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Congratulations to the winners!

—Reggie Paulk

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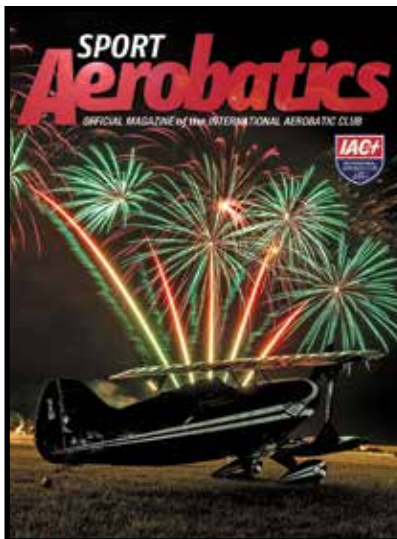
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THE COVER

Fireworks bedazzle Pitts N8M during the 2015 Airventure.
Photo Evan Peers.

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MIKE HEUER

COMMENTARY / IAC PRESIDENT, IAC 4

Please send your comments, questions, or suggestions to: mike@mheuer.com

The weeks ahead

THIS IS MY SECOND STINT as your International Aerobatic Club president, having previously served from 1981 to 1990. The decades of the '70s and '80s have often been called the golden age of aerobatics as so much happened during that time, and the growth of the IAC was phenomenal. In one month alone during the summer of 1985, we recruited more than 400 new members. It was in 1982 that the IAC was passed the baton of responsibility for fielding U.S. aerobatic teams in world competition and for staging the U.S. National Aerobatic Championships. We doubled in size in those years and peaked in the 1990s at more than 6,000 members.

Today our goals for growth are more modest but just as important. EAA AirVenture in Oshkosh once again proved that there is strong, ongoing interest in recreational aviation and sport aerobatics. Contest participation this year has been positive, and as I write this, we look forward to a successful and large U.S. Nationals in Texas. We see steady, solid growth in IAC membership and now stand at nearly 3,900 active members. We sanction 40 competitions a year organized by our 34 chapters, and our programs are vital and successful—from Achievement Awards to our printed and online publications. Interest in all matters of aerobatics is also strong, and our forums and seminars held in Oshkosh were often overflowing with attendees. The organization is financially solid thanks to the attention given to our budget by our treasurer Bob Hart and the IAC's finance com-

mittee. We are well-positioned for the future.

In September 1981, I wrote it will “take time, talent, and dedication to the job to harness that interest and properly promote the sport of aerobatics around the world.” That statement is still true today. I also spoke of the importance of volunteers, and today I am surrounded by incredible people on the IAC leadership team who are deeply dedicated to your future and membership services. As we gather at regional and national events, I am also reminded how much of a family IAC is—we socialize, fly, critique, and enjoy each other at contests, chapter meetings, and throughout the year, and those elements that bind us together as friends are extremely important. A new member may take a little time to discover this aspect of IAC membership, but it is there and very real, and it is why it is important to become involved in a chapter. The membership value you derive from those associations far exceeds the paltry \$45 a year you spend on IAC dues.

As we move into the fall of the year, the work of your officers and directors does not slow down but moves in a different direction. In October, I will attend the plenary meeting of the FAI Aerobatics Commission (CIVA) in Budapest, Hungary. While the agenda of the meeting is crammed with business relating to international championships and rules, there are issues that can affect the IAC. In the past, for example, we have closely

continued on page 25



Recognizing excellence

AIRVENTURE

2015

Congratulations to the winners! IAC awarded four plaques to Pitts owners during AirVenture to recognize their achievement in building, flying, and innovation.



REGGIE PAULK

Grand Champion Pitts - Winston Wright - Pitts S-1S N33HS



REGGIE PAULK

Jordan Ashley (right) presents the award for best customized Pitts to a shocked Brett Davenport. Best Customized Pitts - Brett Davenport - Pitts S-1SX N360BX



EVAN PEERS

Best Homebuilt Pitts - Ted Teach - Pitts S-1 N8M



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Longest Distance Flown - Brennan York - San Francisco - Pitts S-2C

Please submit news, comments, articles, or suggestions to: reggie.paulk@gmail.com



REGGIE PAULK

Peter Gauthier contemplates how best to unload his one-of-a-kind creation from the truck.



REGGIE PAULK

NX86401 is gently lowered to the ground from the back of the moving van.



REGGIE PAULK

Getting the tail of the airplane through the double doors proved to be a bit of a challenge—but the airplane squeezed through.



REGGIE PAULK

The Pitts replica draws the eye as the centerpiece of the new merchandising area.



EVAN PEERS

Tom Poberezny (right) made a surprise visit to the IAC pavilion at Oshkosh and Mike Heuer (left) gave him the grand tour of the revamped facilities.



EVAN PEERS

Tom Poberezny places his signature on a copy of the Pitts anniversary poster that was part of a giveaway during the annual IAC dinner at AirVenture.



EVAN PEERS

IAC President Mike Heuer (left) introduced Sean Tucker (right) as the IAC's newest Hall of Fame inductee at the annual dinner on Friday evening.



REGGIE PAULK

Mike Heuer (left) stands with Margo Chase in the newly redesigned merchandise area of the IAC Vicki Cruse Pavilion. Margo worked tirelessly to redesign the IAC's branding and merchandise over the last year.



EVAN PEERS



EVAN PEERS

The newly renovated entrance to the IAC Vicki Cruse Pavilion allows for a museum-quality display, while showcasing the IAC's trophies.



REGGIE PAULK



REGGIE PAULK

IAC manager Trish Deimer-Steineke with Natalie, who spent the week doing a brisk business selling Pitts-themed merchandise to the Oshkosh crowd.



REGGIE PAULK

Mike Heuer (sitting at table) briefs volunteers, employees, officers, and board members of the IAC before the start of AirVenture.



Longtime IAC volunteers Jean Taylor (left) and Jim Taylor (center) with volunteer Nancy Carter and the Pitts replica.



REGGIE PAULK

Budd Davison (left) discusses the Pitts exhibit with IAC President Mike Heuer.



EVAN PEERS



EVAN PEERS



EVAN PEERS



Pitts pilots gathered on Boeing Plaza for a group photo. Their baseball caps signify their special place among an elite group of pilots.



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The Pitts Replicas at EAA AirVenture 2015

F28

EVAN PEERS

A 70th anniversary celebration

BY FRANCOIS BOUGIE



Pitts replicas around the IAC Pavilion.

The Pitts Replicas at EAA/ICAC AirVenture 2015

At this year's EAA AirVenture Oshkosh, the IAC Pavilion was "Pitts-centric." Celebrating the 70th anniversary of the biplane first flown by Curtis Pitts in 1945, an exhibit retraced its history, from the first flight of the original Pitts Special, NX52650, up to the current Pitts super biplane derivative, as flown by Sean Tucker and Skip Stewart. Dated August 28, 1945, the first Pitts flight entry in Curtis' logbook indicates that the flight lasted 20 minutes. In the remarks column he inscribed, "Test Hop (What a Day)."

This first flight would eventually change the aerobatic landscape in the United States and spread worldwide.

The only way one can really understand Curtis' first logbook entry is to build a replica of a Pitts from that era.

During the convention, displayed outside the IAC Pavilion were replicas of Pitts No. 1 and Pitts No. 3. Inside was housed the replica of Pitts No. 2, appropriately described by IAC President Mike Heuer as "the crown jewel of our Pitts exhibition."

Pitts replica No. 3, N8M, represents the aircraft flown by Caro Bayley in 1951. It won the award for Best Homebuilt Pitts IAC AirVenture 2015. Pitts replica No. 2, NX86401, replicates the configuration built by Curtis before being modified into N22E by Betty Skelton. Pitts replica No. 1, NX528, represents the first Pitts biplane NX52650, flown by Curtis in 1945.



Caro Bayley with the Pitts S-1.

These replicas represent the earliest Pitts DNA. They were built by passionate individuals or groups, who each have their own story and degree of obsession with research and details.

