

Young Eagles and the Future

by Seán G. Dwyer

As I write this, the number of Young Eagles listed in the biggest logbook in the world stands at 1,375,208. Sam Johnson was credited with 184 of those missions, thereby testifying to his commitment to the program at its most basic level. But his role in Young Eagles did not start or end with flying kids on a Saturday morning. Sam turned the challenge “Put your money where your mouth is” upside down, as he continued to contribute both his time and his enthusiasm long after his treasure got the Young Eagles program underway.

For those not familiar with Racine EAA Chapter 838’s Young Eagles program, here it is in a nutshell. On the 2nd Saturday of every month – weather permitting – groups of kids numbering from 20 to 75 gather in the classroom at 9:00 AM to participate in a ground school which is followed by a flight in one of the members’ airplanes.

While costs and liability issues are significant for pilots, there is no charge for Young Eagle flights. The only reward the pilots get is the excitement of the kids and the hope that an enduring interest in aviation and related technology has been triggered.



Sam Johnson and some of his Young Eagles

Although the Young Eagles program is a global operation run by the EAA HQ in Oshkosh, members of EAA Chapter 838 of Racine like to describe how the Young Eagles concept came into being during an air show at John H. Batten airport in the early 1990’s. Chapter member Sam Johnson and EAA President Tom Poberezny were walking on the flight line discussing the plight of general aviation and how pilot numbers were dwindling. That discussion ended with Sam committing \$1,000,000 in seed money to get the program underway.

Sam understood the value of targets, and the stated target of the Young Eagles program was to fly a million kids prior to the 100th anniversary of the Wright brothers 1st flight on December 17, 1903. However, the broader goal was to introduce them to aviation in the hope that a significant percentage would take up some form of aviation as either a career or a hobby. Pilot numbers had been dropping for years, and the opportunity for young people to experience aviation other than as passengers in jet liners had diminished due to cost, security concerns, liability, plus the myriad of things that interest kids today.

If you think Young Eagles pilots are just a bunch of rich old boys with expensive toys, think again. Racine’s Young Eagle pilots included teachers from Racine Unified, policemen, a minister, engineers, scientists, company executives, salesmen, corporate pilots, and people from all walks of life. In many cases, their reasons for introducing aviation to kids go beyond aviation itself.

Approximately 80,000 engineers graduate in the USA each year, while China graduates 800,000. This does not bode well for America’s future success in the Information Age, and it is why we link flight to the underlying physics, chemistry, geography, etc. in our Young Eagles ground school. What better way is there to get young people interested in engineering and science than letting them personally experience in exciting ways how these skills are used by regular people to design, build, and fly aircraft?



Seán Dwyer demonstrates how wing dihedral contributes to aircraft stability

EAA Chapter 838 has extended its Young Eagle program to include in-service days for teachers and classroom programs for both public and private schools. Recently we had 300 kids from Gilmore School participate in our full Young Eagles ground school program. Prairie School now has an annual “Physics of Flight” day in the chapter’s classroom. Participants in these school day presentations are provided with “Rain Checks” that entitle them to go to the front of the line for flights on Chapter 838’s scheduled Young Eagle Days. Lesson plans and handouts for some of these presentations are attached.

Scout troops are another frequent source of Young Eagle candidates, and the chapter cooperates in conducting the test for the aviation merit badge. Also, members of Explorer Troop 218 have a regular role in our class. Early in the class they tell the candidates that they will escort them to and from the aircraft and they use this opportunity to advertise their own troop to mostly younger kids. Personally, I get a kick out of seeing nervous new Explorers develop into confident teenagers telling both kids and their parents the rules of tarmac safety.

The Girl Scouts of America have arranged for days when every girl scout in Racine county would participate in our Young Eagles class and museum tours. In order to comply with their liability policies, the girl scouts keep the flying component separate from troop activities. Basically, the classroom sessions and tours are held on one day as a Girl Scout troop activity, and Young Eagle flights are on a separate day when the girls come in family groups.



Lt. Jim Baker was introduced to flying with Scout Troop 400 by an EAA 838 Young Eagle flight piloted by Warren Levin. Jim was President of Explorer Troop 218 before going on to graduate from the Air Force Academy.

