



FT	3000	9000	12000	18000	30000	34000
BRL	1937	2211+12	2611+07	9900-09	20734	283444
DBQ	1922	2211+12	2611+07	9900-09	20734	283444
DSM	1919	2211+12	2611+07	9900-09	20734	283444
MCW	1709	2211+12	2611+07	9900-09	20734	283444
JOT	2229	2215+18	2106+13	2706+06	3205-09	9900-19
SPI	2028	1921+18	1911+12	9900+06	3611-10	3405-20
					191034	161745



EAA Chapter 790

Lake in the Hills, IL

790.eaachapter.org

August Chapter meeting Presentation,
Host Lon Danek

Cessna 170A Restoration



Robert Skalany-A&P, David Morrow-CFI and John Kinyon-Pilot, gave an excellent presentation and view of their Cessna 170A restoration project. This project has taken longer than expected but with this team's expertise and vision statement it has provided many interesting twists and turns.

Aircraft History and Project Background (David)

We'll give an overview of the aircraft and project, discuss issues and upgrades, and talk about lessons learned, then go to the hangar to see the plane and tools.

1949 Cessna 170A

All logbooks, long ownership history owned by Grace's Wings LLC (for liability shield)
Four hangars and a garage later... (cont. page 3)

In this Issue

- August Chapter Meeting
- Members News
- Sept Fly Out
- Paul's Prescott Status
- Chapter Calendar of events
- ♦ Scholarship Applications (2)
- N Ill. Chapters Events Calendar
- Chapter Staff and Contact info

MEMBERS NEWS

Welcome new Chapter Members;

Tom Blake and Marty Galis and new aviation enthusiasts Steve Omale and son.

Chapter member Jeff Dingbaum is currently building an RV14. Need riveting help Jeff?



Friday September 21st Fly Out



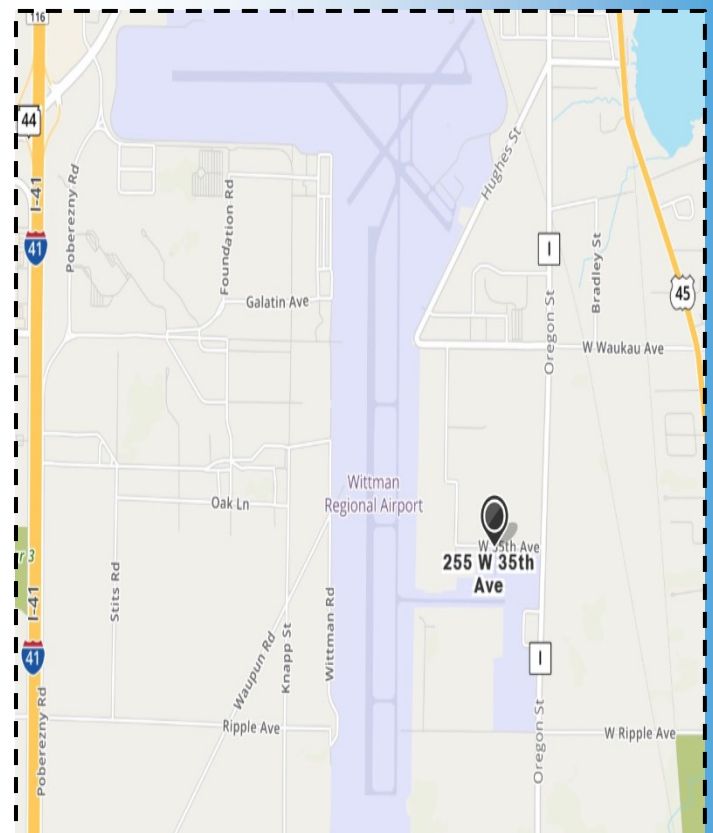
A fly out is scheduled for Friday September 21st. Yes unfortunately it is on a Weekday, Basler Turbo is not open for Tours on the weekend.

For those unfamiliar with this company they are one of the largest restorers of the venerable DC3. See article in the June Newsletter for more information on this innovative aircraft.

For those interested in Flying to Oshkosh, plan on arriving at 1:00PM You can taxi right up to their facilities as noted in the diagram on the right. Please advise me of your N number so I can contact Peggy at Basler for parking authorization.

Contact Tom Solar for those who will be flying and available seating and those needing a lift, get it car taxis:)

"tomsolar@sbcglobal.net" text at cell 847/902-8347 or leave message at 847/468-9437.



The August Fly Out to Clow Airport was interrupted by low ceilings. Will reschedule at a later date. Our beloved alternate Breakfast location, Colonial has been closed in Crystal Lake. Will advise alternate locale.

Cessna 170A restoration (cont.)

