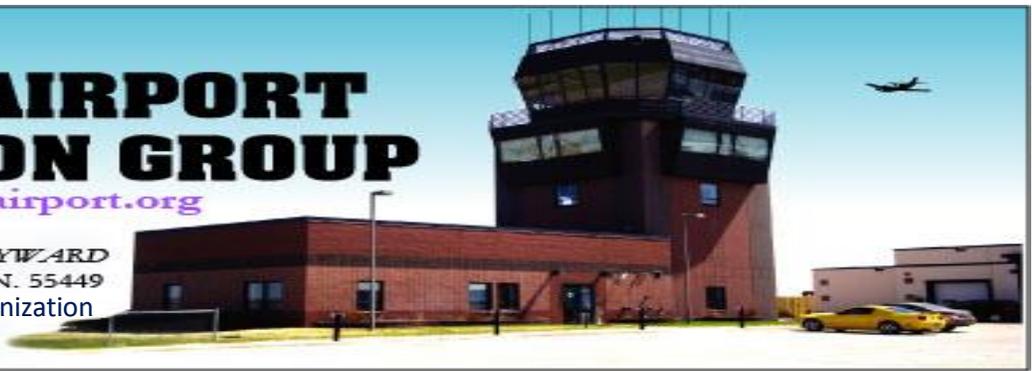


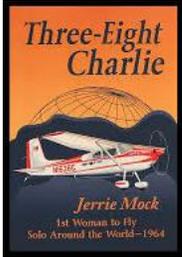
BLAINE AIRPORT PROMOTION GROUP

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EDUCATION COORDINATOR • NOVEMBER 13, 2014



April 17, 2014 marked the 50th Anniversary of a world record in aviation with the successful solo around the world flight by Geraldine “Jerrie” Fredritz Mock, daughter of Timothy and Blanche (nee Wright) Fredritz.

At the age of 7 Geraldine’s father Tim had an opportunity for a 15 minute ride in a Ford Tri-motor that would introduce her to a life-long love of flying. Geraldine enjoyed geography and engineering as her high school courses and decided flying was her true passion. After graduating from Newark High School in 1943 she attended Ohio State University and studied aeronautical engineering. Her marriage to Russell Mock in 1945 would postpone her flying interests until 1956 when she began flying lessons earning her private pilot certification in 1958.

Registering a Global Flight Plan

Cross-country flights with her husband were highlights and fulfilled her desire for flying as she began making her own flight plans. Inspired by Amelia Earhart and on the suggestion from her husband, Geraldine registered a flight plan that would follow the same route planed by Amelia Earhart. Amelia disappeared on July 2, 1937 during her around the world flight. Amelia was an early pioneer of feminine pilots and by the 60s Geraldine was one of 12,471 women in the United States then licensed to fly. By 1962 Geraldine had accumulated 750 flight hours and an instrument rating and filed her flight plan for a feminine round the world flight that was officially sanctioned by the National Aeronautic Association. Russell and business partner Al Beumeister prepared Geraldine’s 1953 Cessna 180 single-engine monoplane named the “Spirit of Columbus” for long-distance flying. A new 225 hp was installed along with a twin radio direction finder (ADF), short-range VHF NAV/Coms, a long range HF radio with trailing antenna, autopilot, and a new compass. David Blanton of Javelin Aircraft Company designed



the three extra fuel tanks and engineered the installation by removing the three passenger seats that would bring the total fuel on board to 178 gallons, increasing the range of flight to 2400 nautical miles. Fully fueled the Cessna 180 weighed nearly 408 kg (900 pounds) more than normal. The FAA allowed this with a ferry permit. Geraldine stowed very few personal items along with portable oxygen and survival gear. USAF personnel prepared jet-navigation strip charts and various en route terrain, radio station and other com/nav charts and publications. Visas and clearances were acquired in Washington from the various embassies of the countries that Geraldine would be visiting.



Geraldine “Jerrie” departed Columbus, Ohio at 9:31 am on March 19, 1964. After 29 days and 21 stopovers she landed her Cessna 180 named the “Spirit of Columbus” at Columbus, Ohio arriving at 9:36 pm on April 17, 1964. Her flight plan of almost 22,860 miles (39,790 km) included documentation of time of departure and time of arrival at each stop by officials along the route.

In 1970 “Jerrie” Mock published the story of her flight titled *Three-Eight-Charlie* referring to the call sign, N1538C of her Cessna 180 Skywagon. That first publication is now out of print but a reissued printing was published in 2013.

