EAA TECHNICAL COUNSELOR NEWS

JUNE/JULY 1986 PAUL POBEREZNY: PUBLISHER, BEN OWEN & ANN RUBY: EDITORS

A TECHNICAL COUNSELOR'S PERSONAL PROJECT

TECHNICAL COUNSELOR GENE DARST'S PERSONAL PROJECT is a KR-1, here on the gear and out of the garage.

This shows the cockpit area, and some details of the center spars on the KR-1.

The cowling is upside down so that Gene can work on the oil coolers scoop on the bottom side. Gene has got nice lines on the cowling.

The eight gallon fiberglass tank is complete and ready to install.

Oshkosh Convention

AUGUST 1 - 8, 1986

VOLUNTEERS NEEDED FOR THE CONVENTION

Ted Slack of Canada has volunteered as Chairman for the Technical Counselor booth in the Homebuilder's Corner building. John Grega and Bo Boykin will also be on hand to provide their expertise. If there are any other Technical Counselors who are interested in helping out at the booth, we would be happy to have you! Please contact Ben Owen at EAA Headquarters so we will have a little better idea as to your schedule.

The Homebuilder's Corner building will be moved to right outside the main blue arch, very close to the airshow announcer stand. With a more prominent location it is certain to bring a great deal more attention to our program. Volunteers are definitely needed, and Ted says to remind you that if you feel you're not an expert in any or all lines, this is perfectly OK. He feels that by pooling our knowledge, we'll be able to come up with some good answers for the builders and potential aircraft builders. Please give Ben a call or drop a line if you are willing to volunteer!

TECHNICAL COUNSELOR FORUM ANNOUNCEMENT

August 4, 1986, Tent #6, Monday from 1:15 p.m. to 2:30 p.m. Tony Bingelis, Ben Owen and others. Theme of this forum is taken from Tony's column - **"The Sportplane Builder".**

AN AIR OF ADVENTURE

Fuels

GROUND AIRPLANE BEFORE REFUELING!

From Dick Roemer, Project Engineer at EAA Headquarters.

I was recently contacted by an overhaul shop manager who was surprised when he saw a spark jump from a **plastic** fuel container to his customer's airplane. Of course, a spark will jump from a metal container just as easily if not properly grounded.

Containers used in carrying either autogas or avgas should be properly grounded to the airplane before fuel is transferred. Static electricity will produce a spark that can have disastrous results. For metal containers (recommended), attach an alligator clip to the container with a metal chain fixed with an alligator clip at the other end. Attach this end to an unpainted surface providing good ground to the fuel tank. For plastic containers (not recommended), purchase enough metal window screen to touch the bottom, either side, and near the top of the plastic container. Attach an alligator clip to the screen, along with a metal chain. Attach to airplane as described above.

VARNISHING CARBURETOR FLOATS WITH POLYURETHANES

Another note from Dick Roemer, Project Engineer at EAA Headquarters

Several members have tried varnishing the carburetor floats with polyurethanes and found **some** polyurethanes get sticky and do not stay secured. We would suggest that you obtain a **small** can of polyurethane from your local hardware store and test it in the fuel that you will specifically be using to be sure that this does not get sticky before reinstalling it in your carburetor. Some poorer grades of urethane apparently are succeptable to attack by either alcohol or other ingredients in automotive fuel.

SAFETY PRACTICES

From the Static Line, Publication of Frank Luke, Jr., Chapter 538, Inc., Glendale, Arizona.

Good safety practices normally prevent accidents. Anything that works is usually OK. Have you read accident reports wherein someone has jumped in a plane that had been parked for a month or two and flew off into the wild blue yonder of accident statistics? I wouldn't do this! I recently pulled my PA-16 out of the hangar, where it had been sitting for two months, to venture up and no one was around to stand "fire guard". Normally, I fire up the engine, warm up, shut down, and then check for oil and fuel leaks in the engine area. This time, I shut it down and looked under the engine, and YEP! It was on **fire**! Fortunately, the fire was confined to the air box and cowling near the carb. Apparently, the carb bowl gasket had developed a small enough leak that within a period of time, a small amount of gas collected in the air box. There was no evidence in the cockpit that anything was wrong. The engine had operated perfectly for the past 50 hours. The paint blisters in the carb air box and cowling were cleaned up and all was well again. For myself, at least, safety practices are a must! Best to develop good safety practices if you have none to start with. Good safety practices will prevent accidents!

