The Cleco

Experimental Aircraft Association • Chapter 393 • Concord, CA

Mail to: EAA Chapter 393 P.O. Box 272725 Concord, CA 94527-2725

SEPTEMBER 1994

YOUR 1994 OFFICERS

PRESIDENT	Fred Egli 935-7551
VICE PRESIDENT	Lisle Knight 658-6629
SEC/TREASURER	Louis Goodell 682-4198
EDITORS	Ken & Linda McKenzie 283-3119

MEMBERSHIP MEETING

September 28, 1994 (the 4th Wednesday of every month) @ 7:30pm; Old Buchanan Terminal Building, Concord Airport. Please wear your badges to help those of us who have trouble remembering everyone's name. Bring chairs since we never seem to have enough.

BOARD MEETING

Board meetings are scheduled for 7:30 p.m. on the Wednesday following the Membership meeting at Fred Egli's house. If you are interested in attending or have a matter you wish to discuss, please call.

SEPTEMBER PROGRAM

by Lisle Knight

Chapter 393 has an incredibly high degree of talent, technical know-how, and quality of craftsmanship in its membership. The custom-built aircraft we construct in our garages and hangars are on the cutting edge of technology in materials and creative functionality. These flying machines make huge demands on us to get them in the air; demands that mean we must acquire as much information and objective input as possible to ensure success. A wise ole coot once said..."it's our derriere's that's on the line".

Have you ever observed the almost total involvement of everyone in exchanging their ideas, problems, and accomplishments on their projects during our coffee break? The camaraderie is a pure delight to see...the focused interest of each others creative innovations of how they successfully made "whatever it is", work, and what they had to go through in order to achieve that success. And the goal is always the same.....to FLY it. And as we all know, this is what it's all about.

So, to that endeavor I would like to embark on presenting programs that would tap into this fountain of expertise and interest and knowledge and craftsmanship we have right here at "home". For our first "Member Project Presentation" we have Harry Heckman and his Lancair 290. Harry has constructed his bird in the "basement" of his Berkeley hills home. It is about ___% complete. He has incorporated many different ways of fabricating his aircraft. Harry has put the entire process of construction of his Lancair on slides, from start to finish...and they are extremely descriptive.

The diversity of aircraft types (Composites, Metal, Wood, Tube and Fabric) in our chapter is another asset we can be thankful for. And to that end I will be visiting <u>all</u> the various types of projects to acquire presentations for that educational support we all need to help us get them in the air.

MINUTES OF THE CHAPTER MEETING

held August 24, 1994

The meeting was called to order at 1930 hours, Fred Egli presiding. There were ?? members and visitors in attendance. The minutes of the June 1994 meeting were approved as submitted in the August 1994 Cleco.

The Christmas Party has been set for December 19 The price is tentatively $15 per person.

Young Eagles certificates were awarded to three young men who attended our July picnic. Aaron Barnes received his from Dwaine Duis; Andrew Troy from Ron Robinson; and Justin Williams from Lyle Powell. Thank you to everyone who participated in the Young Eagles flights at the picnic.

The program portion of the meeting was devoted to Oshkosh. We had slides, which were annotated by Toni Tiritilli, and home videos put together by Fred Egli.

CALENDAR OF EVENTS

Sep 23-25 PLACERVILLE, CA - 3rd Annual Thorp T-18/"Skyscooter" Gathering/Festivities. *408/723-0244.*

Sep 23-25 BISHOP, CA - 3rd Annual Fly-In. *619/873-8405.*

Sep 30-Oct 1 AUBURN, CA - Auburn Air Faire. *916/878-0219.*

Oct 1-2 REDDING, CA - EAA Chapter 157 Annual Octoberfest. *916/243-4382.*

Oct 2 RIALTO, CA - 3rd Annual Air Fair Airshow. *909/820-2622.*

Oct 7 TRAVIS AFB, CA - Travis Air Expo '94. *707/424-2011.*

Oct 8 BYRON, CA - Airport Open House

Oct 14-16 LAS VEGAS, NV - PRA Chapter 21 8th Annual Fly-In. *702/366-0375.*

Oct 15 NAPA, CA - Napa Co. Airport Open House. *1-800/229-NAPA.*

Oct 15-16 SAN DIEGO, CA - EAA Chapter 14 Annual Airplane Fair. *619/661-6520.*

Oct 22-23 TORRANCE, CA - Torrance Air Fair. *310/325-7223.*

Nov 5-6 HALF MOON BAY, CA - California Coast Airshow. *415/726-ROLL.*

Nov 10-13 MESA, AZ - Copperstate Regional EAA Fly-In. Williams Gateway Airport. *1-800/283-6372.* **Note: New date and location.**

Nov 12-13 PORTLAND, OR - 4th Annual Oregon Air Fair. *1-800/547-6922.*

Campaign season is warming up again. Though we come from many different political viewpoints, we each have a duty to take an active interest in the upcoming elections. Grace Ellis is now campaigning in a run-off for the the 4th District Supervisor seat. If you have any interest in airport development; or even whether or not we should rebuild Merrithew Hospital, please consider helping with Grace's campaign.

