



Next Meeting: Thursday May 19th, 2005 at 7:30 pm  
Guest Speaker: Matt Null  
The History of Pratt Whitney Aircraft Engines

EAA Chapter 113  
Mark Freeland  
42636 Faulkner Drive  
Novi, MI 48377

# EAGLE'S PROPWASH

May 2005 Issue



CHAPTER 113

*"The Backyard Eagles"*

Metetal Airport (1D2), Canton, Michigan



Pete Waters' Nieuport 17

Our Web Site: [www.eaa113.org](http://www.eaa113.org)

Meetings: 7:30 p.m. the 3<sup>rd</sup> Thursday of each month at the  
**NEW EAA113 AVIATION EDUCATION CENTER!**

[EAA113@yahoo.com](mailto:EAA113@yahoo.com)

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**Secretary:** Bob Wagner (313) 274-8292

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## *Mission Statements Chapter*

*"EAA Chapter 113's major focus is on the relationships with people who have diverse aviation interests, centered around their love of flight, fellowship, learning and fun. Chapter members have a passion for flying and are willing to share it with others. Chapter 113 provides the opportunity for exchange of information as well as the interaction that leads to friendships that last a lifetime."*

## *Board*

*"The Board of Directors are to provide both advice and assistance to the chapter officers on an ongoing basis."*

## President's Podium



**Dave Buck (734) 453-5375**  
[dbuck19208@aol.com](mailto:dbuck19208@aol.com)

Fly-in time is now in full swing. EAA113 started the season back in February with the Chili Fly-in and EAA followed up with Sun-N-Fun. We have scheduled a large number of events for this year and more are being added weekly. It's going to be a busy and fun year for the chapter.

If you are a new or old member come out and participate. We need your help to make each event enjoyable and successful. We always have a good time. Come out and find out why this is a great chapter.

Check the Yahoo site calendar or the chapter website ([eaa113.org](http://eaa113.org)) for event details. If you cannot access the EAA113 Yahoo Group Site see instructions later in this issue. Last minute changes and additions are often posted here and sent out to members via Yahoo Group e-mail.

The Father's Day Pancake Breakfast is quickly approaching. This is our major fundraiser and community event for the year. You can help by flipping pancakes, bringing friends and family for breakfast, placing posters at work, or parking cars and planes. Come to the May meeting or contact John Maxfield to volunteer.

Hope to see everyone often this summer,

Dave

## **Dolly Hillebrand will be Missed!**

Joe and Dolly Hillebrand have been devoted members of our chapter and EAA National for many years and have been regular attendees at many of our functions. A few weeks ago, Dolly passed away after a battle with cancer and it will take time to get accustomed to not having Dolly here at our gatherings.

She was one great lady, and I enjoyed munching on the occasional home baked cookie, when I visited Joe and her. Now we need to help Joe in his grief, and I know that he recognizes Chapter 113 members as close friends who will help.

To Joe and his family, go all our prayers with the memories of the pleasant times we have shared with both of them, and look to meeting with him when he returns to us in June.

Sincerely,  
Chapter 113

## **Looking Back**

For newer members of our chapter and others who may be interested in a little history of the early EAA activity in this area, here are some facts. After Paul Poberezny and others formed the parent organization in Paul's basement in 1953 in Milwaukee, Wisconsin, local chapters began forming across the country. The first Detroit chapter was #13, which started in 1954. They met first at Warren Airport in the northeast suburbs at 14 Mile and Dequindre. It covered members from all over the city, including Orlo Maxfield, Dave McKenzie, Stan Wallis and Frank Bitonti.

So, when the Westsiders formed their own group, they requested of National Headquarters that the number should be 100 higher than Chapter 13, hence we became Chapter 113. This was 1961. Meetings were held in the office of Mettetal Airport. The field consisted of some 70 acres of farmland with three runways owned by the Mettetal family and run by Marvin and Bob Mettetal. There were approximately 20 original members. This was after the first meetings were held at the Kenwood Bar and Lounge at Telegraph and Fenkell.

