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## P-47 Thunderbolt

At the February Chapter 21 meeting we will hear a presentation about how the P-47 Thunderbolt was built at the Republic Aircraft plant in Evansville. I have attended this presentation before, and it is excellent.

Harold Morgan, who will be giving the presentation, is a historian who has published a couple of books about what was happening in Evansville during World War II. In those days he lived across the street from what is now Evansville Regional Airport, where his father was an inspector for Republic Aviation.

### Some P-47 Facts

I've been reading a lot about the P-47 recently. Here are some things I learned:

There were 15,683 P-47s built, more than any other fighter plane. Of those, 6,242, or about 40%, were built in Evansville.

It's gross weight was often times more than 8 tons, making it the heaviest single engine fighter in the war.

The P-47 was the primary bomber escort for B-17s in 1942 and much of 1943; in late '43 it was replaced by the P-51 because of the Mustang's greater range. The P-47 was then used primarily as a ground attack aircraft.

The P-47 was well known for its durability. There are multiple stories of German fighters being unable to shoot down P-47s—despite the P-47 pilot's inability to shoot back.

It hasn't been so durable though, in the hearts and minds of present day Americans. At airshows and fly-ins featuring World War II aircraft, the P-51 Mustang is always front and center, often being the only fighter aircraft of that era in attendance. P-51s have been repurchased, rebuilt, and replicated by enthusiasts for 60 years. Not so the P-47.

Not so the P-47.

In September 2007 there was a "Gathering of Legends" warbird fly-in at Columbus, Ohio. There were 77 P-51s in attendance. There were 2 P-47s.

In fact, of the over 15,000 P-47s built, only 9 are still airworthy and in flying status.



## EAA 21 Logo Shirts Available

If you were at the January Chapter 21 meeting, you probably got a new shirt with the new Chapter logo on it. In fact, you probably got more than one; approximately 20 were given away. But if you didn't, then don't miss the February meeting. Jay has more shirts to give away!

Don't expect that large a number of shirts to be had at future meetings though. Jay told me today he is going to limit future "door prize" shirts to just two per meeting—and the number of free shirts is

not unlimited.

If you would like to buy a shirt, Jay will have order forms available at the next meeting. These shirts are being made available through **Creative Embroidery Designs**, the shop owned and operated by Jay's wife Pam.

You'll be able to get shirts with the new emblem embroidered on, or directly printed on the shirt. Direct printing is like an iron on transfer, only *much* better.



# Chapter 21 Members attend LSA Expo in Sebring

The 5th Light-Sport Expo was held in Sebring Florida in January. I took some pictures of some of the planes that caught my fancy.



This is the first production model of the **Cessna 162**. When they start showing up at airports around the country, this is what they'll look like.



This is the airplane that made the big news at Sebring. Piper Aircraft bought a stake in the Czech company that builds this plane and will sell it as the **Piper Sport**



**Europa Light Sport**. It's the same Europa fuselage with a new LSA wing. Offered only as an amateur built kit, they'll soon have an SLSA version.



A **Tecnam P2008**. New design with a composite fuselage. Looks like a mini Cessna Cardinal.



Jim Schmitt and I were there Thursday and Friday, then on Saturday Larry and Karen Helming, and Steve and Twany Eberhart showed up. This Light Sport Expo is only a small fraction of the size of Airventure. You can see the whole thing in one afternoon with no problem.

*I found this article in the April, 1984 issue of Sport Aviation magazine, available on the EAA Website. Pete*

AL GETTINGS (EAA 88629) grew up in the southern Illinois town of Carmi, about 40 miles west of Evansville, IN. During World War II, while still in high school, he used to drive to Evansville to watch P-47s rolling off Republic's production line there. The experience must have left an indelible imprint on Al's psyche because although he went on to become a Navy carrier pilot flying Hellcats and Corsairs, 33 years later when the time came for him to select a homebuilt project, he chose a WAR 1/2 scale P-47N Thunderbolt.