MINUTES OF THE BOARD MEETINGS

The September 7, 1994, board meeting was called to order at Fred Egli's house at approximately 1930 hours. In attendance were Fred Egli, Lisle Knight, Louis Goodell and Ken and Linda McKenzie.

Discussed was the need to begin organizing awards, presenters and a speaker for the Christmas party. The board will be accepting nominations for awards.

New badges have been made. The following people are duly invited to come to the September meeting to pick them up: Barry Hill, Randy Moore, Jim Karr, Blaine Banks, Chris Hill, Phil Jenkins, Edward Townly, Al Humbert, Debbie D'Amico, Eric Sweet, Jim Ryan, Mike Townsend, and Gary Aldridge.

ANNOUNCEMENT

AOPA will be holding a "Town Talk" at the Sheraton on Tuesday, September 29 at 7pm. Phil Boyer will be moderating a discussion on Safety.

WELCOME NEW MEMBERS

Doug Page, who is starting an RV-6A project, and Gerard Houlahan joined the chapter at our August meeting. We would like to extend a warm welcome.

CHAPTER 393's RAFFLE

I must apologize to everyone that purchased #393 Club raffle tickets back in the June meeting. My ultimate plan then, and still valid today, was to change the club raffle into a fun thing for all. I believe in the concept of putting out rewarding, exciting prizes to draw more members to the meetings and to add another element of fun to every meeting. I never liked the idea of winning a prize, then being tagged to provide for the next meeting's raffle prize. That concept is counter-productive and it didn't work very well. Unfortunately, I've been travelling ever since we kicked off the new raffle and I've missed at least two of the regular meetings where prizes where supposed to be awarded (not including the July picnic meeting where we decided not to involve the raffle).

So look, I've still got all of the prizes, 9 great ones to be exact. I've still got all of the raffle tickets that were purchased too. Some have names on them, some don't. For those people that purchased tickets and didn't put your name(s) on the back, please make every effort to find and bring your other half of the ticket to the next meeting. If you've completely lost the other half, but you've purchased tickets in good faith, please call me and we'll get it worked out in time for the September raffle. (510) 758-3533. For those who did put their name(s) on the back, be sure to attend the next meeting because WE ARE GOING TO HAVE A RAFFLE!

And for all that bought one or more tickets, or maybe no tickets: Bring a few bucks and buy more raffle tickets during the September meeting! We need a lot more participation, financially to make this thing fly. If everyone spends $5.00 or more on raffle tickets at each meeting, I'll be able to build the raffle prize table up to something spectacular each month. So come on folks, don't hold back. Remember, you can't win anything if you don't participate.

Larry Laughlin

TREASURER'S REPORT (as of 9/7/94)

Savings Balance:	$2,594.55
Checking Balance	$ 844.26

BUYING A USED AIRPLANE
by Dwaine E. Duis

1. First have a pre-purchase inspection done by a mechanic you know and trust. Make sure he is familiar with the type of airplane you are buying. If he isn't, get someone who is competent and not connected with the seller in any way.

2. Go and examine the airplane yourself. If possible, take along a friend who is familiar with the type of airplane you are buying.

3. It might be customary to send a deposit. It is better to hold off until you have examined the airplane yourself. Never send more than a minimum deposit, if it is necessary to hold the airplane for your examination. Better to arrive with the deposit in hand and not release funds until reasonably satisfied.

4. Do not place funds in an escrow account at the sellers bank. By law the seller is free to draw on these funds.

5. Make certain the airplane meets all the requirements of the annual inspection. This is money well spent. Have a qualified pilot fly the airplane to verify all the electronics, fuel systems, and moving parts work properly.

6. The annual inspection should reveal any corrosion or unairworthy maladies.

7. Examine several airplanes of the type you are buying. Learn as much as you can about the airplane and get some flight training in type if possible before you make your purchase.

8. Remember "Caveat Emptor" let the buyer beware! If dissatisfied in any way look some more. There are a lot of other airplanes out there.

Good Luck and Happy Flying!

INTERNET NOTAMS

The following articles are reprinted from the Internet News Forum: Rec.Aviation.xxxxxx. This will become a regular feature in the Cleco. Rec.Aviation is the general category international forum, including a dozen or so subcategories, for the exchange of information, opinions and announcements regarding aviation.

