Cessna 150-152 Pilot

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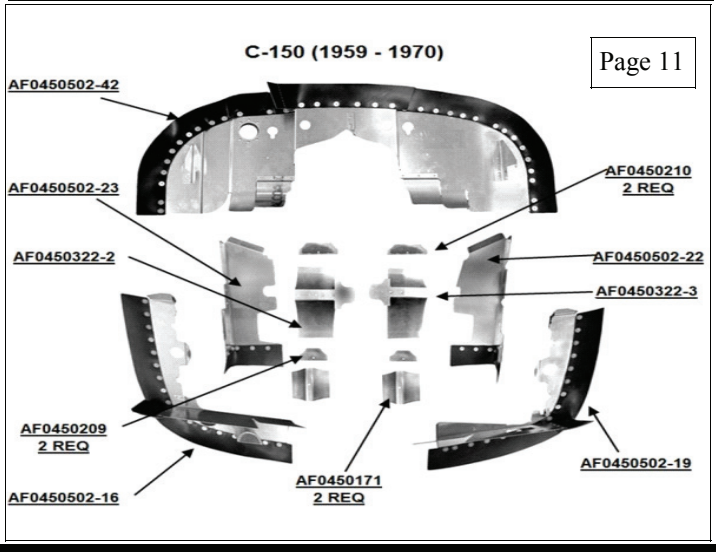

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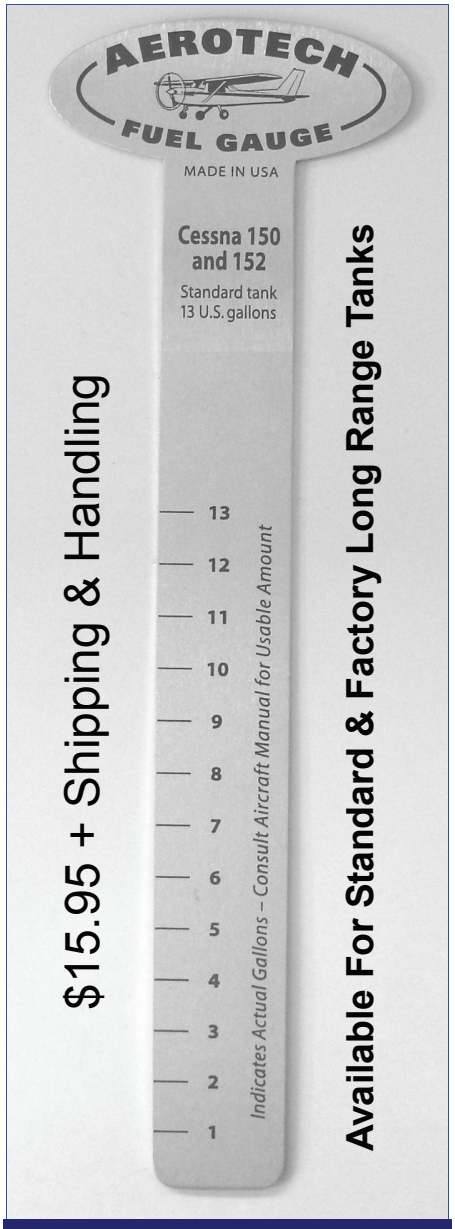

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Pursuing A World Record In A Cessna 150

By Dick Nelson (member)

Now and then I run across a Club member who has an interesting story to tell, and is willing to take the time to provide the details for the rest of us to read about it.

Member Dick Nelson sent me this material, and personally I find his story to be fascinating. Dick's account of his pursuit of the C-I-b flight record, using a Cessna 150, is a tribute to tenacity and dedication. Most of the articles we print in the ***Cessna 150-152 Pilot*** include lots of photographs, but Dick provided two for this one…and the text, taken from 3 consecutive newsletters he published, tells the story:

THE FLIGHT OF THE NAN-C
Author: Dick Nelson
Newsletter #1
September 15, 1976

The world record setting attempt, nonstop coast-to-coast flight of the Nan-C is the direct result of American ingenuity and determination.

1976 holds a very special meaning for Americans, and the idea for the flight of the Nan-C resulted from the search for a means to express the "Spirit of '76". This spirit has been displayed again and again during the past ten months through the assistance of the many people who have helped change a fledgling idea into reality.

To acquire initial information about world record flights I began at the National Aeronautic Association. Mr. John Slattery quickly and efficiently answered each of my inquiries and, although he was not fully aware of my intentions, offered encouragement. The date he provided brought about the final objective: to bring the world record for straight-line flight in the C-I-b to the United States. The class C-I-b is for light, piston-powered aircraft weighing no more than 2204 pounds at takeoff; this weight includes the airplane, pilot, fuel, and any items necessary for completion of the flight. The current record has been held for 20 years by Frantisek Novak of Czechoslovakia – a 2,648 mile flight from Brno, CZ to Kulunda, Russia.

The Santa Ana – Orange County Airport (SNA) has been chosen as the departure point. No world record has been set from an SNA departure; it is likely the most recent record set at SNA was in 1935 by Howard Hughes. Bangor, Maine, an area like Orange County, is the destination; the distance to Bangor exceeds that of the Novak record, and the flight can take place entirely within the U.S.

A man without whom this project would be impossible is Dave Blanton, President and Chief Engineer of Javelin Aircraft Company. He is now the technical advisor of the flight, chosen because of his support and concern. Blanton's qualifications are extensive, but most importantly include the design of the fuel system for each of three other record flights.

With Dave Blanton's concurrences the aircraft chosen for the flight is an off-the-shelf Cessna 150, with a Continental O-200 engine and a McCauley propeller. Champion spark plugs have been selected for the flight, as have Goodyear tires. An Alcor Mixture Analyzer has been installed and will be used to considerably reduce fuel consumption.