The first club president was Roy Kedney. Another original founding member is still with us. He was at one time treasurer and for over 40 years our refreshment official in charge, a job that he diligently did for all these years. It was doubly hard during our years at our previous meeting place where there was no water. He had to haul water in for the coffee. We should all be very grateful to our chef, Lynn Stone.

Len Marzewski

## **Calendar of Events**

### **Saturday Morning Breakfast**

Every Saturday 8:30am at the Coney Island on Lilley Rd. across the street from Mettetal airport.

### **Safety Seminar**

**MAY, 24**  
**Plymouth**  
**Plymouth Mettetal**  
**Airport (1D2), EAA**  
**Aviation Education**  
**Center, 8550 N. Lilley**  
**Rd. 6:30 - 9:30 p.m.**

The New Sport Pilot/Light Aircraft Rule, Tom Krashen, MDOT Aeronautics.  
Airport Hazards & NOTAMS, Randy Coller, MDOT Aeronautics. Sponsored by Plymouth Mettetal Aviation Association, EAA Chapter 113, Kitze Aviation, & MDOT Aeronautics. Call 517-335-9915

### **Kalamazoo Air Zoo Aviation Museum**

EAA Chapter 113 is planning a trip to the Kalamazoo Air Zoo Aviation Museum on **July 9<sup>th</sup>**. Fly or Drive. Special tours of the restoration hangars will be available. A sign-up sheet is located in the Chapter 113 meeting room.

**For further information, contact Dave James**  
**(734) 721-4213**

## OASIS Camp Group Aviation Education Days

June 25<sup>th</sup>, July 16<sup>th</sup>, August 6<sup>th</sup>, August 13<sup>th</sup>

Volunteers and alternates needed for this outstanding program at the EAA Chapter 113 Aviation Education Center. Children will learn about the basics of aerodynamics, weather, navigation and each will receive a Young Eagles ride. A signup sheet is located in the Chapter 113 meeting room. **For further information, contact Dave James (734) 721-4213**

## 2005 Fly-Ins

**SAA's 4th Annual Fly-In**, Urbana, IL June 10-11-12, 2005

**EAA Chapter 113 Pancake Breakfast**

Mettetal Airport, Canton, MI June 19, 2005

**EAA Airventure**, Oshkosh, WI July 25-31, 2005



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**EAA 113 – YAHOO!** To access our YAHOO Group Site, go to <http://groups.yahoo.com/group/EAA113/> New users click “SIGN UP.” Already a member of a YAHOO Group? Click “JOIN THIS GROUP” You’ll have to sign in every time to access all the features. Contact John Maxfield for further information.

## Classifieds

### **1/4 share of 1959 K35 BONANZA**

THE CADILLAC OF PISTON ENGINE AIRPLANES  
LOCATED AT NEW HUDSON AIRPORT (Y47)

I am selling my share due to retirement and moving to another state. This is a beautiful; Full King IFR equipped airplane with a new paint job last year. It is a dream to fly.

V-Tail Flyers, LLP is a well-established partnership and have had this airplane since 1997. You will be in partnership with 3 great pilots. We have a reserve in the bank for engine overhaul, which stays, with the partnership. Kalamazoo Aircraft services the plane. They have won awards for their quality service from the Bonanza Society and they do a great job.

If you are a pilot who wants an aircraft that will get you somewhere quickly, at a very reasonable cost, this is the airplane for you. With only a total membership of four pilots, the airplane is very available for local and long distance flying.

Please call **Carl Nank @ 248-496-6408** or email: [cbnank@comcast.net](mailto:cbnank@comcast.net) for more information.

# SECRETARY'S *Scribbles*



Bob Wagner (313) 274-8292  
[wagner16@mindspring.com](mailto:wagner16@mindspring.com)

## CHAPTER 113 MEETING MINUTES

Meeting Date: April 21, 2005

Meeting Time: 7:30 PM

Number of Members Present: 44

Number of Guests: 2

The minutes of the Board of Directors meeting of April 2, 2005 were read.