HAYWARD AIR FAIR '94

It's time for the Hayward Air Fair '94 at the Hayward Air Terminal in Hayward, California. **Saturday, September 24 and Sunday, September 25 from 7:00 a.m. to 6:00 p.m.** Admission is just $5, and children aged 12 and under will be admitted free with a paid adult. The Hayward Air Fair is truly affordable family entertainment. Over 100 aircraft are expected to be on display, and there will be rides in biplanes, helicopters, and tethered hot air balloons. The Alameda County chapter of the Ninety-Nines will put on an airlift where they offer airplane rides for 10 cents for each pound of the passenger's weight.

The Hayward Air Fair '94 will present the premier air show of the Bay Area, with no fewer than eight complete aviation acts and numerous fly-bys of military aircraft.

Formation Jets

For the first time at an air show in Hayward, a jet team will thrill the crowd with a demonstration of opposing and formation flight. The Blackhawks Jet Team of seven L-39C Albatross fighter jets will fly a performance similar to those flown by the Blue Angels and the Canadian Snowbirds.

The L-39C Albatross was produced by Aero Vodochody of Prague, Czechoslovakia in 1967. In 1965, 2,800 were produced, and 1,400 were purchased by the Royal Malaysian Air Force to be used primarily for light tactical strike duties and for operational training of pilots. The aircraft is similar to the one flown by the Canadian Snowbirds.

The Blackhawks are new performers in the air show business, and the Hayward Air Fair '94 is pleased to present the Blackhawks in their debut year.

1932 Gee Bee Visits Hayward For First Time

Another delight for the crowd will be when veteran air show performer Delmar Benjamin takes flight with his replica of the 1932 Gee Bee R-2 Racer.

Benjamin's Gee Bee is a replica of Granville Brothers' classic R-2 racer from the 1930s _ the Golden Age of Air Racing. Delmar Benjamin and Steve Wolf began building the replica in 1989 because Benjamin was "tired of traveling two miles a minute." Benjamin and Wolf did extensive research of the original design papers and consultation with Pete Miller, the man who had designed, tested, and calculated the performance of the most famous racers ever built. After Benjamin and Wolf put in countless hours painstakingly building the R-2, the Gee Bee replica first flew on December 23, 1991.

The Gee Bee has a wing span of just 25 feet and weighs 3100 pounds fully loaded with 104 gallons of fuel. It is powered by a R-985 Pratt & Whitney 450 horsepower engine, and it cruises nicely at 257 mph.

Wild Thing Fireworks

Steve Stavrakakis brings his Czechoslovakian-built Zlin 50-LA, the Norwest Mortgage Wild Thing to Hayward for Air Fair '94.

The Zlin 50 was designed specifically for World Aerobatic Competition. In fact, the Czech factory demonstrator pilots invented the Lomcovak, arguably the most popular crowd pleaser of aerobatic maneuvers.

The Wild Thing sports pearl white metallic paint, a custom air show smoke system, and on board pyrotechnics.

When Stavrakakis is not flying the Wild Thing during the Air Fair, he will have the airplane on display near the Norwest Mortgage booth where he will meet air show visitors and sign autographs.

Andreini From Half Moon Bay

Half Moon Bay residents are fortunate to be able to see an air show almost every weekend when Eddie Andreini takes his W.W.II Stearman Biplane up for a spin from his home airport. Eddie extends the privilege to Hayward residents and visitors next weekend with his performance at the Hayward Air Fair '94.

Andreini's "Super Stearman" is powered by a Pratt & Whitney 450 HP engine, and it has ailerons on all four wings. The airplane is heavier than most automobiles, yet Andreini is able to take the plane through maneuvers normally accomplished by the best pilots in specially designed lightweight aerobatic machines. The tips of the propeller on the highly modified Stearman can easily exceed the speed of sound.

Piggott's Russian Sukhoi 29

John Piggott joins the Hayward Air Fair with the world's most advanced aerobatic aircraft, the Russian Sukhoi 29. The Sukhoi is a brand new airplane which contains parts made from titanium, magnesium, stainless steel, and aerospace composites.

The Sukhoi 29 is powered by a 360 HP 9-cylinder radial engine. The airframe can withstand aerobatic loads eleven times the force of gravity.

Wanda Collins

Biplane pilot Wanda Collins comes to Hayward from Santa Cruz where she stays busy as a Corporate Pilot, Flight Instructor, Mother, and Aerobatic Pilot.