**Robert spoke on the Project principles:**

Replace questionable items-“do it right”, focus on safety, FAA compliance and maintainability, and upgrade to latest practices (at the expense of historical accuracy).

Areas found to need significant work were; landing gearbox corrosion, engine mount and patched firewall, most control cables were frayed, some rubbing and some pulleys were seized. The bulkhead was damaged at station 108, the elevator bracket had design, material and process failures; work was required on the carburetor air box and control cable mounts, tailwheel, spinner, seats, upholstery and carpet

**Improvements to Engine-David**

The Engine was pickled during project, borescope check to verify condition. They replaced the single analog ECT with a digital 6 cylinder EGT and CHT, oil temp and pressure readings. They added an engine recorder and



alarms for temp, oil pressure and alternator; replaced the oil screen with oil filter, overhauled mags, carb, gascolator, and alternator; repaired the Tanis heater and removed the manifold pressure gauge.

John Reported on Airframe Improvements

They built a stronger gearbox, replaced cracked spars, ribs and used over 8000 rivets. 90% of the skin is new. They replaced all control cables, pulleys and hardware, overhauled the engine mount; repaired a damaged firewall with new thin stainless steel; replaced the instrument panel and yoke which went from the T style to a U stile Yoke and replaced non-standard, undocumented control wheels with authentic. The placards were painted or engraved with added GW, Cessna and McCauley logos. Windshield was attached with machine screws verse the B-screws. They installed stronger foot pegs, replaced the seats, carpet and interior fabric trim. New inertial reel seat lock was installed on the pilot side and they added float attachment fittings. *(Someone must be a North Woods fisherperson)*



Cessna 170A restoration (cont.)

John Reviewed the Avionics and Electrical upgrades

Reasons for the many changes we made were; obsolescence, regulatory compliance, safety, maintainability, features, value enhancement, esthetics (pride of ownership and workmanship)

Improvements to Avionics

They Replaced the LORAN and portable GPS with IFR GPS and nav/com; added digital attitude indicator, and HSI; added glideslope; replaced intercom with audio panel and marker receiver; replaced speaker, and relocated compass to mitigate reading errors; replaced ELT with 406/121.5 w GPS position (twice) and replaced transponder with ADS-B model. They retained the steam gauges per Dave's request (old school eh Dave)

**Electrical**

They Replaced all wiring; replaced most fuses with circuit breakers (one per device), added

USB power outlets and voltmeter, calculated new electrical load; replaced landing, beacon, cabin and tail lights with LEDs and added new instrument lighting.

Lessons Learned-Robert

The Logbooks tell (part of) work done, but not



why the work was done

Service bulletins, airworthiness directives, updated manuals, etc.

Don't assume anything. Verify with other people, documents, and aircraft.

Help from Chris Shaw, Aircrafters, Hill Aircraft, 170 Association (Cessna not so much)

A parts manual is not a repair manual - not much detail, no procedures, references parts that have been superseded or are unavailable Parts from salvage yard, purchased new or used, or fabricated

FAA Advisory Circular 43.13 is your friend:

"Acceptable Methods, Techniques, and Practices – Aircraft Alterations" (137 pages)

There is a story for every part. Pay careful attention to each one.

This is just an annual inspection with a few(!) repairs and upgrades

95% done, 20% to go. Murphy was an optimist (and so are we). Tuesday!

Thanks John, David and Robert for your fine presentation.

The format of this article was reprinted in order to fit within the Newsletter structure. John Kinyon provided the slide information and pictures.

Tom Solar

Work Shop Status

Paul Ranieri's Prescott Pusher Project

One wing down, one to go.



Chapter Calendar

- September 1, Young Eagles Rained Out
- September Friday 21st –Fly Out, DC –3 Restoration Shop Oshkosh
- September 25th, Chapter Meeting and last BBQ-George Roby Host
- October 6th Young Eagles-Our last one of the year.
- October 13th Fly Out Picnic to Chuck Binzels Airport WI 95, 11-3PM, 2 miles NE of Bristol, Wi. 2000 ft turf 18/36 right hand traffic
- Check the Chapter Website "<http://www.790.eaachapter.org/>" for any additional details and a list of local chapter events in the area

This is YOUR Newsletter so:

Send any of your aviation adventures, pictures, articles or humor you would like to appear in the Newsletter to:

"tomsolar@sbcglobal.net"

Any questions, comments or ideas for Chapter Events, contact Paul Ranieri "P.ranieri@comcast.net" or one of your Board Members. Safe flying!

CHAPTER AVIATION SCHOLARSHIPS

2018

Crystal Lake EAA Chapter 790 is offering scholarships for Youth in Aviation. One is a \$1,000 scholarship paid directly to a certified flight training facility, the other is an Aviation Camp in Oshkosh, Wisconsin EAA Air Academy in June or July 2019.