N8M: Pitts No. 3 and Caro Bayley

Born in 1922, Caro Bayley was originally from Springfield, Ohio. After graduating from Saint Mary's College in Raleigh, North Carolina, her father encouraged her passion for flying by paying for her initial flight training. When the Women Airforce Service Pilots (WASP) program was put into place, she joined Class 43-W-7 and trained in Sweetwater, Texas. She flew the SBD Dauntless, SB2C Helldiver, AT-6, AT-7, AT-11, BT-13, PT-17, P-47, B-25, and B-26...all between the ages of 21 to 23!

In 1945, when she started flying aerobatic competitions in Florida, Jess Bristow noticed her skill and made her part of an All Women's Air Show by flying a glider routine. This was when she first had the opportunity to fly

Betty Skelton's *Little Stinker*.

"It was a dream to fly from the very first takeoff," said Caro, and she persuaded her father to make a deal with Curtiss.

This third Pitts was specifically built for Caro in 1950, and the horsepower race was *on* from the very beginning. Pitts No. 1 was powered by a Lycoming O-145 65-hp engine; Skelton's Pitts No. 2 by a Continental C-90 (95 hp at 2625 rpm); and Caro's Pitts by a Lycoming O-290-D 125 hp, fitted with an Ex-Cell-O fuel-injection system.

"I had a hard time keeping Curtiss and Phil [Quigley] working," Caro once recalled. "I sat with them, brought water, food, and promised if they got to a certain point, they could go fishing on Sunday. Phil and I had an argument of who got to fly it first. When he laid down his tools and walked away is when I finally agreed that he could go first."

From her first flight, Caro and N8M became one.

Commenting on her appearance at the 1951 Women's International Aerobatic Championship, Bill Sweet ("They call me Mr.

Airshow") announced, "You're watching Miss Caro Bayley, one of America's greatest precision aerobatic fliers. She's flying like magic. . .yes. . .*Black Magic*."

"A perfect triple snap roll at the top half of a loop," he boomed over the public address system. Later, he would describe the event: "The trim, high-performance swept wings flashed in the brilliant Florida sunlight as the pilot 'triggered' the screaming machine into a fury of rolling, snapping, flying action."

Having competed against Betty Skelton in the past, Caro Bayley believed that not only did she need a Pitts to beat her in competition, she also needed more horsepower! "I never won until I had Curtiss Pitts build me a Pitts Special," said Caro.

After three days of "exact-ing" competition, Caro Bayley was crowned winner of the 1951 Women's International Aerobatic Championship, a yearly feature of All-American Air Maneuvers staged in Miami, Florida. Caro won the crown only hours after her altitude record-breaking flight...in a Piper Super Cruiser.



Ted Teach and N8M.

EVAN PEERS

She described her flight: “I took off, had oxygen and a barograph, was up for about four hours, came down, then did my aerobatic act. The temperature was 90 on the ground and was 34 degrees below zero at altitude. The Cub went up to 15 [thousand feet] nicely, but up to 20 it was a bit draggy. By the time I hit 30, I stayed at one altitude for a long time.”

The Miami paper reported “Blonde Sets New Altitude Mark,” at an actual altitude of 30,203 feet. The Fédération Aéronautique Internationale (FAI) recognized her achievement as a world record for Class 11 aircraft (gross weight between 1,102 and 2,204 pounds). Her record held until 1984, when it was broken by a 210-hp Mooney.

The Design of N8M

Each early Pitts incorporated modifications and refinements over the previous airplane. Although the original drawings for Pitts No. 1 don’t seem to exist

anymore, it would seem certain that Curtis made some sketches and drew detailed plans before attempting the construction. Plans dated September 11, 1945, in the title block came **after** the first flight of Pitts No. 1 but must have been drawn for Pitts No. 2. Further modifications making Pitts No. 3 unique (such as the aileron extending to the wing tip) haven’t surfaced yet, and were apparently destroyed in a shop fire.

In addition to photographs of Caro and N8M, the May 1951 issue of *Air Trail* magazine published a detailed three-view of the airplane.

This three-view drawing is, to the best of my research, very accurate, representing the size and color of N8M, except for the misspelling of Caro’s last name!

This three-view compares to the early set of plans drawn by Curtis Pitts on September 11, 1945, with some drawing sheets traced by H.A. Megary.

- Upper wing is 17 feet 6 inches, compared to an S-1C plan that is 17 feet 4 inches.

- Lower wing is 15 feet 4 inches, compared to an S-1C plan that is 15 feet 6-3/4 inches.

These differences are very small and could be attributed to the actual measurement of the airplane.

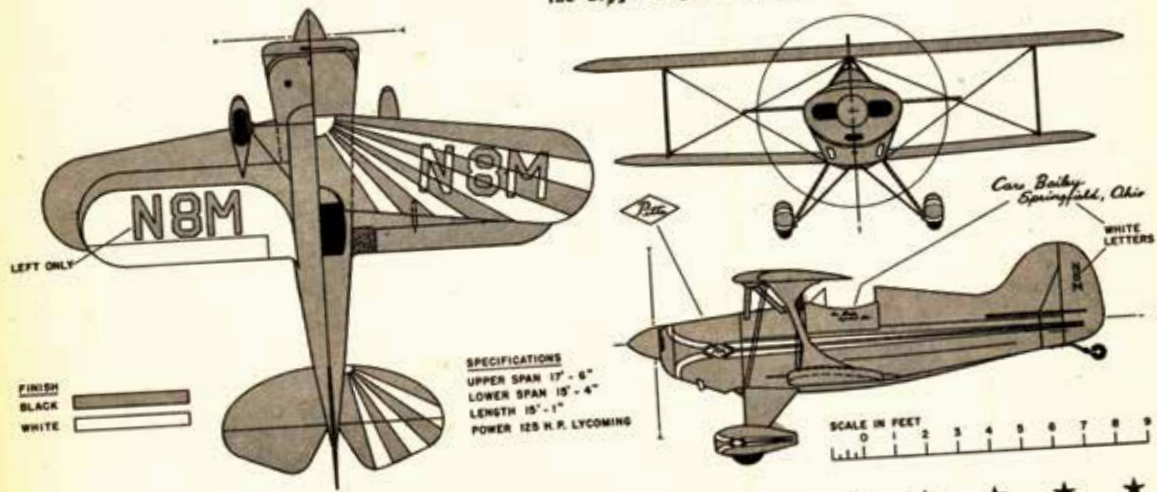
- Length, at 15 feet 1 inch compared to an S-1C that is 14 feet 3 inches (short fuselage) and an S-1S that is 15 feet 6 inches (long fuselage), is different. But this measurement of the S-1C side view is from the edge of the rudder to the tip of the spinner. A measurement of the fuselage is more comparative.

The *Air Trails* issue describes a longer fuselage, bigger spinner, and square-cut pants.

Measurement of the AT three-view scale drawing is 10 feet 2 inches from the tail post to the line of the firewall/cowling. The S-1C drawing plan of the fuselage indicates 10 feet 2-1/2 inches

CARO BAYLEY'S Pitts Special

This is the little Pitts with which Caro Bayley took third place in the 1951 aerobatic contest at Miami, Fla. For those who want to build a control liner of the wee beauty, it is basically the same plane as the Pitts-Skelton Bipe (AT Sept. 1950) with these changes: span increased by 6 in., length by 11.5 in. due to the bigger engine. It has larger spinner, square-cut pants.



Three-view from *Air Trails Magazine*, May 1951.

from the firewall to the back of the tail post. Since the rudder appears to be of similar size, the difference is in the firewall-forward (engine/engine mount/propeller/spinner) configuration.

While this can't be confirmed for all of Curtis-built prototypes, for the Model 11 Super Stinker and the Model 12, Curtis built the whole fuselage, fabric-covered with everything assembled in between, then weighed it. He would also weigh the engine with all accessories and propeller. He could then design/build an engine mount for a perfectly balanced airplane. Since it is probably hard to teach an old "redneck" dog new tricks, it is plausible that Curtis may have been doing this from the beginning.

The N8M Replica, Ted Teach and Caro Bayley

The original N8M was completed in 1950. A young Ted Teach was taking flying lessons in Springfield, Ohio, where Caro was practicing her air show routine. She was 28, a heck of a pilot, and equally striking. Ted was infatuated with her. But like a flash

in a pan, after her 1951 title, "Caro flew her last air show the week before she got married in September 1951 at the age of 29. She quickly had four children in five years and gave up her beloved Pitts Special, something she regrets to this day," recounted Kate Landdeck after an interview with Caro. The grounded Pitts was sold to Frank Gibson in June 1953 but was destroyed shortly after by a fire caused by a gas leak.