In her seven years of flying, Collins has amassed 4,200 hours of flight time. She studied aerobatics with Amelia Reid and Wayne Handley, and she delights crowds with her acrobatic performance in her 260 HP Pitts S-2 biplane.

W.W.II SNJ "War Dog"

Time steps back fifty years for W.W.II veterans when John Collver and his vintage SNJ "War Dog" roar into the air. Collver reminds veterans of the days when thousands of the Army-Air Force AT-6s and Navy SNJs flew the flight patterns of hundreds of military flight training centers with his spectacular "Tribute to the Armed Forces Veterans" act.

"War Dog" was built by North American Aviation in 1944. The Advanced Trainer was the plane every military pilot had to master before he was ready to fly airplanes in combat. Collver has honed mastery of the AT-6/SNJ to astounding new heights.

Collver began flying at the age of 15. On his sixteenth birthday, he soloed five different airplanes. He has been a professional pilot for more than twenty years, and he is presently a Corporate Pilot for Northrop Aircraft.

Silver Chutes

Allen Silver, a Hayward businessman, opens the show on Saturday and Sunday with the National Anthem and presentation of Colors as he drops in on the Hayward Air Fair from more than 3,000 feet overhead.

Silver brings his "Spirit of America" parachute team to the crowds of the Hayward Air Fair with several jumpers circling overhead as they swoop down to earth with smoke and colorful streamers trailing in the wind. The jumpers also freefall in formation at speeds of over 110 mph, and often two or more jumpers will join together with open canopies docked together in a stack.

From: lpmeditor@aol.com (LPM Editor)
Subject: Lycoming Crank Problem
Date: 7 Sep 1994 21:45:08 -0400

I spent the last day digging on this one and here's what I've got so far:

There were two crank failures in the UK that led to the AD being issued. After the first failure, the CAA contacted Lycoming, which was working on a service bulletin about the problem at that very time (coincidentally, I'm assured). Before Lycoming could come out with the bulletin, the second failure occurred and CAA issued the AD. Lycoming states that they have had 10 instances of this problem in the last 20 years. However, they have seen many cases of engines with recent overhauls that came to the factory for various reasons (usually prop strikes) that did not have the front crank bearing area cleaned out. Some were packed nearly solid with sludge. This is why they were writing the bulletin.

The problem area is behind the expansion plug at the front of the crank on hollow-crank engines with fixed-pitch props. Oil enters this area, but does not circulate with any vigor. Sludge tends to get centrifuged out and adhere to the crank ID. The sludge itself is at least mildly acidic, and

so attacks the surface. The stage is set for corrosion. Once pitting begins, the pits serve as stress risers which in turn become fatigue crack origins.

In Lycoming's bulletin, I'm told, it is permissible to polish away surface corrosion, but any pitting means the crank is scrap. Lycoming examined several cranks with what appeared to be minor surface pits. When sectioned, the surface pits were all connected to substantial subsurface fatigue cracks. Thus, no rework of the crank ID is possible. FAA is presently pondering an AD on this. The AD would probably be based on Lycoming's SB and call for inspection within the next 200 hours or at major overhaul, whichever comes first. The same limitations would apply. Lycoming states that all observed problems have been in engines 15+ years old, with most showing up in engines that were 20+ years old. The problem can be expected to be particularly acute in 20+ engines that are still on their first run.

I'll update this as more info becomes available (and, of course, look for the comprehensive write-up in the magazine).

JL,
Light Plane Maintenance Editor

In article <350ki3$8hs@darkstar.UCSC.EDU>, rob@scilibx.ucsc.edu (RobStrand) wrote:

> JL, you there?
> Our 210 is just about through the Chevron exorcisizing
> operation (about $45,000.) The mechanic says that
> we should run it hard for only ONE hour--I thought it
> was 25 hours at 75% to seat the rings. He says this is
> done at the factory now--is this true?

I don't know what is done at the factory, but your mechanic is right on and if anything he is a bit conservative.

I run hard for two hours on breakin. The most important things to remember about breaking in a new engine:

1) Minimize ground run time; DON'T RUN FOR MORE THAN 5 minutes at a time on the ground!!! And ONLY at IDLE or LOW (<1800) RPM!!

   If you don't observe the above you will likely glaze up your cylinder bores. It doesn't take long on an aircooled engine. Keep in mind that the overall temp of the cylinder is not a valid indicator since hot spots will develop quickly in a new bore before the rings break-in.

2) Run it hard for the first couple of hours. Your engine was designed and certified to run at full power. Don't baby it, if you do the result will be a 'soft' engine that uses more oil than it should.

