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Front Cover: It’s not exactly a wolf in sheep’s clothing, but Bill Pancake has created a nifty new custom Aeronca Champ. See the article starting on page 18. EAA photo by LeeAnn Abrams, shot with a Canon EOS1n. EAA photo plane flown by Walt Dorlac.

Back Cover: Ron Hart, a retired American Airlines pilot, also has another passion, art. He’s created a tribute to America with his painting “A Glorious Bellanca” which shows a vintage Bellanca churning through a bright sky. Ron’s artwork earned him an Honorable Mention ribbon in the 2003 EAA Sport Aviation art competition. Limited edition prints are available of this artwork. Contact Ron at 60201 Woodside Loop, Bend, Oregon 97702
STAY BYESPIE "BUTCH" JOYCE
PRESIDENT, VINTAGE ASSOCIATION

The sands of Kitty Hawk

As I write this month’s column, Hurricane Isabel is passing along the eastern area of North Carolina with winds of 100 mph and large amounts of rainfall. While most people have chosen to leave the hardest hit areas, some people have decided to remain in their home or business. Some of these individuals have never ridden out a hurricane before and do not know any better. After their experience, I’ll wager they’ll head to safer quarters the next time a hurricane warning is posted. While freedom of choice is the American way, sometimes listening to those who’ve experience in emergency matters such as this can save your life.

The Outer Banks are one of America’s greatest natural barrier island chains. By their very definition, barrier islands are constantly changing, and Mother Nature has a habit of redefining their contours on a regular basis. Even the Wright brothers had to deal with this reality, as more than once their buildings at the base of the great dune in Kill Devil Hills was battered and damaged by the gale force winds that swept in off the ocean.

At the same time Hurricane Isabel was working up the eastern seaboard and inland, the National Air Tour was making its way across the United States, retracing the original route planned for the 1932 tour. It was to be in Winston-Salem, North Carolina, on September 18, but this stop has been postponed for one day because of Hurricane Isabel. Greg Herrick and the other tour officials, along with the tour pilots, have been carefully considering the conditions along the route, and this new twist to their plans may modify the final couple of days of the tour. They had hoped to fly over to the First Flight Airport at the Wright Brothers National Memorial after leaving Manteo, North Carolina, but at last report the paved runway had a good amount of the sands of Kitty Hawk covering it. I wish them all a safe journey for the remainder of the trip.

Even the Wright brothers had to deal with this reality, as more than once their buildings at the base of the great dune in Kill Devil Hills was battered and damaged by the gale force winds that swept in off the ocean.

As many of you know, EAA will be flying a reproduction Wright Flyer on December 17, 2003, to re-create one of the first flights by the Wright brothers. EAA has an exclusive agreement with the National Park Service (NPS). The NPS is putting together a celebration that will start a week before the anniversary date, and it promises to have some great activities. For security reasons and to keep the crowd to a manageable level, the NPS is using its reservation system to sell advance tickets for the celebration. All tickets for the event must be purchased in advance. It’s possible that it will be a sellout, especially for December 17. To buy your tickets, call 800-973-7327 or visit the following website: www.wrightbrothers.reserveworld.com.

As of mid-August, here are the approximate number of tickets available for sale each day:

<table>
<thead>
<tr>
<th>Date</th>
<th>Tickets Available</th>
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<tbody>
<tr>
<td>Fri., December 12: Non-ticket Day</td>
<td>12,500 Tickets</td>
</tr>
<tr>
<td>Sat., December 13:</td>
<td>12,500 Tickets</td>
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<tr>
<td>Sun., December 14:</td>
<td>12,500 Tickets</td>
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<tr>
<td>Mon., December 15:</td>
<td>12,500 Tickets</td>
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<tr>
<td>Tues., December 16:</td>
<td>13,500 Tickets</td>
</tr>
<tr>
<td>Wed., December 17:</td>
<td>17,500 Tickets</td>
</tr>
</tbody>
</table>

Total number of tickets: 68,500

I hope this information is useful to you for your planning.

One of the best things that you as an individual can do for your Vintage Aircraft Association is to ask a friend to join up with us. Let’s all pull in the same direction for the good of aviation. Remember, we are better together.

Join us and have it all.

Butch
**Cessna 190/195 Airworthiness Concern Sheet Issued**

The FAA is aware that maintenance technicians are finding cracks and corrosion in the magnesium aileron hinge brackets, P/N 0322709-1, on Cessna Model 190 and 195 airplanes. In the year 2002 alone, 33 instances were reported in Service Difficulty Reports (SDRs).

The FAA is considering an Airworthiness Directive (AD) to mandate inspection of the brackets within 100 hours of time in service or during the next annual inspection, whichever comes first. This proposed AD action would terminate when the magnesium brackets are replaced with aluminum ones.

All comments should be directed to:
Gary D. Park
Aerospace Engineer
Wichita Aircraft Certification Office
ACE-118W
1801 Airport Rd.
Wichita, KS 67209
316-946-4123
Gary.Park@faa.gov
Comments should be sent to Mr. Park no later than mid-October 2003.

**EAA AirVenture Oshkosh Award**

We have one more trophy to add to the list of EAA AirVenture awards:
World War II Era (1942-1945) Runner Up
Joe Dudley
1943 Howard DGA-15P, N9599H
Allen, Oklahoma

**VAA Hall of Fame 2004 Nominees Sought**

Time is running out for submitting nominations for the 2004 VAA Hall of Fame, but we’ve extended the deadline to December 31, 2004. If you know someone who has made lifelong contributions to the vintage airplane community, consider nominating him or her for this honor. Copies of the nomination form can be downloaded at [www.vintageaircraft.org/programs/nominating.html](http://www.vintageaircraft.org/programs/nominating.html). Even with the new deadline, we’d appreciate it if you submitted your nomination as soon as possible.