Sam Johnson was always eager for us to work with schools and scout troops. I knew Sam at several levels, as he was my employer for over 30 years, and I often shared the front of the classroom with him when we introduced kids to the Young Eagles program and then later flew them in our individual airplanes. During the construction of the *Carnauba* Sam would arrive with poster boards depicting the progress on the aircraft. His presentation to a classroom full of kids always included describing the flight his father made back in the 1935 to Brazil to scout out stands of carnauba trees, the source of the main raw material for Johnson’s Wax at the time. He would then go on to say that he wanted to repeat that flight with his own kids when the aircraft was ready. The spirit of adventure was a key part of his talk, and one could see from the questions asked and from the expressions on the faces of the kids and their parents in the classroom that he was getting through.

Something that I learned from Sam Johnson was that gifts to organizations or people are more effective when there is an expectation of a contribution by the recipients of their own time, treasure, or sweat equity. We have built this philosophy into EAA 838’s Young Eagles program. While we do not charge the kids for the flights, we do expect them to be in the classroom at 9:00 AM and participate in the ground school class before flying starts about 45 minutes later. Flying and the class continue until all kids have flown. People who arrive with their kids at 10:15 for the “free flight” are invited to bring them back at 9:00 AM on a later Young Eagle day.

One day when my mother was visiting from Ireland and I was showing her through EAA 838’s museum, she spotted Sam Johnson’s picture over the museum door. “How is Sam doing now?” she asked. “Not too well” I replied, and told her about his battle with cancer. “You are a lucky lad to have worked for the likes of him” my mother said to me. Indeed I was, and so were over a million Young Eagles whose introduction to aviation at the grass roots level was due to Sam Johnson’s love of aviation and his commitment to its future.

Attachments:

Handout for *Aerodynamics & Atmospheric* portion of classes for the San Juan Diego charter school

Handout for *Aviation for Science Teachers* presentation to teachers doing post-graduate work at UW-Parkside

EAA Chapter 838 *Contact*



“Do You Mean God?”

By Seán G. Dwyer

I wanted to write about a treasured member of EAA Chapter 838 who recently passed away, and considered several titles before coming up with this one. ‘Treasured’ is not meant to imply ‘rich’, although indeed he was very wealthy. I am referring, of course, to Sam Johnson. “Treasured” referred to how we in EAA Chapter 838 felt about this fellow pilot whose love of aviation manifested itself in so many ways in our chapter, in the Young Eagles Program, in EAA Oshkosh, and so much else.

I am writing this after the Johnson’s Wax 20 Year Club function, which was the day after Sam’s funeral. For those of you who have never worked for Sam Johnson, I can tell you that the 20 Year Club is a function that long term Johnson employees and retirees treasure. Oops, there is that word again. Yep, we treasure it. Once you are in, you are in, regardless of where you go after Johnson’s. I worked for Johnson’s Wax in the USA, Europe, Africa, and the Near & Middle East for 30 years before retiring. The 20 Year Club also includes the 30 Year Club, the 40 Year Club, and yes, even the 50 Year Club. That last sentence speaks volumes about this family company.

Employment aside, I also had the great privilege of working alongside Sam in the EAA Young Eagles program. His in-flight participation was similar to that of other involved local pilots, although the big iron capacity of the aircraft he used meant that we could load parents as well as kids onto his plane. He was more than a Young Eagle pilot, he was also a very active member of the classroom activity. His excitement during the building of the Carnuba Sikorsky was infectious. He was like a kid in a toy shop and would arrive with drawings, pictures etc. and always ended up answering questions from the kids in the Young Eagles class. Being kids, these questions often strayed from aviation. Examples included “Why didn’t your Daddy take you on the flight?” “Why did he leave you with your aunt and not your Mom?” (His answers to kids told me things that I had never learned as an employee)

Whereas my own predilection is to explain the “cause & effect” physics of flight in our Young Eagles class, Sam’s focus was on getting kids excited about aviation. On one of our monthly Young Eagles days in Chapter 838 I asked Sam if he wanted to start the class. “No, you warm them up” he replied. I felt honored then, and still do now.

One year during the Oshkosh Fly In my son Malcolm and I attended Saturday evening Mass in the Eagle Hangar. This was followed soon after by presentation of the Freedom of Flight Award to Sam for the role he played in establishing the Young Eagles concept. I had flown Young Eagles with him. I had done many classroom presentations with him. Until that night in Oshkosh, I had no idea that he played such a pivotal role in the Young Eagles program. His gift of a million dollars provided the seed money to start the program. Its goal of giving 1,000,000 kids a flight experience before the 100th anniversary of the Wright’s 1st flight was achieved last November.

