

**Club Trip: Patriots’ Point Naval and Maritime Museum**

*-by Justin Miller*

*“Niner-seven-two whiskey whiskey, what is going on in Sanford?”*

The last of eight planes to open a flight plan from Charleston KCHS to Sanford KTTA within a ten minute span, 972WW explained that we were Wings of Carolina Flying Club, and had the made a club trip down to tour the Yorktown. We were all parked side by side on the tarmac – preflighted, loaded up, and Hobbs meter running. Behind the two click response from the controller, I knew he was thinking something along the lines of; “that is too cool.” And as I watched two Harriers taxi in front of me, sharing the tarmac with the club planes and passing each of us one by one, I thought the exact same thing. It was a good day to be in the club.

Earlier that morning of February 26<sup>th</sup>, Wings of Carolina began its first club trip of the year. The morning Fayetteville TAF gave a misleading low VFR forecast of a 3,000 foot and descending ceiling – causing the 152s to alter their flight plan about 140 degrees and head to Martinsville KMTV for lunch. The rest of the pack departed for Charleston around 1400Z – two Warriors, two Skyhawks, a Diamond and a Cirrus all off KTTA in route to the Sandhills VOR. The flight from there was simple and Carolina-flying beautiful; from Sandhills to Florence to Charleston. As we approached the hundreds of green fairways belonging to Pinehurst, we all picked up our flight plans one by one. It’s not unusual to have a frequency full of undistinguishable radio traffic, but it is oddly comforting and unifying when the radio chatter is full of familiar voices and call signs that you yourself have used before.

The jigsaw pieces of fairways, lakes, and neighborhoods faded away like the unfinished edge of

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**Air Route Traffic Control Centers-- Same Mission, Different View**

*-by Paul Keller*

Many pilots have availed themselves of the occasional opportunities to tour local air traffic control facilities. I have toured RDU tower and TRACON three times, Potomac Approach’s TRACON once, and the Pasco, Washington tower and TRACON once. But what about the air route traffic control centers (ARTCCs, or sometimes simply “centers”) where air traffic controllers monitor and communicate with traffic in large, dark TRACONs, which are sometimes located hundreds of miles from the traffic they control? I am a Wings of Carolina club member and flying instructor now residing in central Washington State, and not long ago I organized a tour of Seattle (Washington) ARTCC for my local pilot community in central Washington.

The center tour began with a presentation on the history of Seattle Center, along with the broader picture of the establishment of the current nationwide enroute radar air traffic control system. Seattle Center was established in 1962, about the same time frame as the other nineteen ARTCCs across the

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a puzzle to dense woods and farmland as we crossed the state border. The stretch from Sandhills to Florence was beautiful in its own right; the contourless terrain allowed for the perfect outline of every scattered cloud at 8,000 MSL as we sliced through the steady air. It was one of those smooth, sweat-free flights that we all long for – where you can equate it to powering a boat through a glass lake (and not be lying to yourself). Beneath the shadows, the Pee Dee River came into view off our 3 o'clock, writhing towards us until finally passing under our feet and slithering off towards the coast, ending up on our 9 o'clock by the time we had reached Florence. After Florence, flying over Lake Marion foreshadowed the much larger, but still barely out of sight, body of water off to the East. Just as the Atlantic neared and began to confuse the horizon, Charleston Approach gave a vector of 160 allowing us to perfectly trace the short-lived river that connects Lake Marion to the ocean. As the river approached downtown Charleston and began to take a much more torturous

course – and as we were assigned lower and lower altitudes – I had to fight the urge to join the water in practicing up on steep turns. Yet, unfortunately for my pleasure and 45 degree turn skills (though likely fortunately for my license), we were vectored to base-to-final for runway 33 before the thrill of the moment could get the best of me.

After taxiing to the FBO, we were marshaled in amongst much, much larger aircraft. In fact—now don't be alarmed—your club airplane of choice was likely sitting next to 550 pounds of explosives in Charleston. Any other time and this would have been a bit disconcerting, but being marshaled in beside F18s and Harriers was an experience I will never forget, though pretending to fit in with the Navy pilots while walking back to the FBO was a bit unsuccessful. The plane they flew in was likely eating the plane I flew in behind my back. After watching a few

flybys and touch and goes by the fighters, it was time to head over to Patriot's Point.