**EAA Young Eagles: The Home Stretch!**

As *EAA Sport Aviation* went to press, the world’s largest logbook list roughly 970,000 EAA Young Eagles, just 30,000 shy of our December 17 goal of one million. With two months until the deadline, we need to take advantage of the good weather left during these last key weeks.

Young Eagles has been a huge undertaking led by EAA members and Chapter volunteers. “It is an amazing program, and one that could only be accomplished through the dedication of EAAers throughout the world,” said EAA Young Eagles Director Steve Buss. “I encourage all Young Eagles pilots to take advantage of the fall flying season and fly Young Eagles. The sooner we complete our mission, the sooner we can celebrate this incredible accomplishment and begin looking toward the future of the Young Eagles program.”

**Order Your EAA AirVenture Oshkosh 2003 Video or DVD**

The official EAA AirVenture Oshkosh 2003 video is now available in both VHS and DVD formats. Features include the celebrations of powered flight’s 100th and EAA’s 50th birthdays, vintage aircraft and the National Air Tour, warbirds and a segment on the air boss’ perspective of the P-51, Aeroshell Square stars Airbus Beluga and the Orbis DC-10, military aircraft, NASA’s F-18 and ER-2, homebuilt and ultralight aircraft, the daily air show, and celebrity segments from Cliff Robertson, Roy Clark, and others.

EAA's all-new DVD edition contains bonus material, including an entire air show performance, a taste of Oshkosh featuring camping, forums, workshops, and more. Not including shipping and handling, the VHS cassette (approx. 60 minutes) is $19.99, and the DVD (approx. 60 minutes, plus bonus material) is $24.99. To order, call 800-843-3612 or visit [http://shop.eaa.org](http://shop.eaa.org).

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**NOVA - WRIGHT MODEL B**

*NOVA* explores the wonder of the early days of flight with a special about the Wright brothers, and it features an exact replica Wright Model B, built for NOVA by Ken Hyde’s Wright Experience. Commissioned exclusively for the program, the Model B is the handiwork of Ken Hyde, a retired airline pilot and nationally recognized restorer of historic aircraft.

Also participating in the program are some of the world’s foremost Wright experts, including Tom Crouch, senior curator of the aeronautics division at the National Air and Space Museum (NASM) and author of *The Bishop’s Boys: A Life of Wilbur and Orville Wright*, and John D. Anderson Jr., curator of aerodynamics at NASM and author of leading books on aeronautical engineering.

The program, *Wright Brothers’ Flying Machine*, will air on PBS stations across the country on Tuesday, November 11.
More Rope Tricks

Cliff Crabs of the Eastern Cessna 190/195 Club pointed out that we were not clear concerning the locking of the tiedown rope knots we showed in the July issue. A half-hitch can be made more secure by inverting the second loop made with the free end of the rope. After the free end of the rope is passed through the loop twice, pull it downward to invert the knot by pulling the top loop down to the bottom of the knot. It may help if you roll it over the other loop with your fingers. Inverting the knot adds more friction. The photos should make the process a bit clearer.
At the Omaha Air Races in May 1931 it was a beautiful day for flying. Dorothy Hester was up in the blue sky making a world's record of seventy or more outside loops in her little Great Lakes biplane. The racing planes were busily buzzing around the closed course. Thousands of people were in the grandstand, facing north, away from the sun and craning their necks alternately between the air racers flying by and Dorothy, a sparkling tumbling speck in the sky. Jimmy Doolittle was sitting on the edge of the cockpit of his Shell Oil Co. Lockheed Sirius low-wing monoplane, one of the most modern and fastest airplanes of the day, waiting his turn to demonstrate it to the crowd. He was parked just beyond the east end of the grandstand. In contrast, no one could see the pilot hanging out of the cockpit so far that his head is even by less than 100 feet with its fixed-pitch propeller over-revving, too close! At the top of a zoom to the east he does a whipstall, pushes under and passes the grandstand inverted no more than 100 feet off the ground. This is spectacular! This pilot really knows how to fly but very hazardously, by today's standards, so low and close to the grandstand, but flying was wilder in 1931.

On the way up in the next zoom to the west he does a 1-1/2 roll and then another whipstall and again pushes under to pass the grandstand inverted. He levels tangent to the ground, even lower this time! The plane is headed directly toward Jimmy Doolittle and me, sitting on the edges of our cockpits, so that there is no apparent motion from our viewpoint, for a few seconds. The view is so impressed on my memory that today, in 2003, 72 years later, I can still vividly see it in slow motion. The plane is so close to the ground that I am alarmed the top of the rudder, or fin, and the propeller will touch the ground. If the fin touches, the plane is doomed.

In the split second that I am looking right through the propeller disc, I can see the pilot hanging out of the cockpit so far that his head is even with the center section of the upper wing! The wings are perfectly level. The propeller kicks up dust as it cuts the tarmac. The top wing touches the tarmac and bounces about a foot as the pilot falls out! A split second and the wing touches again and the engine digs into the tarmac and instantly the airplane disintegrates and rolls over and over into a ball of wreckage, coming to a stop less than a hundred feet short of crashing into Jimmy Doolittle's Sirius, and then into me. A single rectangular sheet of aluminum, evidently the cowling pan from under the engine mount, rolls edgewise on its four corners and comes to a stop right beside the fuselage of the Sirius. I can actually hear its tinny clatter, for the wreck has stopped and the silence seems stunning before the voices arise from the grandstand in shock. There is no fire; fortunately, the big fuel tank was drained.

The well-known, highly skilled and colorful pilot, "Speed" Holman, one of the founders and chief pilot of Northwest Airlines, is dead. The show goes on.