Visit Report

PIETENPOL AIRCAMPER PROJECT

EAA member F. Hawke, of Surrey, England says he and his son Richard have been working 16 months on an abandoned Pietenpol Aircamper project, and he states, "We have chosen to build this as near a 1929 version, excepting the motor, as possible. The pioneering spirit of Bernard Pietenpol, we feel, should not be allowed to vanish entirely. Thus we have spruce and ash undercarriage, and 'big wheels'. Work is well advanced with everything but the wing panels completed. Fuel flows from both tanks are OK and the 1957 long stored C-90 has been run with the cowl off and with it fitted."

They would like to have some evidence of any USA Aircampers using the 3 piece configuration on the upper wing, which would help with their documentation to their Popular Flying Association. If anyone has built, or knows of a Pietenpol that has been built using this configuration, if they could just drop a note to Mr. Hawke, 35 Theresa's Walk, College Court, Sanderstead, Surrey, CR2 OAU, England, it would be of help to him.

Engines

REGARDING THE POSA CARBURETOR

Note from Technical Counselor #1810, Jim Langley, of Republic, Missouri

I read the article by Eugene Darst of Beaumont, Texas about the Posa carburetor. His fix for the plastic insert should work fine, but it does not keep the needle from turning. Had he contacted Rex Taylor of HAPI, he would have found there is a service bulletin on the carburetor that was issued several years ago. It calls for a set-screw to be installed, to keep the needle from turning. Should the needle turn a slight amount, it could cause engine failure. I would suggest that all aircraft with a Posa carburetor be grounded until this repair is made.

REVMASTER FUEL PUMP

There was a mishap involving a KR-2 with a Revmaster engine using the as supplied fuel pump. This is the first instance we have of a fuel pump in a Revmaster failing. Joe Horvath of Revmaster states that this particular pump has been in service in some of their engines since approximately 1973-1974, and that only one out of every 300-400 engines is equipped with this particular pump. Most of them are gravity feed. He estimates that there are only about 50 Revmaster engines out there with this pump. The pump is actuated by a push rod, driven by an excentric on the driven gear from the oil pump. This is driven at 1/2 engine speed on a small push rod that rides aluminum housing, or the excentric had elected to slip on the driven gear, according to Joe.

The FAA inspector at the accident site, Jim Freesman of GADO 10 in Indianapolis, states that when they disassembled the components, the fuel pump would work fine, when the pump and housing was off the engine. However, when he took the pump off and pushed the fuel pump in with his finger, he could not get it to move in, and it felt like it was being held out by crank case pressure aided by an oil seal from splash oil in this area.

Due to the fact that there has only been one such instance of this, the FAA will not be sending out a general notice at this time. If you do have any further information from the field on the engine driven fuel pump, please don't hesitate to contact Ben Owen at EAA Headquarters. This particular incident occurred on a test flight, and the test pilot inexplicably did not turn the boost pump on until the engine driven pump had failed. They were aware that they had a problem with the engine pump, but thought they had corrected it. Why the pilot elected not to use the boost pump is uncertain, but the aircraft was unfortunately substantially damaged, although there was only minor injury.

ENGINE DRIVEN FUEL PUMPS

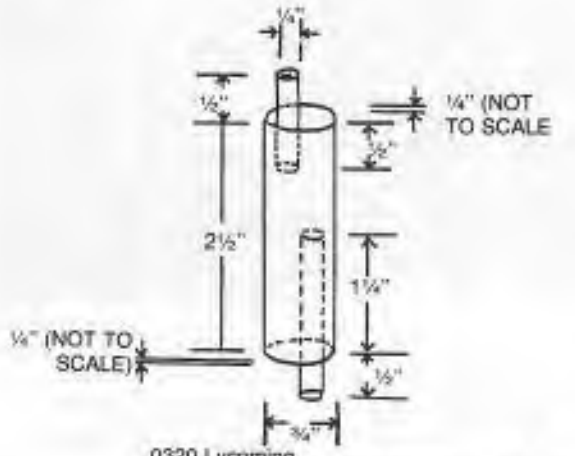
From the Osprey 2 Newsletter, P.O. Box 150, Strawberry Plains, TN 37871, by Ernie Hummel of Vacaville, California.