Pete Waters announced that set-up times for the Chapter Fly-Market to be held this Saturday, April 23, 2005, will be 7:00 PM Friday night and 7:30 AM Saturday morning.

John Maxfield announced that the next planning meeting for the upcoming pancake breakfast will be held at the May, 2005 Board of Directors meeting.

Debbie Forsman reminded that the next Young Eagles Events are scheduled for May 7, 2005 and June 11, 2005. She encouraged anyone knowing of likely candidates to sign them up.

President Dave again reminded that credits toward tuition for the EAA Academy, for students 12 years old, and older, are available to those who have given Young Eagles flights.

Dave James announced that a special tour of the Kalamazoo Air Museum has been arranged for our Chapter on Saturday July 9, 2005. A sign-up sheet has been posted on the bulletin board.

Bob Paulson reported on the latest books donated to our library. He also showed a copy of the pamphlet prepared by Nick Forsman as an English class project. Some of the recently ordered new shelving was delivered damaged, and had to be returned. Help is needed to install the shelving when it arrives.

Grant Cook announced that he has entered software of past issues of the "Sport Aviation" magazine in the Chapter library computer, and it is now available for member use.

Guest Speakers:

Names: Shunsuke Shabata and John Maxfield

Topic: History of Aircraft Development in Japan

Shunsuke gave a video presentation, annotated in Japanese, which he read (in Japanese). Then John followed up with an English translation. The early development of Japanese aircraft was done at the same time as the Wright Brothers. The first flying model was completed in 1909, but further work was discontinued shortly thereafter. Aircraft development was reinstated at the time of World War 1, when the Nippon Manufacturing Co. Established Nakajima Aircraft. The Type 91 fighter and Koenishi Type 2 flying boat were developed. A series of more advanced aircraft were developed at the time of World War 2, which included the famed Mitsubishi "0" fighter. The Japanese aircraft industry was temporarily stopped after World War 2. In 1950, production of civilian aircraft was commenced. The best known is the Mitsubishi MU-2.

After the above presentation, John Maxfield showed video photos of his cross-country trip to the Funk aircraft convention last October.

Recorded by:

R.C. Wagner, Secretary

## Interested in making an aviation movie?

See the complete story in the April 2005 edition of the Eagles Propwash. Volunteers are still needed. Filming is expected to take place between July and October 2005. For further details email **George Binson** at [gb\\_pictures@yahoo.com](mailto:gb_pictures@yahoo.com).

## Konstrutors Korner

Pete Waters (248) 437-4244  
[pete@kraftmidwest.com](mailto:pete@kraftmidwest.com)

Welcome back....huh! Seems I have brought gloomy days with me, and I have turned the furnace back on in the garage... read that again as my wife's garage!

The photo for the month is of Mark Freeland and I moving his AVID MKIV from his past residence area to the new location, 12 mile and Novi Road. It was one of those "have to do today" things, and with the slush, snowing and cold, we managed the expedition in about an hour. His plane seems to have many road miles on it, not sure what the fuel consumption is.

For any interested parties, my trailer is just over 6 feet on the inside, and has a platform on the tail which allows for an extra 6 inches or so. Length is over 12 feet, and is available if you need it, 2 inch ball.

I have the computer running, but my email seems to loose addresses, and I also need inputs.

So, Richard Hensley is close to getting back on the doping of the Crackerjack, based at Mettetal, and Frank Bitonti will be moving his Tailwind there soon. Don Zimmerman is moving the Kitfox MKV to Willow Run for engine checkout, as his mechanic has just attended the Rotax 4-stroke servicing course at Lockwood Aviation, Sebring.