P.S. The cause of the pilot falling out was later determined to be the failure of a cracked weld of the fitting on the lower longeron where the seat belt was fastened. It was an old crack, as shown by rust. Shivers ran up my spine when I realized that I had thoughtlessly depended on exactly the same type of fitting during numerous aerobatic exhibitions before that.

Illustration courtesy Noel Allard, from his book Speed - The Biography of Charles W. Holman
The July Mystery Plane was from the collection of Dr. Ed Garber of Fayetteville, North Carolina. Thomas Lymburn of Princeton, Minnesota, thought it was powered by a Ford automotive engine (probably a Ford Model A engine) and the airplane might have been built in South Carolina. Ernie Duenzel of Weatherford, Texas, wondered if Bernie Pietenpol might have been influenced by the design of the Rainbow. Unfortunately, that's all we know about the Rainbow. Clarence Hesser thought it looked a lot like the Sikorsky UN-4, a conversion of the Curtiss Jenny with a single high-lift wing. It's on page 110 of Volume 9 of U.S. Civil Aircraft.
The A7 magneto switch has been around for over 60 years and at one time, I'm sure, was the most common mag switch used by virtually every airplane manufacturer producing single-engine dual-ignition airplanes. Many thousands of these old mag switches are still in use today and are continuing to perform flawlessly. However, there are many of these near “bullet proof” switches that have been taken out of service due to the modern day philosophy of “remove and replace” rather than repair.

The next time you encounter the problem of being unable to shut down the engine when you move the mag switch lever to the “Off” position, don’t get in a big hurry to remove that old switch and replace it with one of those new fangled key-operated Bendix mag switches. Make sure you’ve properly identified the mag switch as the problem.

Over the past near 20 years of providing tailwheel instruction in a Cub, I’ve had the mag switch fail three times. Twice the switch was faulty and the third time a broken “P” lead on the right mag prevented me from shutting down the engine. Both times the mag switch failed, it was easily repaired and placed back in service.

The A7 magneto switch is quite simple to test. Before removing the mag switch though, carefully mark the “Left,” “Right” and “Ground” wires using masking tape. Then, with the use of an ohmmeter you can test the magneto for continuity to clearly diagnose the problem.

Turn the mag switch to the “Off” position and place one Ohmmeter probe in contact with the “Ground” post and the other probe in contact with the “Left” post. If the switch is functioning properly, the ohmmeter should “zero out” or have full needle deflection to the right of the scale. Repeat the test with one probe in contact with the “Right” post. Again, if the needle deflects to zero, the mag switch, at least in the off position, is working properly in that the two circuits are shorted to ground and will not let the mags fire.

If the needle does not deflect all the way to zero, you do not have a good connection between the ground
In this photo the mag is in the “Off” position and the Right mag circuit is being tested. The ohmmeter needle shows full deflection to the right or zero indicating the mag switch is working properly in this position.

Using a small flat blade pocket screwdriver, carefully open each of the four retaining tabs holding the fiber backplate.

This photo shows the left mag circuit being tested with the mag in the “Left” mag position. The ohmmeter shows no needle movement, indicating the circuit is “open” and working properly.

and the post being tested, thus allowing that mag circuit to possibly fire.

Now, turn the mag switch handle to the “Both” position. Then place one ohmmeter probe in contact with the “Ground” post and the other in contact with the “Left” post. If the mag switch is functioning properly, the ohmmeter needle should not move. The circuit is “open” and would permit the Left magneto to generate a spark if the engine was turned over. While continuing to hold one probe in good contact with the “Ground” post, move the other probe to the “Right” post. (NOTE: Ground, Left and Right are clearly imprinted on the outer back panel of the mag switch.) Again, if the switch is working properly, the ohmmeter needle should not move.

If the ohmmeter needle does deflect either partially or all the way to the right, the circuit is shorted and could cause the mag to misfire.

Disassembly of the mag switch is quite simple but it does take a bit of patience. Using a small pocket flat blade screwdriver, carefully pry up the four metal tabs. Do not bend them all the way to a vertical position; just open them far enough to lift the hard fiber backplate off the switch.

Once you remove the backplate, carefully examine the brass indents. You’ll note that each is probably tarnished or even corroded, and there will be a distinct copper track running between each of the indents. The indents need to be thoroughly cleaned and the copper track needs to be removed.

Cleaning the backplate requires three simple items: a wooden pencil, a small piece (approximately 1-by-2 inches) of 3M Scotchbrite scouring pad, and either an old-fashioned ink eraser or a stainless eraser. Stainless erasers are available from any good welding supply shop. It is used for polishing out
With the backplate removed, the dirt and corrosion are seen clearly in the brass indents and the dirt or copper track is visible between each of the brass indents.

Break the lead tip off the pencil so that it has a dull pointed end that will fit into the contour of the brass indent. Place the Scotchbrite pad over the indent, apply pressure with the pencil and rotate back and forth. After only a few strokes, the brass indent will look as good as new. Repeat this process until you’ve thoroughly cleaned each indent.

Now, using the eraser, carefully rub out the copper track between each of the brass indents. Again, minor scratches and imperfections in a stainless steel surface.

Use a dull pointed wooden pencil and a small piece of a 3M Scotchbrite pad to clean the brass indents.

Three simple cleaning tools are needed to restore the A7 mag switch: a wooden pencil, a small piece of 3M Scotchbrite, and either an ink or stainless steel eraser.

All four components of the A7 mag switch have been disassembled as shown in the photo. There is no need to remove the square spacer, but if you do, align the slotted openings with the two metal tabs when reassembling.

Using the pencil and Scotchbrite pad, apply pressure and rotate in each of the brass indents to clean any impurities and corrosion.