The engine driven fuel pump on the Avco-Lycoming engines is a diaphragm type actuated by a reciprocating arm extending thru the engine case to the center of the pump case. Failures of this pump are not uncommon, and usually begin initially with a pin sized hole in the rubber diaphragm. Eventually, the pin hole progresses into a full span failure of the diaphragm and the total loss of function of the pump. While in the pin hole stage, the pump will continue to function, but at a decreased output, and with some fuel being ejected through the overboard line fitting. If this condition can be detected, a total failure may be averted.

My friend George has come up with a devilishly ingenious device for determining the existence of a pin hole condition in the diaphragm of the pump. (See drawing.) The barrel is clear Acrylic tubing, available at a local plastics store. Likewise for the smaller tube fittings. Acrylic cement or Krazy Glue will seal the smaller tubes into the discs at the end of the barrel. The discs were made by cutting one quarter inch thick pieces from an acrylic rod on a small lathe. In the event of a pin hole leak, the trap will fill up to the top of the discharge

tube before overboarding the remainder of the fuel thru the discharge line. A check of the trap after flying or on a pre-flight check will reveal the presence of fuel where there should be none in the case of a good pump.

I am installing one of the traps in the cockpit just above and behind the main spar. The overboard flexible tubing will be routed along the rear side of the main spar to the wheel well. The upper flexible line will extend from the pump down to the top tube on the trap.



0320 Lycoming
Engine driven fuel pump overboard fuel trap

SETTING A POSA CARBURETOR

From the Dragonflyer Newsletter, Winter Issue, No. 21, January 1986.

Some of our builders having engines equipped with Posa carburetors, or other adjustable mixture carburetors, have a little problem in determining the proper setting for the carburetor and recently, we've found a system that seems to work pretty well, because it gives you a real reference point.

You should have an exhaust gas temperature gauge on the airplane with probe installed on the right rear cylinder, as viewed from the cockpit, approximately an inch and a half down the exhaust pipe from the exhaust port on the head.

The reason we use the right rear cylinder is because of the spiral air flow in the cowling. The engine turns clockwise and the airflow tends to spiral around the fuselage clockwise. Consequently, that cylinder tucked away in the right rear corner gets less cooling air than any of the other cylinders and tends to run the hottest. That's the one we probe. It'll be the first one to show signs of distress.

The numbers I give you here are unimportant, because every exhaust gas temperature gauge is going to read a little different peak EGT temperature depending upon the location of the probe in the exhaust pipe, the way the flame hits the probe, and, of course, the basic accuracy of the instrument itself. An exhaust gas temperature gauge is merely a comparative instrument. The numbers don't really mean anything to it.

This is the way it works. Tie the tail down securely, so there is no possibility of the airplane getting away from you. Start the engine, let it warm up and then go to wide open throttle and full-rich mixture and allow the engine to run that way for about forty-five seconds to a minute and observe the exhaust gas temperature. Let's say that your exhaust gas temperature is 950 degrees. Now you slowly start leaning the mixture by pulling back on the mixture control lever and watch the rise in temperature on the EGT. Let's say the EGT goes up to 1250, peaks out and then starts cooling off. At about the same time, the engine will start to miss from over-lean. THE IMPORTANT POINT! What we want to find out is how many degrees spread do we have between full-rich, full-throttle and peak exhaust gas temperature. Ideally, we will have a spread of between 150 and 200 degrees. In the example, we have a 300 degree spread, which tells us that the engine is still too rich, because the temperature is too cool at the full-rich, full-throttle. We would then screw in the main needle one turn at a time until we came up to a full-rich, full-throttle temperature of between 1050 and 1100 degrees. If the temperature spread is less than 150 degrees, then the main jet must be opened and the mixture richened, or severe damage will result to the engine in climb. That's the situation where the engine must develop 100% power with approximately 30% cooling. It is normal in an aircraft engine to set it to run quite rich at 100% climb power so that the excess fuel tends to cool the cylinder heads.

The carburetors on Lycoming and Continental have "auto enrichment" power jets, so that at full-throttle, full-rich you really get a rich mixture. This little trick of using the exhaust gas temperature gauge to tell you where you are at really works. You'll wind up with the equivalent of "auto-enrichment". Try it, you'll like it! It's particularly of help to people who haven't had a lot of experience with engines and possibly don't recognize the difference between rich and lean than those of us with more experience do.