After a quick lunch on the dock where the aircraft carrier USS Yorktown and submarine USS Clagamore were berthed, it was time to tour the sub. Among the Wings of Carolina members participating in this trip was Brian Flynn, who having actually served on a Navy submarine, became an impromptu and excellent tour guide. We started in the bow, an area shared between sleeping sailors and naval warheads. Three to four bunks were stacked on top of each other and lined the hull on both sides. The torpedoes and their launch tubes would have been about a foot aft of a sleeping sailor's head. Brian



mentioned that sailors would switch sleeping quarters every few hours; several bunks had head clearance of less than 2 feet. From there, we walked aft through dining quarters (sorry, Brian, the "Mess"), the kitchen ("Galley"), several control rooms and the radar room. Along the way, Brian explained the controls, weapons systems, and life on a

submarine in general—we did learn that Brian likely spent three months without showering while serving in the Navy. Older submarines had no distillation technology, therefore no showers. Add that to the fact that submarines couldn't circulate fresh air while submerged, and there was no wonder the Clagamore was saturated with the smell of oil, sweat and ocean water. Interestingly, Brian explained to us that during World War II, American submarines could only run on battery power while submerged. After the U.S. captured a German submarine, we discovered their snorkel technology allowed their subs to aspirate their engines while a few feet below the surface. From then on out, we were able to scud run with the best of 'em. By the time we made it to the stern, our group of club members had turned into a congregation of tourists following our club-member-turned-tour-guide around.

I'm sure many thought Brian was employed by Patriot's Point—I was almost convinced myself.

Any other day without Brian personalizing the sub tour, the Essex-Class USS Yorktown Naval Aircraft Carrier would have been the main attraction. But it surely didn't let anyone down. The flight deck was packed full of historic aircraft including the "Last of the Gunfighters" F-8, the first supersonic carrier aircraft and last jet with guns rather than missiles as primary weapons. The bottom deck was packed full of Corsairs and Hellcats, while a F14 Tomcat sat on the end of aft runway's threshold, sitting against a backdrop of a local sailboat harbor and Fort Sumter. Yet despite the scenery and up-close look, many of us felt the real air show began back at Charleston International.

Once back at the airport, we were greeted again with the roars of F18 flybys and hairpin turns. The aircraft were practicing carrier approaches—In fact, a NOTAM had been released for carrier arresting gear just before the threshold of one of the runways. Others were approaching hot, then around midfield, pulling some major g's in sharp turns, producing visible wingtip vortices around 200 AGL. After a bit of pre-fighting in the FBO, we headed out to the aircraft. The FBO had lined all of our aircraft up in a row along the tarmac, paralleling the flight line of F18s and Harriers just a couple of hundred feet in front of us. The Harrier and F18 pilots walked out of the FBO with our group, also heading to preflight their aircraft. I think the pride on the tarmac was palpable on that walk and during the respective preflights, even with such different mission profiles. We were pre-fighting club aircraft—aircraft that allow us to take trips like this one, to share the passion of flying and form friendships, and recreationally fly wherever we want, sharing the flying bug with whomever we want. The Navy pilots were pre-fighting their aircraft—aircraft that threaten the boundaries of Newton's laws, give the pilots intense satisfaction, and protect the people of the



United States. Both groups had reasons to be proud of what they were pre-fighting, and I really don't think either group had more pride than the other. And I bet there was a bit of jealousy on both sides.

Near the end of our preflight, we heard the recognizable clicking sound of a starting turbine. The whine of the turbine was followed by the deep roar of introduced fuel. We watched as the two Harriers and two F18s spooled up only a few hundred feet from us. I had never been so close to so much power. From the club's flight-line perspective, you could perfectly see the pilot running through system checks in one of the Harriers. As the jets taxied out, they maneuvered parallel to and just a few yards away from our

aircraft; one pilot gave Sam Evett a salute and a laugh for some previous help removing a forgotten chock from a Harrier's gear. Mutual respect. The ride home was just as beautiful as the one to Charleston, and even included a sunset on final for runway 03 at KTTA.

A fantastic day to be in the club.

## Meet Member X

### *Profiles of WoC Members*

Earl Yerby has been a prominent member of the Wings of Carolina Flying club for much of the past decade. For the past 16 years, the Apex-based entrepreneur has specialized in the restoration of 19<sup>th</sup>-century furniture and pianos as the owner of Heritage Furniture and Antique Restoration, located on Farrington Road near Jordan Lake. Previously, he founded and subsequently sold a furniture manufacturing company in Dallas, TX. He and his wife, Sunny, have one daughter, Hannah, who graduated from UNC-Asheville and will start at Johnson & Whales University's culinary school in Charlotte this fall.

Earl has been active as a member since the Flying Club moved to its present location from Chapel Hill in 2001. He got his private certificate at the club, and has since earned his instrument, multi-

engine and commercial ratings all through the Club. He credits the collegial atmosphere of the club with a portion of the learning that drove his progression through the ratings. “I learned just as much from talking to people as I did from reading and studying,” he notes. “At the club you feel much more a part of a situation, with relationships created across the pilot spectrum.” As he continued his piloting studies he made sure to try and plug his knowledge back into the Club community. Drawing on his studies, Earl and George Scheer compiled the safety tips still found on the documents section of the Club website today. “I served as the Safety Officer before Dick Kenney took it on, and just wanted to share the best of the materials I was studying.” Earl also served as Club President in 2005.