No structural changes have been made to the aircraft itself. This demonstrates the soundness of American production methods. Without the firm standard of quality, this aircraft would never fly.

The plane is named the "Nan-C" after my daughter, Nancy Nelson, who, when learning to talk, always enunciated her name distinctly as "Nan-C!". During this time (some 5,000 flying hours ago) I was learning to fly, and the memory of early morning studying with Nancy is one I often recall.

Professor Newton Stone and Eddie Choy of Krick Associates have provided expert weather assistance imperative for the completion of this project. Their study of weather patterns show the most favorable days for flight to be between October 20th and November 1st.

The best of engine mechanics is another must for the success of this flight. Ten top pilots were asked

The tail logo expresses the spirit of the project ***"200 Years...Freedom"***

and, even without any specific knowledge of the project, they all recommended one man: Walt Templeton. Walt was contacted and has agreed to head the staff from Imperial Aviation, who have been assigned the mechanical responsibilities. Stan Erickson of Western Air Inc. volunteered the use of a transponder and inspected the pitot static system of the Nan-C.

Insurance problems have teen taken over by John Martin of Martin Irvine Insurance. Nan-C's home has been provided by Tom Lennen of LenAir Associates. Both men, by assuming these responsibilities, have helped the project immeasurably.

Perhaps the greatest difficulty encountered with the project was the method to express the feelings which have brought about the flight of the Nan-C. It has taken the artistic creativity of Ed Roth to express, on the tail of the Nan-C, the fact that freedom is greater than any man. Photographs taken by Marshall Harper convey the same thought, and will accompany the next newsletter.

On the tail appears a new number: N760CA, symbolizing 19**76** **O**range **C**ounty **A**irport. Difficulties in obtaining the number from the FAA were encountered, but Mrs. Mooney of the FAA office in Tulsa calmly solved all problems. However, the delay in obtaining the number resulted in the need for a short-notice paint job. Ernie Johnson and Manuel Fuentes, of E&M Painting, completed an excellent job in record time.

Many people have been helpful and their confidence has been especially appreciated. But the project would have had no chance for completion without the help of the entire Nelson family. Son Randy took over the yard work, as well as providing the notebooks and drawing the calendars. Daughters Jeri and Nancy have assumed many of the household chores to allow more time for my concentration on the project. My wife Pat and my parents, Mr. And Mrs. Stanley Nelson, have shown the highest form of unselfishness in sacrifices made to keep the idea of the Nan-C alive.

Aircraft preparation and flight testing are presently underway in Wichita. Preliminary flight test data is very encouraging.

The next Nan-C Newsletter will be published after flight testing. Thank you for your continuing support.

THE FLIGHT OF THE NAN-C
Author: Dick Nelson
Newsletter #2
October 10, 1976

As takeoff power was applied, the Nan-C began rolling as normal, accelerated a little slower than normal, and began feeling lift. In 1500 feet she was airborne; 23 minutes later she leveled off at 8500 feet and pointed her nose at California. The Nan-C had made her first takeoff at greater than 2000 pounds and received an "A" on her report card. Maybe this sounds a bit enthusiastic, but regardless of how hard we had planned and worked, until the airplane made that takeoff and climb there was still a doubt…there's no doubt now!

During the past three weeks the Nan-C has undergone major changes, from a standard Cessna 150 to a World Record challenger. During this time several trips were made and lots of help was required, and received.

The first trip was a cross-country flight from Santa Ana to Wichita (Augusta), which took 13.7 hours flight time and two stops. A few days later Nan-C returned to SNA from Augusta in 14.7 hours with NO stops! Yes, the Nan-C changed a bit during her stay in Kansas.

The major change is the auxiliary fuel/oil system. Dave Blanton of Javelin Aircraft designed the system, and it's great. The aux fuel system consists of three fuel tanks: a 42 gallon tank behind the pilot, a 27 gallon tank filling the space previously occupied by the co-pilot's seat, and just forward of that an 8 gallon flight termination tank. A 3-gallon supplemental oil tank is installed where the right-seat rudder pedals used to be. The welding done by Mr. Alan Kite of Wichita is beautiful.

On the morning of September 30th I got my first look at the aux fuel/oil system; it was sitting on the bench at Javelin in components. Mr. John Michell of Red Wing Flight Activities at Augusta Municipal volunteered the use of their facility and their complete cooperation, and at 2:30 pm we started the actual installation. It's sort of amusing to see five people working on a Cessna 150, but with the able assistance of Steve Coats, Wilbur Wallace and Duane Hastler, everything worked out fine. We had the system ready for flight by 5:00 pm that day.

Friday, October 1st was the day of the FAA inspection. Mr. Maines, from the Wichita Office, performed an inspection that was very thorough, and I'm very proud we had no major squawks. When this project was planned we agreed to always cooperate fully with agencies such as the FAA, and never have we had one single bad experience with the officials. This proved to me once again that the "system" does in fact work.

Friday afternoon and Saturday morning were used to flight test the Nan-C and correct the one problem that occurred…a failure of the oil transmitter. DC-4 compound solved the problem. The aircraft was fueled, weighed, and de-fueled with the discovery that our weight calculations were off by only 1/10th of a pound! That's the product of good engineering by Mr. Blanton. The line service personnel at Red Wing are to be complimented on their helpful, cheerful attitude and it is deeply appreciated.

As of Sunday, October 3rd, the responsibility changed hands. Now it's up to the pilot to handle the Nan-C and guide her on. Our first trip, a system check flight from Augusta, KS to Scottsbluff, NE was the first real chance for me and the Nan-C to get used to each other, and to practice the trip procedures. Several in-flight activities required correcting. All dealt with flight organization and the absolute necessity for it. Nan-C took on her first headwind and required 5.9 hours of flight to reach Scottsbluff, and was pleasantly surprised at her greeting by the personnel of Scottsbluff Aviation; they provided her with a hangar and shelter from the 40-knot winds. The next morning, Monday, she returned to Augusta in 4.8 hours, undergoing another good systems check, including use of the termination tank. These trips were useful as they added more insight into what would be required on the record challenge.