MAZDA WANKEL ENGINE AVAILABLE

Steve LaFontaine of Rotaire Technology, Box 132, Eureka Springs, AR 72632 wrote the following to us:

We've had to raise the price of our 300 H.P. turbo-charged engine to $12,500 F.O.B. each, with quantity discounts available. Please keep in mind that this price includes ALL accessories, such as coils, fuel pump, carburetor, (Ellison T.B.I.), complete ignition, beefed up bearings, waterpump, ring gear, belts, etc. It does not include electrical system I.E. alternator, V. Reg. etc. nor any radiators.

We are requiring 50% non-refundable deposit with order. Presently, we are running 90 days to delivery. Many of you have written asking many questions. Rather than answer so many questions, let me say simply that these engines are ideal for aircraft use, and that any and all modifications necessary to aviation use have been made to our engines.

Composite Corner

NOTICE

This section is for information on composite aircraft, although, as you will see, not necessarily just the "fiberglass" components of those aircraft.

QUICKY ELEVATOR LINKAGE NOTES

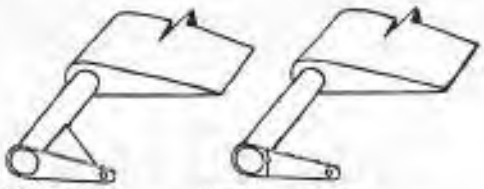
From Chapter 723 Newsletter, Camarillo, California.

Frank Kopecky, while flying his Quicky, experienced a very serious problem, one that all who fly dread. **Total failure** of his elevator linkage. He was able to control his pitch attitude with power and showing considerable skill, managed to land his aircraft with no damage.

The drawing below shows what failed. Note that the control horn fractured at the weld. Note also that the design of this part allows for side to side bending and eventual failure of the part. Quicky aircraft apparently sent out service letters requiring a modification to the control horn. However, Frank didn't receive his.

This event prompts a couple of thoughts - first; although the designer of your new glass homebuilt may be a genius in composite engineering, he may not be quite as clever in the design of his control system. It might not be a bad idea to have someone else with good credentials check out those metal parts.

While this incident had a safe conclusion, the potential for tragedy is evident. The use of parachutes in our aircraft is something seldom seen; I wonder why? The new thin packs are comfortable and light weight, most costing considerably less than some of the electronic gizmos so popular these days in the panels of our **experimental** airplanes.



Horn with gusset installed.

Horn failed at the weld.

GLASAIR SAFETY REMINDER

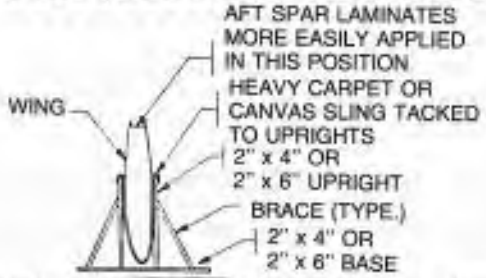
From the Glasair News, No. 18, Published by Stoddard-Hamilton Aircraft, Inc.

Make sure that all of your control surface hinge pins are safetied. In particular, do not rely on gravity to keep the rudder hinge pins in place. One of the Glasairs present at Oshkosh had rudder hinge pins installed from the top of the hinge, but not safetied. One of the pins had worked almost all the way out of the hinge.

WING LEADING AND TRAILING EDGE LAMINATES

Also from the Glasair news, No. 18.

The leading edge and, especially, the trailing edge wing laminates are easier to apply with the surface to be laminated facing up. One builder suggests fabricating special jigs to hold the wing in the proper position for laminating. These jigs consist simply of vertical two by fours or two by sixes nailed



to a base with a heavy carpet sling between the two upright boards. The weight of the wing pulls the boards together and stabilizes the whole jig. It would probably be a good idea to make some angle braces for the uprights, also.

Before moving the wing, be sure to let it cure in the wing jig for at least 72 hours after bonding on the upper panels. Also, before moving the wing, apply the laminates that bond the A, B, and D ribs (and, on the RG the C1 ribs, rear spar shearweb, and partial spars that are accessible through the wheelwell cutout) to the inside of the upper panel.

CAUTION IN THE USE OF SILICONE

From the CANARD PUSHER, No. 48, April 1986, page 6.

