FARTHEST NORTH CHAPTER NEWSLETTER

January | Chapter 1129 | 2016

Calendar

January

7 EAA Chapter 1129 **Regular Meeting** 6:30 pm

February

4 EAA Chapter 1129 **Regular Meeting** 6:30 pm

March

3 EAA Chapter 1129 **Regular Meeting** 6:30 pm

REMINDER for Winter Meetings:

The meeting is **CANCELLED** if the temperature at the airport at 5 p.m. is **–30°F** or lower. Call **458-3745,** then enter **1113**.

Chapter 1129 Web Site

The website has not been updated recently and is not very current.
The chapter needs someone to take on the task of keeping it current.

Let's work together to make our chapter work.
Volunteer!!!

http://1129.eaachapter.org

Next Meeting:
When: **Thursday, January 7th at 6:30 pm**
Where: **Tamarac Air Hangar- East Ramp**

President's Hot Seat

January, 2016
By Jack Schnurr

There is great news on the hangar purchase! We are getting very close to the big day when we be able to sign the papers and be the proud new owners. The only thing left to do is fill out the papers for the insurance and submit them. When the insurance company says OK we will proceed with the purchase. The insurance company knows that this is a conex constructed building and over the phone they said that is fine with them.

The biggest hurdle was the financing. We owe a HUGE thank you to Bill Green for his generous offer to purchase the hangar and resell it to us without all of the bank hoops to jump through. His help enabled this purchase to move along smoothly and quickly. The next time you see him please thank him for his assistance and generosity with our project.

Thanks,

Jack

EAA Chapter 1129 Mission Statement:

Build, restore, innovate and educate to preserve Alaska's aviation heritage, and to promote Alaska's aviation future.

New Year - New Hangar!

By Jack Schnurr

This article is intended to get everybody "up to speed" on the status of the purchase of the hangar as of the 2nd of January 2016.

Conditions to purchase the hangar as listed on the ballot were:

- ability to obtain a loan
- a positive hangar inspection
- that we would be able to obtain insurance on the hangar.

Two of those items have been accomplished and we are well on the way to successfully completing the third.

The financial requirement has been solved by the generous offer of one of our members who volunteered to buy the hangar and resell it to us for the same price that Syd was asking. Bill Green has "stepped up to the plate" for our chapter. This move on his part has eliminated a lot of bank requirements that would have been time consuming and costly. Bill and Syd have met with a lawyer and have drawn up all of the paperwork on the sale.

The vote at the last meeting to buy this hangar was an overwhelming 95% "YES" !!

When the other two conditions are met, one phone call is all it will take to have money change hands and get the title changed. Bill, we all owe a lot to you for your help in accomplishing our goals, thank you so very much.

The next time you see Bill let him know how much you appreciate his help.

The hangar inspection took place on the 28th of December. The inspection was accomplished by Arctic Engineering located in Fairbanks. The inspector is a licensed engineer who has worked in this field for over ten years and he was very thorough during his inspection. He recommended three improvements to meet safety requirements for snow, seismic and wind loadings for the Fairbanks area.

"Improve the connection between the truss ends and the top of the load bearing shipping containers. The trusses have very robust brackets welded to the trusses but the brackets appear to be secured to the shipping containers with only small tack welds." The fix is to weld the brackets with at least four inches of total fillet weld length on each truss bracket. The brackets are easily accessed from a ladder on the outside on the conexs, the brackets are on the outside.

Another fix that will need to be made is to "install diagonal knee braces".

These will either need larger welds or bolts.

"Install diagonal knee braces between the gable end trusses and the next closest truss for lateral stability. Install minimum of 5 braces per gable end. One in the center king post and the others evenly spaced between the peak and eaves." These areas are easily accessible from a ladder on the inside of the hangar.