Tuesday, October 5th, Dave Blanton and I had breakfast at Wichita's Executive Inn as usual. The encouragement of the people at the Inn and their sincere wishes of good luck are appreciated.

Nan-C began the non-stop flight to Santa Ana just as we'd expected, with a longer than normal takeoff roll, but very positive performance. One quickly gets the message that any failures of the Nan-C to set new records will not be caused by her.

The flight to Santa Ana was interesting, particularly from a physical standpoint. My discussion with Dr. Humphreys several months ago took on real meaning. The problems on this flight went exactly as I had suspected, and the results were as forecast.

With arrival at Orange County, the Nan-C was judged ready for her flight to Maine and the world record. Currently, she is a shy airplane and finds life very pleasant, tucked away in the National Medical Enterprises hangar.

This project has had many surprises, all good, and they emphasize the fact that people really make the world go around. The most recent example is from the people I fly for and with. Golden West Airlines has volunteered to provide the fuel for the flight and six First Officers have agreed to fly my schedule so as to provide me with extra days to make this flight.

The Nan-C will depart Orange County Airport for Bangor, Maine, between 7:00 am and 8:30 am on Saturday, October 23rd, 1976, or the first subsequent day the weather allows. We'll leave from the old fire station area, which will give all who are interested the best view of the airplane. The personnel at LenAir will be manning the phone and know our exact departure time. For more information call 714-549-1895.

On January 4, 1976, Nan-C was an idea on a piece of paper. Today she is ready to fly. This is the direct result of some people willing to take a chance on an idea. When this project started I only asked for a chance…I appreciate being given this chance, and the help of many, many people in the process.

The Nan-C is ready to fly!

THE FLIGHT OF THE NAN-C
Author: Dick Nelson
Newsletter #3
January 4, 1977

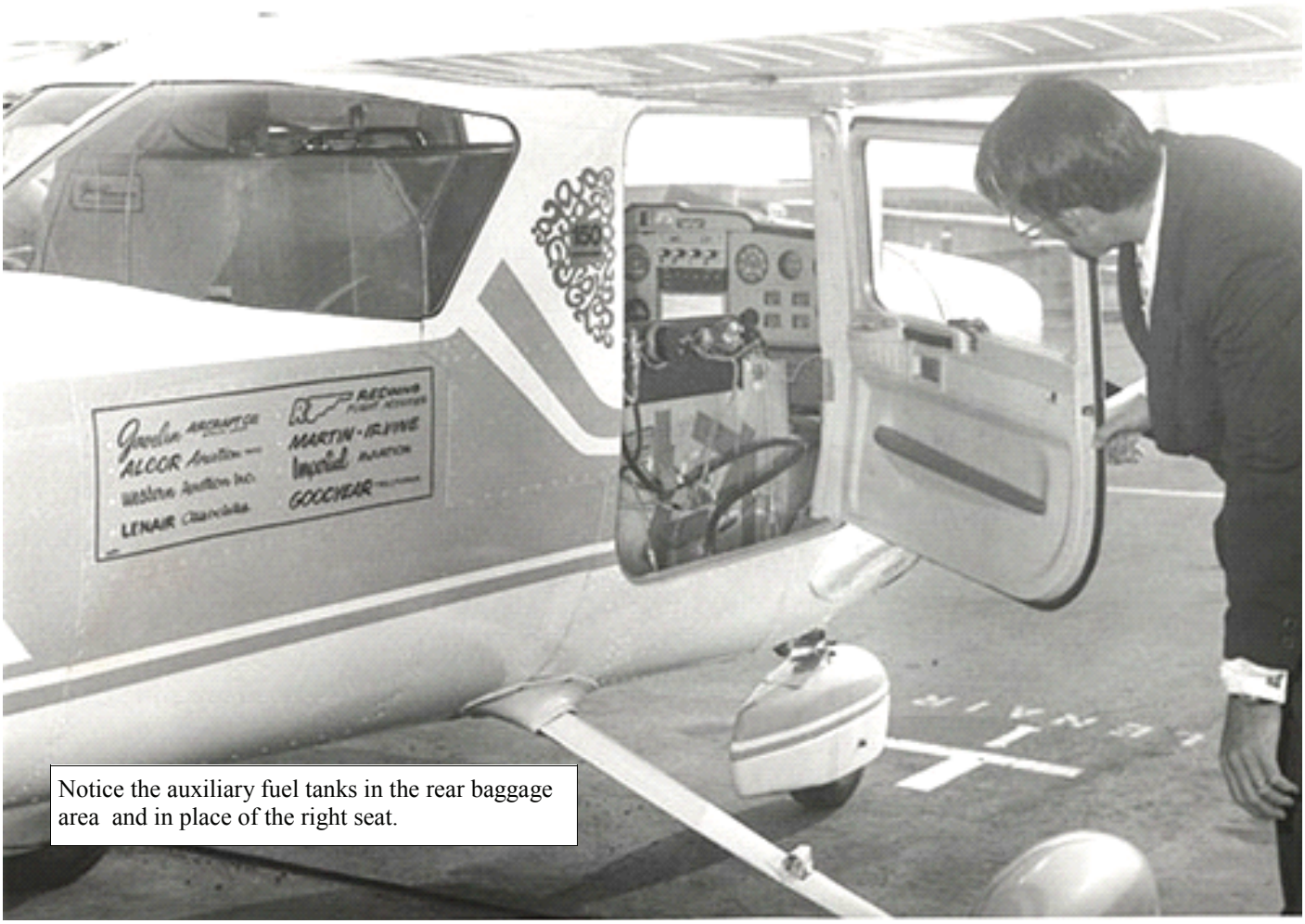
FACT: Silence is not golden.
FACT: There are better places to land an airplane than in a blueberry bog, but then again, there are worse.