When Curtis released the S-1C plans, Ted eventually acquired a set (232H) and began building his Pitts in 1969. Ted was also very busy with his new company. Together with Robert Studebaker, Ted co-founded LaserPlane, with the technology that uses a rotating laser beam as an elevation reference to automatically control earth-moving machines to very accurate elevations.

Ted was busy working and flying an Aerostar around the country, promoting LaserPlane. His first visit to Oshkosh was in 1967, where the idea of building a Pitts germinated. He met up again with Caro Bayley in the '70s at the Cae-

sar Creek Soaring Club and told her that he was building a Pitts. Caro supplied some photographs for reference. Around 1997-98, Ted eventually acquired the original N8M registration that was on a Pitts in Cape May, New Jersey. After listening to Ted's story about his replica project, the owner transferred the N8M registration to him.

Although Ted loved building, his progress was slow. After 29 years he contacted Kenny Blalock of Conway, Arkansas, to complete the project. Kenny's long list of ratings and accomplishments can be found on the Special Products Aviation Inc. website. An accomplished inspection authorized (IA) A&P and designated airworthiness representative (DAR), Kenny flew air shows professionally for 14 years and designed and built the Pitts Falcon that he flew for six years.

Given these credentials and a fully equipped 10,000-square-foot facility, the N8M replica was finally completed by Kenny in 1999 and flown to Oshkosh, where Curtis Pitts and Caro Bayley posed with the airplane. For this year's 70th anniversary of the Pitts first flight,

Andrew King flew N8M to Oshkosh for display.

Worthy of Best Homebuilt Pitts AirVenture 2015, the N8M replica is a Pitts S-1C wearing the color scheme of Caro Bayley's *Black Magic*. Ted installed the Lycoming O-320 (150 hp) for a powerplant with a metal prop. He opted for the convenience of an electrical system, radios, etc., standard Pitts teardrop wheel-pants, and did not extend the aileron to the wingtip edge. After 16 years, the aircraft finish is still immaculate, and Ted takes it out regularly for a typical 20 minutes of aerobatics around the sky.

NX86401 Pitts No. 2 and Curtis Pitts

Before the World War II, several dirt airfields were located in the Gainesville, Florida, area. Starting in the early '30s, Carl E. Stengel, a former Gainesville motorcycle cop, had established his own fly-

ing service from such a field. When the U.S. Army took over and built the Alachua Army Airfield around 1941, Carl Stengel moved his training school to Stengel Field, located just southwest of Gainesville, as depicted on the July 1943 Orlando sectional chart.

The *Miami Daily News* dated November 20, 1944, had a headline that read, "Stengel Flying Service at Gainesville."

"It comprises 27 buildings at which thousands of trainees have been tutored for war flying," Stengel added. "I believe firmly in the future of private flying."

Based on that strong belief, Carl Stengel was able to convince Curtis and Willie Mae Pitts to relocate to Gainesville to be part of his fixed-base operation and to produce 10 airplanes to be offered for sale. Those "production" Pitts Specials would be based on Curtis' experience with designing, building, and flying NX52650, Pitts No. 1, with

some refinements.

A major operational refinement was the replacement of the rigid gear and 7.00-by-4 balloon tires with a center shock-absorbing bungee arrangement. This arrangement is still used on production Pitts S-2Cs 70 years later.

The top wingspan is slightly wider (17 feet versus 16-1/2 feet) with a longer fuselage. A simplified turtledeck wrapped in aluminum replaced the formed headrest built from 22 thin stingers. The turtledeck sits on top of fuselage tubing and blends the fuselage shape from the pilot's headrest back to the vertical fin.

Only a few photos of NX52650 Pitts No. 1 have surfaced so far—no drawings have survived. From these photos, only one set of flying and landing wires is visible. Pitts No. 2 would have a second set of wires added for safety.

The fuel filler neck is positioned on the fuselage centerline just be-

YEAH, WHOOHOO, YEE-HA!



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Curtis Pitts with NX86401.

low the top wing and is still located in the same place to this day. The Pitts No. 1 filler neck was just aft of the firewall on the top right hand side of the fuselage.

Another change in appearance was the “I” strut connecting the bottom wing to the top wing. It is made of streamline steel tubing with welded attachments and is fabric-covered. The Pitts No. 1 strut was made of plywood with a wider chord and was angled inward at the bottom.

The original Lycoming 65 hp installed for the first flight made the airplane’s nose very stubby. It was later replaced by a 90-hp Franklin engine. At that time, the rigid wires connecting the landing gear in an “X” configuration were replaced by solid tubing. Pitts No. 2 would be powered by a Continental C-85. The C in the Pitts S-1C designation stands for Continental and is part of the set of plans eventually released.

An Uncertain Timeline

It is difficult to establish the timeline when Carl Stengel thought there might be a market and then made arrangements with Curtis for him to design and build up to 10 small aerobatic biplane based on Pitts No. 1.

In late 1944, Stengel leased his facilities to C. Ray Smith and Jack Frierson from South Carolina. He reacquired the operation in January 1946. Stengel Field was one of the few government-approved aviation schools for veterans under the GI Bill of Rights for the state of Florida. According to a *Gainesville Sun* newspaper report dated April 25, 1947, “The flight services and aviation school facilities at the Stengel Aviation College here have been purchased by the Gulf Aviation Schools... The repair station, with equipment valued at about \$500,000, will be operated by Curtis Pitts, master mechanic and plane designer who fathered

the well-known Pitts’ Special or ‘Flying Jeep.’ Maintenance and repair work for Gulf School here will be done by Pitts under contract,” Frierson said.

In August 1947, a column by S.B. Jones in *Skyways* magazine introduced NX86401 with a small photo and caption. “Designed by Curtis Pitts and built at the Aircraft and Engine Mechanic School at Stengel Field. . . . The tiny ship is, at present, being readied for a tour of the country with World Air Shows. Some of the maneuvers that its pilot, P.C. Quigley, will do, eight-point rolls, vertical snap rolls...”

This was followed up with a cover feature in the December 1947 issue.

An early set of S-1C plans drawn by Curtis is dated 1945 and was re-traced in 1961. It can be assumed that Curtis drew these plans in 1945 to replicate parts for sets of 10. These early drawings became a baseline of all Pitts to follow. De-

