

Dare to Fly: Women's Air Race Classic 2018

by

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Acknowledgements

To my family: thank you for never once doubting that I could be a pilot. Thank you, Mom and Dad, for always pushing me to excel in everything I did. Thank you, Isaac and Luke, for being the best set of younger brothers a girl could have. I know you think it is cool that I am a pilot. Thank you to both sets of grandparents for always loving me, supporting me, and bragging about me to your friends.

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Abstract

I was blessed to find my passion early in life. At the young age of eleven, I knew I wanted to be a pilot. I have carried that desire with me for a decade, and it has brought me to this point. After completing my flight training at Middle Tennessee State University, I decided to put my skills to the test by competing in the all women Air Race Classic during the summer of 2018. I raced a plane from Texas to Maine. This thesis is the compilation of how I made it happen and the actual story of the race.

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The Process

Where the Idea Came From

I had many ideas for my thesis. As soon as I walked through the doors into the Business and Aerospace building, I was plotting what kind of thesis I would do my senior year in order to graduate with honors. My peer, best friend, Alpha Eta Rho mentor, and flight instructor—Charlie Hansen—mentioned the Air Race Classic. During my freshman year at Middle Tennessee State University (MTSU), she was interested in doing the race, and it was the first idea I had for my thesis. However, it did not seem so plausible because we did not have an aircraft, a plan, or the funds. Therefore, I thought it would be smart to come up with other ideas that I might be more capable of achieving in case the race fell through. I thought about doing research on A.I.D.S. (Aviation Induced Divorce Syndrome). I thought about researching maternity leave at the airlines. I contemplated buying and building an aircraft kit (this idea was a long stretch, but I will do it one day). I considered getting my tailwheel endorsement, but that just did not seem exciting enough. While I fiddled around with these other ideas, the race was always in the back of my mind.

Acquiring a Plane

My junior year began at MTSU, and this was when I really started to feel the pressuring question: what was I going to do for my thesis? I was still dabbling with all the aforementioned ideas, but I had not chosen one yet. The race was still my number one choice and interest, but I did not have a plane to use. Then, Mr. Nicholas Lenczycki sent out an email on August 31st, 2017 about some kind of program called “Top Hawk” (see

Appendix A). The Top Hawk Program is a program ran every year by Textron, a big name aviation company. They choose five universities every year and lease those universities a brand new aircraft for free for approximately six months. They do this in hopes of two different outcomes. Textron hopes that the chosen universities might convert their fleets to their kind of aircraft; they also use this opportunity to promote their company even if the universities do not convert their fleet. I did not think much of the email. It seemed like an unachievable process and slim chances to be chosen for the opportunity. I continued my attempt at deciding on a thesis idea.

In early September, I was working with Joseph Patterson on my Certified Flight Instructor-Instrument training at the flight school. We were completing a ground lesson when we started to get off topic and talk about the Top Hawk Program. Then, the idea hit me like a ton of bricks. If I did the application for the Top Hawk, could I use it in the Air Race Classic? Would I finally have a plane to use and a confirmed thesis idea? I ran down the hallway to Mr. Lenczycki's office and asked if this was even a possibility. He said yes, and my work began.

There were three different parts to the Top Hawk application, and they were due by September 22, 2017. The application included a video about the MTSU Aerospace Department, a written marketing plan, and a written operations plan (also known as standard operating procedures). My main contribution was the marketing plan. I also helped Mr. Lenczycki with the standard operating procedures (SOPs). My friends and coworkers Charlie Hansen and Harry Arcamudi helped make the video about the department. The two written reports can be found in Appendix B.

The application was submitted on September 22 to Textron. However, no one was sure when we would be hearing back about if we had been chosen for the airplane or not. Therefore, I still had to wait when it came down to finally choosing a thesis project. I bugged Mr. Lenczycki every time that I saw him at the flight school, and, finally, one day in early November, he did not ignore my pestering. He told me that Textron had chosen MTSU for the Top Hawk Program! It was officially announced to the public on November 16 in a news article by MTSU shown in Appendix C. Mr. Lenczycki also sent out an email to the whole Aerospace Department about the aircraft (displayed in Appendix A).