The original destination of the Nan-C was Bangor, Maine. However, on October 12/13, Dr. Rod Nixon, of Washington state, flew his Cessna 170 2785 miles cross country, thereby setting the new class C-I-b World Record. Therefore, for the Nan-C to be a record setting flight the destination had to be reset, and a Canadian city, St. Johns, New Brunswick, 150 miles east of Bangor was decided upon. But as the Nan-C passed Bangor and neared here Canadian destination, there was heard the sudden ominous silence recognized only by pilots, and it became necessary to make an emergency landing. The only available area was a blueberry bog, which was completely surrounded by hazardous woods.

I walked away from the landing, but the Nan-C did not fare as well as I. After touch down and initial rollout, her nose wheel became caught in a furrow in the bog, and the plane made a slow motion roll, ending upside down. Thus ended the *second* flight attempt, after 29 hours and 2750 miles.

The *first* flight attempt, although an earnest one, turned out to be more of a false start. Against the advice of weather experts Professor Stone and Mr. Choy, the Nan-C was piloted out of SNA on the beautiful morning of October 23rd. But the weather elsewhere in the country was not as desirable as that of California, and the attempt was ended with a 180 over Wichita, and a landing at Albuquerque some 20 hours after takeoff.

A week later, November brought us the weather conditions perfect for the flight. Take off was flawless, as was the rest of the flight. My location was monitored by Flight Service Stations along the way and phoned to members of the ground crew, supervised by Bill Dean, who manned the phones at LenAir Associates during the entire flight.



Notice the auxiliary fuel tanks in the rear baggage area and in place of the right seat.

The flight time to Wichita was about 14 hours. Most of the winds were headwinds, but the tailwinds picked up at dusk and helped hurry Nan-C along at speeds up to 120 MPH, making good time for a Cessna 150. We saw the sun rise over the Great Lakes, then after 28.2 hours we passed over our original destination, Bangor, Maine. But only 75 miles short of the new record, the Nan-C's fuel system suffered a malfunction and she had to be brought down.

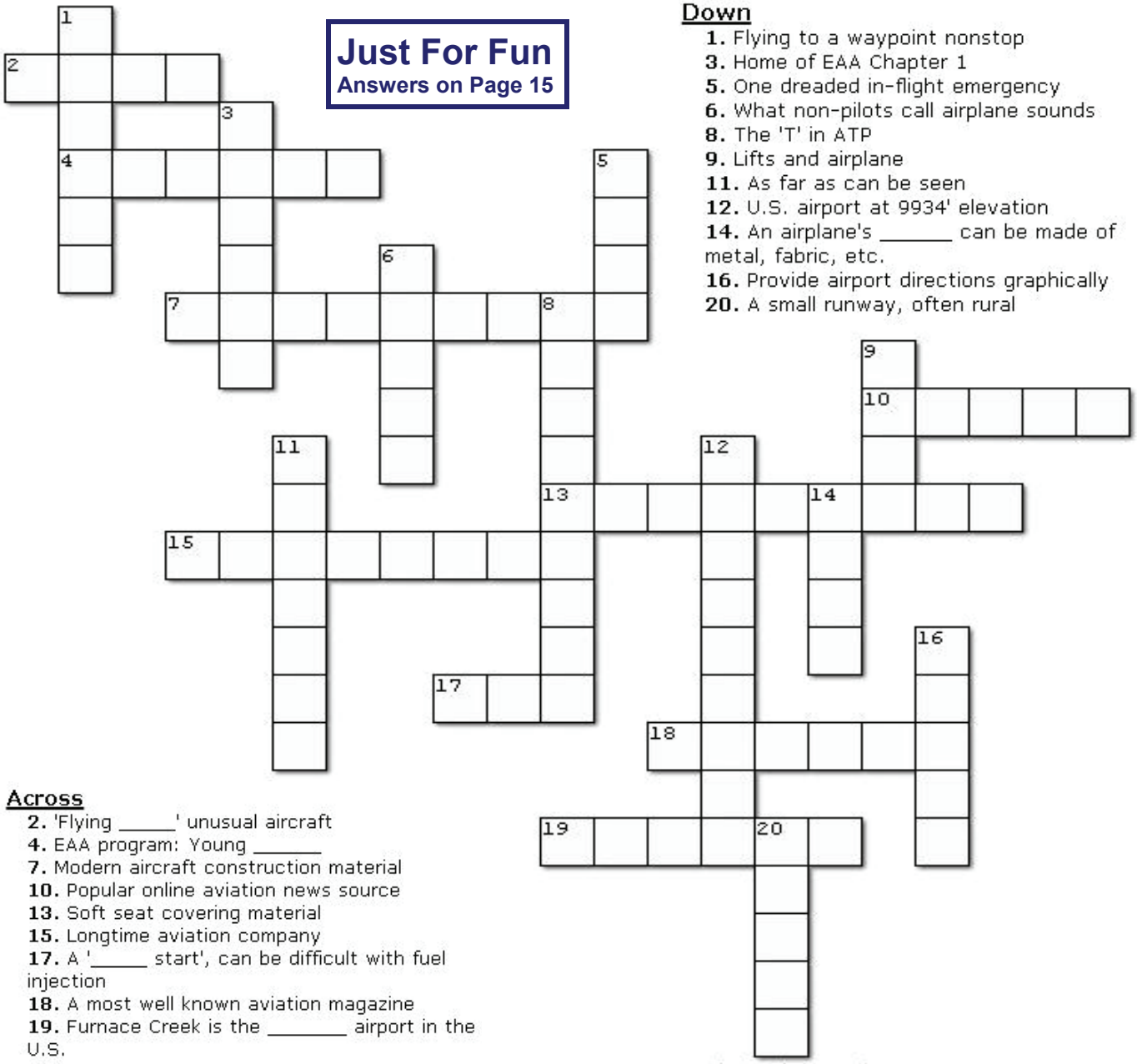
One of the biggest surprises of the flight was the welcome as I stepped off the airliner at LAX. I never did think anyone would still be interested, but the same loyal group was there to welcome me home. And while everyone involved deserves special thanks, there is one person who has made the flight possible. My wife, Pat Nelson, has been backstage helping the idea of the flight become a reality. Her part of the adventure was probably the most difficult and least recognized.