Myself, with the Nieuport17, I have steadily puttered along with the necessary changes, completed the change-over to regular foot pedals and toe brakes, made and welded on the exhaust extensions to reduce noise, fabricated the new tail wheel assembly, and will be mounting it next. Then I'll drop the front edges of the engine baffle to

expose the two front cylinders, add extensions to the windshield, and change the radio.

If I can keep up with the grass cutting, next week will see most of it done.

Send me info and a jpeg.

Pete



Mark Freeland's Avid MKIV on the way to a new home –  
Ahh, Michigan!

## The Use of Avgas with Aircraft Engines

Avgas prices continue to soar and the future of Avgas is still not clear. It's not surprising then, that the interest in using automotive gasoline in aircraft engines is stronger than ever. Not only is the cost per gallon considerably less, the useful life of some parts such as spark plugs and exhaust system components may be extended by using unleaded avgas. This is due to lead and corrosion issues associated with the

use of 100LL Avgas (100 Low Lead actually contains very high levels of lead). Two STC's (supplemental type certificates) are required to use autogas in a certified aircraft (production aircraft such as the Cessna 150 or a Piper Cherokee 140). One STC is for the engine and the other for the airframe. An STC is not required to use autogas in an experimental aircraft, but you should learn about all the issues involved (and there are issues to consider), so the aircraft can be operated safely on autogas. Each production aircraft for which an Autogas STC is available, underwent hundreds of hours of testing under various temperature and altitude conditions to determine it was safe to use autogas. Any issues discovered during certification flights had to be resolved. If no solution was available, no STC will be available for that particular airframe/engine combination. An example of a problem that could be corrected is a particular model of carburetor for which autogas deteriorates the varnish on the cork float. If a compatible float is available to cure the problem, an STC will be available, but the STC will require the proper float be installed. An autogas STC is available for the Cessna 152, but requires modification to the engine. There are some engines that qualify for an autogas STC in a particular airframe, but a different airframe with the same model engine doesn't qualify. The problem is likely related to fuel delivery. The airframe that doesn't qualify for the STC may have had vapor lock problems under certain temperature/altitude conditions. The volatility of avgas and autogas are different. An aircraft that runs fine on avgas may really experience problems on autogas. Whether your aircraft is a certified production model or an experimental aircraft, there are some issues that apply to all. When your fueling from 5-gallon cans, you have to use extra care not to introduce contaminants while fueling. Funnels with filter screens are available. There are minimum octane requirements that have to be met. The 82 octane gasoline available in many parts of the country is not acceptable for use in aircraft engines. The presence of alcohol in automotive gasoline is also not acceptable. Alcohol changes the volatility of the gasoline and there are also material compatibility issues. Very detailed information regarding the use of autogas in aircraft engine is available from the EAA website. Check out the website at <http://www.eaa.org/education/fuel/index.html>. The following article is an example of the wealth of information that can be obtained from this website. It has been reprinted with permission.

FIELD INFORMATION NO. 306

## **Field test for determining presence and amount of alcohol in gasoline**

*EAA appreciates the permission of Conoco Inc. to base this field test procedure on one developed by the company.*

### **Scope**

This method determines the amount, if any, of alcohol present in gasoline. This test is designed specifically for field testing where time and simplicity are important factors.

### **Summary of Method**

A sample of gasoline is shaken at room temperature with an amount of added water. The volume increase of the water is proportional to the amount of alcohol initially in the fuel sample. Nine (9) parts of the gasoline sample are combined with one (1) part of water.

### **Apparatus Required (for either of the methods below)**

#### **Graduated Cylinder Method**

One (1) one-thousand milliliter (1000 ml) transparent plastic graduated cylinder (can be purchased at photo supply store).

#### **Measuring Cup Method**

One (1) 2-quart clear plastic container such as a fruit juice container purchased from a supermarket. One (1) 4-fluid-ounce measuring cup (1/2 cup). One (1) 32-fluid-ounce measuring cup (1 quart).

### **Preparation**

Clean Containers

On the 2-quart juice jar, mark the level of exactly 4 fluid ounces (1/2 cup) permanently on the side (a piece of masking tape may be used).