   I would suggest coordinating with your tower (if you have one) before starting. Tell them you are breaking in a new engine. Plan on orbiting airport for at least the first 30 minutes at least 1000 feet above the TPA. When cleared for takeoff, start your engine. Check your pressure, release the brakes, taxi and check your mags without running up. Cycle the prop a couple of times. Roll on the runway and FIREWALL it.

   LEAVE the throttle FIREWALLED for the NEXT TWO HOURS!! Consider climbing to around 5500 to 6500 feet. Lean conservatively (ie on the rich side of peak, no more than 100 degrees on the rich side of peak). Yes I know you are going to suck down some fuel, but your engine will last longer. Climb to around 5500 to 6500 after orbiting your field for around 30 mins at around 2000 feet AGL.

The theory is simple. If your engine was not put together right it will probably blow up before you get halfway down the runway (hopefully). If it was the next thing you have to watch is cylinder head temp and oil temp. Use a shallow climb at high speed. You need to keep it cool. Stick around the field just in case you have mag or fuel problems. After 30 minutes orbiting its very likely that nothing is wrong. You may want to fly off and climb to a higher altitude. At 5500' to 6500' your effective power is down to around 80% even with a WOT.

A WOT allows the highest possible combustion pressures to be developed. This is necessary to force the rings into the cylinder walls to cut in. It doesn't take too long for the high spots in the rings/cyclinder walls to be worn down. At the same time the high pressures minimize the amount of oil buildup on the cyclinder walls which in turn will minimize glazing.

In an automotive engine one uses the same techinique but must be careful about high revs (and hence piston speeds), which can overheat the rings/cyclinder walls before the rings have properly seated. Since the prop govener does a good job of keeping the average aircraft engine below 2700 RPM this isn't a problem. For a car the whole process is tricker.

Once you glaze the jugs, you have to pull them and hone them. There is no other solution.

The bottom line. Everyone I have heard complain about crummy chrome jugs or that their engine uses too much oil babies their engine. Always too concerned about running high power settings. Well these engines and any engine that is designed for high power output just wont give good service if they are run at low power settings for an extended period of time.

By the way, I regularly achieve 10-12 hours to a quart of oil on channel chrome jugs. Inspections have shown no cylinder glazing or ring shatter.

That's my long winded two cents...

Bob Atkins | bob@digilink.net
Global CompuNet Consulting services | 310-542-7421

From: greg@bronze.ucs.indiana.edu (Gregory R. TRAVIS)
Subject: Textron Lycoming SB 505 (Crankshaft corrosion)
Date: Mon, 12 Sep 1994 19:45:30 GMT

I got Lycoming's "Mandatory" Service Bulletin 505 in the mail today. It addresses the crankshaft failures that've triggered an AD by the British CAA (and may do the same with the US FAA). Here is the text of the bulletin (copyright or whatever, Textron Lycoming):

SUBJECT: Inspection of Crankshaft ID for Corrosion

MODELS AFFECTED: The following Textron Lycoming four cylinder engines which utilize fixed pitch propellers:

All 235 series engines
All 290 series engines
All 320 series engines; and
All 180 horsepower, 360 series engines except the O-360-A46, -A4J, -A4K, -A4M, -C4F and AEIO-360-B4A engine models.

TIME OF COMPLIANCE:

[INITIAL INSPECTIONS:]

For new, remanufactured and overhauled engines shipped from Lycoming prior to and including 1984, the initial inspection must be conducted within the next 200 hours of operating or 1 year from date of this Service Bulletin, whichever comes first.

For new, remanufactured and overhauled engines shipped from Lycoming after 1984, the initial inspection must be conducted at the next overhaul or engine disassembly or within 10 years of the original ship date, whichever comes first.

[SUBSEQUENT INSPECTIONS:]

The inspection must be repeated for all engines at each overhaul or engine disassembly and the time interval between each inspection must not exceed 5 years.

As more experience has been gained with aging engines, it is obvious that calendar time and frequency of use are important factors of service life. With age, the effects of corrosion can result in structural problems for engine components. Reports of crankshaft breakage originating from corrosion pits on the inside wall immediately aft of the pilot diameter have been received for fixed pitch propeller aircraft. To preclude this occurrence, this area must be inspected in the following manner.

a. Measuring in from the crankshaft pilot, clean the first four inches of the inside crankshaft wall.

b. Remove surface corrosion ONLY using a suitable tool and fine abrasive cloth [see figure 1]. Prior to removing the corrosion, precaution must be taken to ensure that the material removed cannot contaminate the engine.

CAUTION

SURFACE CORROSION MUST BE REMOVED UNIFORMLY FROM THE CRANKSHAFT I.D. BUT THE I.D. >CANNOT< EXCEED 1.895 INCHES.

c. Make a visual inspection from the crankshaft flange inward using a flashlight and magnifying glass (power 4x). A small, right angle, dental examination mirror might be helpful. The above defined area should be clear of pit marks and corrosion.

d. If during visual inspection any pitting resulting from corrosion is found, the crankshaft must be removed from service immediately.