Sam had the bucks, but did not flaunt the bucks in our local flying community. He was one of the guys. He may have been something of a God in the business community, but he flew like the common man. If he could help another pilot, he did. Another retiree at last night’s Johnson 20 Year Club, EAA Chapter 838 member Mel Pflugstam, told me about an experience he had with his twin engine Barron in the 1990’s. Upon arrival at the airport he found his battery to be dead. A call to Unicom was unproductive. The Barron’s 24v system was too much of a challenge in a 12v world. Mel was surprised when a pickup driven by Elmo Halvorson arrived from the Johnson hangar with a generator. Sam was flying and heard Mel’s plight over the Unicom frequency. Pilots help each other. Sam was one of us.

I recall the day in the late ‘80’s when I was pulling my Cherokee out from the community hangar opposite the old Johnson hangar. “Malcolm, look over there” I said, “there is a sight that is really different”. Malcolm was only about 12 years old at the time and did not appreciate the anomaly. “That is a billionaire crawling on top of a wing to refuel his airplane”. (Sam was refueling his Nomad). Malcolm was not particularly impressed. He had seen me refuel the Cherokee many times. You need fuel? Put in fuel.

One final very personal vignette about Sam. My Mother was visiting from Ireland a few months ago and I told her about Sam’s cancer. “You’re a lucky boy to have worked for the likes of him”, she said. I agree.

Back to the title "Do You Mean God?" That is also a 20 Year Club story and involved Ed Schaut, another Johnson's Wax retiree. Ed was doing docent duty at the Museum when a visitor from another EAA chapter asked "How did you guys do this?"

Obviously, pancake breakfasts, the main fund raising activity of most EAA chapters, won't generate the funds to create a facility such as Racine Chapter 838's Aviation Museum. Ed was standing at the door of the museum, and pointed upwards with his thumb. Anybody who has visited the museum will remember the picture of Sam Johnson and his (until then) favorite airplanes above the door. The visitor did not look up. "Do you mean God?" he asked.

Now you know. Sam was not God, and never acted like he was God on the ground or in the air. He flew like he was a common man and was a friend we will miss. May God bless him.

A Week in Brigadoon 1997 by Seán G. Dwyer

"A virtual Brigadoon of aviation" was the way Paul Harvey described the Oshkosh Fly-In during a tribute to volunteers in the Theater in the Woods. The time-warped 17th century Scottish village that would appear one day each hundred years was an apt metaphor for the gathering of Warbirds, Stealth Aircraft, Homebuilts, Classics, Ultralights, and "Spam cans" of all eras of flight. Whitmann Field again became the world's busiest airport at the end of July. Where else could you stroll past a B-17, P-51 Mustangs, B-25s, and assorted other aircraft from the World War II era? Or look up and see massed formations of AT-6's and SNJ's fly overhead? Korean War vets could look at both a Saber and a Super Saber, alongside a Mig 15 and a Mig 17. World War I buffs could find flying replicas of an RAF Sopwith Camel or one of the Spads flown by the "Hat in the Ring" American pilots in the War to End All Wars.

Stealth aircraft aficionados could examine a U-2 both in flight and on the ground. The U-2 Spy plane did fly-bys and was on static display for several days. Its size and height surprised me, as I had seen one during an ROTC field trip in the 60's. However, we heard during a presentation in the Museum that the U-2 on display was about 40% larger than the one shot out from under Francis Gary Powers. We were treated by a fly-by of its successor, the SR-71. The Blackbird was supposed to go away and refuel, and then return at supersonic speed at 50,000 feet. A problem with the fuel system precluded that, much to the disappointment of the waiting crowd who were anxiously awaiting the sonic boom. The B-2 Stealth Bomber and F-117A Stealth Fighter also flew over. The soft lines of the Stealth Bomber made it almost invisible when flying directly towards us. It was also amazingly quiet.

My son Malcolm and I went to Mass on Saturday evening in the Eagle Hangar. They had moved out a Bearcat and a P-38 Lightning to make room. One priest separated himself from the bevy of clerics at the front of the crowd and informed us that they were on a tight schedule. He could not introduce the other priests, as he had not had time to learn their names. As the Mass proceeded, I could not help but let my eyes wander around the giant hangar. The wall behind the makeshift altar was covered in a huge map. Along the left side of the hangar were the Radio & Instrument Shop and an Engine Maintenance area, both filled with wartime artifacts. I wondered if this was anything like the hurried religious ceremonies that preceded bombing missions.

