

# AS THE PROP TURNS

**EXPERIMENTAL AIRCRAFT ASSOCIATION  
CHAPTER 315 NORTH JERSEY SHORE**



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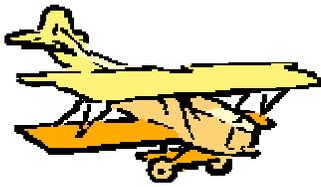
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## Minutes of the March Meeting of EAA Chapter 315

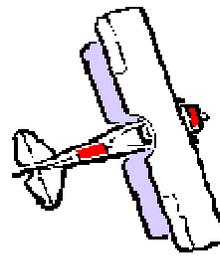
Experimental Aircraft Association Chapter 315 met Monday, March 4, 2013 at Old Bridge Airport. The meeting was opened by President Bob Lorber asking for an approval of the minutes of the last meeting. Tom Goeddel so moved, Richie Bielak seconded, and all approved.

Treasurer Tom Goeddel reported a balance of \$1234.22 on hand after payment of an insurance bill.





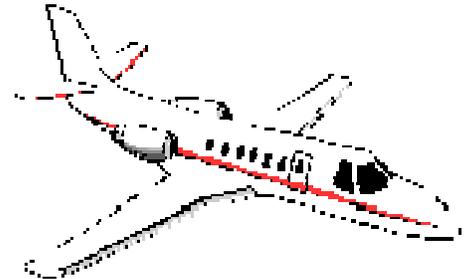
## OLD BUSINESS



- **The Awards Dinner** is set for April 18 at All Seasons II Diner on Rte 9 North, north of Freehold at 7 p.m. Cost is \$32.00 per person, a deposit of \$100.00 will be sent to the Diner with a guarantee of 40 diners. The Treasurer will be glad to accept checks in advance if you wish to do so.
- The speaker will be Donald Sperling who will present a slide-show of his work photographing planes and painting some also. Lew told us that he has had carte blanche to fly on and photograph almost all military planes.
- The meeting at Eli Lieberman's house will be in May due to a change of plans (Check the next news letter for updates).



## NEW BUSINESS



### **Airport news**

- Allaire – rumors of a contract going around.
- Eagles Nest–new row of hangars is ready, the flight school has 4 students
- At Old Bridge – Phillips Gas cards can no longer be used. Use Wings card instead.

14 members present. The 50/50 was won by Jack. \$12.00, congrats.

The program was informal, lots of conversation about planes, flying, airports and all such.

Next meeting will be the Awards Dinner on the 18th of April as Sun' 'n' Fun will be 8-12 April and some may be attending. Next regular meeting will be May 6th.

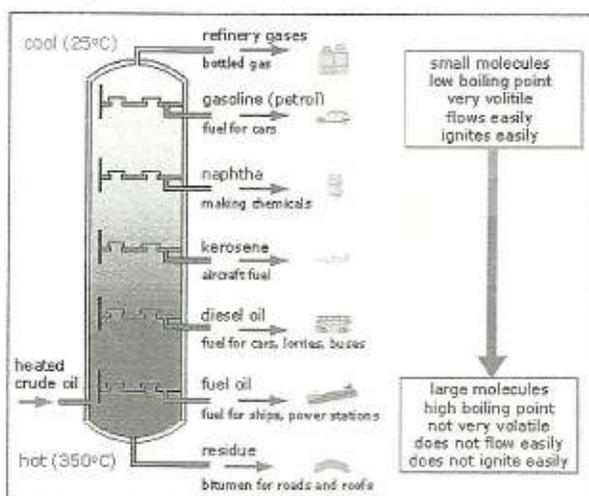
*See you at the Dinner,  
Secretary Jane Finton*

## Why Is Avgas So Expensive?

by Jim Price (Reprinted from the December edition of *The Mooney Flyer*)

### Production

The petroleum refining process starts by boiling and pumping the hot solution into a distillation column. The solution has differing temperature ranges at each height. Off the top, (the coolest part), they pull the Liquefied Petroleum (LP) and butane. Below that is gasoline, also called straight run. However, at this point, the octane is usually too low, but through catalytic reforming or alkylation processes, the octane is boosted. The next range of products from the column are called middle distillates – the Jet A and diesel products. Lower still – the hotter and heavier fluid is used for fuel oil. Even the dregs of the column are used to make asphalt or coke.



### Relatively Simple Process!

## JET A-1

to be shipped.

Jet fuel is simply streamed off the column, and its sulfur content is lowered. That's it. It is now ready

## 100LL

### The Problem with Lead

To make 100LL, the refinery takes the alkylate and re-distills it. Then, it's pumped into a separate tank where they add 2.0 grams of lead to each gallon of fuel. The lead and the equipment needed for the injection is very costly. There is only one plant in the world now producing Tetraethyl lead (TEL), so there is no price competition.

Another problem is the health hazards associated with pure TEL, which must be handled in dedicated systems.

The 100LL batch is tested and if the octane does not meet the 100/130 levels, they add an expensive component called Toluene concentrate to increase the octane. Once the batch meets all of the requirements, it's ready to ship.

Liability costs are factored into every aviation product on the market today and 100LL is no exception. For example, some companies just add the cost of the leading facility, the increased value of the high octane alkylate product, the liability risk factor, and other factors to the overhead cost of the refinery.

### Leaving the Refinery is Expensive

Jet A is shipped in large volumes to all parts of the country through pipelines. For example, the airports in Chicago use about 4 million gallons every day, so all of the terminals have a ready supply. It costs a few cents to ship (via pipeline) 8,000 gallons of Jet A 500 miles.