However, there are countless people who have helped with the project who have been encouraging, despite the setbacks. And, to their question, "Will there be another flight?" the answer: YES.

This pursuit of an aviation world record was a noble endeavor by devoted, enthusiastic people, and although this all happened nearly 40 years ago I found myself cheering the Nan-C on as I read Dick's firsthand account of the events of the project. Talking with Dick I was told that there was, after all, no subsequent record-seeking flight of the Nan-C…and he expressed no regrets about it. The FAA records currently show N760CA, a 1975 Cessna 150M, to apparently be alive and well in Fair Play,

Just For Fun

Answers on Page 15



Down

1. Flying to a waypoint nonstop
3. Home of EAA Chapter 1
5. One dreaded in-flight emergency
6. What non-pilots call airplane sounds
8. The 'T' in ATP
9. Lifts and airplane
11. As far as can be seen
12. U.S. airport at 9934' elevation
14. An airplane's _____ can be made of metal, fabric, etc.
16. Provide airport directions graphically
20. A small runway, often rural

Across

2. 'Flying _____' unusual aircraft
4. EAA program: Young _____
7. Modern aircraft construction material
10. Popular online aviation news source
13. Soft seat covering material
15. Longtime aviation company
17. A '_____ start', can be difficult with fuel injection
18. A most well known aviation magazine
19. Furnace Creek is the _____ airport in the U.S.

If helicopters are so safe, how come there are no vintage/classic helicopter fly-ins?

The scientific theory I like best is that the rings of Saturn are made entirely of lost airline luggage.

You know they invented wheelbarrows to teach government inspectors to walk on their hind legs.

Arguing with a pilot is like wrestling with a pig in the mud; after a while you begin to think he enjoys it.

Airplane travel is nature's way of making you look like your passport photo.

There's nothing like an airport for bringing you down to Earth.

Engine Baffles Explained

Provided by Steve Hunter of Airforms, Inc.

An Introduction to Airforms, Inc.

Never underestimate the aviation folks in Alaska, as it can feel much more like the center of the flying world than the edge. Airforms is located 60 miles from Anchorage in the town of Big Lake, and has wheel, float and ski plane access. It's well organized, clean and bright with state of the art computer numerically controlled/computer aided manufacturing (CNC/CAM) sheet metal fabrication equipment.

Although also heavily engaged in Engineering projects (Airforms has two FAA DER's on staff who are available for a wide variety of Engineering tasks) and the design and manufacturing other FAA PMA components, new engine baffles are a focal point of this company.

Typical Baffle Condition

If you have spent much time around aircraft maintenance hangers (and who among us has not?), chances are you are already aware of the often poor condition of the commonly neglected sheet metal and rubber engine baffle assemblies that exist on piston powered aircraft. For many aircraft, baffles are out of production and are available only from Airforms. The historically long lead times and high costs, or unavailability associated with baffles in the past has been the cause of a lot of baffle patching – and
the impetus of Airforms' efforts.

Part Approval Process

New part approvals and FAA liaison is a big part of a business like this, and with baffle sets approved for more than 50 aircraft (and counting), Airforms is well on its way to their goal of being a one-stop shop for engine baffles for the GFA fleet.

Work on new FAA/PMA approvals is continuous, and a large flow chart on the office wall lists the 41 steps in their PMA approval process, with individual projects listed representing the various stages of progress for each. Engine cores sporting prototype sets are a constant part of the décor in the shop.

As the last step in the approval process each set is installed on an airplane for an FAA compliance check and the final fit and improvements are made at this point. When an airplane isn't locally available for this step, Airforms' personnel will often travel to where the first set is installed.

Precision in Manufacturing

The level of precision and repeatability inherent in the CAD/CAM process makes the great Airforms fit all possible. Complex parts with multiple bends and numerous rivet holes typically mate up precisely during assembly so that rivets can be installed without holes needing to be chased with a drill. The parts fit right – the first time and every time.

Baffles 101

Engine baffling is one of the aircraft's most important life extension systems, yet it is one of the most frequently ignored in terms of keeping it in good repair. While flying, the average airplane is pushing a substantial volume of air into the engine compartment. This huge amount of air, however, will be inefficient at cooling the engine if the direction and flow of the air is not precisely controlled. Thus the need for baffling which, when properly installed and maintained, will direct cooling air to those areas requiring the greatest heat transfer for the longest engine life. Baffling directs the flow of cooling air
through and around specific areas of an engine by forcing the pressurized air to take a route other than the easiest way out. It does this by creating a "pressure box", which seals incoming air inside the cowling (usually at the top of the engine) and allows only those areas we need cooled to be subjected to the cool flow of air moving toward the bottom of the engine compartment. Without well maintained baffling, attaining engine TBO is unlikely. One engine rebuilder stipulates that their warranty is void if baffles are not in "like new" condition.

As with the engine itself, baffling is also used to direct and force cooling air to accessories and components like oil coolers, vacuum pumps, magnetos and fuel injector systems. Using scat tubing and aluminum elbows or blast tubes, cooling air is removed from the pressure box and sent to various components outside the sealed area.