While he still flies with the club, Earl’s new business venture—a patent-pending device used to sterilize athletic equipment and other objects—has taken an increasing amount of his flying time. “We used to fly somewhere every Friday night and just talk for 2-3 hours; we would leave at 5 and get back at midnight. I just don’t have time right now with the marketing for my new product.” He also bought a Bonanza in 2006, and calls the club “a great incubator for people who want to someday own a plane.” Despite the demands on his time, however, Earl remains an active member in order to continue his irreplaceable relationships with fellow aviation enthusiasts. “The club offers a real sense of unity, of community. I truly hope club members will actively engage each other even more often—this makes the Club a great place to fly.”

## President’s Message

**T**his is my first column for our renewed newsletter. Our previous newsletter editor Paul Keller moved to Washington State, and after several long distance editions decided he could no longer keep “current” with happenings around the club. So after a 2 year newsletter hiatus, Andrew Grauer has stepped up and taken on the responsibility and challenges of publishing a club newsletter. Thanks Andrew! *[Ed. Note: Thanks to Paul for facilitating a smooth transition, and for contributing one of the feature articles in this edition of the Newsletter. --A.G.]*

2011 has been quite a year so far for our club. Membership is up about 20 members. Our flight hours are continuously increasing, which has caused some scheduling challenges. Recognizing this

problem, our board-appointed fleet committee worked diligently to determine a solution. Based on the committee’s recommendation, our board approved the purchase of two additional aircraft. Warrior 8080A was repurchased from a past club member and our search for a 172 is on-going. While John Hunter has looked at a few potential aircraft, his keen eye has found problems with each. With any luck our team will find the right 172 for our club soon and we will all benefit from having an additional airplane.

During the first 4 months of the year, we have had a full schedule of activities. Pizza nights, 2<sup>nd</sup> Saturday cookouts, plane washes, and even a club trip to name a few. More of these events will take place throughout the remainder of the year. Our second club trip is planned for June 4<sup>th</sup>. We will be heading to Okracoke for lunch and a sightseeing boat trip. More details on this trip will be coming soon (or may already be out by the time of this newsletter). Our 50<sup>th</sup> club anniversary will take place on June 18<sup>th</sup>. Aviation seminars and a barbeque lunch are a few of the events that are planned for the 50<sup>th</sup>. We will also have summer and fall private pilot ground schools and a fall commercial ground school. Filling these classes is very important to the continued growth of our club. Please tell your friends and neighbors about our ground schools and help us fill up our meeting room with students and prospective members.

If you have any suggestions for activities, trips, pizza night topics, or anything else, let me or any other board member know. We can always use new ideas for club activities.

Finally, with over 300 members, 11 aircraft (soon to be 12), many awesome flight instructors, it takes a lot of work to keep our club running. If you see a full trash can... take out the trash. Help out at a monthly plane wash or even cut the grass. Nobody else will do these chores except you and me. So, if we all chip in, we all can enjoy what our club has to offer.

Blue skies and a tailwind,

David Greenfield



*David Greenfield is President of the Wings of Carolina Flying Club*

*ARTCC--Continued from page 1*

country. The ARTCCs, and their associated nationwide, long-range radar coverage were established in response to a fatal mid-air collision between airliners over the Grand Canyon in the 1950s. After several moves around the Puget Sound area early in its history, Seattle Center moved to its current site in Auburn in the early 70s. That site has since been expanded at least once, and now employs approximately 200 controllers and a similar number of support staff mainly involved in maintenance and training.

Also included in the center's introduction was a description of Seattle Center's airspace. Seattle Center, or, by its designator, ZSE, is really located in Auburn, Washington. Auburn is now a suburb of the greater Puget Sound metropolitan area, located somewhat between Seattle and Tacoma. Seattle Center is the high altitude air traffic control center for all of Washington State, most of Oregon, and parts of western Montana, northern Idaho, and extreme northern California. ZSE also handles air traffic down to the surface outside between those areas handled by local approach controls such Chinook, Seattle, Portland, Spokane and Grant County (Washington) approaches. Chinook Approach is the consolidated approach control for Yakima and the Tri-Cities area of central Washington, where I now reside. Seattle Center handles the traffic at and above 11,000' above Chinook Approach's airspace.

Following this introduction, which was held in a training classroom in the administrative section of the facility, we were taken to the control room simulator, where controller trainees train using simulated air traffic on simulated radar consoles which are identical to those used in the actual radar control room. After seeing the control room simulator, we were taken into the radar control room itself. As with the other large-scale air traffic control radar room I have seen (Potomac TRACON, the consolidated approach control for Washington, DC, Baltimore, MD and Richmond VA), Seattle Center's radar room includes a situation desk, which maintains an overview of the overall air traffic situation within the Center's airspace. A major role of the situation desk is to determine hour-by-hour staffing levels needed at the radar consoles. Because air traffic control is now heavily computerized, the staffing levels needed for any particular time period can be predicted well in advance, based simply on computer projections of the number of aircraft predicted to be in any sector of the