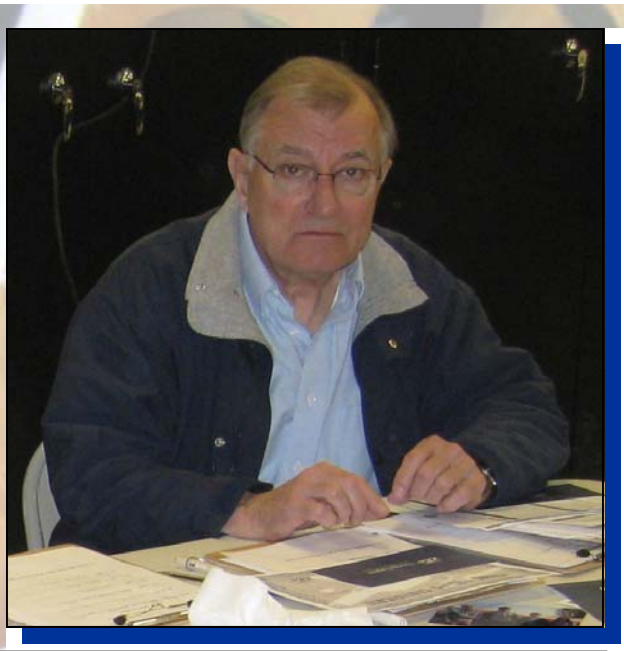
"Provide permanent foundation bases to the each load-bearing end of the steel shipping containers and secure the containers down to the concrete foundations." This will be the most involved improvement. We will have to dig down

below each conex end and pour concrete footers to attach the conex to. This is still not a big deal if we do the work ourselves.

Bill is willing to proceed with the sale, we can make the first two improvements when the snow is gone and the third when the ground thaws.

The hangar insurance was quoted by EAA national. They were not at all concerned that the structure was non standard construction. I pointed out that the walls were conexs stacked on top of each other and the risk management representative was not at all concerned. She is emailing the application which we will fill out. When the completed application is received and accepted the three requirements will have been met and we can proceed with the sale.

If you have any questions about the hangar purchase feel free to call me and I will do my very best to explain the status of the sale. When the sale is final we will email that information to all of our members.



Matt doing Young Eagles sign-ups at last year's Aviation Day

Matt Kato submitted this article that he found while researching parts for his Cessna 150.

This is an edited version of the article at http://150cessna.tripod.com/parts.html

Don Dodge is the Airworthiness Safety Program Manager at the South Carolina FSDO.

Owner Produced Parts

by Don Dodge

The article was written to address the producing of parts by owner and operators. The article is not intended to imply that maintenance technicians or repair stations may not be able to manufacture parts in the course of accomplishing repairs or alterations. That in itself is another topic for another day.

Time and again aircraft owners and maintenance technicians are pressured into making parts. Why do we do it? Why do we take on that liability? Let's look at the facts.

The average general aviation, piston single-engine aircraft is more than 32 years old; the aver-

age piston twin is more than 27 years old; and the average turbo prop is 19 years old. The GA aircraft fleet was never designed to last this long, and, when it comes to getting replacement parts to maintain these aircraft, here are a few of the problems we all face.

The aircraft has been out of production for years.

The aircraft is an orphan. No one even knows who owns the Type Certificate.

There is no technical support. If you ask for technical assistance, you are often told that no one really knows much about the aircraft anymore. The people who were around when the aircraft was built are all retired or dead.

Economy of scale forces aircraft manufacturers to build parts in quantities that make economic sense for the manufacturer. What this means is that parts are available, in about six or eight months!

The price of parts is a subject that we aren't even going to talk about.

Sitting in the middle, between a tired broken airplane, its owner, and all these parts problems, is the maintenance technician. Technicians, by their nature, are "can do" people. They live by the motto the difficult we do immediately; the impossible just takes a bit longer. But when it comes to making parts, this "can do" philosophy can really get them in trouble.

Let's examine the rules governing the general privileges and limitations of a maintenance technician (or certificated mechanic as stated in FAR §65.81), and the rule governing a repair station's privileges of certificates (FAR §145.51). Under both rules a technician or repair station may perform maintenance, preventative maintenance, and alterations on an aircraft, or appliances for which he is rated. Nowhere in either rule does it say that the maintenance technician or repair station can produce new parts! However, the maintenance regulations allow the manufacture of parts for repair (see number 11 in next question.