DO NOT ATTEMPT TO REMOVE PITS FROM THE SHAFT BY REMOVING MATERIAL IN LOCAL AREAS. THIS MAY CAUSE STRESS ISERS AND PROMOTE BREAKAGE. PLATING OVER THIS PITTING WILL NOT IMPROVE THE STRUCTURAL INTEGRITY OF THE PART NOR ARREST THE PITTING GROWTH. IN ALL CASES, A PITTED CRANKSHAFT IS CONSIDERED UNSERVICABLE.

Textron Lycoming will not assume any warranty or liability in the even a pitted shaft is placed in service. In addtion, Textron Lycoming will assume no responsibility for parts which have had rework attempted by any other entity.

Crankshafts which exhibit the above described pitting on the I.D. may be exchanged for a new crankshaft at a special reduced price. Contact a Textron Lycoming distributor for this price and to arrange the return of the unservicable crankshaft.

Make the appropriate log book entries after each inspection.

David Fisher of Pleasanton, CA voiced concern that it might make good business sense for Chevron to get out of the Avgas business. What follows is "reader" Eric Schmenk's response.

Well, having worked as an engineer at an oil company (which does not manufacture av-gas) and a petrochemical subsidiary of another oil company, I'll give it a try.

The lead (tetra-ethyl lead - "TEL" by the way) is added at the gasoline blending step, which is just before the gasoline is put in the tanks. Therefore, there is no need to "clean the lead out of the equipment". The operator would just stop adding lead slightly before switching to whatever they would blend next, and all of the TEL in the line would be washed into the tank. By the way, I just realized that you might not know that TEL is a liquid, so it will wash with the rest of the fuel to the tank.

By the way, the refining processes use catalysts which would be destroyed by lead, so it would be impossible to add TEL at the beginning of the process and I think

impossible for Chevron to take the contaminated avgas and reprocess it. All that could be done would be to blend it with enough high-octane fuel to bring it back into specification.

I believe the major issues for a refinery making avgas would be 1) avoiding cross-contamination, 2) stricter limits on what refinery streams could be blended into avgas, and 3) the nuisance of blending, shipping and storing a separate low-volume product. Elaborating on 2), often waste streams (by-products) are blended into autogas (as long as they don't affect the final specifications), but I think I remember reading (in an aviation publication) that this doesn't happen to avgas.

Finally, I bet there are people at all avgas manufacturers (not just Chevron) wondering if they really want to stay in this business. They may conclude that to make the risk worthwhile they need to increase prices. We'll just have to see.

Finally, finally, the author (Marc E. Cook) of the "No Fueling Around" article in the September 1994 AOPA Pilot didn't use the correct terminology when explaining Octane. He said "Octane in the simplest sense measures the fuel's volatility". Wrong! The volatility (how readily it vaporizes) is measured by the Reid Vapor Pressure (RVP). This is a completely separate issue from Octane, but both must be watched carefully while blending avgas and autogas. Granted, if we say so-and-so has a volatile personality, it means the same as if they have an explosive personality, but technically volatility is something completely different from the tendency to explode.

Finally, finally, finally, (I just can't stop!) for those who are curious, while blending autogas, sample streams are taken and run into two single-cylinder engines which have a knock detector and adjust their compression ratios (via the cylinder head position I think) to the maximum possible while avoiding knocking. There was a table which gave Octane as a function of compression ratio (or Cylinder head position). A sample stream was run to make sure the engines stayed in calibration. One engine measured the "Research Octane" nimber, while the other (which ran at slightly different conditions) measured the "Motor Octane" number. The number at the pump is the "Road Octane" number which is the average (R+M)/2 of the two. I think the Octane for avgas is measured similarly, but at conditions more relevant for an aircraft engine. I was told that the octane scales were set up so that iso-octane has an octane number of 100.

Ken and I would like to thank everyone who has contributed articles for the Cleco. Although we have been remiss in printing several of the items, this should not be construed to mean that we have not appreciated your efforts.

SECOND ANNUAL
ROCKY MOUNTAIN
AIRCRAFT
BUILDERS FORUM
OCTOBER 22-23

Presented and sponsored by the Combined Denver EAA Chapters.