center's airspace in the future. Seattle Center's airspace is divided into four major areas: South, covering southern Oregon and northern California; Central, covering northern Oregon, including the Portland area; Northwest, covering western Washington, including the Puget Sound area, and northeast, covering Washington's East Side (the area of Washington east of the Cascades Mountain Range), and the airspace over Idaho and Montana which Seattle Center handles. Fully-qualified center controllers are able to handle any sector in one area, but do not work traffic in any sector of any other area. Seattle Center's control room has about 50 radar consoles. Those consoles are modern, sweepless displays which present a computer-generated presentation of air traffic from several radar sites. These radar displays can be overlaid with the NEXRAD radar weather displays; however, that radar weather picture has a latency period of eight to fifteen minutes. As a result, the controller's weather depiction should not be used for tactical weather avoidance. This weather display is nearly identical to that available to pilots via ADS-B or satellite. The familiar flight progress strips have been largely replaced by an electronic display and conflict monitoring system known as the User Request Evaluation Tool (URET). The radar coverage over central Washington is generally good, mainly provided by two air route surveillance radar sites, one just east of Spokane at Mica Peak, and another in north central Oregon. The worst radar coverage in Seattle Center's airspace is generally in south eastern Oregon.

There are some noticeable differences in comparing ZSE's airspace and similar radar coverage along the east coast. In the case of ZSE, there are fewer approach controls, resulting in more airspace where ZSE's coverage extends down to the ground. Terrain is an issue almost everywhere, even in some areas relatively close to radar installations. That said, there are some "holes" in the radar coverage even along the east coast, since I am aware that the radar coverage between Raleigh and Norfolk, Virginia is also generally poor at low altitudes.

## Meet Member X

### Profiles of WoC Members

**B**ryan Conner neither entered nor left his aviation career following traditional paths. Currently, Bryan flies for the sheer pleasure of it; his last aviation-related paycheck was in 2007. The following year he embarked on a career change at UNC Kenan-Flagler Business School, where he graduated in 2010 with his MBA and experience in corporate finance and private equity. He now serves on the 3-person finance team at iContact, where he recently completed a \$40 million Series B equity raise to finance the company's ongoing growth. He, his wife, Sally, and their 21-month-old son, Brad, enjoy weekend trips to the beach and listening to Bryan play banjo.

After graduating in 1998 from the University of Colorado with a degree in Geography, Bryan landed the best job benefit of all—getting paid to get his private certificate. He had joined JD Russell & Associates, a photogrammetry firm creating sub-foot-accuracy digital maps using computers, prisms, and low-altitude aerial photographs. “We flew out of KGWS [Glenwood Springs Municipal Airport, located 150 miles west of Denver] which was a 3305x50’ strip high in the mountains, 5916’ MSL,” Bryan says. “I was a project manager, which included flight planning.” Combined with a good deal of “hanger talk” with the pilots, the experience ignited a passion for flight in Bryan—a passion that enjoyed the full support of the company, which, anticipating bringing the flying operations in-house, paid for his flight training.

Bryan spent nearly 10 years in mapping and imaging from increasingly higher altitudes—including photogrammetry, synthetic aperture radar and eventually satellite remote sensing. When the mapping flights reached Class A airspace, Bryan became a flight crewmember and Radar Operations Specialist with the occasional opportunity to sit in the right-hand seat. “We were mapping entire countries—the Philippines, England, Scotland, Wales, the Solomon Islands—from 24,000 to 30,000 feet (depending on



the level of accuracy we needed to achieve) in a restricted category, modified Learjet 36A,” he says. “I was a radar operator awestruck by pilots that were so technically skilled. They had to stay on a ground track to collect the mapping data—there were roll, pitch and yaw constraints, even in turbulence.” The experience—and his fellow pilots—encouraged Bryan to complete his instrument and then get his multi-engine and commercial ratings. “I always try to emphasize to prospective student pilots that there are flying careers other than the airlines,” Bryan says. “Every flight I made was different—I never flew the same route twice. It was a great career with a lot of variety.”

Upon relocating to the Triangle, Bryan joined Wings of Carolina for the sense of community. “I looked at a variety of clubs and school in the area, and thought that Wings of Carolina had the optimum combination of great airport facilities and decent airplanes that were more affordable than other clubs. Best of all, though, were the shared flying experiences, like maintenance nights and safety seminars. It just seemed like I could get a well-rounded pilot experience.” With his future goals including a Single Engine

Sea rating, CFI and possibly (“if a number of things line up right”) ATP ratings, Bryan anticipates enjoying the Club for years to come.

#### Notice to Members: Club's 50<sup>th</sup> Anniversary

Hopefully you already have June 18<sup>th</sup> marked on your calendar designating a highly significant milestone for our flying club--its 50th Anniversary. To commemorate this historic day, we have planned an event-filled day that will be fun for club members, their families and outside general aviation enthusiasts. If you are planning to attend, you should register as soon as possible at [www.flyingclub50th.org](http://www.flyingclub50th.org), where an agenda for the day can also be found.