A maintenance tech or repair station can make patch plates, reinforcement splices, and incorporate them into the repair of a part. But again, a, a maintenance technician cannot make a brand new part for sale.

Here are some answers to those earlier questions.

Question: who can make a brand new part?

Answer: FAA Advisory Circular 21-29, Detecting And Reporting Suspected Unapproved Parts, states that there are eleven ways that a new part can be made. They are:

1. Parts Manufacturer Approval (PMA)
2. Technical Standard Order (TSO)
3. Type Certificate (TC) or Supplemental Type Certificate (STC)
4. TC with an Approved Production Inspection System (APIS)
5. Production Certificate (PC)
6. Bilateral Agreement
7. Any method acceptable to the Administrator.
8. Standard Parts (nuts and bolts)
9. Owner Produced Parts
10. Parts produced per STC instructions as part of an STC modification.

11. Fabricated by a qualified person in the course of a repair for the purpose of returning a TC product to service (which is not for sale as a separate part) under part 43.

All this sounds like bureaucratic alphabet soup, but, of all the ways listed, "Owner Produced Parts" is the one most misunderstood. FAR §21.303(b)2 makes a provision for an aircraft owner or operator to produce parts for maintaining or altering his or her own product. Under this provision, the Owner Produced Part can only be installed in an aircraft owned or operated by that person and the Owner Produced Part cannot be produced for sale to others.

Question: How is it that an aircraft owner can produce a part, but a skilled maintenance technician can't?

Answer: The responsibility follows the money. Most rules are written so the responsibility for an action is placed with the person who has the economic authority to make it happen. (The Golden Rule)

Question: How does this owner-produced rule work? Does the owner have to make the part himself?

Answer: The answers can be found in a FAA Memorandum dated August 5, 1993, in which the assistant Chief Counsel for Regulation makes the following interpretation:

A part does not have to be solely produced by the owner to be considered an Owner Produced Part. The aircraft owner must participate in the manufacture of the part in at least one of five ways for it to be considered an Owner

Produced Part.

1. The owner provides the manufacturer of the part with the design or performance data.

2. The owner provides the manufacturer of the part with the materials.

3. The owner provides the manufacturer with fabrication processes

or assembly methods.

4. The owner provides the manufacturer of the part with quality control procedures.

5. The owner personally supervises the manufacture of the new

part.

As anyone can see, the discriminators for determining owner participation in a new part's manufacture are very specific in the interpretation. Attachment (A) to the 1993 Memorandum clearly stipulates that the FAA would not construe the ordering of a part as participating in controlling the design, manufacture, or quality of a part. The key point is that the aircraft owner must participate in the part's manufacture.

Question: If the part is owner produced, is it also a FAA approved part? Can I install it in the owner's aircraft?

Answer: If the Owner Produced Part has all the characteristics of an approved part, is only installed on the owner's aircraft, and is not for sale, it would be considered a FAA approved part.

There are eleven ways (as listed earlier) to produce an FAA approved part. It doesn't matter if a

part is produced under the authority of a PMA, TC, or owner produced, it must have all the characteristics of an approved part. The four characteristics of an approved part are:

1. The part must be properly designed. A properly designed part means that the part's design is FAA approved. Depending on the complexity of the part, a FAA approved design will have the following elements:

- Drawings, specifications to define the part's configuration and design features.
- Information on dimensions, materials, and processes necessary to define the structural strength of the product.
- Airworthiness limitations and instructions for continued airworthiness.
- Any other data necessary to allow by comparison, the determination of airworthiness of later products of the same type.

2. The part must be produced to conform to the design. A properly produced part means the part conforms to the FAA approved design. Usually a properly produced part will have the following characteristics:

- The part complies with all applicable structural requirements of its design.
- The materials and products conform to the specifications in the design.
- The part conforms to the drawings in the design.
- The manufacturing processes, construction, and assembly of the part conform to those specified in the design.