Geraldine Mock flew for the love of flying but in so doing broke many records in endurance, speed and distance. She is among the ranks of several feminine pilots that have contributed to Aerospace history and inspiration to the young flyers that have the opportunity to get into an airplane and feel the controls in their hands and are inspired by Amelia Earhart, Bessie Colman, Phoebe Omlie, Margaret Ringenberg, Jacqueline Cochran, Raymonde de Laroch, Bobbie Trout, Ruth Rowland Nichols, Katherine Stinson, Mary Ellen Webber, Harriet Quimby, or Sally Ride & Ninety-Nines.

STEM fields... Are terms typically used in the USA when addressing education policy and curriculum choices in schools from k-12 through college to improve competitiveness in technology for workforce development, national security concerns and immigration policy. The National Science Foundation uses a definition of STEM subjects which includes subjects in the fields of Chemistry, Physics and Astronomy, Computer and Information Technology Science, Engineering, Geosciences, Life Sciences, Mathematical Sciences. This definition is used in scholarship eligibility in programs such as the CSM (Center for Math and Science) STEM Education and Research. STEM generally supports broadening the study of engineering within each of the other subjects and beginning engineering to younger grades, even at elementary schools.

The National Science Foundation has numerous programs in STEM education such as Project Lead The Way (PLTW) education curricular programs to middle and high schools. PLTW provides the curriculum and the teacher professional development and support of transformational programs in schools, districts, and communities. Minnesota Project Lead the Way Program Director, Outreach is James Mecklenburg, Minnesota State University, Mankato. The programs include a high school engineering curriculum called Pathways to Engineering, a high school Biomedical Science program and a middle school engineering and technology program called Gateway to Technology.

The Department of Labor identified fourteen sectors that are projected to add substantial numbers of new jobs to the economy that effect growth are being transformed by technology and innovation requiring a new set of skill for workers. Aerospace is one of many industry sectors that are recognized. The category of Aerospace includes all support, development and management of any device involved in flight in the air or space.

STEM for Blaine Airport

The Blaine Airport Promotion Group has developed a series of aviation related articles that are published on BAPG web www.ANEairport.org in the form of monthly newsletters as well as "STEM for Teachers" articles that incorporate subjects that are tools for learning about aviation that can be applied to the educational initiatives of STEM and PLTW that match grade levels of the student's educational curriculum. When students attend an airport tour they experience hands-on lessons that relate to grade level curriculum of (STEM) Science, Technology, Engineering, and Mathematics.

2nd Grade Visits Airport

On October 23, 2014 one hundred 2nd grade students from University Avenue Elementary School visited the airport for a tour combining Weather related studies, Wing Design with Engineering and Map Studies that included Math and Minn. Geography. The visit was planned as a STEM out reach of the school to inspire

young students to explore, discover, and understand the real world of an airport and to fulfill the school's emphases on Aerospace, Children's Engineering, and Science (A.C.E.S).



**Mapping-Capt. Scott Holland & Airman, Andrew Peach, Roger Hansen
Weather-Paul Perovich Airplane parts-Historian, Tom Lymburn
Tour guides-Paul Montgomery, Wayne Oltmann. Craig Schiller, Harvey Karth**

You guys are all amazing! The second grade staff, students and parents were all SUPER excited upon coming back to school. I really can't tell you how many times adults that attended the program today stopped me to tell me something they learned or thought was neat. I also have at least 5 kids tell me they plan to be pilots or go into aviation. I'm sure we could easily double that number as I did not get to check in with all the groups. These programs are such high quality and you all do a fantastic job! Thank you so much for your time and talents today! I'm sure I will have a lot of thank you notes and drawings to give you at our next promotion group meeting! Kate Watson, University Avenue ACES Curriculum integration Coordinator.

Blaine High School Engineering Class Experience Airport Business Tour



The Blaine Airport Promotions Group has pursued avenues to engage students in career opportunities in the Aerospace industries. During a BAPG meeting Paul Pervich, General Manager of Twin Cities Aviation and Jennifer Birkmeier, Blaine High School Curriculum Integration Coordinator (CEMS), developed a plan to bring high school students with interest derived from their engineering programs to tour general aviation businesses located on the airport. TCA, H.O. Aviation, R.C. Avionics, Bolduc Aviation, Golden Wings Museum.

The tour was conducted October 28, 2014 for 42 students from the Blaine High School. BAPG supervised the three hour tour of businesses with the team of instructors and tour guides Harvey Karth, Roger Hansen, Craig Schiller, Paul Pervich, Tom Lymburn, James Mecklenburg, Paul Montgomery, Capt. Tony Rossini, C/Capt. Boaz Fink and C/M Sgt. Sam Foss.