Three simple cleaning tools are needed to restore the A7 mag switch: a wooden pencil, a small piece of 3M Scotchbrite, and either an ink or stainless steel eraser.
With the copper tabbed ring placed on a flat surface, place a piece of flat material over the tabs to assure they are evenly aligned. Note in this photo that one tab has been bent downward and is not making contact with the flat material. It will need to be carefully bent upward until it too makes even contact with the flat surface.

Carefully clean the copper tabbed ring and the fiber backplate with lacquer thinner. The copper tabbed ring fits in either of two positions.

The distance between each tab is slightly different so as to assure that the backplate can only be reassembled in one position.

this should only take several strokes to remove the copper track.

Once you have cleaned the brass indents and removed the copper tracks, carefully wipe down the entire face with lacquer thinner to remove any fingerprints and other oily deposits.

Next, carefully remove the copper tabbed ring from the open mag switch. As you do so, you'll note how tarnished the copper tips have become. Once removed, place your finger under one of the tabs and clean the tarnish off the tip with the Scotchbrite pad. Repeat the process for all four copper tips.

Now place the copper tabbed ring on a flat surface with the tab side up. Place any flat piece of material, aluminum, cardboard, etc., on top of the tabs. Carefully look at the tabs and make sure that each makes contact with the flat surface. If one or more tabs do not make contact, carefully bend them up until all four tabs make equal contact.

Next, thoroughly clean the entire copper tabbed ring with lacquer thinner, removing all fingerprints, dust, etc.

You're now ready to reassemble the mag switch. Place the copper tabbed ring in the magneto housing with the copper tabs pointing out. There are two tabs on the copper ring for alignment in the housing. It can be correctly placed in either of two positions and either is correct. With the mag switch handle positioned in either the "Off" or "Both" position, align the tabs on the copper ring with the handle.

You can now place the fiber backplate back on the mag switch housing. Carefully rotate the backplate until the four slots align with the four tabs. There is only one position where it is correctly aligned, as the separation between each tab on the housing is different. Take your time and continue to rotate the backplate until it aligns exactly.

Once the backplate has been correctly aligned, press down firmly and carefully bend the retaining tabs over. The restoration of your A7 mag switch is now complete. Before installing, however, retest with the ohmmeter to assure that it works in every position. If it doesn't, it may mean that you incorrectly aligned the copper tabbed ring or the fiber backplate.
A Centennial

His dad owned it, so Ben Scott thought it made a lot of sense if he owned it too, decades after the fact! Ben’s beautifully restored Stearman 4E was judged the Antique Grand Champion of EAA AirVenture 2003.

Chris Price’s 1930 Heath captivated both the judges and the crowds at this year’s convention. It was flown here from Brodhead, Wisconsin, after being trucked from Sonoma, California. Chris had to find someplace to tuck the Antique Custombuilt trophy for his trip home.

David and Jeanne Allen’s Waco ASO was one of the nearly two dozen airplanes participating in the National Air Tour, but before they headed off on their 4,000 mile trek, they took home the Antique Open Cockpit Biplane Runner Up trophy.

Jim Beisner, Chuck Faber, and Cliff Pleggenkuhle discuss the operation of the Curtiss OX-5 near the OX-5 Pioneer’s tent.
There's just something about a Fleet. Terry Bolger of Elk Grove Village, Illinois, just finished his cream and red Fleet II, and after practicing on the paved surfaces in southern Wisconsin, he headed up to Oshkosh to share the biplane with EAA AirVenture attendees and hobnob with fellow Fleeters.

The OX-5 Pioneers and Historians take a few moments to gather for a photo. Larry Bartell, Chuck Faber, Nelson Zieroldt, and many others assisted longtime hosts Bob and Frieda Wallace (center).

The Classic Reserve Grand Champion Lindy was presented to the Piper J-3 Cub restored by Joe Fleeman (left) for owner Dan Lakeman.
Remember the cabin Waco completely covered in clear Mylar that was on display in front of the VAA Red Barn a few years ago? This is what it looks like today! Mark Grusauski has finished this 1935 Waco YKC-S in paint and fabric, and was presented with the Silver Age (1928-1936) trophy for his fine restoration.

Now how’s that work again? The Hays brothers’ engine tent is always full of great smells and sounds during the convention. Here they fire up their scale replica rotary engine for the assembled crowd. Their tent is located along the creek bed to the south of the VAA Red Barn.
The Tall Pines Café proved even more popular in its new location. In addition to breakfast each morning starting the Saturday before the event began, VAA volunteers also put on a brat and corn feed for early attendees on Saturday and Sunday. Our thanks to the tireless volunteers who got up early and cleaned up late so members could have a great meal at a good price on the south end of the airport.

One of the most difficult re-creations attempted by Bill Turner’s Repeat Aircraft at the historic Flabob Airport in Riverside, California, is this breathtaking Laird-Turner LTR-14 Meteor racer, winner of the Best Antique Replica trophy. It took more than six years to re-create Roscoe Turner’s racer, which at various times in its racing career was called both the Pesco Special and Miss Champion. The original, housed in the Smithsonian’s National Air and Space Museum, was the winner of a number of races, including the 1939 Thompson Trophy Race. Roscoe retired both himself and the racer after that win. Our thanks to the Thomas W. Wathen Foundation for sharing the Meteor with us at EAA AirVenture.

It’s quite a haul from Orcas Island, Washington, but that didn’t deter Mal Gross from bringing his beautiful Mooney Mite. It’s displayed here at Mooney Aircraft’s commercial display. Mal’s Mooney was picked as the Class I (0-80 hp) Classic Champion.
Colin Clarke and the rest of the crew of EAA Chapter 424 have created *Miss Veedol*, the “Spirit of Wenatchee,” a replica of a 1927 Bellanca CH-300 Skyrocket. It was built to commemorate and repeat the record-breaking 1931 trans-Pacific flight of Clyde Pangborn and Hugh Herndon. It was presented with the Antique Replica Runner Up trophy.