Applicants for the \$1,000 scholarship submit a written one page essay on why they are interested in Aviation and their Aviation objectives. A Chapter 790 Scholarship committee will review the essays and inform the lucky winners. You must be 16 to 20 years of age and with the consent of a parent or guardian. It must be typed double spaced using 12-point font. Please have at least 3 paragraphs to your paper; introduction, body and conclusion. Use focus and any relevant evidence to support your ideas. Use conventional standard written English. Ideal candidates should be well rounded, have a high school GPA of at least 2.00 on a 4.0 scale, be involved in school and community activities, as well as have a proven interest in aviation.

Please provide 2 references along with your paper.

Applicants for the **Aviation Camp** ages 12-15, please provide name, address, age, parents or guardians name and phone number, child's interests and the child's reason for wanting to attend the Air Academy. The winners will be awarded their scholarship at the Annual Chapter Banquet in February, 2019

Submit your application by November 15th to:

Paul Ranieri-President EAA Chapter 790
P.O. Box 1206
Barrington, IL. 60011

This is YOUR Newsletter so:

Send any of your aviation adventures, pictures, articles or humor you would like to appear in the Newsletter to:

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Any questions, comments or ideas for Chapter Events, contact Paul Ranieri "P.ranieri@comcast.net" or one of your Board Members. Safe flying!

2018 Calendar

EAA Chapter Events in the Chicago Area

August

- 4 - Chapter 101 Young Eagles Rally at Schaumburg Airport (06C)
- 4 - Chapter 790 Young Eagles Rally, 8:30am to Noon at Lake in the Hills (3CK)
- 11 - Chapter 414 Young Eagles Rally at Waukegan Airport (KUGN)
- 11 - Chapter 838 Young Eagles Rally at Racine Airport (KRAC)
- 11 - Chapter 932 Fly Out to Rochelle Airport (KRPJ)
- 11 - Chapter 461 Young Eagles Rally, 9am to Noon at Bolingbrook/Clow (1C5)
- 12 - Chapter 1414 Pancake Breakfast/Young Eagles Rally at Poplar Grove (C77)
- 12 - Warbird Squadron 4 Tom Buck's Open Hangar, 11am - 3pm at Joliet (KJOT)
- 19 - Chapter 241 Young Eagles Rally, 9 - 11am at DeKalb Airport (KDKB)
- 24-26 Chapter 414 B-17 Aluminum Overcast Rides at Waukegan (KUGN)
- 26 - Chapter 579 Young Eagles Rally, 9am - 2pm at Aurora Airport (KARR)

September

- 1 - Chapter 101 Young Eagles Rally at Schaumburg Airport (06C)
- 1 - Chapter 790 Young Eagles Rally, 8:30am to Noon at Lake in the Hills (3CK)
- 8 - Chapter 838 Young Eagles Rally at Racine Airport (KRAC)
- 8 - Chapter 932 Safety Seminar 9:30 - 11:30am at Galt Airport (10C)
- 8 - Chapter 95 Young Eagles, 9am - 2pm at Morris Airport (C09)
- 8 - Chapter 461 Young Eagles Rally, 9am to Noon at Bolingbrook/Clow (1C5)
- 9 - Chapter 1414 Pancake Breakfast/Young Eagles Rally at Poplar Grove (C77)
- 9 - Chapter 414 Young Eagles Rally at Kenosha Airport (KENW)
- 15 - Chapter 22 Young Eagles Rally at Cottonwood Airport (1C8)
- 16 - Chapter 241 Pancake Breakfast, 8 - 11:30am at Hinckley Airport (0C2)
- 22 - Chapter 414 Young Eagles Rally at Waukegan Airport (KUGN)
- 23 - Chapter 579 Young Eagles Rally, 9am - 2pm at Aurora Airport (KARR)

October

- 6 - Chapter 101 Young Eagles Rally at Schaumburg Airport (06C)
- 6 - Chapter 790 Young Eagles Rally, 8:30am to Noon at Lake in the Hills (3CK)
- 6 - Chapter 22 Fall Fly-in/Drive-in lunch, 11am-2pm at Cottonwood Airport (1C8)
- 13 - Chapter 838 Young Eagles Rally at Racine Airport (KRAC)
- 13 - Chapter 241 USO Hangar Dance, 7:30-11:30pm at DeKalb Airport (KDKB)
- 13 - Chapter 461 Young Eagles Rally, 9am to Noon at Bolingbrook/Clow (1C5)
- 14 - Chapter 1414 Pancake Breakfast/Young Eagles Rally at Poplar Grove (C77)
- 14 - Chapter 932 Planes and Puppies/Young Eagles Rally at Galt Airport (10C)
- 28 - Chapter 579 Young Eagles Rally, 9am - 2pm at Aurora Airport (KARR)

Visit the chapter websites for more information about each event.



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