100LL is a specialty product because it contains lead and US pipelines won't allow it to sully their pipes. 100LL must travel by truck or rail and it costs about \$2,000 to ship 8,000 gallons of 100LL 500 miles.

An FBO can shop around for the best price on Jet A, because almost every distribution plant in the country has it. For 100LL, the marketplace is brutal. Less than 10 refineries produce 100LL in the US and most FBOs cannot afford to buy large quantities. To make it even more non-competitive, in the non-metropolitan areas, FBOs must buy from a single fuel distributor, while in metropolitan areas there might be two distributors. Either way, it's a seller's market.

### It Gets Worse

The FBOs set their prices based on their situations. For example, some FBOs try to cover overhead expenses through fuel sales. Others want to be GA Friendly, so they lower the price of their 100LL.

Clearly, the industry needs to develop simpler and cheaper fuels for our Mooneys and GA. Perhaps the solution lies in Diesel engines or an unleaded fuel that will safely power the Piper Cub and high performance models. For now, we must be smart about where we take of business and buy fuel from airports that support GA through affordable fuel prices. We can try to encourage our airport managements and local FBOs to find a fuel price that's good for everyone. There must be a price sweet spot that will benefit the FBO and encourage the growth of General Aviation. 

## TWENTY YEARS AGO IN SPORT AVIATION

The cover of the April 1993 issue of Sport Aviation featured an inflight photo of Bill Cumberland's clipwing Steen Skybolt. Bill had been involved in pylon racing in the 1970's in his Pitts S-1, and he wanted to build a two-place interpretation of that plane. He started by building a set of wings from early Skybolt plans, but with the span shortened to approximate that of a Pitts S-2. When the almost completed Pitts fuselage was destroyed in a garage fire, he acquired a partially completed Skybolt fuselage and completed the plane using the clipped Skybolt wings. The plane was finished in a paint scheme that feature maroon, orange and white that was pleasing as well as very striking. The workmanship also impressed the judges at Oskosh, as the plane was one of the nine finalists in the Plans Built Grand Champion category.

Ann Pellegrino contributed an article in which she described the prototype Fairchild XNQ-1 that was restored by her husband, Don Pellegrino and herself. Designated as the T-31 by Fairchild, the low-wing, conventional-gear, tandem design was powered by a 295 hp Wright R-680 engine, and had been originally designed as an entry for the competition for a new primary trainer for the military in 1945. The joint Navy and Air Force competition was postponed, halted, resumed and postponed again several times during the succeeding years. In 1949 aviation news outlets reported that Fairchild had won the competition and had an initial order for 100 planes all but wrapped up. However later in the year the order was cancelled. In 1950 it was reported that the Air Force was going to pull out of the joint evaluation and order the Fairchild, but wanted the plane converted to a tricycle landing gear design and powered by an opposed engine to increase the forward visibility. Apparently Fairchild was unwilling to make the changes and eventually in 1954 Beechcraft won the contract for a new primary trainer with the T-34. One of the two prototypes was destroyed during a gear-up landing at Patuxent River NAS, and the other was deleted from the Navy inventory in 1953 and transferred to the Maryland wing of the Civil Air Patrol. It was not flown much and eventually ended up derelict and at the home of CAP member John St. Clair who bought it at salvage rather than see it junked. In 1978 John donated the plane to the AAA's Airpower Museum at Blakesburg, IA, and it was shipped off to a shop in Texas where it was to be restored. Next month Ann promised the rest of the story.

Jack Cox reported that Rich Trickel and Chuck Harrison of HighTech Composites had introduced a taildragger version of the KIS. The landing gear box structure was moved from the back of the main spar to the front, and the tail cone beefed up somewhat to handle the tailwheel loads. The taildragger was powered by a 108 hp Lycoming O-235 instead of the 80 hp Limbach used on the original KIS. This resulted in a weight increase of about 85 lbs., but the top speed went from 150 mph to 175mph and the cruise speed from 135 to 165.

Herschel Wilson reported how he had built an RV-4, and then found that the little ship was a little bit too much taildragger for him to handle. After two or three flights that ended in landings that involved more excitement than he wanted to experience, he concluded that he was not going to fly the plane again. He stepped his friend George Toth who had converted his KR-2 to a tricycle landing gear configuration. They set to work doing the same thing to the RV-4. The main landing gear box structure was moved to the rear of the main spar, and a full castoring nose wheel mounted to the firewall. Herschel reported a weight increase of 30 lbs. but no loss in cruise speed.

Hal Jones submitted a long and detailed article that discussed converting auto engines for aircraft use. In the "Craftsman's Corner" Ben Owen related how EAA's Director of Chapters, Bob Mackey, and upgraded the interior of his 170A with new upholstery, paint, and a four-person intercom. In "Hints for Homebuilders", Mike Difrisko described a plans protector made of portfolio protector sheets. And Dick MacGown showed a way to manage wiring connectors by installing a sheet of aluminum to tie the connectors to. In the "Sportplane Builder" Tony discussed some points to consider when deciding what aircraft you should build.

Bob Hartmaier  
EAA 78889

# Awards Dinner 2013

**Where:**

All Seasons II Diner in Freehold, 4135 Rt 9N.

**When:** Thursday April 18th, 7:00 PM

**Guest Speaker:**

Donald Sperling, Aviation Photographer

**How much:**

\$32/person

Please mail your checks to the Treasurer before.



# AS THE PROP TURNS

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## E.A.A CHAPTER 315 “As The Prop Turns”

Newsletter of the Monmouth-Ocean County New Jersey Chapter of the  
Experimental Aircraft Association— April 2013

*Editor:* Richie Bielak (732)-566-58791

**Next Meeting: Thursday, April 18th, 7:00PM**  
**All Seasons II Diner, Freehold**