There are also plenty of volunteer needs and ways to help make this event truly special for our members. If you are willing and able to pitch in, please email Paul Wilder ([paul.wilder@earthlink.net](mailto:paul.wilder@earthlink.net)). In any event, please register soon so we can get an accurate count.

## Club Life: Introducing Wings of Carolina to Prospective Members

-by Ronney Moss

Occasionally I have the privilege of giving people the “50 cent tour” and showing off the club to potential members. One of the questions I try to answer is “Why would anyone want to shell out a fairly substantial plane deposit to join a club with monthly dues?”

With rated pilots, I generally start with the airplanes, which are what probably attracted them. For an experienced pilot we have a wide variety of airframes to match various missions. Not much beats the mighty 152 for honing your skills and experiencing the joy of flight at a relatively low cost. The Warrior and the Skyhawk are solid IFR platforms that can carry a decent load. You can sharpen your instrument skills and/or take the family to the beach for a reasonable fee. The Mooney is legendary for economy and speed; we have members that regularly fly to New York, Houston and Detroit.

Compare the hourly rates of the club and you will notice the rates are lower than that of other organizations, primarily because these are not rentals; our fees are designed to cover operating expenses, not to generate profit. With our modest monthly dues, the break even point encourages you to fly more often. Another reason our costs are lower is that our insurance fees are lower, due to a favorable safety record related to the fact that our pilots tend to fly more. The cost of insuring an owner is also lower than that of insuring a rental operation. The deposit emphasizes that a club member is a partial owner, instilling in the club member a sense of responsibility for maintaining the aircraft. “You mean I own the airplanes?” You own a share of them, I tell the prospect. Imagine a few hundred of your friends got together and bought an airplane (or eleven)!

Club members care about the aircraft because there is ownership. Many get together on Wednesdays and wrench on our airplanes, with a very experienced Aviation Maintenance Technician providing oversight. One of the major benefits of membership is being able to learn the inner workings of an aircraft.

This is generally when I show them the hangar and let them know it was built by club hands. As a matter of fact, practically the entire organization is

run on volunteer effort. If you don’t like something you can probably change it. The snack bar had a limited variety until some hungry club members asked if they could take charge. Now, Klondike bars, MoonPies and frozen pizza fly off the shelf during ground schools. Put your money in the red tin if you want something. “Why, yes, the club offers ground schools for private, instrument and commercial.”

The tour is similar for the potential student pilot with a few additions. Our flight instructors are club members and work for the individual rather than the organization. This means our students come first. Our loyalties to the club are as members rather than as employees. We provide individual instruction and get paid directly by the client, in contrast to many flight schools. There is no external pressure to fly. Aircraft maintenance, weather and more importantly student progression determine if and how much we fly. Our profit margin is not directly tied to the

Hobbs meter. The club is a non-profit organization. We have a large stable of instructors, a motley bunch for sure, but they are dedicated professionals with a passion for flight. A wide variety of backgrounds and personalities provide a suitable match for almost any individual.

But the real response to queries about what makes Wings of Carolina such a special club generally becomes clear when I introduce them to a fellow club member. Most club members show sincere interest and some are contagiously enthusiastic. The people make the club a place not just to learn stick-and-rudder skills, but also to grow as a pilot. We have an eclectic mix of aviation enthusiasts. College professors, cabinet makers, right-wing gun-nuts and tree-hugging liberals gather peacefully together to learn from each other. The learning and sense of community is continuous whether at formal pizza nights, second Saturday events or just drinking coffee and telling stories. We love flying and it shows. Flying is fun and much more enjoyable when you don’t feel threatened, and that requires a safe learning environment. The safety culture is embedded into all aspects of the club from the screening of the driving records of potential members to club annual proficiency training. Reasonable risk management is the norm, neither so risk averse that we never fly, nor chest-beating heroics that end in smoking holes.

**Q--“Do you know the difference between a four wheel drive and a rental car?”**

**A--“There are some places a four wheel drive won’t go!”**

## John's Corner

I am delighted to see that the Club newsletter will be taking on new life. As an old-timer, I believe in the role of the printed word among our Club members. While we are all about flying, the Club also provides a support basis for all of us to pursue this marvelous activity, and the newsletter is a great way to achieve this end. Thanks to Andrew for diving into the editor slot.

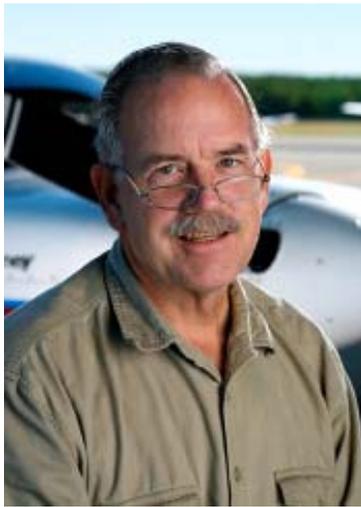
I have been a member of the Club since 1974 and (besides serving as president, being on the Board for over a decade, and editing the newsletter for a few years) have had the privilege of serving as Chief CFI and now as Director of Maintenance. Andrew has asked me to contribute a regular column which I am happy to do, and readers will note that my view will be reflective of both my CFI and maintenance experience with the Club.