A common area of baffle failure is on the tabs and holes where tie-rods or spring loaded wires are used to pull the forward and aft baffles together and hold them

against the cylinders. If the baffles are not pulled against the cylinders properly, cooling air flow is lost resulting in higher than normal CHT. Both Continental and Lycoming are specific about the need for snug fitting baffling.

Silicone Seals

Because we can't allow the engine and sheet metal baffling to contact the cowling, a flexible, heat resistant silicone seal material is commonly attached with staples or rivets to the sheet aluminum around the pressure box perimeter. This material is also used to cover irregular holes and gaps that cannot be controlled with aluminum or steel. For years, baffle seals made from asbestos-rubber were used. The material was generally stiff and difficult to form around corners. When subjected to cleaning solvents the old seal material would absorb the napthas contained in the solvents and become brittle with the application of even a little heat. Cracking, warping and stiffness (aside from the asbestos content) made this material less than desirable and routine replacement was found to be necessary, especially on higher power engines.

In recent years the introduction of seal material made from high temperature silicone imbedded with fiberglass weave has found its way into engine compartments. This material meets MIL Spec AMS-3320 and is flexible, far more durable and resists temperature extremes from -65 F to 550 F. Airforms has the fiberglass reinforced silicone seal material specially made for them in .093 thickness, which they have found to be optimal to get both flexibility and maximum wear. Rather than the staple method of attachment, Airforms uses aluminum washers attached with solid rivets. It's much friendlier if you ever need to work on them.

Improving Design and Material

A baffling system is made up of sheet aluminum, steel brackets and heat resistant silicone seal material. The steel and aluminum pieces are typically installed between cylinder barrels, around oil coolers, along the cylinder heads, and forward and aft of the engine creating the "pressure box." Most often sheet aluminum will be used to form the pressure box area which will fit close to – but not touch – the top and bottom engine cowling. Not all the original baffles fit properly to start with, so Airforms makes fit improvements as necessary to minimize component wear and increase engine longevity. Airforms uses 6061-T6 aircraft aluminum as the material for their baffle designs due to its mechanical properties and weldability. They have made wide use of stainless steel brackets, tabs and doublers in specific areas prone to stress cracking, vibration fatigue, and fatigue from supporting extra loads on baffles that hold up oil coolers, etc. Once again, long life and value to the customer are the goals.

Checking Your Baffling

Small holes or gaps – the combined area of which is equal to or greater than the size of a quarter – will provide sufficient loss in the pressure box air to create a cooling loss as well. Check carefully around oil coolers and make certain there are no leaks where the rear baffle attaches to the back 2 cylinders. Use a mirror to look down between cylinders to check the security of the inter-cylinder baffles. Check the fit of the baffle between the engine and lower nose cowling bowl. Make sure that all seals and supports are positioned so that air loads during flight don't allow the seal to blow back or deflect downward, destroying the "pressure box" seal. Inspect grommet cutouts and holes through which engine controls are fed. In short, inspect for any areas where pressure air can escape the

Ordering Baffles

The experience of hanging that shiny new or rebuilt engine and then realizing that those dirty, cracked and generally unattractive baffles weren't thought of until this point is not uncommon. This scenario has motivated Airforms to keep pretty much everything they make in stock. The baffles are available in bare aluminum or powder coated finish. Black Hi-Temp reinforced silicone seals are standard, but for a little bit more blue or orange seals are an option.

Photos of available seal sets can be found online at **www.enginebaffles.com** or at **www.airforms.biz**, and buying the full set saves you money – as set prices have a built in discount when compared to buying all of the individual baffles separately. You can call the company directly at 907-892-8244 with questions. Airforms has a growing distribution network, so contacting your favorite local aviation parts distribution house will often provide sets in a location

Insuring that your engine is protected from excess heat by making sure your engine baffles are up to the task is one way to help your engine achieve many trouble free hours of operation – and is a good way to save money in the long term.

July/August 2014 Accidents

Important: The Cessna 150-152 club publishes these accident reports in the hope that readers will consider the role that each pilot's decisions played in the outcome and learn from the experiences of others. These reports are solely based on preliminary NTSB reports which may contain errors. They have been edited for clarity. They are not intended to judge or reach any definitive conclusion about the ability or capacity of any person, aircraft, or accessory.

Stats: 7 Airplanes, 10 Persons,
1 Uninjured, 1 Minor Injury, 1 Serious Injuries,
7 Fatalities, 0 Unknown

NTSB Identification: ERA14FA328
14 CFR Part 91: General Aviation
Accident occurred Sunday, July 06, 2014 in Topping, VA
Aircraft: CESSNA 150J, registration: N50824
Injuries: 2 Fatal.
This is preliminary information, subject to change, and may contain errors.

On July 6, 2014, about 1643 eastern daylight time, a Cessna 150J, N50824, was substantially damaged when it impacted the ground in an open field in Topping, Virginia, shortly after departing Hummel Field Airport (W75), in Saluda, Virginia. The airplane was owned and operated by an individual. The pilot and sole passenger were fatally injured. Visual meteorological conditions prevailed and no flight plan had been filed.

According to several eyewitnesses, the airplane was observed near the airport and it "would not gain altitude." The airplane made two landing attempts and while on a southerly heading, the airplane was flying "very low," made a "hard right turn" to the east, and subsequently descended and impacted the ground.

The wreckage debris path was 17 feet in length, from the impact point to the main wreckage, and the main wreckage came to rest on a 280 degree heading The airplane impacted the field in a nose down attitude. The initial impact crater measured 8 inches deep. In addition, there was a linear indentation in the dirt that spanned approximately 17 feet in either direction of the impact crater, which was similar in dimension as the wingspan. All components of the airplane were located in the vicinity of the main wreckage. Examination of the engine and airframe revealed that there were no anomalies with the airplane that would have precluded normal operation prior to the accident.

Two engine monitoring instruments were removed from the cockpit and sent to the NTSB Recorders Laboratory for download.