Raising the Funds

The hardest part was done; I had an airplane. Next, I needed to start acquiring funding for the race. According the Air Race Classic's FAQ, the race is expected to cost teams about \$5,500 (Appendix D). However, this figure does not include flying to the start, flying from the terminus, or food. I calculated these extra costs to be around \$3,000. I also wanted to have a back-up fund in case of an emergency. For example, in a previous race, our race mentors were hit by another aircraft while refueling and needed the tail of their plane replaced. They paid to have it fixed overnight and continued in the race. Therefore, including the emergency fund and the extra travels not included in the ARC's budget, I came up with a total cost of approximately \$10,000.

Yard sale. I had a yard sale in my hometown in order to raise money for the race. It was during Memorial Day weekend and was open Saturday, Sunday, and Monday. As a family of five who had not had a yard sale in over ten years, we had a copious amount

of inventory to sell. My grandparents also donated about two dozen pieces of antique furniture to sell. I raised about \$1,200 from the yard sale.

Sponsors. Another method I used to gain funding is through sponsors. I come from a small town where lots of people know me and my family name. Aviation is also a very small community that I have always tried to be involved with, especially in East Tennessee. Therefore, I knew I would be able to find help through my connections. I received sponsorship from eleven different companies. I made different levels of sponsorship as well with the highest level being \$1,000 and above. Once t-shirts were printed, however, I had to create new levels of sponsorship. Both sets of sponsorship levels are located in Appendix E.

Merchandise. I sold merchandise to raise funds for the race as well. This marketing plan was a risky one because I had to take the money from my sponsors in hopes of making money off of the products. I had one hundred shirts made, fifty coffee cups, and two hundred stickers. Pokey's and Sports in Maryville, TN produced the shirts which was nice because it allowed me to help support a small business from my hometown. The coffee cups and stickers were ordered online. The shirts cost approximately \$8 each to make, and I sold them for \$20 which made a \$12 profit. The coffee cups cost \$5 to make, and I sold them for \$10 which made a \$5 profit. The stickers cost 50 cents to make. I actually ended up not selling the stickers. I passed them out to sponsors and friends as promotional materials. I also distributed them at our stops during the race.

GoFundMe. I created a GoFundMe to raise money for the race. Referring back to the small town that I come from, it was easy for me to get published in the newspaper and

raise funds. I have always had support from my community, especially when it comes to flying. I knew that they would have my back and help fund my adventure. I set a goal of \$5,000 on the GoFundMe and almost reached my goal. I ended up raising \$3,750. The news article can be found in Appendix C, and the GoFundMe page can be found in Appendix E.

Choosing a Partner and Team Name

The MTSU Aerospace Department decided to have an application process for who was to be my Air Race Classic co-pilot. When it came to choosing a partner, the Air Race Classic had specific experience requirements. To apply, the person had to be a female, which narrowed down the Aerospace Department to about 10% of its current students. Furthermore, the female pilot student needed to have her airplane single engine land private pilot certificate, at least one hundred hours as pilot in command, a current medical certificate, proof of training records, and a minimum of five hundred hours as pilot in command or a current instrument rating. This email can be found in Appendix A.

At first, the Aerospace Department made it sound like I would not get much of a say so in who I had to spend two weeks with. They made it seem like they were just going to pick whoever they wanted based on whoever turned in the best essay. Upon further prodding, however, it was decided that I would get some input, especially since I was the one doing the fundraising, planning, and thesis based around the race. I really wanted to know my co-pilot for the race, and there was one woman at the flight school who met the requirement. We had been friends for a few years, and she was the only other female Certified Flight Instructor I knew. She was the most qualified. I voiced this opinion to Mr. Lenczycki, and he reassured me that the selection process would not

totally ignore my opinion. My co-pilot was the only person who applied for the spot so she was automatically chosen.

