

# EAA CHAPTER - 690 gwinnett county, georgia NEWS - COMM

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MEETINGS 2ND FRIDAY EACH MONTH AT STONE MOUNTAIN AIRPORT-8:00 P.M.

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MAY 1983

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## BIG EVENT

"THE BIG EVENT" being the Chapter's first FLY-IN, PANCAKE BREAKFAST. The EVENT is set to "fly" on Saturday May 14, 1983, at the Stone Mountain Airport with breakfast beginning about 7:30am. As FLY-IN participants initially arrive at the airport, they will be judged on a spot landing contest. There will be awards presented for various categories such as Farthest Distance, Youngest Pilot, Oldest Pilot, Best Looking Aircraft (common opinion) etc.. We will be hosting the "Wings on Dreams" program for the EAA Capital Campaign Fund also at the Fly-In. The whole EVENT is to provide a "Good Ole Fashion Fly-In".

## 45 thru 49

## MEETING

Welcome to new Chapter 690 members James D. Cook (building a Barracuda which is approx. 80% complete), Duane K. Huff (has an Aeronca Chief), and Tom Ferraro (has a flying Steen Skybolt).

Welcome back to the ranks of membership Earl Evans and Charles M. Hairston.

Chapter 690 Membership is now 49.

The May Chapter meeting will be Friday May 13, 1983 at the Stone Mountain Airport at 8:00 p.m.. The meeting will be basically getting ready and making final preparations for the Chapter FLY-IN the next day. There is a possibility that we may have the John Denver film "Wings on Dreams" at the meeting. We need all members to try and be present at the Chapter meeting so that final assignments for working at the Fly-In can be completed.

OSHKOSH '83  
WITTMAN FIELD, OSHKOSH, WI  
JULY 30 - AUGUST 6, 1983





## Chapter briefs



Ed Booth has installed in his Cessna 170 a new Narco MK 12D and a Transponder.

Jim Crunkleton has scheduled with the FAA an inspection for May 13th for a pre cover inspection of his wings for his Skybolt.

### **PIN POINTING OIL LEAKS**

*From New York City, New York Chapter 230' Newsletter*

Pin pointing oil leaks can be especially frustrating particularly on air cooled engines where the air flow spreads the mess generously over hill and dale. Baby talcum and a hand operated garden duster will help speed up the process of spotting the source. Clean the engine down thoroughly with a mixture of Gunk and kerosene and a high pressure hose. Let dry. The kerosene will leave a slight oil film on the surface of the engine. Now generously dust the engine with the talcum until everything is covered with white powder. Start the engine and watch carefully under good lighting. In a few minutes, you'll spot the tell-tale darkening spot where the leak originates. Sometimes the leak takes time to develop. It may only occur when the oil is thinned out by extended operation. There are dye additives which will color the oil and although I've never heard of anyone doing it, I have this idea that an ultra-violet dye and a black light source would be equally effective although a lot more expensive.

### **A CAUTIONARY NOTE REGARDING INDUCTION ICING** *From the Eugene, Oregon Chapter 31 Newsletter* **WINGS and THINGS**

Summer is here and you'd think the flyin' would be easy, but unbelievable as it may seem, pilots still have to be on the alert for carb icing. Even when the ground air is close to 90 degrees, it's possible for the temperature in the carburetor to fall below freezing. The following is an excerpt from Aviation Insurance News, Volume 12, Number 3, June 1982:

"The (National Transportation) Safety Board tested two typical light planes, one with a float-type carburetor and the other with a pressure-type. With the first plane, serious icing took place with air temperature up to about 70 degrees Fahrenheit and humidity over 32%, at glide power. At cruise the maximum temperature for icing was 55 degrees Fahrenheit, with the humidity 90% to 100%. When you consider that at cruise the ambient temperature is much lower than the surface temperature, you have to realize that induction icing is possible at almost any time and place."

For more information, you can check the FAA's Advisory Circular on induction icing (AC 20-113, October 22, 1981). A review of the precautions necessary to prevent icing could save your life.

### **CHOOSING THE RIGHT AIRPLANE TO BUILD**

*By Bob Gardner, Designee 1120 of Oshawa, Ontario, Canada*

This article is intended to help you decide which homebuilt design would be best for YOU in terms of cost, ease of construction and flying enjoyment.

First of all, how much money are you willing to spend? A homebuilt design can cost as little as \$5000 to build, or its cost can be MANY, MANY times that depending on design complexity, materials required, engine type and horsepower, etc. . . . The prospective builder should have some idea of the amount of money he is willing to spend on his project. In all probability, the actual cost will exceed the estimate (Murphy's Law will see to that), but at least, the original estimate will give you a "ball park" figure to work with.

Secondly, what kind of flying do you intend to do with your new bird? If all you want is to fly around the patch on Sunday afternoons, your choice should be more or less limited to one of the smaller, simpler planes.

If, on the other hand, you are aerobically inclined, you will have to look into much higher powered, more sophisticated designs to satisfy your needs.

If you want your finished product to haul four people plus baggage cross-country at a fair clip, you will be looking for a high performance — and high priced — design to fill the bill.

No airplane will satisfy all of a pilot's probable needs. You should look at your USUAL flying requirements to decide which type of homebuilt aircraft will best meet those requirements. If every weekend you fly alone, doing airwork and touch and goes, and every Christmas you fly the wife and kids to Grandma's, it should be obvious what type of airplane would fulfill the majority of YOUR USUAL flying requirements.