Al likes to joke that he came to Oshkosh in 1974 . . . and the trip cost him 12 grand! He went home, ordered the WAR P-47 plans and began construction in March of the following year. The first flight was on July 28, 1982 . . . which was too late to get the tiny fighter to Oshkosh '82. Over the course of the next 12 months, however, he logged 61.5 hours and was rarin' to go when Oshkosh '83 rolled around.

N555TN is powered by a Continental O-200 (100 hp) and a 4-blade Ole Fahlin prop that does wonders to create the illusion of an unsanforized P-47.

The WAR plans allow the builder the choice of a razorback or bubble canopied version of the Thunderbolt and Al chose the N model look-alike. The half-scale WAR "replicas" are not mathematically exact half-size versions of the real thing . . . which would require half-sized pilots. Rather, they are little homebuilt sized single-placers cleverly sized and shaped to create the illusion of a full sized fighter.

All the WAR designs are based on a more or less common wooden primary structure, upon which is glued, sculpted and glassed a composite secondary structure that assumes the shape of a miniature Thunderbolt, FW 190, Corsair or what not.

Al's P-47 was built strictly to the plans, with the exception of a few landing

gear details. He built up an electric main gear retraction system utilizing a Cessna 152 flap motor, geared down sufficiently to get the job one. It's not overly powerful, Al says, and occasionally pops a circuit breaker if he allows the airspeed to creep a little too high during the gear's extension or retraction cycle. He also used micro switches and gear warning lights instead of a visual gear position indicator.

The tailwheel is fixed. Al studied the problem of retracting it quite extensively and ultimately decided it did not mean enough to him to go to all the work, with its consequent potential for maintenance headaches, just for a couple of miles per hour of additional speed . . . or an absolutely authentic P-47 look in the air. (Few seem to notice it hanging down in flight, he has found.) Anyway, the rig he finally settled on incorporates a leaf out of a truck spring suspension — from a big Kenilworth, as improbable as that sounds!

The "semi-elliptical" wings were the real challenge, according to Al. He had used unidirectional fiber glass cloth on the fuselage, but switched to bidirectional (both 6 oz.) for the wings. He used epoxy resin, mixed 5 to 1 with the hardener. This ratio gave him a working time of about 45 minutes, which was sufficient, he found, to do his layups.

This was Al's first homebuilt project and his first exposure to epoxy resin. He took no precautions to protect his skin — no gloves or protective creams — yet experienced nothing in the way of an allergic reaction. Several friends building composite airplanes were using rubber gloves and did experience skin problems, so Al decided to try to work without them. Obviously, he is one of the fortunate among us not affected by epoxy resin . . . at least his first time around. Experience has shown, however, that a lot of composite builders and polyurethane painters get zapped on their second or third project. The toxic effects of these materials are cumulative — so beware!

During the foam and glass work, Al built in his own radio and VOR antennas. Cut to the proper length for the particular application . . . out of brass welding rod . . . The VOR antenna was buried in the foam of the right wing and the transceiver antenna was similarly placed in the port wing. To Al's surprise and considerable satisfaction, both work exceptionally well.

He is also pleased with a set of automatic cool air vents he built into the fuselage just ahead of the windshield. They are hinged in such a manner that with the aircraft at rest, they remain closed. Once in motion, they are blown open to ventilate the cockpit. In winter, Al places an unobtrusive patch of silver duct tape over them.

The instrumentation in 555TN is strictly for day VFR flying — tach, altimeter, airspeed, oil temperature, oil pressure, fuel gauge, compass and fuel pressure. The radio is an Alpha 200. Al, as you will learn shortly, is a highly experienced professional pilot. He gets all the instrument time he wants in the left seat of a 747, so the little Thunderbolt is flown for fun only.

For a first time project, Al did a high percentage of the construction work. He bought the cowling, prop, fuel tank and canopy, but built the rest, himself.

He also did the painting. The final finish is DuPont acrylic lacquer — Corvette silver buffed with 600 compound, shot with two coats of clear lacquer and buffed again. The trim scheme is a composite of personal preferences rather than that of a particular Thunderbolt from World War II. Invasion stripes were used partly for historical significance but more so for making the tiny bird show up a little better in today's traffic patterns. (Al strongly recommends wingtip strobes on all the WAR replicas for the same reason.) The cowling is painted like Al's carrier squadron aircraft in WW II, and the 3 lightning strokes on the tail were something he saw and liked in a picture of a P-47. The color blue? — it's his wife's favorite.