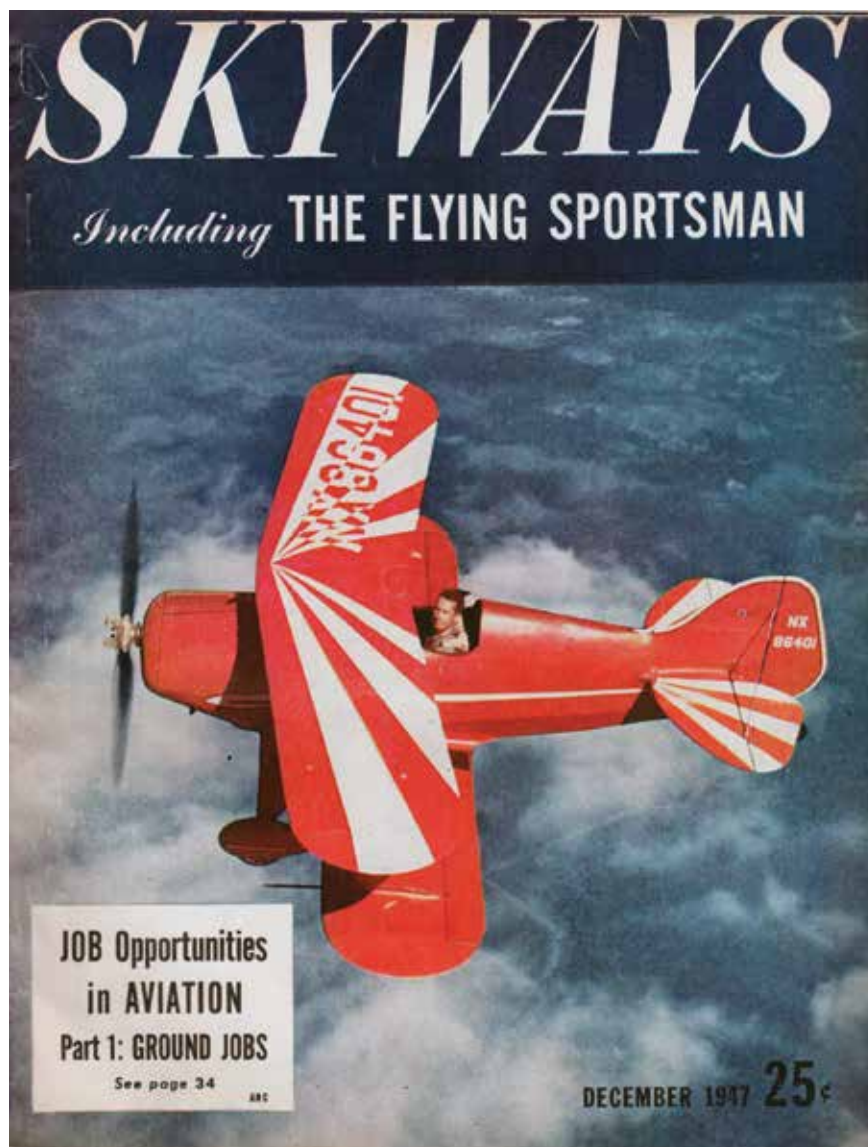
spite all the changes at the Stengel Flying Service operations between 1945 and 1947, Curtis Pitts and Phil Quigley were able to build NX86401 Pitts No. 2, and it appears to have first flown early in 1947. Only the first airplane was built. Post-war aviation prosperity in the small aviation market collapsed. The market was worse in 1948, and light aircraft sales dropped to less than 45 percent of the 1947 figures. 1949 proved to be even worse.

According to the NASM, "In 1946, [this Pitts] received experimental registration number NX86401."

By the fall of 1947, Phil was flying Pitts No. 2 for the "World Air Shows—A Complete Show" based in Miami, Florida, owned by air show promoter and pilot Jess Bristow.

From the Smithsonian National Air and Space Museum, Pitts S-1C *Little Stinker* archives, we read this:

"In August, 1948, without having flown the aircraft, a young woman named Betty Skelton bought the Pitts Special for \$3,000 and named it *Little Stinker Too*. The name *Little Stinker* was initially applied to her 1929 Great Lakes 2TLA biplane (NX202K) that she had flown since 1946 and in which in 1948 she won her first Feminine International Aerobatic Championship. Skelton made several changes to the Pitts Special including having her father construct a small Plexiglas canopy for cross-country flight that was easily removed for aerobatics. She replaced the original Aeromatic propeller with a fixed-pitch McCauley. She also mounted a ball-bank indicator upside down in the instrument panel, for control coordination in inverted flight, just above the one used for normal flight. Because the registration number was so long and the Pitts was so small, Skelton asked the Civil Aeronautics Administration for a smaller number and was assigned N22E. Later in 1949, she had the aircraft repainted with a brilliant red and white scheme



Cover of *Skyways* magazine, December 1947. This cover photo appears to be colorized, with the color red covering the top wing cutout and handhold, putting in doubt the exact color to be used as reference.

and her usual skunk decoration. The 'Too' in the name was deleted since it confused those who did not remember the namesake Great Lakes. In 1950, Skelton again won the Feminine International Aerobatic Championship."NX86401, now known as N22E, restored by the NASM staff, is now hanging in the main lobby of the Steven F. Udvar-Hazy Center, part of the Smithsonian National Air and Space Museum. While it is the oldest surviving original Pitts, this airplane is actually the second Pitts

built by Curtis.
The NX86401 Replica and Peter Gauthier

Peter's research is...well, quite obsessive. His mission: to replicate the most accurate depiction of NX86401, as designed by Curtis Pitts and built with the help of Phil Quigley. The problem is that prior to Betty Skelton and *Little Stinker*, very little information exists, apart from a few photographs.

Peter's first inspiration came from seeing NX86401 on the cover of a *Skyways* magazine



Peter Gauthier on the left and Bill Dodd on the right.

issue dated December 1947. Further inspiration came from looking at a knife-edge full-page photo published in the *Pitts Special* book written by Budd Davison. He was already a “Pitts guy” and had been flying a Pitts S-1C for several years. He also owned a very unique Pitts S-2, N3WD that was initially built for William “Bill” Dodd. This Pitts was baptized the PaMa Special, built by Curtis using the S-2 fuselage used for the certification test and the firewall forward of a Pitts S-1S. It was also the first S-2 with tall landing gear.

For years, before he started cutting metal and gluing wood, Peter scoured the web to find photographs, encouraged by Bill Dodd. Bill would regularly visit Peter’s shop in Sonoma, California, and ask, “Are you working on that little airplane?” This was the same Bill Dodd who had nudged Curtis to release the Pitts S-1C plans back in the ‘60s.

Many pictures had been taken when Betty Skelton flew across the country in *Little Stinker* between 1948 and 1951. In addition, a large collection of pictures by

LIFE photographer Edward Clark includes a repertoire of shots of Betty wearing different outfits with NX86401 in the 1948 configuration. These revealed details about the paint scheme, cowling cooling louvers, flying wires attachment details, and rudder-to-tail wheel link bungees. The San Diego Air & Space Museum also has some high-resolution photos of Betty from the same era.

The Betty Skelton Collection is now part of the National Air and Space Museum Archives Division. In 2002 Betty donated a collection of materials outlining her career as an aviatrix and race car driver. Peter made arrangements with the NASM and, wearing white gloves, spent a full day looking through 10 boxes of scrapbooks, photographs, magazines, news clippings and other materials.

Peter’s detective work was to compare all the photographs he was able to find of her craft to the few photos of the plane with Curtis’ configuration. He has analyzed all of them in order to establish if certain details were present from the beginning, or were later modifications. Peter derives great sat-

isfaction in comparing and scaling photos in order to re-create specific parts with exactitude. If you question his obsession, Peter will reply, “Some people knit. . . for pleasure.”

But one does not build a full-size flying airplane from photographs. Peter needed some drawings. After finding an early set of Pitts S-1C plans and building notes, Peter obtained a set of Pitts S-1 replica plans drawn by Curtis. Being a craftsman and perfectionist, his job was now to compare period photos with two sets of plans before building any parts.

Peter would regularly phone FAA Aircraft Registration Office to see if NX86401 was available. Eventually, he was told to stop calling, and if NX86401 became available, he would be contacted. About 10 years ago, Peter received the call asking if he was still interested. This was the incentive he needed to build the replica, but progress would come in bursts.

After careful comparison of his reference photographs, Peter had to disregard certain modifications found on Betty’s configuration, like the addition of a top wing tank for the smoke system, as well as the little bump on the cowling, later added for clearing the shielded wire to the front top spark plugs.

A Meticulous Fabrication in a Very Short Time

When Peter learned in early January that the 70th Pitts celebration was taking place at IAC/EAA AirVenture 2015, he focused all his energy on finishing his replica.

Attention to detail is visible throughout the whole project. Following are a few examples.

The fuselage wood stringers are attached with lace, not inserted in clips or screwed. The louvers needed a forming block, since they project half internally and half externally. These details stem from Peter’s focused attention to the period photographs.

The nose bowl shows real crafts-

manship. After exhaustive research, no nose bowl on the market was a perfect match. Peter concluded that Curtis and Phil must have built their own, so he would have to as well. The nose bowl is one piece and riveted to the bottom half. This arrangement would make engine maintenance more difficult, requiring the removal of the propeller on a regular basis.

Peter started with a metal Piper PA-18 blank cowling, cutting it in half from top to bottom. After welding it back to the proper width, he positioned it on the airplane. Peter used a very specific photograph where the engine position and centerline could be established. Using laser guides for alignment, Peter located the propeller center. Once in place, he marked the air intake opening to be cut with the reinforcing return flange.

The wings' leading edge is wrapped with thin 0.020 aluminum. A strap system and blocks with nose rib cut-outs were put in place to form the shape without buckling.