Very recently, while reading copies of the various EZ support newsletters that are currently being produced all over the U.S., we came across a couple of bad suggestions. One of these is of great concern: a suggestion to use WD-40 Silicone lubricant to lube and cool the counterbore tool while drilling the wing attach holes in the wings and centersection of a Long-EZ. **NO WAY, NO HOW, NOT FOR ANY REASON** must you use WD-40 or **ANY** similar silicone type lubricant to help you drill these holes. **PLAIN WATER** is as much as you can do. Getting silicone lubricant onto any glass surface will absolutely guarantee that you will never be able to get anything to stick to that area again! Epoxy will not stick, nor will primer or paint. In short, you have a major problem on your hands. The wing attach bushings must be glued into these holes securely with flox. WD-40 will not allow you to get a bond in this area. This is a very foolish and dangerous suggestion - DO NOT EVEN THINK ABOUT DOING IT!

The other suggestion, which was printed in the EAA Technical Counselor Newsletter, was to use a salt shaker to sprinkle micro balloons onto an uncured layup for future contouring. We do not like this idea for two reasons: It makes it impossible to inspect the layup after it cures, which is unacceptable; and in order for the dry micro balloons to wet out, they must be leaching epoxy out of your layup.

If you have already done a good job on the layup, which you obviously should have done if you are following the instructions in the plans, you are then causing what might have been an excellent layup with the correct epoxy to glass ratio to become a starved, dry layup which you would never be able to check.

Be very careful about getting away from the basic plans and instructions. These methods have been developed and tested over a number of years and hundreds of airplanes. Fooling around with the structural integrity of your EZ could result in a serious accident.

Operations

NEW BOOKS AVAILABLE

There are new books available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

There is an Advisory Circular AC 60-19 describing this. Some of the books that might be of interest to our Technical Counselors include the following:

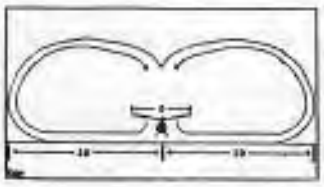
The Aviation Mechanic General Question Book - $2.75
Identification: FAA-T-8080-10A, Stock Number: 050-007-00723-0

The Aviation Mechanic Powerplant Question Book - $3.50
Identification: FAA-T-8080-11A, Stock Number: 050-007-00724-8

The Aviation Mechanic Airframe Question Book - $3.50
Identification: FAA-T-8080-12A, Stock Number: 050-007-00725-6

Orders placed may be charged to MasterCard or Visa credit card accounts.

HOW TO RUIN A GOOD DAY



The "3D rule" states that dangerous gale-force rotorwash can extend outward to three main rotor diameters.

The following is from Chapter 302's Newsletter, Conroe, Texas.

RE: Collision between a Cessna 152 and Sikorsky S-76A. The student pilot in the left seat of the airplane was killed and the instructor pilot seriously injured when the plane struck the helicopter during a takeoff attempt. The two pilots in the helicopter suffered minor injuries.

The S-76 had returned from a flight to Point Pleasant, New Jersey and made an approach to an area between runway 3 and its parallel taxiway. It was transitioning from the approach into a hover, at a position about 100 feet to the right of the runway centerline. The two corporate pilots intended to land and ground-taxi back to base.

Meanwhile, the Cessna had been in the pattern practicing touch-and-goes at the airport, which is an uncontrolled field. Witnesses listening to the radio said both aircraft made appropriate calls, although the helicopter pilots were unaware of the Cessna until the collision impact.

The airplane instructor later told investigators that as the student flew the base leg, he could see the helicopter making its approach. The instructor said he kept the helicopter in sight and he felt that adequate clearance from it was being maintained during the student's landing. According to witnesses, the plane touched down just prior to the runway intersection, or about 1,600 feet along the 3,770 foot runway. Believing separation from the helicopter was adequate, the instructor allowed the takeoff portion of the touch-and-go to proceed. The plane rolled a short distance and lifted off.

The CFI later told investigators he now noticed that the student was having trouble keeping the aircraft from drifting to the right, and a right bank was increasing. The instructor took the controls, but now found full left deflection was ineffective, and the Cessna continued in an uncontrolled bank to the right until contacting the Sikorsky's main rotor blade.