A team name is optional for the Air Race Classic. However, most teams have one just because it makes the race more fun. My co-pilot and I debated on names for a couple weeks. We came up with a few different names. Two of the top competitors were True Blue and Blue Belles. My co-pilot was not totally sold on them though. Then, we were sitting in class one day, and I jokingly said “Barnstorming Babes”. She jumped on this name, and that is how our name was decided. We became The Barnstorming Babes. The Barnstorming Babes logo can be found in Appendix E.

Gaining Support from Middle Tennessee State University

I had to gain support from the MTSU Aerospace Department and the MTSU Honors College. Neither of these were very easy tasks, and this actually turned out to be one of the biggest obstacles to overcome. Something like this race had never been done before. Therefore, I had to prove that it was safe and would turn out correctly. I had the verbal support of both entities, but when it came time to propose my thesis idea to the Honors College and Aerospace Department, I was met with a bit of concern. This event was a dangerous task for a student to perform. A former Honors College student had retraced a historical flight for his thesis a few years previous. I was told that even though he had done that for his thesis, this race seemed too dangerous to do. This remark made me even more confident in my abilities to finish the Air Race Classic for my thesis. I had to prove the safety of the race to both the Honors College and Aerospace Department. After doing so, both entities approved my thesis proposal.

History

Race

Women have been fighting for their place in society, politics, and the business world for decades. In certain parts of our world, it continues even to this day. In aviation, women make up only 6% of pilots, measured as recently as the end of 2016 (Women in Aviation International, 2016). Looking at one specific statistic, however, it becomes evident that women are attempting to make larger inroads into the aviation industry because women make up over 12% of student pilots (Women in Aviation International, 2016). Overall, however, these statistics show that women are still a minority in aviation even though we began to make our place in the aviation world in 1929. Nearly 100 years have passed since the first women took to the skies and blazed a trail for others, and we continue to make a name for ourselves and our gender.

During a hot August in 1929, the first women's form of air racing came into existence (The Ninety-Nines, Inc, n.d.). The Women's National Air Derby was the first organized race that women were allowed to enter. They had been fighting for years to be able to participate in male-dominated air races, and they finally got their shot by designing a women-only race. There were twenty participants in that inaugural competition, fifteen of which finished, and Amelia Earhart placed third (Smithsonian National Air and Space Museum, n.d.). The contest was from Santa Monica, California to Cleveland, Ohio. After women proved their racing abilities in this first air race, they were permitted to participate in co-ed air races such as the Bendix Trophy Race throughout the 1930s (The Ninety-Nines, Inc, n.d.). After WWII, women once again formed their own air race--the All Women's Transcontinental Air Race (AWTAR). It was also known as

the Powder Puff Derby (Buffington & Van Newkirk, n.d.). The AWTAR existed from 1947 until 1977, when it had its 30-year anniversary and last commemorative race (Buffington & Van Newkirk, n.d.). However, women aviators still needed a way to show off their skills, so the Air Race Classic, Ltd. picked up where the AWTAR left off. In 2002, the Air Race Classic, Ltd. was reinvented into the Air Race Classic, Inc. (ARC), a non-profit 501(c)(3) educational organization (Buffington & Van Newkirk, n.d.). This race is a part of aviation history, and is especially critical in the history of aviatrixes taking to the skies. Amelia Earhart, perhaps the most popular woman of aviation, participated in a form of this race when it first began in 1929. Here I am, 89 years later, following in her footsteps.

W.A.S.P.S (Women Air Service Pilots)

Sweetwater, Texas was the training base for Women Air Service Pilots and served as the start of the race for the 2018 Air Race Classic. During WWII, the United States military faced an increasing need for military combat pilots overseas. Two women, Nancy Love and Jacqueline Cochran, had an idea to fill this need--allow women to be pilots in the military (Rickman, 2017). These two spitfires wrote officials about this idea for years before it was finally implemented in 1942. Women Air Service Pilots relieved male pilots of jobs such as repositioning aircraft from factories to bases, towing practice targets for other pilots to shoot at, and making sure aircraft were safe to fly after maintenance (Rickman, 2017).

