

APRIL 2019

PROPWASH

A NEWSLETTER OF EAA CHAPTER 517, INC.



Five Valleys Flyers



EAA Chapter 517, Inc

From the President



RALPH JOHNS

Saturday, April 6, is the first of our monthly pancake breakfast fly-in events, and a Young Eagles rally. Weather is improving and snow is melting. These events will continue the first Saturday of each month through the summer. Additional Young Eagles events are planned for Scouts on May 11 at our hangar and on June 23 at Hamilton/Ravalli County Airport.

Our chapter application for the Ray Aviation Scholarship has been approved by EAA. This is a very exciting development. Ray Aten has agreed to serve as the official coordinator of this for the chapter and is providing details in another article in this issue.

The chapter has decided to host a “Flying Start” event on “Learn to Fly Day” May 18. It will consist of presentations on what it takes to learn to fly and how/where to go about it. The event would also include Eagle Flights for those participants who are interested. For those chapters that have done this event, it has proven to be a good membership source. If



you know of anyone who would be interested, please have them contact Sherry at 406-544-6182.

It has been proposed that we reserve a chapter camping area at

2019 EAA Airventure in Oshkosh. Is there interest in pursuing this? If there is interest, please email me or call at 549-2933.

CFI CORNER

Utilizing weather reports & other weather related products



By Sherry Rossiter, CFI-I

Editor's Note: This is a continuation of last month's CFI corner.

Obtaining In-flight Weather Information

Pilots can obtain in-flight weather information by contacting the Flight Service Station on 122.2 MHz. This service can provide several types of weather information including the following:

- 1) Hazardous In-flight Weather Advisory Service (HIWAS)
- 2) Continuous broadcast service over select VORs that includes AIRMET, G-AIRMETS, SIGMETs, Convective SIGMETs, severe weather forecast alerts and urgent PIREPS

Air Route Traffic Control Centers (ARTCC) can also provide in-flight weather services to pilots, but those services are provided on a workload permitting basis to VFR pilots. Center controllers have access

to current weather information either from their radar or from other sources.

Flight Information Service – Broadcast (FIS-B) is a ground-based broadcast service that provides pilots of aircraft equipped with Automatic Dependent Surveillance – Broadcast (ADS-B) with a wealth of weather and aeronautical information. Again, FIS-B should not be used in lieu of a standard preflight weather briefing.

Additionally, automated weather stations are used throughout the United States. The **Automated Weather Observation Station (AWOS)** can be received within 25 NM from the site and up to 10,000 AGL. The AWOS transmits a 20-30 second weather message that is updated each minute. Two other systems are the Automated Surface Observing System (ASOS) and the Automated Weather Sensor System (AWSS), which generate minute-by-minute weather observations and perform basic functions necessary to

generate a routine aviation weather report (METAR).

METAR is the acronym for Meteorological Terminal Aviation Routine Weather Report. A METAR includes the airport identifier, time of observation, wind, visibility, runway visual range (RVR), present weather phenomena, sky conditions, temperature, dewpoint, and altimeter setting. METARs can be obtained in flight from Flight Service Stations, Centers, and a variety of electronic devices equipped with flight planning software such as ForeFlight or Jeppesen.

Observed Weather Charts & Reports

Weather depiction charts show the ceiling and visibility at specific locations (airports or weather stations). Weather depiction charts also show general areas of VFR, MFVR or IFR.

Surface analysis and prognostic

charts display current and forecast surface pressure patterns and frontal systems. The prognostic charts also depict general areas of precipitation.

National radar mosaics display a combination of local radar observations on one map. The mosaics “loop” to show precipitation movement and intensity over time.

Pilot Reports (PIREPs) indicate what the flight conditions are at a specific altitude and location. These reports are made by pilots in the air who have personally encountered / observed the weather phenomena they report in the PIREP.

Forecast Weather Charts & Reports

Traditional text-based **Area Forecasts (FAs)** are now only produced for Alaska, the Gulf of Mexico, Hawaii and the Caribbean. Area forecasts for the continental United States have been replaced by a Graphical Forecast for Aviation (GFA). According to Information for Operators bulletin 17013 dated August 28, 2017, “The intent of the FAA in retiring the FA and transitioning to the digital GFA is to allow the Aviation Weather Center (AWC) forecasters to focus their efforts on maximizing operational benefit to aviation users, resulting in improved weather information to decision-makers.”

Terminal Aerodrome Forecasts (TAFs) cover a 24-hour period and are issued four times a day. A TAF uses the same weather codes found in the METAR weather reports, but a TAF only covers expected meteorological conditions within 5 SM of the center of the airport’s runway complex.

Winds Aloft charts are updated every hour for North America, Europe and Australia. Everywhere else they are updated every six hours.

In Conclusion

The quantity of weather

information available in this technological age can be overwhelming to pilots and flight instructors, not to mention to student pilots. Fortunately, there is an entire section in the Aeronautical Information Manual (AIM) on the types of aviation weather services provided to pilots. Additionally, two FAA publications, Aviation Weather (AC 00-6B) and Aviation Weather Services (AC 00-45H), also go into great detail on all of the weather products and services available through the federal government.