"How does it fly?" was my next question.

"Like a fast Cub," was Al's disarming reply.

"It stalls at 78 mph . . . and it's a very gentle stall.

Falls straight away. As soon as the nose falls through the horizon, the airplane picks up speed so fast you hardly remember you have stalled.

"On take-off, with the tail being so low, you think you are getting torque, but it's P-factor, which disappears the minute the tail comes up and you are rolling straight ahead.

"At about 60 mph, you put the cowling on the horizon and it will go into the air at 82 mph every time, just like clockwork.

"It climbs out at about 90 mph . . . and at 2300 rpm, it cruises between 122 and 125 mph. At 2450 rpm you can get about 135 indicated.

"When you come in to land, you are downwind at 120 mph, crosswind at 110, come across the fence at 100, close the throttle and when you are close to the ground, just put the cowling on the horizon again and it just about lands itself. It's a very easy airplane to land.

"Once on the runway and when you get the tail down, you don't want to start kicking the rudder — it will roll straight, if you let it.

"It's a beautiful airplane in a crosswind. I've had it in an 18 mph crosswind and as soon as I put the upwind wheel down, the other one comes down. There's plenty of rudder to keep it going straight down the runway. It's the easiest airplane with a tailwheel to taxi that I've ever been in. It's very responsive, yet it's a 'gentle' responsive.

"There are no tricks in it, no bad faults that I've been able to discover in 61 hours. I've done barrel rolls, and it goes around so pretty that you just want to keep doing them all day!"

Al Gettings' flying career began with his entry into Navy flight training in September of 1942. He ended up flying photo recon versions of the Hellcat and Corsair off the carrier U.S.S. Cabot in the South Pacific. He feels fortunate today that he was able to serve throughout World War II without having to fire a gun in anger.

After the war, he entered college intending to become a doctor. Upon graduation and while waiting to enter medical school . . . in 1951 . . . the airlines began hiring.

"I said to myself, 'Heck, I know how to make a living — I don't want to spend 8 years in medical school and another 4 or 5 interning. I want to fly.' So, I went to work for TWA in 1951 . . . and 'interned' for 14 years as a co-pilot!", Al says with a hearty laugh.

"I started out in a DC-3, went on to the DC-4, the Constellation, Martins, 727, 880s, 707, 727 and I'm presently flying the 747. I fly out of New York to Europe and have until May of '84 to go before retirement. I'm looking forward to that. I want to have a lot more fun going to fly-ins, playing golf and fishing."

Al and his wife live in Raytown, MO, a Kansas City suburb. He deadheads to New York to pick up his trans-Atlantic flights, a routine he won't miss at all after retirement, he says. The Thunderbolt is hangered at Grain Valley Airport (East Kansas City). It is his third airplane. He bought a Stearman after the war to build up his flight time for the airline job and later owned a Cessna 170.

Al sums up his feelings toward the WAR Thunderbolt thusly: "All I have to say is that I wish every pilot in the world owned one because it is really fun to fly."

Future projects? Al admits to a hankering for a Glasair — a feeling shared by his wife who says the next project has to be 2-place. I asked which configuration he would choose, the taildragger or the new tri-gear retractable.

"Oh, naturally, I'd have to have the taildragger Glasair. I learned to fly in a taildragger and flew taildraggers off carriers, so it's just unnatural to me to be on a tricycle gear. I just like taildraggers, that's all."



# EAA Chapter 21

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## Upcoming Chapter 21 Events

**EAA21 Chapter Meeting: Wednesday February 10<sup>th</sup>, 7:00 PM, Skylane Airport**

*Skylane Airport (3EV) located at 2029 Allens Lane, <sup>3</sup>/<sub>10</sub> mile east of St. Joseph Ave, Evansville, Indiana*

For our February Chapter meeting, we have scheduled Evansville historian Harold Morgan to present a program on building the Republic P-47 Thunderbolt at the Evansville plant during World War II.



*Also don't forget these fly-in events:*