A wing rotating jig was constructed to facilitate working and painting. Peter Gauthier and Didier Markowski burned a lot of midnight oil to be ready for EAA AirVenture Oshkosh 2015. An attempt to scale the complicated top wing registration interlaced with the starburst design proved too complicated. Projecting a high-resolution photo onto a tracing paper at full scale proved much easier.

Peter jokes he should have bought 3M stock before he started, as he believes the value must have increased when he and Didier started painting his wing!

Another field of expertise that Peter had to master is the Ex-Cell-O fuel-injection system. Throughout the years, the expertise got lost and the injection system got a bad reputation. One downfall of the system is that it does not compensate for altitude. A change of nozzle is required to make such adjustment, and this can only be accomplished on the ground. The fact that Betty crisscrossed the country from 1948 to 1950 is a testament that this system is reliable.

With the limited space available in the IAC Vicki Cruse Pavilion, in spite of all their work to complete the replica, it was possible to only display the fuselage, which was crowned the jewel of the Pitts exhibition.

Curtis Pitts and Pitts No. 1 NX52650

By the age of 16, Curtis had already built his first airplane, demonstrating his passion for aviation. During the war efforts, Curtis accumulated a wealth of aviation knowledge from being an inspector at the Naval Air Station in Jacksonville, Florida. Already a pilot since 1934, Curtis always gravitated toward small airplanes. He spent all his spare time at a nearby airfield, fixing and flying a beloved Cub Coupe (a side-by-side J-3 Cub).

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Cowling project photos.



Stringers.



Watching the air show performances of Mike Murphy, Len Povey (inventor of the Cuban-eight), and Tex Rankin, all aerobatic legends of that era, sparked Curtis' drive to design his own aerobatic airplane.

His best learning experience came from owning a Waco F-2. When recounting his experience to Budd Davisson, Curtis said, "Of all the airplanes I've owned in my life, that Waco 'F' had to be the sorriest. It could barely do a roll and could hardly get high enough to get speed to do a loop. It was just plain sorry."

Curtis learned that if he was to





design an airplane around the smallest engine he could afford, weight would be his worst enemy. So whatever he would design, it had to be light and therefore small. The lightest, strongest possible design of the day was a biplane, with its struts and wires combination. A short wingspan would give it high roll rate. With all these basic parameters in place, Curtis started sketching his own biplane.

While still working as an inspector at the naval air station, Curtis would run some of his ideas by the engineers for confirmation. His biplane would have a swept-back (6-1/2 degrees) single-piece top wing with two straight bottom wings attached to the fuselage sides. "Yes, I swept that top wing for CG and access reasons, but some of the engineers at the Navy lab where I was working said I'd also pick up a little stability, so that was another consideration," said Curtis.

Stability is not necessarily what a designer is looking for in an aerobatic airplane. The true side effect of the top wing sweepback turned out to be amazing snap roll. The single-piece top wing with spars spliced at the center box does a lot of the lift, while the bottom wing has to suffer from stagger, decalage, wing struts, and fuselage wing root interference. To control the airplane stall characteristic while using the flat-bottom M-6 airfoil for each wing, the top wing has a larger angle of incidence built in than the bottom, making it stall first or drop first. That thinking would be the basis of the symmetrical wing development 20 years later! By using two different airfoil profiles with different stall characteristics, the top wing or the **thicker airfoil** will always stall first, no matter if the airplane is right side up or upside down!

This first iteration would only have two long ailerons on the lower wing, but soon proved to be the best aerobatic biplane ever designed. Weighing only 537 pounds empty, with a gross weight of 724 pounds, 8



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Registration projection.



gallons of fuel, and an allowance of 137 pounds for a pilot and parachute, it would fly like nothing else before in that category.

A few days before the end of World War II, Curtis flew Pitts NX52650 for a test hop.

“As I sat on the end of the runway in that little airplane I don’t think I was scared, but I was nervous. When I brought the power up, it accelerated far faster than anything I’d ever flown and bounced about twice before leaping into the air. It seemed so sensitive in pitch that I was either diving or climb-

ing for the entire ten minutes I was up, and I was really nervous at that point. In fact, I was convinced we’d gotten the CG all screwed up,” remembered Curtis in an interview with Budd Davisson

After minor alterations to the tail stabilizer angle of incidence and trim adjustment, the Pitts was now a perfectly balanced airplane.

Curtis would lend his creation to several pilots, who all came back down to earth amazed at the performance of the diminutive biplane. He would fly it for several years until Jack Reynolds, a crop-

duster pilot from North Carolina, bought the airplane.

Shortly after, Jack (who was quite deaf) flew low and inverted until the engine quit. The story has been retold so many times that its exactitude is now doubtful, but the result is the same; the first Pitts was rolled into a ball and deemed non-salvageable. Fortunately the little biplane’s top wing offered head protection, disintegrating around the pilot but allowing him to limp away from the crash.

While the accident date is unknown, it appears that Curtis was already incorporating all the knowledge and experience he had acquired from Pitts No. 1 into the refinement and design of Pitts No. 2, NX86401.

The NX528 Replica and The Friends of Curtis Pitts

This replica was built to honor Curtis on his 75th birthday and to celebrate the 45th anniversary of the Pitts first flight.

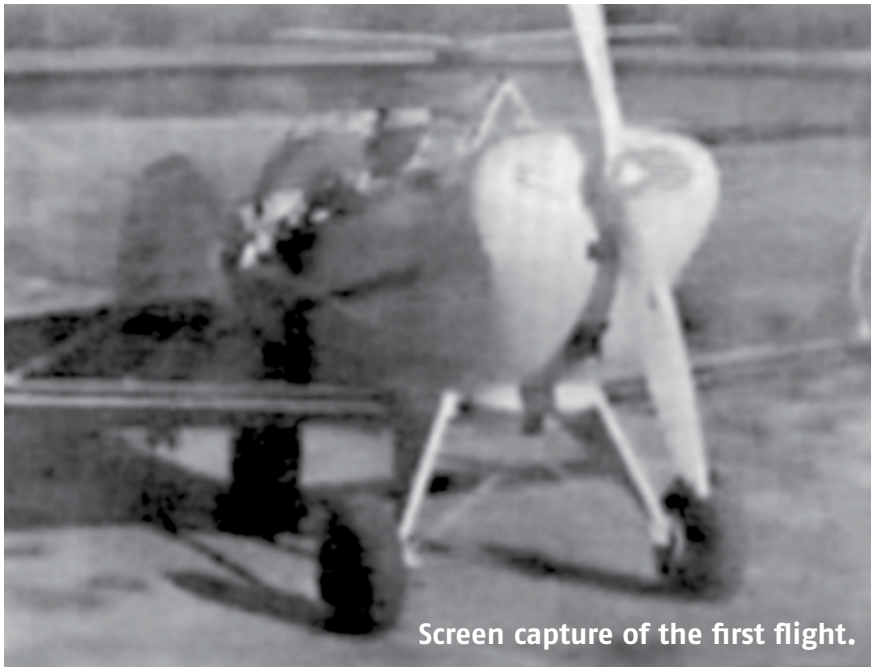
The event was organized by Jim Moser and Carl Pascarell from St. Augustine, Florida, and stemmed from an idea pitched to them six months earlier by Budd Davisson: to build a flying replica of the first Pitts biplane.

All agreed that this was the thing to do to say thanks to the man who gave so much to the world of sport aviation and the aerobatic community. But how does one re-create a mythical flying first Pitts from only a few rare pictures? After the initial idea sunk in, a plan of action had to be devised.

Curtis was asked to mark up changes on a set of S-1C drawings to revert them to the 1945 configuration. Instead, he drew a complete new set of plans in less than 30 days, specifically for that airplane.

Following is a short recap from Budd Davisson’s article “Five Months, Eighteen Days,” that appeared in the January 1991 issue of *Air Progress*.

“Aero Sport, no longer in opera-



Screen capture of the first flight.