Patience is the word that comes to mind when looking at Dick and Patsy Jackson’s amazing Sikorsky S-39, the oldest flying Sikorsky aircraft in the world. Patience over 40 years of restoration effort, patience to fly it cross-country, and patience with the countless questions from admirers at each and every stop along the way. Dick’s persistence was rewarded when the Sikorsky was presented with the Reserve Grand Champion Antique Lindy at EAA AirVenture 2003.
If you were there, you saw it flying for almost the last time. After it left EAA AirVenture, the Boeing Stratoliner headed east, where it made its final landing at Washington’s Dulles International. There it was placed in the new Steven F. Udvar-Hazy Center of the National Air and Space Museum, which is scheduled to open on December 15.

Steven Oxman and his family pause by their Beech H35, the Contemporary Class III (231 hp and higher) Champion. From left to right: Philip, Judith, Steve, and Warren.
In addition to the new location for the Tall Pines Café, the FAA added a new satellite location for preflight weather briefings. Flight Service Specialist Chris Koglin from the Green Bay AFSS (Automated Flight Service Station) points out some of the weather surrounding the Oshkosh area during a briefing for local pilots. Our thanks to the FAA for providing this invaluable service.

Those owners of Cessna 140s who like custom airplanes tend to be a fastidious bunch. Here’s the neat-as-a-pin Cessna 140 of Robert Runkle, whose Cessna was chosen as the Best Custom Runner Up.
Jim Zanger and his twin Taylorcrafts got plenty of attention during the week. Yes, the pedal-plane T-craft plans will be available through Marv Hoppenworth’s Aviation Products, http://showcase.netins.net/web/pedalplane/. Jim was full of surprises on display, including this rare Taylor washing machine, one of the products made by the company after aircraft sales went flat following WWII.

Even the Cherokee Six deserves some TLC, and Randal Kersten of Des Moines, Washington, lavished some on his 1967 Piper PA32-300. It was chosen as the Contemporary Outstanding Cherokee award winner.

One of a trio of beautifully restored PT-17 Stearmans all done by the Packer family, this is the WWII Trainer/Liaison Champion; A75N1 (PT-17) is registered to the family patriarch, Richard.
AERONCA the Hard Way

Bill Pancake's 7AC

Budd Davison

Photos by LeeAnn Abrams
One of the most under appreciated airplanes at EAA AirVenture Oshkosh 2003 had to be Bill Pancake’s little 7AC Champ. Even if someone had grabbed you by the nose and dragged you over to it, you would have thought it was nothing more than an extremely well done little Air-knocker with a Chief nose bowl and spinner. You could have examined it until you were blue in the face, but without knowing the background of both the airplane and its unusual owner, you would have missed “...the rest of the story” as Paul Harvey puts it.

So here’s the rest of the story.

Bill Pancake is a rare individual for a lot of reasons, not the least of which is he still lives in Keyser, West Virginia, where he was born and raised. From day one, however, it was pretty obvious that this was a kid who had already picked out which direction he was going to go in life.

“I started working around the local airport when I was 10 years old,” he says. “By the time I was 14, two of the local mechanics, Stan Dantzic and Junior Thrush, had taught me how to do fabric work, and I was doing a lot of the dope and tape work by myself.”

“Once I was having problems with dope blushing, so I moved the wing outside and had it on saw horses working on it when two CAA inspectors walked up. Apparently they wanted to know what a 14-year-old kid was doing working on airplane parts with no one watching him. Dantzic was off running errands or something, but usually he was around.

“The inspectors asked me how much of the work I was doing and how I was being supervised, and being young and simple, I told them I was doing it all and didn’t need supervision. At least that’s how I saw myself.”

“A couple of weeks later Dantzic got a two page letter from the CAA explaining in no uncertain terms why he couldn’t be using unsupervised kids to do his work for him,” Pancake laughs at the memory, but apparently Stan Dantzic wasn’t laughing at the time.

“A few years later one of the same inspectors gave me my private pilot written test, and I got 50 out of 50 right. He told me that when they talked to me about working on the wing, they both laughed about it but didn’t know exactly what to do. So they sent Stan a letter.”

The airplane Bill was working on was an Aeronea Champ, N1397E, which was the start of an unbelievably long and intense love affair with the type.

“As a kid I was absolutely fascinated by many different things from electric motors to mechanics and meteorology, which is still one of my hobbies. Aviation has it all, however. Mechanics, paint, fabric, welding, you name it; it has all of the stuff I really like. I guess I just selected the right genes and found a place to use them.”

“If I had any problem growing up it was that school interfered with being out at the airport doing what I really wanted to be doing.”

Out of school Bill found his way into the job market as an electronic instrument technician for a big paper company. “I was there for forty-two and a half years. It let me make a good living and gave me insurance, all of which freed me up to really get into airplanes. I set my schedule up so my day job didn’t get in the way of my ‘real’ job, rebuilding airplanes.”

Even someone as dedicated as Bill Pancake needs a life-partner and he met his 46 years ago at Burlington Airport in West Virginia.

“Saundra and I met at the airport, and a friend told me, ‘She’s not after your airplane, Bill, she’s after you’ and thank goodness he was right. We’ve been a perfect match for each other in so many ways. For instance, on the longer hauls, like to Oshkosh, she drives and brings all the clothes and support stuff.”

By the time Bill was into his late 20s, the I.A. who had been signing off his work retired, forcing him to get A & P and I.A. tickets.

“It was no big deal. I just studied the books then took the practical and I was done. This made me into my own show and made it easier to do my work.”