From November of 1942 through December of 1944, more than one thousand women became WASPs (Rickman, 2017). One of the most frustrating aspects of being a WASP, however, was that they were not considered as members of the United States

military. General “Hap” Arnold was in charge of training the WASPs in Sweetwater, TX. In 1944, he lobbied with congress for the WASPs to have military standing (Rickman, 2017). He was rejected at this time, and the WASPs did not gain military status until 1977 when President Carter finally passed a law that finally recognized them as military heroes.

Race

Registration

Registration was worked up to be one of the hardest parts of the Air Race Classic. However, it went very smoothly for me and my co-pilot because we were steadily building flight hours, and the plane was brand new.

The pilots and team. The pilot registration was due by April 1, but the ARC only allows fifty teams to compete, so the deadline is whichever stipulation is met first. Both pilots had to register separately, and, then, I registered the team and submitted the names of the two pilots who would be on the team. The pilot and team registrations were accepted on March 14, 2018 and can be found in Appendix D. Later that day, I also received our team number and, the team became Classic Racer 48 for the Air Race Classic 2018.

The plane. The plane registration was due by May 1, 2018. This step was the biggest obstacle for some teams to overcome because some airplanes are half a century old and have many maintenance records I easily completed this step, though, because my airplane was only a month old and had no prior maintenance done to it.

Handicap flight. The deadline to complete the handicap flight was June 1, 2018. The handicap flight was a crucial part of the race. The Air Race Classic allows any single

engine piston aircraft to compete. Therefore, there are lots of different kinds of airplanes in the race. The speeds of the planes can vary. The handicap score of every airplane in the race can be found in Appendix D. Every team has to complete a handicap flight. During this flight, the airplane is required to fly at full power in a square in order to measure the fastest speed that the plane can achieve. A tracker was put on the plane, and the GPS track was later used to calculate the speed. A judge also had to sit in the plane to make sure that the plane was flown at full power and that there was no cheating. I was assigned Caroline Hodges as my handicap flight judge (Appendix D). She was based in Huntsville, AL, so I flew down there for the handicap flight. While flying, we actually realized that she knew my roommate through skydiving.

There were some complications with the handicap flight. The Cessna 172 that was used for the race was not supposed to go over 2,700 RPM. However, when left at full power and leaning the mixture for maximum performance, the engine continuously exceeded this limitation. Therefore, I had to lean the mixture back below maximum performance in order to keep the engine from red-lining. The judge I flew with understood this restriction and allowed me to pull the mixture back so that the engine was not running too fast. However, when we submitted the handicap data from our first flight on May 23, it was rejected. The email from the ARC can be found in Appendix D. Based on other Cessna 172s, the plane's speed was too low in comparison. Also, the fuel flow was lower than the other planes had ran which made sense because I leaned the mixture back farther than recommended in order to get below red line. Therefore, I needed to redo my handicap flight.

On June 3, I redid my handicap flight. I flew down to Huntsville again to meet Caroline. However, I forgot my GPS tracker, so I had to fly back to Murfreesboro, get the tracker, and fly back to Huntsville. It was a long day. We did the handicap flight again. Once again, I still leaned the mixture so that the engine was not in the red part of the engine gauge. On the previous handicap flight, I had leaned the engine to about 2650 RPMs. During this handicap flight, I leaned for 2690 RPMs instead. This gave me a fuel flow and speed that were just slightly higher. This minor adjustment was enough for the ARC to accept my data from the second handicap flight.

Other teams had the same problems with their handicap flights. They had to run their engines at a dangerously high power setting based on the ARC's handicap guidelines. This stipulation caused a few teams to have to drop from competition class to non-competition class in the race. There was some discussion about how this is dangerous and unfair of the Air Race Classic Inc. I do not know if anything will change for next year's race.