Later that night we saw Sam Johnson receive the prestigious Freedom of Flight Award for his support of the Young Eagles program. I knew that Sam was interested in the program, but had no idea that he had played such a pivotal role in getting it started. A musical titled *Tops in Blue '97*, which featured acting Air Force personnel, followed. That night's Theater in the Woods program had been transferred to the Eagle Hangar in the EAA Museum to facilitate the equipment of the *Tops in Blue*.

Oshkosh was not all war time nostalgia, of course. One forum in the FAA building was used to introduce the newly confirmed, but not yet sworn-in, Administrator of the FAA, Jane Garvey. She gave the usual talk about Oshkosh being the perfect place to start her term and Tom Poberezny did the expected "we're all working together" bit. She then handed over to the Acting Administrator of the FAA for the question & answer session. The first few questions were polite. Then came one from a man at the front who was recognized by the Acting Administrator. He tried to shut him up "to allow more general questions".

"Let him speak" shouted several people in the audience. He did so and a story of frustration with government bureaucracy was heard.

Another man, the owner of B&C Parts, a manufacturer of aircraft starters, described how his business had been threatened with a fine of \$2,000 for selling an "unapproved part" to an Alaskan pilot who had received FAA approval to use it. Another FAA inspector in the same office apparently had other ideas. The Acting Administrator handed the question off to the Deputy Chief Counsel, who indicated that he could not possibly comment on the situation in such a forum. A member of the audience identified himself as a lawyer and suggested that a fine of \$2,000 was probably accompanied by \$20,000 in legal bills, and the proper response should have been along the lines of "Based on the facts as presented, a mistake may have been made and the FAA would look into it." This was followed by loud applause from the audience.

Informative presentations on all sorts of topics abounded. At the above mentioned presentation in the Museum, one current and another former spy plane pilot gave a demonstration of how to put on the flight suit worn by U-2 and RB-57F pilots, a space suit really. Have you ever heard of the RB-57F? It was a new one to me and to most of the people in the crowd, in spite of its having been used on more high altitude flights over Russia than the U-2. The RB-57F is a modification of the B-57, but has a 123 foot wingspan

and two engine configurations that are matched to the mission of the aircraft, 4 engines for speed or 2 for endurance. "Powers was set-up" claimed one of the presenters. He told about the defection to Russia of a Marine radar operator on duty in the same base in Pakistan the night Francis Gary Powers took off on his unlucky flight. That marine was Lee Harvey Oswald.

In a talk in the Museum, Dick Rutan described how they had to store solid body waste onboard during the Voyager 's "around the world unrefueled" flight. With the rear engine operating through most of the flight, they could not risk "it" hitting the fan.

Burt Rutan spoke at several forums. Did you know that mid-wings were better than high-wings or low-wings? Of course the wing spar has to pass behind the cockpit, but that is exactly the case in Burt's latest FORWARD swept wing designs. In the Theater in the Woods he introduced the Williams FJX-2 engine "which would revolutionize general aviation" and bring back affordable new aircraft. The engine will be lighter than the prop on his Boomerang. When asked "How affordable is affordable?", he evaded the question. At subsequent forums Burt was pressed on the cost issue and continued to dissemble. "From 1 to 4 times an engineer's salary" came out at one. I wondered if that meant 4 times the salary of a big buck slide-rule era guy like Roger Radical, or of some neophyte just out of college. Eventually, it came out that he was referring to a "starting engineer". So now you know. Burt also talked about the X-Prize. There are now 16 entrants into this race. The prize is still \$10,000,000 dollars, but the vehicle now only has to go up 60 kilometers or thereabouts. Orbit is not required. The idea of "space tourism" did not light my bulb, but then some dreamers dream more than others. If God intended humans to fly in space, he would have given us much more money.

This year the flight line was open to everybody and not just "aviation families", very egalitarian, but debatably wise. "No smoking on the flight line!" had to be announced repeatedly, and occasionally one would see a parent place a child on top of a wing to provide a better view of the runway. "Look but Don't Touch" was widely ignored. The other Oshkosh Rules ("Pick up your trash and any stray litter you spot on the grounds") still prevailed however, and the grounds remained remarkably clean throughout the week. The other Brigadoon was clean too!