### **Procedure**

Graduated Cylinder Method.

To 9 parts of gasoline sample (900 ml), add 100 ml of water for a total of 1000 ml in the graduate. Shake thoroughly, let stand for 10 minutes or until the gasoline is again bright and clear. Record the apparent level

of the line between the gasoline and water. This "Final Volume" is used in the calculation below.

### **306-1**

**Revised 5/20/96**

#### **Measuring Cup Method**

To 9 parts of the gasoline sample (36 ounces or 1 quart plus 1/2 cup), add 4 fluid ounces (1/2 cup) of water for a total of 40 fluid ounces in the 2-quart juice container. Shake thoroughly, let stand for 10 minutes or until the gasoline is again bright and clear. Record the apparent level of the line between the gasoline and water.

The Measuring Cup Method is intended to indicate the presence of alcohol and it is not practical to evaluate the amount of alcohol. If the final line between gasoline and water is measurably higher than the 1/2 cup mark, the presence of alcohol is indicated.

NOTE: Erroneous results are probable if sample and water are not thoroughly shaken and mixed.

#### **Calculation**

##### **Graduated Cylinder Method**

Note the final volume and calculate the percent of alcohol in the sample using the following calculation: percentage of Alcohol in Gasoline =  $(V-100 \text{ divided by } 900) \times 100$ .

Where: V = "Final Volume" of water as determined in procedure above (read at separation line between water and gasoline).

#### **Precision**

Within 1% alcohol if you measured and recorded accurately.

#### **Action to be taken**

In the opinion of EAA, and in the interest of most conservative operations, the following observations are offered:

- If alcohol content is less than 1%, fuel will probably have no effect on aircraft.
- If fuel contains up to 5% alcohol, caution must be exercised. Do not permit it to remain in tanks or fuel system more than 24 hours, then drain and refill with alcohol-free fuel, ensuring that

no alcohol concentration remains in fuel lines or sump. Vapor lock may be a problem. DO NOT FLY.

- If alcohol content is more than 5%, DO NOT FLY. Drain fuel system, flush all parts, replace with clean alcohol-free fuel and run up engine long enough to exchange fuel in carburetor bowl.

### **306-2**

**Revised 5/20/96**

#### **Known Problems**

Alcohol attacks some seal materials and varnishes on cork floats of fuel level indicators. This could cause leakage of seals and release particles of varnish from floats, causing blocked screens in fuel lines or blocked carburetor jets. Excessive entrained water carried by alcohol could lead to fuel lines blockage or blockage at screens or valves when operating at low ambient temperatures at ground level or at high altitude. Fuel volatility is also increased with the addition of alcohol in a manner that is not detected by the Reid Vapor Pressure test which is used to determine if a fuel meets the automotive specification. For example, a gasoline with alcohol will meet the Reid Vapor Pressure limit of 13.5 psi but it will behave as though it has a volatility of roughly 20 psi. Gasoline's with alcohol will also phase separate. Phase separation occurs as the gasoline/alcohol blend cools, such as when a plane climbs to a higher altitude. When water that is absorbed in the fuel by the alcohol comes out of solution, it takes most of the alcohol with it. The quantity that comes out of solution cannot be handled by the sediment bowl and tank sumps. Furthermore, if the alcohol is used to raise the octane of the base gasoline, the gasoline that remains will not have sufficient octane to prevent detonation. A good reference for this phase separation problem is: Paul Corp., Laboratory Investigations into the Effect of Adding Alcohol to Turbine Fuel, DOT/FAA/CT-TN88/25 July, 1988, FAA Technical Center, Atlantic City International Airport, NJ 08405.

#### **Precautionary**

Gasoline is volatile, extremely flammable and harmful, or fatal, if swallowed. Avoid prolonged or repeated breathing of vapor or contact with skin or eyes. If swallowed, do not induce vomiting, get medical care immediately.