Momma Birds

Anytime that there is a team with all new members, the Air Race Classic assigns mentors called Momma Birds. Teresa Camp and Denise Robinson were assigned to be my Momma Birds for the race (Appendix D). Their team name was the Purple Hearts, and they were team number 23. They turned out to be the best mentors that I could have possibly hoped for. Some teams had Momma Birds that were too focused on winning to even give them advice. This was not the case with Teresa and Denise. They immediately made my co-pilot and I feel warmly welcomed into the world of the Air Race Classic.

They were incredibly helpful in the weeks leading up to the race. I frequently called and videoed with them. They answered many questions that I had.

Denise Robinson and Teresa Camp are total opposites. Denise is a nurse who lives in Connecticut and she is the owner of the beautiful purple Piper Cherokee Archer II that they used during the race. She just got into aviation as a hobby during her forties. Teresa is at her third aviation job working on Air Force One and has been around aviation her whole life. Both women are amazing and full of life. They were an adorable race team, and they got along with all the women in the race. I have remained in contact with both of them ever since the race and hope to keep both of them in my life forever.

Murfreesboro, TN to Sweetwater TX

Teams needed to be in Sweetwater, TX by Friday, June 15. I knew that we could make the trip from Murfreesboro to Sweetwater in one day, but that is only if everything went according to plan. If there were any plane problems or any bad weather along our route, we might not make it in time. I decided that we would leave Wednesday morning to have some wiggle room in case of such incidents. There was some bad weather that morning, so we did not end up leaving until lunch time on Wednesday, June 13. There was another team representing MTSU. They were leaving from another airport further west. We decided to leave around the same time and make our first stop at Memphis International Airport (KMEM) and get some lunch.

After our BBQ, we started trying to figure out where we were going to stop next. I thought it was going to be an easy decision. We needed to keep heading southwest towards Texas. However, during lunch, a terrible thunderstorm had started to build about thirty miles southwest of Memphis. My co-pilot wanted to try flying through a small gap

in the building thunderstorms. I refused this idea. It would have been an hour before we got to the storm, and I knew that it would drastically change. Instead, I proposed that we just fly directly west and then head south after we had flown around the storms. This decision turned out to be correct because the thunderstorm southwest of Memphis continued to grow and forced another ARC team to divert and land somewhere else.

We decided to make our next stop at Fort Smith Regional Airport (KFSS) in Fort Smith, Arkansas. None of us had ever been to this airport. It was a short stop. We sat on the ground for just half an hour. We used the bathroom, drank some water, got fuel, and then planned our final leg to Sweetwater (KSWW). We did not leave Fort Smith until 8:30 PM. There was a beautiful sunset on takeoff.

The final leg to Sweetwater was very tiring because we left Fort Smith at such a late time. Most of the flight was in the dark. It was a sketchy approach into Sweetwater because the airport had no lights around it. Therefore, we suffered a common optical illusion in aviation called the black hole effect. There was nothing around the airport to give us depth perception. My co-pilot felt like we were too high while I felt like we were too low on approach. To combat these optical illusions, I loaded an approach into the GPS so that we knew exactly what we needed to be flying. We did not land until midnight. However, we had made it in one day. The total trip took eight and a half flight hours. When I made our hotel bookings, I did not include a booking for Wednesday night. I called my mom who made us a booking for the night. Figure 1 shows the route that we took on June 13 from Murfreesboro, TN to Sweetwater, TX.

Start: Sweetwater, TX (KSWW)