NTSB's investigator noted that the wind was out of 045 degrees at the time of the accident, which would have made the helicopter's wake tend to drift toward the runway.

One ground witness described the accident, and said it appeared "as though the aircraft was sucked into the helicopter," the investigator said. In addition, rescue personnel arriving within moments of the collision said the survivor (the instructor) told them, "We got caught in the prop-wash - help the other guy."

The investigator cited an article on helicopter hover-taxiing procedures in the July-August 1984 issue of the Helicopter Safety Bulletin, published by the Flight Safety Foundation in Arlington, Virginia. The article suggests the "3D rule" for separating fixed-wing aircraft from hovering rotorcraft, showing evidence that gale-force rotorwash extends outward to a distance of about three rotor diameters. The main rotor blade diameter of the S-76 is 44 feet, the investigator noted.

NOTE: This exact same downwash affected a Breezy at Oshkosh several years back. The helicopter was a heavy military machine, and had taken off from the area immediately to the east and north of the tower. There was a Breezy in the fly-by pattern that came around at about 200', apparently in preparation for landing, hit the rotor downwash. Pilot control inputs were clearly visible, the left wing dropped and he put in full right aileron and full right rudder. The aircraft still spiraled down to a rather sudden landing after doing a 360 degree turn. The passenger had a minor injury to his hand and the aircraft was not substantially damaged. However, it is of interest to note that quite a few minutes had elapsed since the takeoff of the helicopter and it had, in fact, cleared the runway in the south end of the field approximately a mile from where the Breezy flew into the rotorwash, and the helicopter was traveling slowly.

Editor

OPERATING LIMITATIONS NOTE

In the February/March 1986 Technical Counselor news, the OPERATING LIMITATIONS for amateur built aircraft were discussed. Under item no. 7, "This aircraft shall not be operated for glider towing or parachute jumping operations." we got a comment from one of our men in Washington, Charles Schuck, that "this is generally true, unless the aircraft meets the regulations of DOT in the handbook. What this means is that aircraft can be used for these operations if it does meet the requirements in the handbook as to glider tow hitch, etc."

CONSOLIDATED PB4Y-2 "PRIVATEER" Four 1,200-h.p. P. & W. radials. U.S. Navy land-based patrol bomber.

Safety

PROPOSED RULE MAKING FOR CESSNAS

There is a notice of proposed rule making, Docket No. 86-CE-02-AD, involving quite a few Cessna aircraft, and the discussion states, and I quote, "Discussion - during the past five years, there have been 12 accidents/incidents in which slippage of the pilot's seat was considered contributory. The models involved were Cessna 150K, 150L, 152, 170, 172F, 172M, 175, 180A, 182, 185E and 185F airplanes. In addition, during this same period, there were 21 malfunction or defect reports involving 14 airplanes describing cracked and worn seat rails, which would probably lead to failures and seat slippage.

If you would like to obtain the complete information on the docket, please write to us for a copy.

FAA SAFETY ALERT - AUTOMOTIVE TYPE SPARK PLUG WIRE CONNECTORS

From FAA's Sandy DeLucia.

This office has been apprised of a potential hazard regarding the use of automotive type spark plug wire connectors. These connectors are spring loaded and, with any vibration, will disconnect from the spark plug, possibly causing engine stoppage.

During investigation of a fatal accident involving a BD-5B amateur built aircraft, it was noted at the accident scene that 3 of 4 ignition leads had become detached from their spark plugs. This aircraft utilized a Honda 4 cylinder automotive engine with standard automotive type spark plug wires and connectors. It was apparent from the condition of the spark plug wire to spark plug connectors that the possibility existed that engine vibration had caused the connectors to expand and fall off of the spark plug. The connectors are a press on type connector without a positive lock.

CRI CRI AIRCRAFT NOTE

After personal talks with the designer, Chris Heintz of Zenair, Ltd., of Canada, it has come to our attention that the Cri Cri aircraft aileron/flap rod mixture assembly has to be very carefully assembled. There are some 14 linkages in this control system, all of them need to be carefully assembled with no slop or looseness, as this might lead to flutter.

Please look carefully for this situation when doing Technical Counselor visits on Cri Cri aircraft.