### Dead Reckoning

To start off with, how about some aviation history? (As students in my ground school classes know, I like to spout off about various aviation historical issues.) The small issue of how Dead Reckoning got its name has cropped up as a controversy recently with the promulgation of misinformation over the last 70 years based on some faulty folk etymology.

Dead Reckoning (DR) has been around as a navigational method for about a thousand years, first invented by the Chinese at approximately 1050 AD, and then adopted by every seafaring nation in the 1300s with the development of the dry compass. As the only practical method of navigation without constant reference to landmarks or celestial bodies, DR was naturally adopted early on in the aviation era and remains fundamental even today. DR is not only what every pilot does on any excursion away from the airport but it also provides the fundamental basis for the math underlying the latest RNAV computers in modern aircraft. Random Navigation (RNAV) computers are embedded in what most pilots think of as GPS receivers – the GPS actually being the one of the smallest parts of the navigation box, with the far greater functions being the data base and its software, moving map technology and screen drivers, RNAV computation, and user interface features. But, back to Dead Reckoning.

In its simplest form, DR is the notion that if we start from a known position and fly a planned direction at a known speed for a specific time, we then can predict arrival at our destination. On every flight away from the



airport (or voyage away from landmarks on the water), a pilot plans in advance what direction (heading) she or he will need to travel to arrive at the intended destination. But, of course, it is a little more complicated. While a rough heading may get you in the general vicinity of where you plan to go, there are complicating factors of crosswinds and headwinds or tailwinds and the issue of magnetic variations. Fortunately, methods for dealing with these factors were long-since worked out in the naval world as ocean currents are the equivalent of winds aloft for pilots (and sailing ships also had the further complicating factor of leeway which would be the rough equivalent of a pilot flying in a uncoordinated manner.)

In the English speaking world, the methods used to make these calculations came to be known as “Dead Reckoning” with reference to this terminology found in ship’s logs dating back to the early 1600s. The term “Dead” is an older English usage meaning “accurate,” “precise,” “in the middle of.” We moderns still recognize this usage when we hear “You’re dead right,” “It’s dead-on target,” or “The destination is dead ahead,” or the original character of “Deadeye Dick” (the accurate marksman, not Dick Cheney.) “Reckoning” has a more modern meaning of “reasoning” or “calculation.” Consequently, the term “Dead Reckoning” means “Precise Calculation” in modern language. It has nothing to do with death.

Nor does the actual etymology have to do with “deduced.” This canard came out of the WW-II era where many pilots were trained to think that “dead” must have been a misspelling of an abbreviation for “deduced.” Prior to the late 1930s there was no controversy about this term. It has only been in the last 70 years that folk etymology has maintained that “deduced” should be the origin. (And in the rest of the English speaking world, there still is no controversy. It is only in America that we have confused the issue by falling for the folk etymology.)

Consequently, when we navigate without reference to landmarks we are navigating by “Precise Calculation” for which many of us prefer the quaint term, “Dead Reckoning.”

*John Hunter is Maintenance Director at the Wings of Carolina Flying Club.*

**Special Note from John:  
SAVE THE DATE  
Oshkosh July 23-28**

As many have commented, every pilot deserves at least one “Oshkosh” experience (if not 5 or 10). For 30 years the Club has organized a trip to the EAA convention in Oshkosh. This is the world’s largest airshow with thousands of airplanes in attendance and for pilots, it’s a complete playground with about every aviation treat imaginable. Want to ogle the latest military hardware? Go right ahead and have a close-up look. How about World War II bombers and fighters of every description? Sniff ‘em up close and then watch them do flight demonstrations.

Same is true of antiques, classics, Korea-era jets, classic piston airliners, and experimentals of every description. If the day is hot, touring the huge air conditioned museum is always a highlight with its WW-II wing.

How about trying your hand at engine rebuilding, sheet metal working, welding, fabric covering, painting, propeller making, and more? There are ongoing workshops to help you learn and practice skills. And all day every day you may attend your choice of 12 simultaneous lectures and

seminars. The 150-page program lists them all – including navigation, aero-medical issues, maintenance, flying to Europe, FAA lectures, aeronautical comedy routines and stories... you name it, they got it. And in the evening there are more programs with nationally known speakers and celebrities, and films, and bands, and night air shows with sparkles and lights.

For many of us the world-class daily shows are the top hit with internationally known acts, military teams and novelty acts. But if that doesn’t do it for you, there are acres and acres of indoor and outdoor aviation vendors demonstrating and selling (at low “show” prices) a full range of airplanes, engines, accessories, radios, pilot supplies, hardware and every aviation gadget imaginable. Then there’s the “Fly Market” where one can find and purchase jewelry, T-shirts, supplies, tools, garage doors, massage chairs, non-aviation gadgets and memorabilia of every description along with airplane exotica. It might be cracked or broken and full of mud or charred from a fire, but it’s was once flying on an airplane. Buyer beware!