You should also consider your experience level when choosing a design. There are many homebuilts that would be quite a handful for the low-time pilot. DON'T build an airplane which you will be unable to fly safely.

Last, but certainly not least, what are the materials and construction techniques required to build your dream machine? Today's homebuilt designs encompass every conceivable construction method from tried-and-true wood and dope and fabric to the most modern space-age techniques.

If you are good at woodworking or sheet-metal work, a design featuring those skills would probably be the easiest and most satisfying for you to build.

If you have no prior experience in any construction technique choose the method which appeals to you the most, since no matter what you choose, you will be learning a new skill. None of the techniques used in aircraft construction are terribly difficult, requiring only patience and application to master. Naturally, the more manual dexterity you have, the easier it will be for you.

Only a small percentage of the homebuilt projects which are begun are actually completed and flown. The rest are either abandoned and sit gathering dust in a garage, or they are sold by the disenchanted builder and are completed and flown by someone else.

If you wish to be among those who have experienced the thrill of the first flight in an aircraft which was fashioned with your own two hands, give very careful consideration to the points outlined above. Choose the design which will best fit into your flying lifestyle; one which will give you the most enjoyment to build and fly.



## COMPOSITE EDUCATION - PART I

*This begins Part I of a series of composite construction technical articles taken from Burt Rutan's booklet which is used in teaching VariEze construction. Information such as this will help in assisting the Designee to become knowledgeable in performing inspections on this type of aircraft. - ED -*

### General

In this section you won't build any part of your airplane. What you will do is learn how to build your airplane the right way. This construction technique is radically different from anything you've done before (including building boats, surfboards, airplanes, and go-carts), and you should assume there is only one correct way to do it. We've discovered lots and lots of wrong ways of doing things and have written the plans to keep you from repeating our mistakes. We insist that you do things our way. If you have a better idea, suggest it to us, we'll test, and if it really is a better idea we'll publish details in the "Canard Pusher."

This section will teach you all of the techniques required to build your airplane, show you what special tools you need and how to use them. The educational samples that you will build in this section are designed to give you experience and confidence in all of the techniques that you will use in the construction of your airplane. The steps in construction of each sample are arranged in sequence (as are the steps in construction of the actual aircraft parts) and you should follow the sequence without skipping any steps. You will learn the basic glass layup technique used throughout the aircraft, special corner treatments, foam shaping/cutting, and joining methods. A summary of these techniques is provided on yellow paper for you to tack up on your shop wall.

### Tools

There are certain tools which are necessary to complete the aircraft. Three lists of tools are provided here. The first is the absolute bare minimum required, sacrificing efficiency; the second is a recommended list for the best compromise of cost and work efficiency; the third is a list for the "Cadillac" of shops where ease of construction is more important than money. The non-common items are stocked by the VariEze distributors.

#### 1. Basic Required Tools

- Common household butcher knife
- Coping saw
- 1/4" drive socket set
- Small open-end wrenches
- Sandpaper 36-grit, carborundum Aloxite Fastcut (50 sheets), also 220-grit and 320-grit wet or dry silicon carbide (20 sheets each)
- Pliers
- 1" putty knife
- Hacksaw
- Blade & phillips screwdriver
- Box of single-edge razor blades
- 24" carpenter's level
- Carpenter's square
- Felt marking pens
- 3-ft. straightedge
- 200 eight-oz. paper cups (Lily 8SN1)
- 50 3-oz. paper cups (unwaxed)



12-ft. decimal steel tape (Stanley #61-112)  
 1/4" drill with #30, #32, #10, 1/4" and 1/2" bits  
 #10-32 and 1/4-28 taps  
 Roll of grey duct tape  
 1" & 2" paint brushes (100 each)  
 6" plastic or rubber squeegees  
 Scissors  
 Wire brush  
 Pop rivet puller  
 Homemade balance for ratioing epoxy  
 Wall thermometer 50 to 100° F  
 1/4" hand drill

2. Recommended Tools (in addition to those above)

Dremel-type miniature high-speed hand grinder with saw and router bits.  
 6" to 9" disc-type hand sander  
 Set of 1/4", 1/2" & 1" chisels (wood)  
 Small set of X-Acto knives  
 Stipple rollers  
 1/2"-dia 100 counter sink (piloted)  
 6" machinist steel ruler  
 X-Acto razor saw  
 Box of wood tongue depressors to mix epoxy  
 6-ft. straightedge  
 Cheap holesaw set or flycutter  
 3/8" variable-speed hand drill  
 12" long drill bits - #10 & 1/4"  
 Hand broom/brush  
 Large commercial 12" scissors (Wiss #20W)  
 Sabersaw  
 Bench-mounted belt sander  
 Stanley surform plane  
 Square & half round file  
 Several 6" C-clamps  
 Vacuum cleaner (shop type)  
 10" 18 tooth/inch handsaw (see sketch)  
 Approx. 150 lb. of small weights (used to hold various parts down while epoxy cures. They're best in 5 to 15-lb. pieces. We got them for 5¢/lb. at a local scrap yard. Sand-filled milk cartons also work well).



3. For the First Class Shop (in addition to those above)

Drill press  
 18-inch bandsaw  
 Vernier Caliper  
 Epoxy ratio pump (Michael Engineering dispenser)  
 90° drill adapter  
 Air compressor with blow nozzle  
 Orbital sander  
 3/8" & 1/2" spotface

4. Items Used Only Occasionally & Can Be Borrowed

Nicopress sleeve tool  
 1 dozen 1/8" Clecos  
 Hotwire voltage control

NEXT MONTH: Composite working tools  
 you can make!