MECHANICAL CAUSE ACCIDENTS FOR TECHNICAL COUNSELOR NEWS

10/26/85 **BD-5B** - This aircraft collided with the ground during a forced landing. Aircraft was destroyed and the private pilot received fatal injuries. Examination of the engine showed three of the four spark plug wires detached from their respective spark plugs. The no. 1 wire completely detached, no. 2 had the terminal and dust boot still attached to its plug, but the terminal end was detached from the spark plug and had receeded from the plug approximately 1/2 inch. No. 3 cylinder spark plug wire was still attached to its spark plug. No. 4 cylinder spark plug wire dust boot showed evidence of having come in contact with adjacent exhaust stack and was burned in such a way that there was separation at the mid-point of the boot over approximately 50% of its circumference. The terminal end was detached from the spark plug.

IMPORTANT FIRE EXTINGUISHER NOTE

From Chapter 819 Newsletter, Fort Wayne, Indiana

Halon fire extinguishers were mentioned in a recent newsletter because they do not leave a lot of powder to clean up and are supposedly less harmful to engines. However, an article in "NASA Tech Briefs", Volume 10, Number 2, page 82 states: "When used to extinguish a fire, a Halon (halogenated hydrocarbon) is partially decomposed to form hydrogen floride, chloride or bromide, which are toxic, irritating and corrosive vapors. In some instances, lethal concentration of these gasses are formed." The article goes on to describe adding ammonia compounds to the Halon for detoxification. But the bottom line is that if you are going to buy such an extinguisher for use in a confined space, such as a shop, you should first obtain toxicity information on the particular unit you want to purchase.

EDITOR'S NOTE: I have a car that has no trunk, and I like to carry a fire extinguisher with me (have a fire once and you're cured!) and I was carrying the dry chemical type, a small one. Rounding a corner in the car, the fire extinguisher handle got caught on a rug and fired a brief burst. The dry chemical seemed to be very incompatible with human beings! Toxicity is important, but I have been in a phone booth and fired a Halon fire extinguisher which has extinguished a demonstration fire but didn't bother me half as much as the dry chemical short burst I got from inside the car just recently. However, when you do purchase fire extinguishers for closed spaces, they should be Halon, and of course, you should check for toxicity.

OOPS! A CORRECTION

In the April/May 1986 issue, under OPERATIONS, there was a formula given to figure when hydroplaning would occur. That formula should have been as shown here. I apologize for the error.

Dynamic hydroplaning will occur on wet runways at or above the following equation.

$$\text{SPEED} = \sqrt{\text{TIRE PRESSURE}} \times 9$$

The implication here is to wait until your indicated airspeed drops below the calculated value before applying your brakes.

BULLETIN BOARD

ATTENTION ROUND ENGINE OPERATORS

From Chapter 656 Newsletter, of Lockport, New York.

The FAA and the Phillips Oil Company are warning operators of radial aircraft engines not to use the new Phillips X/C II oil. "Initial indications are that that the anti-wear additive in the X/C II oil is reacting with the silver coated parts used in radial engine oil systems," according to the FAA. "No problems are anticipated with use of the X/C II oil in horizontally opposed reciprocating engines since no silver coated parts are used in these oil systems," the agency says.

SAFETY NOTE ON MID-AIR'S

Most mid-air's occur in the first three minutes after takeoff, or the first 8 minutes before landing.

1942-1945

GLOSTER E.28/39 First Allied plane to be jet-powered. This was not a service fighter but a flying test bed for the new Whittle jet engine.

1944-1945

GRUMMAN F7F-3N "TIGERCAT" Twin-engine Marine fighter. The 2-seat night-fighter version used by the Marines is shown here.

TAYLORCRAFT NOTE

Taylorcraft Model F-21B is available from Taylorcraft Aviation Corporation, P.O. Box 947, 820 E. Bald Eagle St., Lock Haven, PA 17745 either in the F-21B tail dragger version, or the F-22 nose wheel version. Standard price of the tail-wheel version is $30,000 with a lot of standard equipment.

ADDRESS NOTE

Composite materials are available from firms such as Aircraft Spruce and Specialty Co., Wicks Aircraft Supply and others that advertise in our magazine. Another supplier that you may not know of supplying to the composite builders is Alpha Plastics, new address: 8734 Daffodil, Houston, TX 77063, telephone (713) 780-0023. Catalog: $1.00.

EAA TECHNICAL COUNSELOR NEWS

WITTMAN AIRFIELD

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