NTSB Identification: CEN14CA381
14 CFR Part 91: General Aviation
Accident occurred Monday, July 21, 2014 in Greenfield, IN
Probable Cause Approval Date: 08/14/2014
Aircraft: CESSNA 150D, registration: N4545U
Injuries: 1 Uninjured.

The student pilot, who was on his second solo flight, reported that he maintained 68 mph and was on centerline of runway 25 with a slight left crosswind correction as he flared the airplane for landing. After touchdown, the airplane started drifting to the left. He reported that he attempted to correct the drift by applying rudder; however, he applied both the brakes and rudder causing the airplane to veer off the left side of the runway. The propeller impacted the ground, the nose gear collapsed, and the airplane nosed over, resulting in substantial damage to the firewall and fuselage. The student pilot reported that there was no malfunction or system failure of the airplane before the accident. The recorded wind at the airport was 170 degrees at 4 knots.

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The student pilot failed to maintain directional control while landing with a crosswind.

NTSB Identification: WPR14LA305
14 CFR Part 91: General Aviation
Accident occurred Monday, July 21, 2014 in Russian Flat, MT
Aircraft: CESSNA 150M, registration: N66255
Injuries: 1 Fatal.
This is preliminary information, subject to change,

and may contain errors.

On July 21, 2014, about 1325 mountain daylight time, a Cessna 150M, N66255, was found at the west end of Russian Flat Airport, Montana, by a driver passing by on the nearby highway. The commercial pilot sustained fatal injuries, and the airplane was substantially damaged. The airplane was registered to Cowdog Flyers LLC. Visual meteorological conditions prevailed at the time of the flight, and no flight plan had been filed. The flight originated from Bozeman, Montana, about 1236.

The Federal Aviation Administration (FAA) inspector who was on-scene reported that the airplane was located about 570 feet from the departure end of runway 25 at Russian Flat Airport, with the nose embedded into a swamp and the tail sticking up in the air and bent to one side. The pilot had signed the airport record book, which was the only signature present for that date.

Remarks listed in the 2014 Montana Airport Directory for Russian Flat Airport states that the runway has an uphill slope to the west and recommends that pilots take off on runway 07 and land runway 25.

Convective rain shower and thunderstorm activity was prevalent around the accident site and central Montana at the time of the accident.

NTSB Identification: ERA14CA366
14 CFR Part 91: General Aviation
Accident occurred Tuesday, July 29, 2014 in Waterloo, NY
Probable Cause Approval Date: 09/02/2014
Aircraft: CESSNA 150M, registration: N66358
Injuries: 1 Minor.

Prior to departing on the flight, the pilot referenced the Airport/Facility Directory and noted that one of the runways at the destination airport had a displaced threshold. He subsequently departed, and entered the traffic pattern to land on the 2,275-foot turf runway 28, approaching the end with the displaced threshold. The pilot became concerned with the runway's relatively short length, and on final approach, increased the airplane's descent angle in order to use as much of the runway as possible. While on short final approach, the pilot suddenly observed marked power lines that ran perpendicular to the runway, across the threshold, and immediately thereafter one of the main landing gear wheels struck the wire. The airplane then yawed to the left and pitched nose-down. The pilot attempted to correct the upset, but the airplane subsequently struck the ground, resulting in substantial damage to the airframe. The power lines were depicted in airport information.

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain adequate clearance from obstructions while on approach to the runway.

NTSB Identification: ERA14FA377
14 CFR Part 91: General Aviation
Accident occurred Saturday, August 09, 2014 in Peachtree City, GA
Aircraft: CESSNA 150C, registration: N7968Z
Injuries: 2 Fatal.
This is preliminary information, subject to change, and may contain errors

On August 9, 2014, about 0600 eastern daylight time, a Cessna 150C, N7968Z, owned and operated by a private individual, was destroyed when it impacted terrain shortly after takeoff from Atlanta Regional Airport-Falcon Field (FFC), Peachtree City, Georgia. The private pilot and a passenger were fatally injured. Instrument meteorological conditions prevailed and no flight plan had been filed for the flight destined for Eagle Neck Airport (1GA0), Shellman Bluff, Georgia..

The airplane was owned by the pilot and his wife, and based at FFC. The pilot and his wife also owned a home in a residential community at 1GA0.

According to pilot's wife, the pilot and the passenger, who was her brother, intended to fly to 1GA0 to attend a homeowner's association meeting that was scheduled to begin at 0800.

A witness at the FFC, who was a pilot and air traffic controller, stated that he observed a small single engine airplane depart from runway 13, shortly af-

ter 0545. The airplane leveled off about 100 to 200 feet above the ground and continued to fly on runway heading, before he lost sight of it. He further stated that visibility at the time was "somewhat restricted" due to patchy areas of fog or mist, and he estimated the ceiling was about 300 to 400 feet.

A witness, who lived about 3 miles from the end of runway 13 stated that he observed a very low flying airplane about 0600. The airplane was flying about 30 to 40 feet above the tree line and the engine noise sounded normal. He lost sight of the airplane and recalled hearing a "thud," shortly thereafter. At the time, he did not consider that the airplane may have crashed and was not aware of the accident until hearing a news report. He described the weather conditions at the time he observed the airplane as "humid and rather foggy."

The airplane was subsequently found in a wooded area about 3.5 miles southeast of FFC, adjacent to a gravel road.