3. The part's production should be properly documented. A properly documented part provides evidence that the part was produced under an FAA approval and memorializes the production of the part.

4. The part must be properly maintained. A properly maintained part means that the part is maintained in accordance with the rules prescribed under FAR Part 43.

It is relatively easy for a part to meet the requirements of the August 5, 1993, Memorandum and qualify as an Owner Produced Part. The four characteristics of an approved part are like the four legs of a table with all four legs "equally sharing" the burden of an approved part. If one leg is missing, the table will fall over. In the same way, if any of the four characteristics of an approved part is missing, then the part may not be FAA approved.

The aircraft owner (part's producer) or the technician who installs the part should document or memorialize the production of the part in the aircraft records. It would be wise if the installing technician requires the part producer (aircraft owner) to memorialize the parts production in the aircraft records with a statement worded in a similar form as the one below, on this page.

After the part producer memorializes its production. The installing technician must make a maintenance record entry indicating that he or she installed the part. After all, installing the Owner

Produced Part is a maintenance function. Aircraft owners can perform preventative maintenance, but not maintenance.

A maintenance technician can repair a part, but sometimes the distinction between repairing a part and producing a brand new part is hard to determine. The circumstances surrounding the repair, the part's complexity, availability of manufacturer's data, and industry practices all are deter-

mining factors. For a lack of a better term I call making this determination the "Test of Reasonableness."

Example Scenario: An aircraft wing is damaged. The damaged parts include a wing rib, a 24-inch stringer, and wing skin. The aircraft Structural Repair Manual provides material specificationsfor the skin and stringer. A new wing rib is purchased from the aircraft manufacturer and the technician fabricates a stringer and wing skin using the damaged parts as a template. The technician installs these parts and repairs the wing in accordance with the manufacturer's instructions.

Is this a repair or did the technician produce a new part? The stringer and wing skin do have a part number in the parts catalog for that aircraft, so let's consider the following facts:

The material specifications were published and readily available. The parts were simple and the fabrication processes for the parts involved common tools, skills, and standard industry practices.

Templates for the reliable reproduction of the parts were available (Design).

The parts were incorporated into a repair in accordance with the manufacturer's instructions.

In this case, the "Test of Reasonableness" would determine this to be considered a repair, even though the technician did fabricate a stringer and skin.

Maintenance technicians must face a cold hard fact. Aircraft owners can make parts, but they cannot install them. Installing Owner Produced Parts is a maintenance function and only technicians can do that. That makes technicians the "gatekeepers" for parts and guardians against the introduction of substandard and unapproved parts into the fleet. Under this rule the responsibility is the technician's to determine airworthiness before returning the product to service. There is no one else to shift the burden of blame to. The technician's name is on the blame line.

Owner Produced Parts can be summarized as follows:

- Under the Federal aviation regulations, aircraft owners can produce a brand new part for their aircraft; technicians and repair stations can't.
- For a part to be considered "owner produced," the owner must have participated in its manufacture in at least one of the five ways prescribed in the 1993, Memorandum.
- An Owner Produced Part must have all four characteristics of an approved part before it is considered a FAA approved part and eligible for installation.

Sometimes the distinction between producing a new part and making a repair is hard to determine. When in doubt call the local FSDO and ask for guidance.

Maintenance technicians are the gatekeepers for parts entering service in the fleet. Technicians bear the lion's share of the responsibility. The technician's name is on the blame line.

The availability of parts is a constant problem with our aging general aviation fleet. As time passes, Owner Produced Parts may be the only alternative available for maintaining some of it. With the passage of time, technicians are going to be increasingly forced to face the challenge of determining the airworthiness of Owner Produced Parts. There are five points summarized here. Remember the five and stay alive!

Turning base to final at Oshkosh 2015 in the EAA Ford Trimotor. A fun ride I highly recommend!

Outstanding Chapter Member

Long History in Aviation and EAA number 164!

