. Melbourne Avenue, Peoria, IL. 61604, Phone 685-8547
Vice President: Sam Sisk, 2207 W. Bristol Hollow Rd., Dunlap, IL. 61525, Phone 243-5729
Treasurer: Al Phipps, 6305 N. Suffolk Dr., Peoria, IL. 61615, Phone 693-2943
Secretary: Scot Decker, 9349 N. Northview Rd. Peoria, IL. 61615, Phone 689-6542
Newsletter Editor: Dennis Mellen, 2333 N. Ellis Street, Peoria, IL. 61604, Phone 682-7890
At Large Board Member: Bill Mathis, 1408 W. Holly Hedges Dr., Peoria, IL. 61614, Phone 693-6113
At Large Board Member: Joe Fox, 19 Northmoor Ct., Morton, IL. 61550, Phone 265-5195
Technical Advisor: Al Lurie, 605 E. Armstrong Avenue, Peoria, IL. 61603, Phone 682-1674
Young Eagles Coordinator: Brian Briggerman, 1113 Evergreen, Chillicothe, IL. 61523, Phone 274-5472
Flight Advisor: Jim Hannemann, 1404 Miller Street, Washington, IL. 61571, Phone 444-4062
Flight Advisor: Sam Sisk, 2207 W. Bristol Hollow Rd., Dunlap, IL. 61525, Phone 243-5729
Flight Advisor: Ron Wright, 616 Kerfoot, East Peoria, IL. 61611, Phone 694-1527

E. A. A. Chapter 563
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