The airplane's initial impact point was a berm on the side of the road. Debris was strewn for about 80 feet, on a heading about 240 degrees, and the airplane came to rest nose down, in trees facing the opposite direction of the debris path. All major components of the airplane were accounted for at the accident site. The left wing was separated from the fuselage and contained leading edge compression damage approximately mid-span and was crushed in a tapering fashion toward the left wing tip. The empennage was separated and remained attached via control cables. The right wing remained attached to the center wing section at the aft attachment bolt and was fractured into two pieces at approximately mid-span. The engine remained partially attached to the airframe firewall via engine mounts and various lines, cables and hoses. The propeller, both magnetos, starter, vacuum pump, and carburetor separated from the engine and exhibited impact damage. The propeller was located about 65 feet from the initial impact point and remained attached to the crankshaft flange, which separated from the crankshaft. The propeller blades displayed chord-wise scratches, leading edge gouges, and "S-bending."

A handheld global positioning system receiver was recovered from the cockpit and forwarded to the National Transportation Safety Board's Vehicle Recorder Laboratory, Washington, DC, for download.

The pilot held a private pilot certificate with a rating for airplane single-engine land, which was issued on May 16, 2014. His most recent Federal Aviation Administration second-class medical certificate was issued on July 31, 2014. At that time, he reported a total flight experience of 213 hours. The pilot did not possess an instrument rating.

A weather observation taken at FFC, at 0553, reported: calm winds, 6 statute miles visibility with mist, overcast ceiling at 600 feet above ground level, temperature 21 degrees Celsius (C), dew point temperature 21 degrees C, and an altimeter setting of 30.05 in-Hg.

NTSB Identification: ERA14FA387
14 CFR Part 91: General Aviation
Accident occurred Thursday, August 14, 2014
in Mount Pleasant, SC
Aircraft: CESSNA 150M, registration: N66241
Injuries: 2 Fatal.
This is preliminary information, subject to change, and may contain errors

On August 14, 2014, about 1125 eastern daylight time, a Cessna 150M, N66241, was substantially damaged when it impacted terrain shortly after takeoff from Mount Pleasant Regional Airport-Faison Field (LRO), Mount Pleasant, South Carolina. The commercial rated pilot and non-pilot rated student were fatally injured. The airplane was registered to and operated by Hanger Aviation, Inc. Visual meteorological conditions prevailed, and no flight plan was filed for the local instructional flight

According to a witness, the airplane began its takeoff roll on runway 35 with "40 degrees of flaps." Multiple witnesses stated that the airplane lifted off the ground about midfield and that it "immediately looked unstable." A witness added that the wings were banking to the right and left. When the airplane reached an altitude about 100

feet above ground level, it entered a continuous left turn and subsequently rolled wings level on a westerly heading. The airplane then entered a nose down attitude followed by a right wing low attitude and was in a "straight downward dive" when it impacted the ground.

The airplane impacted a field of sparse vegetation about 1100 feet northwest of the departure end of runway 35. The airplane came to rest in a near vertical, nose-down, position and was orientated on a 310 degree heading. All major components of the aircraft were accounted for at the accident site. The initial impact point was about 3 feet forward of the main wreckage. The wings remained attached to the fuselage and exhibited leading edge crush damage that spanned the entire length of each wing. Flight control continuity was confirmed for all control surfaces from the cockpit. The wing flaps remained attached to their respective wings and the flap actuator jackscrew position was consistent with a flaps retracted setting. The ailerons remained attached to their respective wing attach points and exhibited some compression wrinkling and denting. No damage was noted on the elevator and rudder control surfaces. The elevator trim tab was found in the neutral position. Both propeller blades remained attached to the propeller hub and displayed some chord-wise scratching along the span of both blades.

According to Federal Aviation Administration (FAA) records, the pilot held a commercial pilot certificate with an instrument rating for single and multi-engine land. The pilot held a first-class medical certificate, which was issued on May 25, 2011 at which time he reported 275 total flight hours. A review of FAA records revealed that the pilot did not hold a flight instructor certificate.

NTSB Identification: ERA14LA411
14 CFR Part 91: General Aviation
Accident occurred Thursday, August 28, 2014 in Creedmoor, NC
Aircraft: CESSNA 150L, registration: N1741Q
Injuries: 1 Serious.
This is preliminary information, subject to change, and may contain errors

On August 28, 2014, about 2305 eastern daylight time, a Cessna 150L, N1741Q, operated by a private individual, was substantially damaged during a forced landing, following a total loss of engine power during cruise flight near Creedmoor, North Carolina. The airline transport pilot was seriously injured. Night visual meteorological conditions prevailed for the flight that departed Bowman Field (LOU), Louisville, Kentucky, about 1810. No flight plan was filed for the planned flight to Elizabeth City Regional Airport (ECG), Elizabeth City, North Carolina.

According to preliminary data from the Federal Aviation Administration, about 2256, the pilot contacted Raleigh-Durham International Airport (RDU), Raleigh/Durham, North Carolina, Terminal Radar Approach Control (Raleigh Approach). The pilot stated he was approximately 15 miles north of RDU and requested entry into the Class C airspace for landing at RDU. The controller provided the pilot with a transponder code, which he acknowledged. About 2258, the pilot advised the controller that he needed an immediate turn toward RDU as "the magneto has just dropped." The controller then provided the wind, altimeter information, and a vector of 230 degrees to the airport. About 2259, the pilot reported that the engine "just quit." The controller also provided information about a highway 5 miles east of the airplane and the pilot requested that the controller keep the airplane away from populated areas. The controller then advised that there was a lake about 3 to 4 miles to the pilot's right and the pilot requested vectors toward the lake, which the controller provided; however, the airplane impacted trees in a cul-de-sac about 3 miles east of the lake.

The airplane came to rest in the front yard of a residence, partially suspended in a tree. Further examination of the wreckage was planned following recovery.

PUZZLE ANSWERS

Across
2. Wings
4. Eagles
7. Composite
10. AvWeb
13. Sheepskin
15. Northrop
17. Hot
18. Flying

Down
1. Direct
3. Flabob
5. Fire
6. Noise
8. Transport
9. Jack
11. Horizon
12. Leadville
14. Skin
16. Signs
20. Strip

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