Chapters 43, 301, 660

Where: Tri County Airport, Erie Colorado
(~25 NW of Denver)

When: October 22-23. 9:00AM to 6:00 PM

How Much: $20 per day, $30 for both days

*** FREE Pilots of Homebuilts arriving with their plane FREE ***

Why: The aircraft building phenomenon has become big business in the US and the world. There are many choices of what aircraft to build. There is a lot of information out there and much of it is confusing to new and old aircraft builders. To that add that there are many many ways to construct an aircraft, be it kitbuilt, plansbuilt, composite, aluminum, both, fabric covering, welding, wooden ribs.

In the Rocky Mountain Area, the EAA chapters are very active in building, restoring, and of course flying aircraft. But, not everyone is an EAA chapter member and may not really wish to be, which is OK. But many folks are thinking about building an aircraft but really are not sure of how to go about it. WELL that is what this forum is all about!!!

What: The "Rocky Mountain Aircraft Builders Forum" has been expanded to TWO days, from last years single day. In addition to the hands on work shops in Aluminum, composite, and welded construction techniques. We are adding this year wood construction, fabric covering, prop carving, and a tech counselor's question and answer booth. PLUS Continuous forums (see forum subjects later)

The hands on workshops are intended for each of you to actually do the work, find out if you like the method of construction, if your hands can do it, find out the proper way to build your plane. Experts, builders, and industry professionals will be teaching each of you. You can spend both days in one workshop or in each of the workshops. Forums are continuous for both days.

PLUS +++ We will have catalogs from many many parts suppliers, continuous video's from kit manufacturers, and video's on "how to do" from the EAA and other sources. This way you can decide if you want to purchase a particular video or pursue more information from a manufacturer.

Other Stuff: Coffee and donuts FREE each morning, lunch is available. Discount room rate at the Days Inn, 120th

and I-25 NorthGlen the rate is $37.00 + taxes for 1 to 4 people Friday Oct 21, and/or Sat Oct 22. Restaurants aplenty, limited Van shuttle to Tri County (provided by the EAA) ph 1-800-874-4513, mention "Rocky Mountain Aircraft Builders Forum" for discount.

Various homebuilt aircraft on the flight line, you can talk to the builder/pilots.

Other Info: This is an EAA Chapter sponsored event. We are using advise and help from the EAA in Oshkosh, but we Chapters 43, 301, 660 of Denver are primary sponsors.

Forum Subjects: (In pretty much order of presentation) (Saturday) Choosing your homebuilt; OK, now that I am building; By the FAA, How to get your airworthyness certificate; Lunch; Auto Engines for Aircraft, the real lowdown; Fabric covering; Aluminum building; Composite construction. (Sunday) Free Help in building, your local EAA chapter; Economy and Speed through modification; Lunch; Flight testing; How to Weight/Balance (followed by hands on demo); steel tube construction; aircraft systems.

For more info please contact me via email, US Snail, phone.

Doug Bloomberg, dougb@anchor.cs.colorado.edu

11212 W 102nd Drive, Broomfield, CO 80021

(303) 466-8328

NOTE: if you are or know of someone who markets, manufactures, sells AIRCRAFT related stuff please feel free to contact me. We are looking to help builders and the more we can give them the better we can help them. So if you have catalogs, material to donate for use in our workshops, video's, or even doorprizes we would relish the chance to utilize it. There is no charge to you.

Subject: Re: Ballistic Chutes
Date: 25 Aug 1994 13:35:48 GMT

venky@heron.bellcore.com (G A Venkatesh) writes:
>rhh@tachy.uah.ualberta.ca (Roy Hann) writes:
>>I can see how a descent on a 'chute is preferable to
>>crashing into a forest or a mountain-side, but I get the
>>impression that it is seen as a good general safety
>>feature, and I don't buy that right now. Persaude me.

I don't see a simple engine-out as a good enough reason to deploy a chute (or bail out) if there's a nice cornfield (or better) to land in. But how about if a wing breaks off? It's happened - remember, in an experimental or UL you are a test pilot. Often, NOBODY knows what the airframe will take. And then there's the mountainside or forest.

>Saving the craft is the least of your concerns in such
>situations. Some people may suggest personal chutes but
>the ballistic chutes have the advantage that they are
>always there and require no extra effort for each flight
>other an item on the checklist to arm it before the flight.

Personal chutes are great - they're lighter, more controllable, less subject to entanglement with the airframe, have been around longer and are a more proven technology, and probably safer to land - IF YOU KNOW WHAT YOU ARE DOING!

Let's consider a typical scenario that might lead one to use the chute - airframe failure at 4000 AGL. No chance of landing it with a broken-off wing (well, actually a glider pilot did it once but I've never heard of a powerplane being safely helicoptered to the ground) so it's time for the chute.

Ballistic Chute - recognize situation. Pull lever. Sit and wait to land. It's pretty much out of your hands now. Unlatch door-canopy, tighten your seatbelts, prepare to unlatch them and run.