By Jack Schnurr

While talking to Syd Stealey last week he mentioned that there were pictures of two planes that he used to own in the December 2015 EAA Sport Pilot magazine, that got my attention instantly. We arranged a lunch meeting several days later so that he could give me some details. The lunch lasted two hours but it seemed like 30 minutes.

If you have your magazine turn to page 5. The beautiful bi-wing airplane with the polished prop is a one of a kind S3HD Waco, built in 1935 or 36. This plane was being built as a fighter for South American countries so it was built with guns, bomb racks and an aiming system. A wealthy New York man wanted one so he talked the Waco company into building one for him that did not have guns, bomb racks and an aim-

ing system and could be certified in the United States. They did that for him, it was the only Waco with that designation built that was sold in the United States. The plane crashed years later and was bought by an airline pilot, Rusty Heard. Syd was a friend of Rusty's, bought the wreckage from him in 1965 and had it moved to Ohio and put in storage until he could get it moved to Alaska. A man that lived in New Hampshire found out about the plane, bought it and had it rebuilt. It has been making the airshow circuit ever since.

The next plane that he used to own is on page 14 and 15. This double page spread shows a beautiful Monocoupe 110. Monocoup's are very unique airplanes they have no dihedral so you have to constantly correct to get the wings level and they are short coupled so landings can be a surprise waiting to happen. They were built with a Warner 7 cyl radial engine that produced 145 HP. They were a fast airplane with cruise speeds around 150 MPH. Syd's friend Rusty Heard bought the plane flew it until he crashed it and was killed. Syd bought the wreckage in 1974 and moved it to Alaska and planned on rebuilding it with a Lycoming 0-360 instead of the Warner. The FAA got involved with putting a different engine on and wanted a redesign of the whole airplane, not just the engine change. This was not feasible so he sold the airplane to a man in Greensboro NC. The plane got a beautiful rebuild and now flies the skies of North Dakota.

The real interesting part of this story is that Aviat bought the rights to the Monocoupe and got it certified with a Lycoming 0-360 and sold it as the Aviat 110 Special. When Syd visited the factory they told him that they had only sold 3 of them and that the market was saturated. The plane scared their test pilot so they stopped production.

Syd also owned the last Monocoupe that came off of the production line before the sale to Aviat. He smiled as he fondly recalled the tail number 15 easy.

If you ever get a chance to spend some time with Sys, grab the opportunity, he is a wonderful man, quiet, humble and has had more aviation adventures to pass on to us that I can possibly remember.

Thank you Syd for being a member of our chapter and for being our friend. We are blessed!

EAA
THE SPIRIT OF AVIATION

REMINDER
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Call **458-3745,** then enter **1113**.

CLASSIFIEDS

For Sale:

Lycoming I0-360-A386D Angle valve 200hp $25,000

Removed from a Mooney M20J, Rebuilt by Aero Sport Power, Kamloops, Canada, July13, 2001, 0 time, Aero Sport Power and original Mooney logbooks available, Prop governor installed

Modifications:
Single mag replacing single drive dual mag Second Ignition is a crank triggered electronic Geared lightweight starter, 40A Nipon Dense alternator (light weight), Injection Air Controller is bored and tapped for a return line. Aero Sport Power recommended this to improve hot starting. 1600 hours when removed from Mooney
All rebuild receipts available
1.5 hours at Aero Sport Power test. Test Log available. Laid up for long term storage- Inhibited

Annette Coulter
378-8180

From the Editor's Desk….

Calling for articles and photos!

Please keep in mind that we're always looking for good stories or photos to put in the newsletter! We try to send the newsletter out about a week before the regular meeting to help remind everyone of the date. But please send in photos or articles anytime to dunkleb@yahoo.com and I'll get it into the next issue.

Most wanted are project updates with photos! Come on guys and gals! The newsletter works better if you help! Send it in! If you aren't sure of the format or whatever, just drop me a note and I'll be happy to help you with it.

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Join our Chapter!
Membership is only $15/year and there are many benefits.
Interested? Call or email Jack Schnurr - jschnurr@acsalaska.net