“I’m not certain why Champs became such a large part of my life. It may have been that, as a kid, a friend had one and let me fly the heck out of it. I had the same deal with a Mooney Mite and other airplanes, but it was the Champ that really fired me up. If I wasn’t working on them, I was flying them, and my grandson, Michael Boggs, looks as if he’s going the same route. He has gone to a number of fly-ins with me, and most of the times he’s at the controls. VINTAGE AIRPLANE 19
Straight lines when they should be straight, and curves that follow a sure arc are hallmarks of Bill Pancake's work. The Continental C-90 can be started from the cockpit using the McDowell starter installed in the fairing just behind the spinner. The McDowell was standard equipment on the Chief, and an option on the Champ. Now highly prized by Aeronca aficionados, the hand-actuated starter (see the handle on the left side of the inset photo) is rarely seen on an Aeronca Champ. Bill's custom airplane uses the cowling from an Aeronca Chief, and a new spinner spun by Bob Carr.

"One time, again while I was riding the same wave, young and simple, I got a Champ up to 18,500 feet even though I didn't have oxygen. The engine quit at 13,000 feet and I thermalled up the rest of the way. At one point a glider pulled up alongside that was being flown by a guy I knew. We were both riding the same wave.

"Besides the lack of oxygen, I was seriously cold. I was wearing a jacket, but it was winter and I had to get down fast or freeze, but the airplane didn't want to come down. So, I started spinning it. I did fifty turns to the left, then twenty-five to the right and another fifty to the left for a total of hundred and twenty-five turns. When I got low enough, the prop would windmill at around a hundred and twenty miles per hour and the engine started again. Like I said, young and simple.

"In the course of rebuilding Champs, I started buying and selling flying Aeroncas. Many of them were never registered in my name, so I don't know for sure how many I had, but it was at least twenty."

As Bill gained a reputation as "The Aeronca Guy," more and more people started bringing airplanes to him for partial or complete restorations. He'd help a lot of others who were rebuilding Champs by doing the major repairs, like longeron replacements, that they felt were outside of their own abilities. In the course of doing that, little by little he found he had set himself up as a mini-factory that specialized in Aeroncas.

"I never splice a piece of tubing. I always remove the entire piece and..."
In contrast to the IFR Champ many members have seen Bill Pancake flying over the past couple of decades, this Champ is equipped with the minimum of instruments required for day VFR flight, plus one extra. Can you name the extra instrument? (Answer at the end of the article.)

The silhouette is familiar . . .
Bill Pancake chose to use the color scheme layout from the Aeronca Champ’s brother, the Aeronca Chief.

The strips I rip off become stringers and the shavings and saw dust go in the stove to heat the shop.

“I’ve been giving forums for years on Aeroncas, and I take samples of spar wood with me to show people how to inspect them and spot things like compression fractures.”

The list of Oshkosh award-winning aircraft Bill has restored or had a hand in is long and impressive. They include winning Custom Class, Outstanding Aeronca Chief, Grand Champion, Best Champion Aircraft, Outstanding Aeronca as well as a bunch of others. And this doesn’t include countless awards at regional fly-ins.

“In rebuilding Aeroncas, I got to the point that every time I had problems finding a part, I’d just use the factory drawings and build tooling to make that part. Take instrument panels for instance. I got so tired of patching up butchered panels that I made a 140-pound cast iron male die that I pull .070 aluminum down over. The result is a panel that has those nice compound curved edges and you can’t tell it from an original. “Incidentally, FAR 21.303 says that if you have a factory drawing you can make a part to be used on your own airplane as long as you can prove conformity to every aspect of that drawing. Further, you can assist others in the same way when doing repairs.

“Over the years I developed what many refer to as ‘the world’s greatest hobby shop’ in that I have a complete machine shop, including lathes and mills, heat treating oven, Rockwell tester, presses to form aluminum parts, sheet metal breaks, shears, and so forth. I am so well set up to do Aeroncas that, when my current airplane came along, I wound up using just about everything I had to bring it back to life.”

The 7AC he had at Oshkosh 2003 started as a hard-luck airplane that, if it had been flown into a mountain at cruise speed, couldn’t have been in worse shape.

“It was caught in a flood and sat in water for a while. Then, while it was sitting around after the flood, a storm came up and whipped it around pretty well trashing the wings and bending the fuselage. Then, to make matters worse, the water that had gotten into the tubing froze and split some of the tubes. However, I had a data plate, I
Bill Pancake is known for his beautifully executed workmanship and his attention to details, such as the fit and finish on this wheel pant and the custom wing strut fairings he built.

Bill Pancake and his grandson Michael Boggs.

had the paperwork, and I had my tooling fixtures. So, I figured I could bring this old girl back to life, but there wouldn't be much of the original left."

"I didn't even try to use any of the fuselage. What wasn't bent was rusted and what wasn't rusted was split. I built an entirely new one that matched the drawings exactly. I did the same thing for the wings. I've been hydro-forming ribs for quite some time, although I'm now replacing my Masonite form blocks with aluminum to give me longer life from the tooling."

In describing his airplane, it's probably easiest just to start at the front and work backward. The nosebowl is an original Chief that took a lot of welding and pounding to get straight. The spinner, however, was spun up by Bob Carr in Baltimore. He'd made a few for Chief owners. However, it didn't have a front bulkhead. That's a pretty complex piece to press, so I chucked an eight-pound slab of 6061 T-6 aluminum in the lathe and had the cap is knurled in place just like the originals. Again, the entire assembly is put together in a fixture to guarantee alignment.

"I did the baffles to the original drawings, including the leather gap seals and the original style stapling. I found one of the factory staplers that lets me do that pretty easily."

"I'm hard tooled for all of the cowlings and the boot cowl so every one I make is identical to the factory parts."

"Because of the way the landing gear shock struts are made, I had to make a boring bar to get the bores just right and the cap is knurled in place just like the originals. Again, the entire assembly is put together in a fixture to guarantee alignment."