First-ever version Pitts S-1 original.

tion, was founded in 1967 by Ernie Moser and operated by Diane and his son Jim. They were in the 'Flying Circus' business, together with another air show Pitts legend, Jim Holland. Aero Sport would serve as the nerve center for the building of the replica. But operating their business and building a Pitts on the side would prove challenging. Al Crichton and Jim Stevens, both from Aero Sport, were assigned to the project. Stevens would build the wood wing while the assembly would be done by Crichton, Dave Beck, and local Pitts pilot and en-

thusiast Carl Pascarell. Budd Davison was instrumental in placing calls all over the States to recruit help on this most worthy project. The ones who answered the call did it to thank Curtis. Rich Bastian, specializing in all things aerobatic, built the fuselage in Wyoming. Jim Irwin from Aircraft Spruce and Specialty in California supplied all the wood. Nick D'Appuzzo made all the drag and anti-drag wire installed in crisscrossing 'X' to strengthen the wing, and also supplied the MacWhyte flying and landing wires. Ken Brock built all

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1946 Jack Reynolds version.

the metal fittings. Jay Wickham of Mattituck Engines overhauled the Lycoming O-145 engine. All the built components were shipped to St. Augustine, Florida, for fitting and final assembly. Only weeks before the celebration, parts like the plywood 'I' strut connecting the bottom wing to the top still had to be built. A blank nose bowl for a Taylorcraft was ordered through Univair. Forty-eight hours before the party, the engine was first run but required some troubleshooting. Jay Vieaux from Chicago arrived early for the party and proved to be a savior. He helped to trace and fix the rpm drop, and also fixed the weak brakes. All hands were on deck with a mad push to finalize any snag before a first flight.

"On the big day, weather was marginal. With a few taxi tests under his belt, Carl Pascarell was ready to fly. The little Pitts was hand-propped and eager to fly.

"It was 7:55 a.m., 29 September 1990. Five months and 18 days since we had gotten the first parts and less than six months since we had gotten the idea. Less than six months since the rebirth of the original Pitts Special, when the replica took to the air. After a quick coordinating phone call, the first Pitts, with a Citabria in trail, circled over the hotel where Pa and Ma Pitts were staying. Out in the parking lot, they waved. 'I would have given

anything to be down there with him to see what his reaction was to the replica,' said Budd."

Only a few photos of the first Pitts can be found for reference. Since the replica was built, footage of the very first flight was shared by Dennis McGuire of Hilliard, Florida, and can be seen on the Steen Aero Lab website.

A dozen spectators are gathered around the airplane. A slim, young Curtis Pitts gets into the cockpit and is ready to go. After hand-propping, the engine comes to life. Subsequent frames show a very stubby nose or firewall forward, so stubby that it is difficult to figure out how an engine was squeezed into the cowling. The rigid gear appears very narrow and some reflections indicate a solid connecting wire links the left gear to the right, effectively limiting the gear opening. Only one set of flying and landing wires are visible and the connection so big they almost look like turnbuckles.

That very first Pitts was later flipped over after losing a wheel. Repairing always brings opportunity for improvement. A bigger 90-hp Franklin was installed, and the rigid gear was linked with heavy tubing instead of wires. The cabane structure supporting the top wing was made of streamline tubing. The fitting for the flying and landing wires were very slim, but only one set was visible. The paint scheme was slightly different, with a stylized arrow on the side. This configuration is very close to the replica built in the 1990s.

Budd Davisson donated the replica to EAA in 1991. The Friends of Curtis S-1 Replica now resides in the EAA AirVenture Museum as a tribute to Curtis Pitts' life's work. It was lowered from a wall and displayed in front of the IAC Aerobatic Center pavilion for the 70th anniversary celebration. **IAC**

Francois is a longtime enthusiast and avid collector of everything Pitts. From his archives, he supplied the photos and information used in the preparation of the display celebrating the 70th anniversary of the Pitts at this year's convention. As he is continuing his search for memorabilia, and if you have any stories about Curtis you would like to share, he can be reached at francois@bizzart.com.



EVAN PEERS

Gene Soucy and Francois Bougie.

MIKE HEUER

COMMENTARY / continued from page 2

aligned our judging criteria with international standards. A snap roll, for example, would be judged by the same criteria in Colorado as it would in Poland. Our aerobatic box is the same—we all use the *Aresti Aerobatic Catalogue*, and we have adopted CIVA Known sequences in Advanced and Unlimited.

IAC contests are also based on more than 45 years of experience and rules development. Our traditions of safety and welcoming new pilots into competition are very important. Therefore, adoption of CIVA rules for use in IAC-sanctioned competitions is not automatic, nor would they all be workable, as international championships are governed by rules that are complex and demanding and would make it impossible for us to stage weekend contests. This year, CIVA is also looking

at major revisions to the flight programs flown in both power and glider competitions, and I have asked our board members, committee chairs, team pilots, and others in our leadership team to have a long and hard look at these proposals.

Whether or not the IAC chooses to go the way of the rest of the world remains to be seen. What I can promise is this—I will oppose any changes that make our contests more complex, our rule book even thicker than it already is, or anything that might shrink or discourage pilots from entering our contests. But if new rules can make our contests more fun, more rewarding, or more attractive, we will go for it.

More next month. . .

IAC

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Don't let the Grim Reaper take your parachute

Damage control, Grim Reaper and thinking inside the box

AFTER READING MIKE HEUER'S EDITORIAL in the June issue about meeting editorial deadlines, I decided to expound upon that a bit. Monthly deadlines do not just pass you by; they are always haunting you. Will I receive the article that someone promised me in time? Will fresh ideas pop into mind? Some months will be easier than others, like the 70th anniversary of the Pitts. One could write volumes about that! Thirty-two pages is a lot for editor Reggie Paulk to publish, but he manages with the largely volunteer group of authors that *Sport Aerobatics* so heavily relies upon.

All I have to whimper about is meeting my bi-monthly deadline, but so far I've found enough material to write about. After nine years I often wonder what my next column will be, while also hoping for ideas from you. I'm grateful for the support from the few of you who have given me ideas for an upcoming column, but I could sure use your help for more of them. Many of you have questions that I haven't thought of that would be of interest to the rest of the readers. All I need is your input. An e-mail, a call, or even a quiet whimper would be much appreciated. We learn from others, and I know there are those of you who have nagging questions or personal experiences that when shared would be helpful. Send your questions!

Keeping an eye on your parachute

Over the years I keep seeing parachutes come into my shop for servicing that show the same kind of wear and tear. It would be easy to say no one is paying attention, but I have to remind myself that there are a lot of new pilots out there who could use our mentoring and many experienced pilots who need reminders. Most of you *do* take proper care of your parachutes, and I'm pleased to have had a hand in that.

Now what do I talk about this month? Three topics come to mind.

Problem 1. Damage control: As far back as August 2007, I wrote about this problem. It's not uncommon to see the back or bottom of a customer's

container worn and frayed because the owner didn't know or was too busy to place some sort of padding on the seat back or bottom to help protect the con-

The problem is the seats are very hard. Over time your parachute container will show wear from your weight leaning against or sitting on it.

tainer from excessive wear and damage. The most common excuse I hear when I talk to the owner is, "The seat bottom or back is smooth." Or, "It's not rough." The surface is not the problem. The problem is the seats are very hard. Over time your parachute container will show wear from your weight leaning against or sitting on it. Usually the wear comes from the rip cord cable and pins, but also friction from both you and your parachute container shifting in the seat. You'll first start to see a faint outline of the rip cord cable and pins through the rip cord protector flap. Eventually they can wear through, causing a hole. The answer to this situation is padding. It could be a custom-made cushion or something as simple as a piece of carpet remnant. You need to cushion the area that places the most pressure on your parachute. Do not use a loose, uncovered piece of foam. It will break down and tear apart very

quickly, leaving a mess to clean up.

If you use Velcro tape or something similar to hold the padding in place, make sure the soft, fuzzy part, called pile, is on the seat back or bottom. If you have the scratchy part, called hook, there and remove the padding, you'll create a new problem the next time you get into your aircraft while wearing your parachute. Placing your parachute against the hook **will cause damage**. It'll look like a cat has clawed the back or bottom of your parachute container. In most cases the damage can be easily repaired, but why not take the time to prevent the problem? It's kind of like childproofing your home. You need to protect your parachute from unnecessary damage and keep it safe. While you're at it, look around for sharp or rough spots like welds or bolt/rivet heads that can also cause wear and (literally) tear. With proper care your parachute should last 20 years.