Because weather is such an important topic, and there is so much to learn about weather theory, products and services, pilots must make an effort to continually refresh their weather knowledge and understanding. Simply observing the type of clouds in the sky can tell a pilot a lot about the current and changing weather conditions, but actually understanding the basic elements of weather changes is the best way to make sure you don’t become a weather-related pilot statistic.

The FAA expects pilots to obtain a weather briefing prior to every flight more than 25 NM from the departure airport. Making a GO-NO-GO decision regarding weather involves four steps:

- 1) Get the big picture
- 2) Focus on specific concerns
- 3) Narrow your investigation to route of flight and actual time frame
- 4) Consider alternatives if the weather forecast changes before departure or while enroute

In a previous CFI Corner article, I said I was a big believer in setting personal flying minimums. That goes for making weather-related decisions as well. For example, just because you fly an airplane with deicing capability doesn’t mean it is a smart decision to intentionally fly into known icing conditions. Or just because you successfully

handled a 30-knot crosswind once before, it doesn’t mean you can do it again. Simply put, don’t put yourself into weather situations where the successful outcome of the flight is in doubt. I personally believe that a pilot can never know too much about weather theory and the availability of weather resources. In theory, the more you know and understand about weather phenomena, the greater the chances you will make a good weather-related decision.

Additional Sources of Weather Information

National Weather Service – provides public-oriented forecasts, watches, warnings, and radar and satellite information; weather.gov

Aviation Weather Center (AWC) – excellent site that provides aviation-oriented information about icing, turbulence, PIREPS, AIRMETS, SIGMETS; aviationweather.gov

UCAR – National Center for Atmospheric Research; RAP Real-Time Weather Data; provides weather information and models, satellite, radar data, surface observations and help pages; www.rap.ucar.edu/weather

National Doppler Radar Sites – provides individual, regional, CONUS radar images and loops; radar.weather.gov

METARs and TAFs – The ATC Flight Simulation Network does a good job of showing how to interpret METARs and TAFs. The URL is svatsim.net/pilot-resource-centre/general-lessons/interpreting-metars-and-tafs and can be accessed for free by anyone.

There are also apps for smart phones and tablets that show and decode METARs and TAFs. These can be purchased for a fee.

Words from a Safety Dog

Keep your flying skills sharp



By Steve Rossiter

By the time you read this, Spring will have officially sprung. On March 20 our day and night was the same length and until September 20 we will see more daylight than dark. With all the snow still on the ground in and around Missoula, longer and warmer days sound really, really good.

Along with our new spring reality comes the 2019 flying season. Some of you have already taken advantage of some wonderfully clear

and beautiful days and gotten some flying in. While most of us have done minimal flying since the last flying season, we need to consider the state of our flying skills. Before we get too deep, we should probably consider getting out there by ourselves or with a flight instructor and knock off some of the rust that has accumulated over the winter.

I have an exercise you can engage in alone or with an instructor that will help you get back up to speed. This is an exercise I always use myself when knocking off the rust or trying to

become familiar with an aircraft I am checking out in. Of course, before you head for the airport, refresh your memory on aircraft you have flown by a review of the numbers in the manual. For a new aircraft, learn the numbers. Once you are airborne, go to the training area and perform the following maneuvers:

A slow flight routine:

In the clean configuration slow the airplane until the stall warning device is at the point where it is intermittent,

and then hold that speed. Then do a 90 degree turn in the direction of your choice, while maintaining a constant altitude then reestablish straight and level flight.

Upon establishing straight and level flight, lower one increment of flaps for your airplane. Maintain level flight and the intermittent stall warning. Then do a 90-degree turn in the opposite direction from your first turn, maintain constant altitude.

Upon establishing straight and level flight, lower your next increment of flaps for your airplane. Maintain level flight and the intermittent stall warning. Then do a 90-degree turn in the opposite direction from your last turn, while maintaining a constant altitude and intermittent stall warning.

Upon establishing straight and level flight, lower full flaps for your airplane and landing gear, if that is an option. Maintain level flight and the intermittent stall warning. Then do a 90-degree turn in the opposite direction from your last turn, while maintaining a constant altitude.

Upon completion of this turn, clean up the airplane at a rate that allows you to maintain a constant altitude and resume a cruise configuration.

KEY ELEMENTS OF THIS MANEUVER: Maintain a constant altitude; adjust power as necessary. Remember as the configuration changes, so will you pitch attitude. Keep the stall warning device intermittent, so you know you are at the slowest practical speed during the maneuver.

A steep turn routine

In a clean configuration at cruise airspeed, pick a reference point for a series of steep turns. Using a medium turn angle of 30-degrees +/-, complete a 720-degree turn in each direction while maintaining a



constant altitude.

Once you have mastered the 720 degree medium banked turns to your satisfaction, repeat the maneuver using a steep turn between 45 and 60 degrees of bank angle. Once again, the goal is to maintain a constant altitude throughout the maneuver.