For most of us, a serious highlight is the flight up and back and the camaraderie while at Oshkosh. Flight planning and the flying are fun and we make sure that all pilots

get significant stick time. We camp together, compare notes at lunch, and walk out to nearby restaurants to enjoy evenings together. And, by the way, there are experiences planned for children and spouses who may not be aviation enthusiasts. Crafts, sports and put-trips to nearby attractions are on the menu too.

The only sad part of the Oshkosh experience is that one simply cannot see or experience it all. Even for us certifiable aviation nuts, we get exhausted trying. So it really does take 5 years to partake in all of the pleasures. The experience is such that even as your mind is abuzz with all of the great aviation stimulation, your body (and especially your feet) are screaming “too much, too much.”

It’s time to go, and you realize that you haven’t taken the free bus down to the float-plane lagoon to spend a relaxing afternoon in the shade at the water’s edge soaking up the ambiance. And you really haven’t looked closely at the Pioneer airport hangar and it’s collection of flying antiques, or spent enough time at the rotocraft area watching the proud helicopter builders do the skills obstacle course—knocking down and then standing back up skinny traffic cones with their skids—or the autogyros doing their thing... or

looked closely enough at the blimp, or ogled the “Bamboo Bomber” twin Cessnas (remember the TV show “Sky King, and his niece and Penny?”) parked in the camping area, or the privately owned DC-3s flown in by groups of campers, or the entire ultralight section at the south end of the field. Well, there’s always next year.

So save the date. The Club planes will be launching on Saturday morning, July 23<sup>rd</sup> and likely returning on the 28<sup>th</sup> (or as worked out with your plane’s pilots and passengers.) On the way up we generally all stop for lunch half way at Cincinnati’s historic Lunken field at their fine restaurant overlooking our fleet on the ramp. One more stop at Watertown to fly in “Luce” formation in to OSH to all camp together. One thing that many of us look forward to is the generally dryer and cooler weather of the upper Midwest.

Sunil Gali has stepped forward to organize this year’s Oshkosh trip. He’ll soon be putting out more information and taking reservations for those pilots and passengers and guests who may wish to fly to the big show. The airplanes have already been reserved. This will be one of the most fun and least expensive flying vacations you’ll ever take!

For more information see: [www.airventure.org](http://www.airventure.org)

**Fun!Fun!Fun!Fun!Fun!Fun!Fun!Fun!**

**Oshkosh**

Long Cross-Country Experience  
Share the cost with other WoC Club pilots  
Incredible daily airshows  
World-class museum  
Hands-on experiences  
Huge static displays and demonstrations  
Hundreds of vendors selling at show prices

**Join us!**

**Fun!Fun!Fun!Fun!Fun!Fun!Fun!Fun!**

## Destinations

### *Favorite Trips of Club Pilots*

#### **Southport / Brunswick County (SUT)**

If you enjoy seafood and spectacular ocean vistas this is the cross country for you. This day trip is a good choice for a new private pilot looking to expand their experience level and is enjoyable for family members as well.

Lots of great check points are close to a direct routing from TTA to SUT for those navigation purists who enjoy the satisfaction and challenge of pilotage and dead reckoning. The FAY VOR and ILM VOR provide ground based backup navigation for those who lack the luxury of a GPS. Additionally, taking advantage of communications and flight following with RDU, FAY, and ILM TRACON facilities affords another layer of situational awareness. Airspace considerations include the FAY and Pope AFB class C airspace, the Gamecock A MOA, and ILM TRSA.

The SUT airport manager, Howie Franklin, is a retired US Air Force Chief Master Sergeant. Chief Franklin served as the Chief Steward on Air Force One for 3 U.S. Presidents and is eager to make you feel at home and share his experiences. Courtesy cars are available for exploring Oak Island which is located just across the bridge from the SUT airport. It is about a 15-20 minute drive to the town of Southport where you will find some wonderful seafood restaurants, antique stores, and a very good maritime museum.

It is also worth the drive to the Bald Head Island Ferry where you can get a ride across the Cape Fear River inlet to Bald Head Island. Golf carts are the rule for getting around Bald Head Island and you should



*Cape Fear River Inlet and Bald Head Island*

call and reserve one so you can explore the island in ease. Besides Old Baldy light house, there are lots of hiking trails, beautiful beaches, kayak tours of Smith Creek, Civil War battlements, and a variety of wildlife. Before leaving Bald Head, stop in at the marina and eat at Eb and Flo's for a fabulous dinner. *[Ed. Note: I recommend their Signature Steampot! --A.G.]*

On departure from SUT swing out over Bald Head Island and enjoy the wonderful scenery from the air. I hope you have as much fun as I have had on this cross country. Fly Safe. --David Masters

*David Masters is a CFI and former WoC flight instructor.*

## George's Corner

This summer our flying club will celebrate fifty years of aviating. I often say that we have found the secret to survival in the aviation business: do not try to make money. We have sometimes flourished, sometimes survived, but always endured because we have attracted members dedicated to the proposition that flying is a wonderful thing and should be as affordable and accessible as possible – and also attracted members willing to work without pay toward that end. It works because of that sense of common purpose, that collegial spirit. The flying club, now known as the Wings of Carolina, has never been merely a financial transaction. For many of us it has been more of a calling. At each critical juncture, someone has stepped forward and shouldered a crucial responsibility.