Problem 2. Your parachute and the grim reaper: It's been many a year since I've had to condemn out what was once a perfectly good parachute, but I've done it. I hope this doesn't sound or look familiar. This individual was accustomed to leaving his parachute out in the sun and weather for hours at a time. Leaving it in your cockpit unprotected is also not good. Over a few years, neglect took its toll. When he brought his parachute to me the first time for routine servicing, he was in for a surprise. I told him I was going to condemn it out as nonairworthy. I explained why. The owner asked if I could just replace the ultraviolet-faded and heavily sun-damaged outer harness and container. It had already faded from its true color to almost white. I explained that could be done, but the parachute inside had extensive UV damage also. How could that be, he asked. Most containers do have some sort of UV protection, but they are not impervious to UV damage, and that includes the parachute inside. His only comment was that it looked good to him.

I'm sure he thought I was trying to sell him a new parachute. I later did, but first I had to convince him he had a problem. I told him to pick areas at random on the canopy, and I would perform nondestructive pull tests on the fabric he chose. I also chose a few areas. See my June 2015 column in *Sport Aerobatics* for how this is accomplished. Needless to say, he was rather surprised that his parachute failed some pull tests in some of the areas he and I had chosen. At the time, the standard pull test was 40 pounds. If the material had not been compromised, it shouldn't have ripped until around 75-80 pounds. His parachute ripped in a couple of areas at less than 15 pounds! He learned his lesson the hard way. Please don't let this happen to you. UV damage on fabric, just like on our skin, is cumulative and cannot be reversed or re-

paired. If you ever have to use your emergency parachute, you do want to be able to look up and see something other than blue sky.

And here's a good story. A few days ago I received a parachute from someone who is getting back into tumbling through the sky after an eight-year layoff. Because he stored his parachute properly, the only thing I had to do was replace the rubber bands holding the lines in place and pack his parachute. I do recommend if you are going to store your parachute for more than a year, that you open the container and remove all the rubber bands surrounding the suspension lines. Rubber bands can store very badly. They often rot, and under the right conditions like heat, humidity, and time, they can become sticky and ruin your parachute. This is also a good time to put your parachute on and practice pulling the rip cord.

Be extremely careful handling your parachute if you do decide to remove the rubber bands. **Make sure the parachute material, and especially the lines, do not come in contact with the hook Velcro.** It can cause considerable damage if it snags the canopy material or suspension lines. Both, especially the lines, can be very expensive to replace. Once the bands are removed, place your parachute and the lines in a plastic garbage bag separate from the container to help keep them away from the Velcro hook and anything else that could damage them. Then make sure everything is stored in a cool, dry, dark place off the floor. Putting it into a plastic box with desiccants also can help to ensure that when you open it at a later date you'll not be in for a surprise.

Problem 3. Think inside the box: A parcel arrives at my shop with your expensive cushion sticking halfway out of the box. If you want someone to service your parachute, it needs to arrive **with** and in the box. Don't skimp on the tape. That means the bottom also! Tape dries over time and loses its ability to adhere. One box recently arrived with the parachute hanging halfway out the bottom. It appeared the box was only half full, or was it half empty? Where was his other parachute? A quick phone call assured me he had sent only one. Not using enough tape and not filling out the box can cause a problem, especially when other boxes are placed on top of it. Tape is cheap. Of course I've covered this many times, but remember not to use loose Styrofoam chips to fill the box. They get into everything and are a mess to clean up.

And again, please send your questions and experiences to me or to Reggie. We know you have ideas out there waiting to be shared. Again, thank you, Marilyn, for editing my column. Remember, fly safely!

IAC



50 Ways

We don't call it brilliance and buffoonery for nothing...

The problem is all inside your head, she said to me. The answer is easy if you take it logically. I'd like to help you in your struggle to be free.—Paul Simon, "50 Ways to Leave Your Lover"

"When I rolled out of the turn, I looked over my right shoulder and said to myself, "Why in the hell are the judges abeam me—who moved them?" —Dave Watson

"As I walked away from the airplane, I pulled out my cellphone and found a text message. It simply read, "What happened?" —Andrew Brett Slatkin



A reminder for Andrew to think inside the box.

There may be 50 ways to leave your lover, but there are infinite variations on how one may bollix a contest. Wayne Handley once wisely observed, "An original way to screw up a contest has yet to be invented." That being said, here are some that *are* perennial favorites:

- Flying in the wrong direction.
- Forgetting a figure.
- A combination of the above.
- Outside-the-box thinking.

"When I finished the last figure I noticed that the airport had moved to the other side of the box."—Tim Just

More Than One Way to Throw a Contest

I moved up to Intermediate in 2013. In my second contest of the season, I had been flying well and had just flown a strong Known sequence. I had a 15-figure Free sequence that showed promise to also score well.

I dove into the box aggressively and was having a great time flying figure after figure as well as I felt I could. It was incredibly fun to feel as though I was laying down another strong contest flight. I finished my sequence smiling and wagged out equally aggressively with wags well over 90 degrees.

I was floating on air (figuratively and literally) when I returned to the airport, taxied in, and hopped out of the airplane. A couple of friends who had been watching said they thought the flight looked really good. As I walked away from the airplane, I pulled out my cellphone and found a text message from Sammy Mason. It simply read, "What happened?"

I had no idea what he was talking about. He had to clarify, "You flew the sequence backward."

"What?! I did what?!" He said that I left out a figure.

I quickly realized that I had indeed left out a figure. . .figure 3! That meant that I zeroed 13 out of 15 figures. That's one way to throw a contest.

In hindsight, I realized that the primary reason I did not catch myself flying the wrong way was that the official wind was in the opposite direction to the wind during my practice session the day before. So, during the contest, I found myself flying the sequence exactly as I had practiced it; it just felt right. Doh!

Two contests later, I again found myself diving into the box for my Free flight. Due to inaccessibility on the ground at this venue, there were two box

markers missing; specifically, as viewed from the judges, the far mid-box “T” and far downwind “L” were not installed.

At this site, there happen to be many features on the ground that are viable landmarks, so I selected what I thought was a good target on the ground for my dive into the box. My intention was to start my sequence on the far side of the box (with respect to the judges) so that I could later bring my cross-box figure back toward the judges.

I was flying the same 15-figure sequence as before. It opened with a push-humpty flown mid-box, and it was followed by a hammer with a 45-degree downline. I flew the humpty square to the judges, diving straight down near where the nonexistent “T” marker would have been. I pulled level and entered the hammer.

Only after the kick did I notice that I was outside the box, flying an X-axis parallel to, but outside, the box, away from the judges. I started putting in a wind-cheat, in order to get back over that line. As a judge, I knew that I needed to have the first figure inside the box, and I was convinced that I had done that.

Meanwhile, I did not know that there was a strong cross-box wind blowing from over the judges, continuing to push me away from the box boundary. I flew the next figure and cheated it hard to get back into the box. For a reason that I couldn’t fathom in the moment, it did not look like I had made much progress.

I tried again with the next figure. I was just so close to the edge that with the wind-cheating I did, I was certain I would get myself back into the box with just this one more figure. I repeatedly considered taking an interruption, but I did not think it necessary when the next figure would put me back inside. Throwing caution to the wind (or into the wind), starting with figure 3, I started putting in huge cheats, thinking that I’d simply take a quick hit by the deduction on the figures but should get back in well before my only cross-box figure, figure 7. Well, I was successful. I got back into the box just before figure 7. Woohoo! After I landed, I was told the bad news. My opening push-humpty was flown entirely out of the box (directly in front of the judges, but outside that far boundary). As such, each and every figure flown outside of the box thereafter was zeroed. Six figures in total, and correspondingly, six zeros replaced the judges’ scores on my score sheets, which had been quite good despite how big those wind-cheats had been.

Had I known that the first figure was out, I would have taken an interruption immediately and limited

my zeros to merely that first figure. Without that middle marker, I just had no idea that the humpty had been out. Oh, well. There went another contest. At least my friends were understanding and compassionate during the banquet; they bestowed upon me a truly one-of-a-kind award for thinking (and flying) out of the box!

—Andrew Brett Slatkin

There’s No Place Like Home

I love flying contests at my home airport. No hotel, rental car, or cross-country weather issues, and you get to sleep in your own bed. And flying in a familiar box has to be an advantage!