Once in a while, Bill says someone asks why he does so many of his airplanes in blue and white rather than factory colors. They also ask why the interior of his current airplane isn't in the original colors.

"I'm color blind," he explains, continued on the page 25
Once a year jitters

DOUG STEWART

I was somewhat nervous and agitated as I quickly untied the ropes on the wings of my Super Cruiser. About once a year I get this way. A slightly queasy feeling in my stomach, but I had yet to be off the ground this day. It was going to be a short flight, just a bit more than 30 miles. The sky was clear, and the wind was calm. What was going on? Why the anxiousness? The answer was simple. It was time to take my plane for its annual inspection.

I climbed into the cockpit and went through the short “before start” checklist, and fired the engine up. As the engine warmed up, I looked to see if the pilot who was going to fly me back home was ready. He was just beginning his preflight inspection, so I knew it would be a bit before he was ready. With a slight impatience I increased the power to taxi out, and as the aircraft rose out of the depressions in the turf where it was always parked, there was a slight resistance and then a jerk as it jumped out into the taxiway. A little question mark drifted across my brow, but quickly disappeared, like one of those little wispy clouds that evaporates in front of your eyes on a warming summer day.

What was taking the other pilot so long, I wondered with a certain degree of antsyness. I was eager to get on with this flight...eager to be done with my annual. The reason I was waiting for the other pilot was because the airport we were flying to was a little tricky to find, and he had asked if we might fly in loose formation, thus relieving him of the need to navigate. He had not yet even started his engine as I finished my run-up. I'd rather be flying. So after my before takeoff checks I took the runway for departure, applied power, and took off.

I climbed over the airport, and now with a thousand feet between my back side and the ground, some of my anxiety started to ebb. I'm always a much happier camper when I'm in the air. Continuing my climb I looked over to the west across the Hudson River to the Catskill Mountains. Soon I would be almost as high as Black Dome, the tallest peak to be seen. Looking down at the airport I could see the other pilot taxiing for departure. It would not be long before we'd be on our way.

"I guess I'd better descend back down so the other pilot can find me," I thought to myself.

Being in the air does wonders for my constitution. With some of my anxiety gone now that I was airborne, I decided the quickest way down would be to spin down. I cleared the area as I reduced power to idle, and pulled back gently on the stick, bleeding off airspeed. As the plane started its pre-stall buffet, I pulled all the way back on the stick, kicked left rudder, and the plane broke nicely into a spin.

One turn...two turns...two and a half...two and three quarters. By kicking right rudder I stopped the spin on heading. With a Super Cruiser just a slight relaxation of back pressure on the stick breaks the stall...and then I pulled out of the dive. There, I was feeling better and better.

With the other plane now in the air we headed off to deliver my plane for annual. The flight was uneventful, and I was soon taxiing into a tiedown at the neighboring airport. I shut the engine down. With my pride and joy back on the ground, soon to have constraining ropes tied to it, the butterflies in my stomach took flight once again. Getting out of the cockpit I went first to the right wing, picked up the rope on the ground beneath the wing, and secured that wing. Now to the left side and the same for that wing. Just the tail to tie down now.

As I walked to the back of the aircraft, there, stretching out from where it was tied to the tail, was about 8 feet of rope. The butterflies in my belly were rapidly morphing into a gaggle of geese. That question mark that had drifted across my brow like a wispy summer cloud now blossomed into an exclamation mark as large as a billowing cumulonimbus. That lurch into the taxiway back at home base was caused by the tiedown rope breaking from the ground anchor. In my anxious impatience I had neglected to untie the rope at the tail. It had been dragging behind me all the way. As I taxied. As I took off. As I climbed, and...as I spun. Why it never wrapped around the tail, and tailwheel, locking them into position, I will never know.

I know I am not the only pilot who has ever done this. A client of mine, working on his instrument rating, was the proud owner of a newly acquired Cessna 210. His Centurion was parked down the line from my PA-12. I had asked him to preflight and start up, telling him I would meet him at the plane. As I walked down the

continued on the page 26
The last few days I’ve been thinking about the economic impact of owning an airplane. There are a bunch of dollars and trickle down benefits of all kinds, to people and places in support of our airplanes.

The first thing that comes to mind is the money to purchase. Right off the reel, is the bank involved? Even if it isn’t, chances are the state is going to nail you for registration and then sales tax.

Thinking a little deeper, next in line you no doubt want to fly, so where do you keep your airplane? Now we go to the local airport where even an outdoor tiedown these days is expensive. Of course the weather is a debilitating factor, so you will opt for a hangar, if you can find one.

Now we have the fixed base operator (FBO) involved. He gets his income from the tiedown or hangar rental, fuel and oil sales, and maybe his maintenance shop. Part of what he gets goes toward the maintenance of the airport—the buildings, mowing, his taxes, and the million other little expenses surrounding an airport operation such as telephone, office help, line boy, paperwork, and whatever.

The FBO will ask you about insurance. Better get some. If it’s an expensive airplane (and aren’t they all?), in addition to liability coverage the hull has to be covered, especially if the bank holds the paper for a loan on the airplane. More dollars into the system. More contributions to the great society.

There are so many hidden facets where the money seems to vaporize. We lay it out, and it seems to go everywhere. Just think about the fuel you use, automotive or otherwise. It still has to be delivered to the site; the dealer has to go through a distributor, who goes to the company who owns the refinery. The refinery has to get it from a source of crude. OPEC, Alaska, Texas, or Oklahoma, it doesn’t matter; it still involves transporting it from the source to the refinery to the system that puts it in the FBO’s tank for your use.

It has to be pumped, and that involves the local electric power company, another collector of revenue. Another sidelight... when you change oil, or the FBO does it for you, where does the drain oil go? Somebody has to take it away and either re-refine it or do whatever with it. More transportation and more expense. Trivial, but it’s there, and something we seemingly never think about.