Personal Chute - recognize situation. Unlatch seatbelts. Open door or canopy in flight (ever done it before?). Jump out and track away from the airplane (do you even know how to stay belly-to earth in freefall and create horizontal separation? And the rules change if the chute is chest-mounted...) Flare out of the track. Pull ripcord. Land the parachute. Watch (from a distance) as your pride and joy becomes a flaming wreck. If you're quick, you'll make it. If you are slow and tentative - he who hesitates will inherit the earth. I've seen lots of people jumping from airplanes for the first time - under supervision, in a controlled environment, with training, by choice - and most were very slow and hesitant. A couple backed out. One of the ones who backed out was a pilot.

Me - I'd pick the personal chute. But I've made 130 jumps in the past couple of years. If you opt for the personal chute I'd suggest making a few jumps - they'll improve your chances. But otherwise - a personal chute is still an OK idea if you open the door/canopy without hesitation, exit fast and push off from the plane hard, and (with a seat or back mounted parachute) tuck into a ball (bringing your arms and legs in to minimize the chance of entanglement) and pull the ripcord by 1000 AGL.

Michael Masterov, PP-ASEL, AGI, USPA A17157

BYRON AIRPORT OPEN HOUSE

Gerry Greth is asking for our support in making the Open House/Runway Dedication at Byron a rousing success. Be the first to land on the new runway. Anyone who has an airworthy homebuilt is requested to bring it over to Byron on Saturday, October 8. Further details may be obtained by calling the Airport Manager's Office or Gerry.

From: Charles.K.Scott@dartmouth.edu (Charles K. Scott)
Subject: Re: TAIL DRAGGER vs. TRICYCLE GEAR
Date: 20 Jul 1994 11:55:44 GMT

We had this discussion a year or two ago and I recall several things that stick out in my mind about the comments:

1. The people who flew taildraggers tended to think that the experience made them better pilots and that it was a good skill to have.
2. The people who owned tricycle gear aircraft focused on the inherent stability of the design and the lack of a need to "fly" the airplane until it's tied down.

We've already had a comment recently from our Alaskan contributer who mentioned that many, possibly most of the bushplanes now are tri geared instead of taildraggers which he says has resulted in less bent metal or ripped fabric. I thought this was pretty interesting because one of the arguments I've heard in favor of taildraggers is that it's better for bush planes because it keeps the prop away from gravel.

I have not reached the point in construction yet where I have to make my decision but I already know I'm going to be using a tricycle gear regardless of the excess weight/drag penalty because I like the inherent stability.

One last point that I recall reading in either Kitplanes or Sport Aviation. It was from a story about Dick Van Grunsvan and his RV series. He makes kits that mostly have a tail dragger set up but one, the RV-6A is tricycle geared. Guess which one he takes on longish cross country's? That's right, 6A because as he put it, at the end of the flight he's tired and likes the extra margin of safety the tri gear gives him.

Corky Scott

The Proper Attitude

The Airline Transport Pilot leaps tall buildings in a single bound, is more powerful than a 747, is faster than a speeding bullet, walks on water, and discusses policy with God.

The Multiengine Pilot leaps short buildings in a single bound, is more powerful than a 707, is just as fast as a speeding bullet, walks on water if it is calm, and talks to God.

The Instrument Pilot leaps short buildings with a running start and favourable wind conditions, is almost as powerful as a Learjet, nearly as fast as a speeding bullet, walks on water of an indoor pool, and talks to God if a special request is approved.

The Commercial Pilot leaves high marks when attempting to leap short buildings, loses a tug of war with a twin engine aircraft, can fire a speeding bullet, swims well, and is occasionally addressed by God.

The Private Pilot can barely clear a camping tent, is run over by a single engine aircraft, sometimes recignizes a speeding bullet, can dog paddle, and sometimes overhears what God is saying to others.

The Soloed Pilot runs into buildings, recognizes a Cessna 172 two out of three times, has never seen a speeding bullet, can stay afloat if properly instructed, and reads about what God has said.

The Non-Soloed Pilot falls over door-sills when trying to enter buildings, says "look at the airplanes", wets himself with a water pistol, and looks at pictures in the Bible.

The Mechanic lifts buildings and walks under them, kicks airplanes out of hangars, chews speeding bullets after catching them with his teeth, and freezes water with a single glance ... HE IS GOD!

The Checo

Experimental Aircraft Association
Chapter 393
P.O. Box 272725
Concord, CA 94527-2725

(9)Pd.2/28/95

Bob Belshe
122 Fairfield PL.
Moraga , Ca. 94556