KEY ELEMENTS OF THIS MANEUVER: Maintain a constant altitude; adjust bank as necessary. Be mindful of your pitch attitude, and roll out on your reference point.

A stall series

Refresh your muscle memory about how you should behave in various stall configurations for your airplane. Run through the whole series as appropriate for your airplane at a safe altitude.

Air work maneuvers

- Take off and departure stalls
- Power on and power off stalls

- Approach and landing stalls
- Take off and landing series

Once you have mastered the above air work maneuvers, it is time to return to the airport to get yourself legal for carrying passengers, and more important, make sure the rust has really been knocked off.

- Normal take offs and landings
- Short field take offs and landings
- Soft field take offs and landings

Over the years I have found that mastering the above air work maneuvers has been important to keep up my skills, whether I am simply knocking off the rust or getting acquainted with a new airplane. I hope you will find these exercises a benefit to you for honing your flying skills. Happy flying in the 2019 flying season.

Strange Aircraft

Turboprop Thunderjet



By Steve Rossiter

What do you get when you take a Republic F-84-F Thunderjet and cross it with a turboprop engine? You get a XF-84-H Thunderscreech. The last time I saw this airplane, it was on a pole at the Bakersfield, California Airport. Since then it has been relocated to the Air Force Museum in Dayton, Ohio.

This test aircraft was a spectacular failure. The two prototypes flew 12 flights resulting in 11 forced landings, and they accumulated a total flight time of 6 hours 40 minutes. The program was terminated because of the severe vibration set up by the propeller. Then there was the other problem; it was noisy, thus the moniker “Thunderscreech.” It was so noisy and at such a pitch it was ear damaging. Two were built, one was scrapped, and the other was on the pole until it was removed for restoration at the Air Force Museum.



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By EAA

Have you joined the official EAA Facebook group? In conjunction with our normal Facebook page, our Facebook group will be a place for EAA members, pilots, and aviation enthusiasts in general to have discussions and share photos and ideas about aircraft, EAA AirVenture Oshkosh, other aviation events, homebuilding, flying tips, maintenance, and anything else related to aviation! Join today!

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Riding the Blackhawk



By Clint Burson

Over the years I've gotten to ride in a number of unique aircraft. So far in life I've hitched a ride in a number of small planes, an A-Star helicopter in Alaska, EAA's Ford Tri-Motor and even a ride on the Goodyear Blimp. Recently though I was lucky enough to add another new experience to my list of fun flying memories.

The National Guard flew a Blackhawk and a Chinook helicopter from Helena to Missoula where they loaded up a group of local business owners/employers to thank them for employing Guard members and Reservists or encourage them to hire them in the future.

Through luck of the draw I was selected for a ride on the Blackhawk. (That's the one I was secretly hoping for as well.)

While the first group took off for their sortie, my group headed back into Neptune Aviation's hangar to partake in some MREs. Now, I never served in the military so I have no frame of reference but they tell me that today's MREs are nothing like what prior generations endured. I have to admit, mine wasn't too bad.



Soon it was my group's turn to ride the Blackhawk. We headed out to watch it return to the airport. As it came into the landing pad it kicked up plenty of grass and mud with the powerful downwash of the rotors, but then gracefully set down on the center of the pad – clearly piloted by a skilled airman.

With rotors still humming and the jet engine still powered up, the first group unloaded and we were escorted to the Blackhawk.

I took my seat in the back, by the door and got buckled into the 4-point harness. Knowing we were likely to get some fun maneuvers, I made sure it was nice and tight so I wouldn't get thrown around too much.

We lifted off and quickly gained altitude as we crossed the field. Turning south we headed down the Bitterroot Valley, buzzing some of

the homes on the hillside. I couldn't help but wonder what they were thinking watching a Blackhawk helicopter a few hundred feet above their homes.

Popping over a ridge, the pilot hugged the hillside giving us a brief moment of weightlessness as we charged down the mountain and back into the valley. There were a few gasps from the group as the pilots gave us a tiny taste of what the helicopter was capable of before settling back into level flight and continuing south.

A few minutes later we were crossing the valley and lined up on the runway at the Stevensville Airport. We screamed down the runway where I watched the old EAA 517 hangar blur by. Upon reaching the end of the runway, the pilot pulled up into a steep climb,

pinning us all into our seats before again leveling off. As we turned back north, the pilot started a slow climb to the cloud base. Then, without warning, the Blackhawk nosed over for a quick dive – once again giving us a moment of weightlessness for those of us in the back. It's a good thing I tightened down those straps!

The Blackhawk is an amazing aircraft and one I won't soon forget. As big as it is (capable of carrying 12 soldiers plus 4 crew) it was still remarkably maneuverable.

We then headed back to MSO with fun new memories and a greater appreciation for those in uniform serving our country. They have some very cool toys but they work hard to be the very best they can be. I'll certainly never take them for granted and I'll never forget the day I rode a Blackhawk.



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