Now we are flying. If we have radios and electronics, we have to visit the radio shop once in a while for transponder checks, or routine maintenance, or maybe to purchase a nice new GPS or other communications or navigation. There goes some more into the economy.

The expendables—tires, batteries, light bulbs, air and oil filters, tiedown ropes, those little screws to hold the fairings that we are always losing—have to come from somewhere. They cost something, and you pay for them.

To add to the picture, we haven’t talked about the government services. The FAA registration of you and your aircraft. The tower controllers, and if you use the system, air traffic control.

Then how about the FAA Flight Standards and the maintenance inspectors? You may never see them directly, but they do monitor (read “harass”) the FBO and his flight instructors, facilities, employees, and business operating procedures. Oh, yes, let us not forget the accounting departments, and the local sales and real estate taxes the FBO has to pay.

Then we have NOAA, DUATs, Flight Service Stations, and the weather briefers with those nice TV screens that show us the weather and help us with the flight planning. All of these are offshoots of our flying. Whoops, almost forgot the telephone calling services too, cell phone and land lines alike.

All these things I’ve thought about make up the big picture. Around the edges of this big picture are a lot of fuzzy items I’m sure I’ve missed. They are there, in the background. No doubt you’ll add a few if you stop to think about what an impact you and your airplane have on the economy.

I for one am always dismayed at how there always seems to be detractors to our sport. Somehow we have to get the point across that we do contribute to the economic picture and convince those outside our world with the message that not only are we there in times of need, but we do contribute, and handsomely. Not only in terms of the money we funnel into the economy, but also in the pleasure we bring to those first riders like the Young Eagles, our children, and our friends. The service we can and do provide to the local citizenry for aerial photography, sightseeing, or emergency services.

Take pride, fellow aviators, in what we do and how we do it, and with that it’s

Over to you.
“and I can see blue really well but some other colors don’t work for me. That’s why the inside panels are flocked in blue and the tubing is black, not brown.

“As an aside, my wife wrote a letter to the FAA explaining my whole color blind thing and managed to get the night and color control restrictions lifted from my license.

“And while we’re off on tangents, my AME is a gynecologist and it’s always funny to be sitting in his waiting room with all those women. I’m certain they wonder what I’m doing there.”

Once in a while Bill will farm out items that he doesn’t have the time to do.

“The seats were upholstered by Ralph Smith over a set of original frames. I’m completely tooled to make new frames, but I had these, so I used them.

“The little plate around the trim control in the ceiling is from Hubert Lowenhardt who had someone reproduce them to match the originals exactly.

One of the more interesting features of the airplane when it’s seen at fly-ins is a clear plastic jug that sits on top of each wing with a coil of plastic tubing wrapped around it and fastened to the gas cap vent.

“I didn’t put the nose tank in but have two thirteen-gallon wing tanks which again, are made to match the drawings. The drawback to those tanks is that when they’re full and the airplane is parked, as the fuel expands, they vent fuel back down the top of the wing and stain it. The jugs are expansion tanks I plug into the vents when I park the airplane. When the fuel expands, it goes into the bottles. Then, as it cools off, it goes back into the tanks.

“It’s really fun to hear what people say about the bottles,” he grins. “I’ve had people ask if they were FAA-approved or they’ll ask me how it flies with the bottles on top of the wing.”

So many new restorations arrive at Oshkosh with the paint still wet. Bill, however, tried to plan ahead so that wouldn’t be the case this year. However, “The best laid plans of . . .” you know the rest.

“We flew the airplane for the first time back in April, but the weather was so bad for so long, we only had seven hours on it when we left for Oshkosh. We had major the engine so we broke it in on the way to Oshkosh.”

Like so many other airplanes that have been extensively rebuilt there is always the question as to where the line between homebuilt and factory-built lays. In his next project, Bill is going to remove any doubt as to what is what.

“My next airplane, which is under way, will be a 100 percent homebuilt Champ and I’ll register it as homebuilt. I’ve had people ask why I’m homebuilding an airplane that isn’t even remotely rare and the only logical answer I can give is ‘because I can’.

Makes a certain amount of sense, doesn’t it?

(Quiz answer: Per FAR 91.205, the slip/skid indicator in the center is not required for VFR flight in the United States.)
line I heard the deep, gnarly growl of 310 ponies straining at the bit. The growl grew deeper and louder. As I continued down the line the Centurion jumped forward and then stopped. I knew exactly what had just happened. I’d been there myself, even bought the T-shirt.

But my client was smarter than I had been. He stopped and shut down the engine. I got to the plane just as he got out of the cockpit, and together we went to the back of the plane. There at the tail was the rope extending out behind from where it was attached to the tiedown ring, but the other end didn’t end in a frayed piece of rope...it ended in a huge hunk of concrete. This Centurion, commander of Roman Legions, had just pulled the entire anchor out of the ground. A testament not only to the tensile strength of the rope, but also to the brute power of the plane. I told my client that even if he didn’t get his instrument rating, he could still rent out his airplane as a great stump puller.

There are many times when all of us can and do fall prey to similar scenarios. Either through being in a hurry, being distracted, or being complacent we do not do a thorough preflight inspection. “Kick the tires...light the fires” is not the way to go. A NASA study showed that in approximately 80 percent of reported accidents, the chain of events leading to the accident began prior to flight. One of the ways we can break that chain is to perform a thorough preflight inspection. It is too easy to become complacent in our preflights. Just because we haven’t found any squawks in the last 100 inspections doesn’t mean we won’t find something this time. Do your utmost to avoid being distracted while you inspect, remembering that the distractions can be internal as well as external. Doing so will take us a long way from being just good pilots, it will lead us to becoming great pilots.

Read more about Doug’s work at www.dsflight.com
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