At this contest, I was flying a Pitts in the Advanced category. I had yet to win an Advanced contest but was well-practiced and excited about my chances. A couple of days prior to the contest I decided my Free needed a minor tweak: I changed a 2x4 for a 2-point roll on the upline of figure 1. With this single change I had created the perfect Free! It’s funny how clearly events like this stay in your mind.

Time to fly! I dove in, three wing wags, pull to the vertical, and did a very nice (though incorrect) 2x4. “Perfect!” I said to myself in my best Brad Randolph voice. . . I was in a red Pitts, after all.

The flight went off without a hitch. All the pre-contest preparation was starting to pay off. I completed my last figure, three more wing wags, and I had just completed a great flight.

Then something interesting happened. I looked out the left side of the Pitts expecting to see the airport, and it was not there. That’s odd, the airport moved? Oh well, it was still a great flight and definitely clinky-worthy. It wasn’t until the judges returned from the line that I learned of my error. I did a half-roll instead of a full roll-up on figure 1. My 12-figure Free was flown completely backward. Zero points and I had two outs. Thankfully it is not possible to accumulate a negative score. I liked it better when I thought the airport had moved.

The comments on my score sheets did little to cheer me up. One judge in particular offered some solid constructive criticism; I recall Magellan mentioned. If only the rules would allow us to write the sequence down on paper and tape it to the panel. Oh wait. . .

—Tim Just

Third Time’s a Charm

In 1999, I flew my first contest in the Sportsman category. With the advice of my mentors, I also flew Primary for the patch to get more box exposure. Pri-

mary (back then it was called Basic) started with a one-turn spin, and with freshman nervousness, I over-rotated it, aligned with the 150-foot-wide runway that ran at 45 degrees through the box, ratcheted back, and started my aerobatic career with my first (of many more to come) zero.

If you are making mistakes, then you are making new things, trying new things, learning, living, pushing yourself, changing yourself, changing your world. You're doing things you've never done before, and more importantly, you're doing something.

—Neil Gaiman

After 16 years of aerobatic competition, I recently achieved the Unlimited Stars award, something I have been aspiring to since the beginning of my competition career. The time had come to get my “All 5” and “All 10” Achievement Awards. I just needed to fill in that foiled Primary Stars award; the only one I had never completed.

I flew 650 miles to attend the Ephrata, Washington, contest in July. I registered for Unlimited and flew Primary for the patch. By fate, Primary and Unlimited were combined in the same judges' line. To save time, I volunteered to fly my Primary sequences immediately after my Unlimited sequences.

Immediately after flying my Known, I exited the box and was on downwind when the chief judge called to remind me to go back up and fly the Primary sequence. Oops, I had totally forgotten about it. The same scenario occurred after the Free. I was not mentally preparing for these figures in my pre-flight preparations. After day one, I was winning Unlimited at nearly 80 percent and was sitting pretty for the patch at nearly 90 percent.

The next morning my luck changed. A few bad fig-

ures and three breaks in the Unknown totally broke my concentration and upset me tremendously. I did remember to climb in the box for the last of my Primary flights, but the chief had inadvertently switched his radio to the wrong frequency, and I was circling and calling and getting frustrated on top of still being very upset with myself.

After finally getting clearance back into the box, I dove in, put that loop right at center box, drove upwind so as to be able to put the first of the two rolls right at center box, did my half-Cuban, and as I approached center box, I cranked to 75 degrees of bank and yanked an eye-popping 180-degree turn. When I rolled out of the turn, I looked over my right shoulder and said to myself, “Why in the hell are the judges abeam me—who moved them?” A flash of immediate humility combined with a flood of embarrassment. I had omitted the downwind roll—the roll that 30 seconds prior I deliberately set up the position of the half-Cuban to accommodate.

At that moment, realizing I just won Unlimited and outright blown Primary, I wished my Lazer held 100 gallons so I could fly straight home. At the banquet, I was presented a bottle of St. John's Wort (a well-known memory aid). It now sits on my desk as a reminder of the buffoonery I was solo party to, and how flying with the wrong attitude can be detrimental and unforgiving.

I was finally able to get through the Primary sequences at the Pendleton, Oregon, contest three weeks later. My Primary Stars patch and my “All 10” are in the mail from IAC on their way to me. I sit at my front steps, anxiously awaiting their arrival. To me, they are symbols of the incredible difficulty of this sport—it can be unforgiving—but also the joy that it brings, despite the often-intermixed buffoonery.

—Dave Watson

Eager to Share

A call was placed for volunteer tales of brilliance and buffoonery. Response: oodles of buffoonery, zilch on brilliance. From my earliest days of pilot training, it always impressed me how pilots were quick to share (with great relish) stories of their biggest mistakes. I found this startling at first, then charming. This eagerness to share lessons learned with fellow pilots speaks of a culture of safety, concern, and a willingness to pay it forward. It is admirable and generous. This is one of the many qualities that make our sport so great. Thanks to all the pilots out there who are not only educating (and entertaining!) us with their buffoonery, but also inspiring us with their brilliance.

IAC



For a complete list of contests and for the most up-to-date contest calendar, visit www.IAC.org.
 If your chapter is hosting a contest, be sure to let the world know by posting your event on the IAC website.

2015 Blue Ridge Hammerfest (Northeast)

Thursday, October 1 – Sunday, October 4, 2015
 Power: Primary through Unlimited
 Location: Foothills Regional Airport (MRN): Morganton, NC
 Region: Northeast
 Website: www.iact19.org

Rocky Mountain Invitational Aerobatic Contest (South Central)

Friday, October 2 – Sunday, October 4, 2015
 Practice/Registration: Friday, October 2
 Gliders Categories: Sportsman Intermediate
 Power: Primary through Unlimited
 Location: Lamar Municipal Airport (KLA): Lamar, CO
 Region: South Central
 Contest Director: Jamie S. Treat
 Phone: 303-304-7937
 E-Mail: jamietreat@q.com
 Website: WWW.IAC5.org

Borrego Akrofest (Southwest)

Friday, October 9 – Saturday, October 10, 2015
 Practice/Registration: Thursday, October 8
 Rain/Weather: Sunday, October 11
 Power: Primary through Unlimited
 Location: Borrego Valley (L08): Borrego Springs, CA
 Region: Southwest
 Contest Director: Brenda Frazier
 Phone: 951-275-2420
 E-Mail: Hippychicky22@yahoo.com
 Website: iac36.org

ACE'S High Fall Acrotober Fest (South Central)

Saturday, October 10 – Sunday, October 11, 2015
 Practice/Registration: Thursday, October 8 – Friday, October 9
 Power: Primary through Unlimited
 Location: Newton City County Airport (EWK): Newton, KS
 Region: South Central
 Contest Director: Mark Wood
 Phone: 602-361-3504
 E-Mail: mark@dreamcatcheraviation.com

Ben Glattstein Memorial (Southeast)

Thursday, October 15 – Sunday, October 18, 2015
 Practice/Registration: Thursday, October 15
 Rain/Weather: Sunday, October 18
 Power: Primary through Unlimited
 Location: Keystone Airpark (42J): Keystone, FL
 Region: Southeast
 Contest Director: John De Gennaro
 Phone: 707-494-6001
 E-Mail: degennar@yahoo.com
 Website: eaglesportaviation.org

Keene Fall Classic (Northeast)

Saturday, October 17 – Saturday, October 17, 2015
 Practice/Registration: Saturday, October 17
 Power Categories: Primary Sportsman
 Location: Dillant-Hopkins Airport (EEN): Keene, NH
 Region: Northeast
 Contest Director: Farrell Woods
 Phone: 603-801-0276
 E-Mail: Farrell.Woods@comcast.net
 Website: <http://iac35.aerobaticsweb.org/>

Sebring Fall #72 (Southeast)

Thursday, November 5 – Sunday, November 8, 2015
 Practice/Registration: Saturday, October 31 – Wednesday, November 4
 Rain/Weather: Sunday, November 8
 Glider Categories: Sportsman through Unlimited
 Power: Primary through Unlimited
 Location: Sebring Regional (SEF): Sebring, FL
 Region: Southeast
 Contest Director: Carol A. Brinker
 Phone: 561-346-1676
 E-Mail: fltschoolmom@bellsouth.net

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