For years, we published a newsletter and distributed it by what we now call snail mail. Copies can be found collected at the club. Peruse them sometime for a sense of our history. With the advent of electronic communication, instantaneous contact, speed of light conversations at any hour, the concept of a printed newsletter seems an anachronism, but I believe that a common vehicle through which we, who share a common purpose, can communicate with each other is important to that sense of community that makes the flying club work. And so I am glad to see Andrew take on this responsibility and I urge all of us to contribute.

A few years back a previous newsletter editor asked me to write a "Stump the Chumps" column answering questions from members. Most of the questions concerned not technical aviation issues but rather questions about club operations and proce-

dures. One that I remember well was from a member who asked why the club has a twelve-hour bottle-to-throttle rule rather than the FAA's standard eight-hour minimum. That question inspired me to do some research on the effects of alcohol on pilots. Another member asked why we have all these currency requirements. As he put it, "I haven't ridden a bicycle in fifteen years, but I could ride safely tomorrow. Why should flying be any different?" Again, I found myself researching the statistics on pilot currency, which, incidentally, are quite persuasive. I welcome such questions, either as fodder for this newsletter, via email, or in conversation.

I do think a club newsletter should help us all understand our own club better. To that end, let me tell you something of the instructional program of the WCFC. First, who are our instructors and where do they come from? In future Newsletter issues, I will talk about the club's instructional philosophy. Our instructors are club members just like the rest of us. As you may have noticed, we club instructors are a motley crew: young, old, with varying backgrounds and experience. We all share this one thing: a dedication to teaching and a commitment to the club. When I talk to a prospective instructor, I am not impressed when he or she tells me, "I want to instruct because I love to fly." We all love to fly. That is a given. That is necessary but hardly sufficient. I am looking for the potential instructor who tells me, "I want to instruct because I love to teach."

Traditionally, the club has had a two-tiered instructor corps. Many of our instructional hours have been provided by young pilots who are building flight time in order to pursue a professional flying career. You may hear such instructors referred to derisively as "time-builders." In some cases – although not at the club – that term is appropriately dismissive. In the aviation industry you will find the occasional instructor who is filling his own logbook at the expense of his students. That should not happen at our club. We are interested only in instructors who put their students first. There is nothing wrong with instructing as a means to qualify for further advancement in aviation and we have had numerous instructors who have gone on to professional flying careers. I met one on the ramp in New York last summer; I hear from others frequently; one of our recent, former instructors just informed me that he has been named a check airman for his airline.

We have also found it useful to have a second-tier of instructors who are older, often long-term club

members, who are experienced pilots and instructors with other careers, who instruct simply for their own enjoyment and satisfaction – and for all that we learn by teaching. These part-time instructors fill in when the demand for instruction exceeds the capacity of our full-time instructors and step back when that demand abates. They take up the slack. They also provide continuity and maturity as younger instructors move on to flying careers.

In recent years, the distinction between these two categories of instructors has blurred. Some of our full-time instructors have chosen to continue teaching rather than move into a flying career and some of our part-time instructors have become essentially full-time – in both cases because they have found teaching to be so rewarding, particularly in the collegial environment of the WCFC.

How, why, and at what rate are our instructors compensated? Our instructors, although selected and appointed by the club, are independent contractors who charge a rate set by the club and receive that payment directly from their students. They are not club employees and do not pay the club for the privilege of instructing club members. At most FBOs, instructors take

home only a fraction of the instructional rate. You might pay \$45 an hour for instruction (typical these days) but the instructor may take home less than half of that amount. Since the club does not scrape off some portion of the instructional pay, we can set a rate that both affords better pay for our instructors and at the same time makes instruction available to members at a rate much lower than elsewhere. A classic win-win.

What is most important about all of this? The simple fact that we are a club, not a business. The club does not profit from its members. We are a partnership, a community of flyers who teach each other and benefit from each other's experience. We must manage our fleet, our maintenance, our finances, and our safety in a business-like manner else we fail to pay our bills and vanish – but please always remember that this fanciful band of aviators will survive and flourish only if we view each other not as management and employees, not as marketers and customers, but as colleagues, as fellows, and as friends.

*George Scheer is Chief Flight Instructor at the Wings of Carolina Flying Club.*





**MARCIA SALMONS KEATON**

**January 8th, 1961--March 30th, 2011**

**Wife, Mother, Friend, Advocate  
Fellow Aviator**

**Wings of Carolina Flying Club**

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