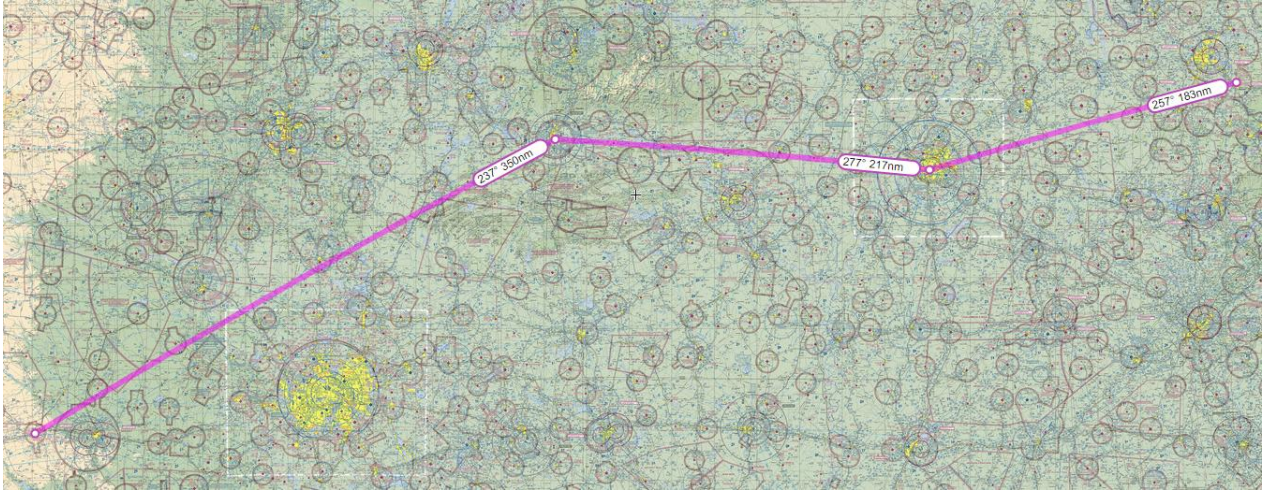


Figure 1. The legs from KMBT to KMEM, KMEM to KFSM, and KFSM to KSWW.

Since we arrived in Sweetwater a day early, we had lots of free time to explore the town—all twenty buildings that it contained. My co-pilot and I woke up Thursday morning and checked out of our hotel. This was when we realized what the race was truly going to be like. We were racing a plane across the country, but had no car to get us places. We ended up walking half a mile from the first hotel to the one that we would be spending the next four nights in. We were fully loaded down with all our luggage and used a bridge to cross over the busy interstate. We definitely received some honks from the eighteen wheelers flying by underneath us.

We checked into our hotel that we would be staying at the next few nights. Each stop had Race Stop Hosts who were in charge of entertaining, transporting, and helping the teams in each city. The Sweetwater Race Stop Hosts were the best hosts we encountered throughout the entire trip. After checking in and settling in, the hosts had made lunch plans for the teams that had arrived early. We met up with the other MTSU team and a team from Indiana State University (ISU) and went to a little BBQ diner in downtown. My co-pilot and I spent the rest of the day getting our documents organized,

cleaning out the plane, waxing the plane, and exploring the town a little bit which included running across the interstate to the Wal-Mart located across the street.

Friday was when the official race events began. Airplane inspections ran all. We also had to finalize our racer/airplane credentials. All events took place at the airport, across the street from the airport at the Texas State Technical College (TSTC), or down the road at the National WASP WWII Museum. We started by going to the Start Check-In at the National WASP WWII Museum and getting our badges, information packets, tickets, and goodie bags.

Next, we went and had our airplane inspection completed by the Chief Inspector at the airport. One of the Race Stop Hosts, Paula Carmichael, drove us from the museum to the airport so that we did not have to walk a mile in the scorching Texas heat. While riding with her, we got to talking about where we were from. When we told her that we were from Tennessee and an MTSU race team, she got really excited. Paula said that her dad was one of our sponsors. My co-pilot and I were very confused because all of our sponsors had come from Tennessee. Then, Paula explained that the town had done a fundraising event to help raise money for all the starting events. The townspeople could choose to “sponsor” a team, and Paula’s dad, Jerry Berlin, was our sponsor! This was a great connection to make, and we ended up hanging out with Paula and Jerry a few times over the next few days. Once Paula dropped us off at the airport, the Chief Inspector performed the inspection of our airplane. It did not take very long. When he was done, a hard pink substance was put on the screws of our airplane cowling so that the race officials would be able to tell if we messed with our engine along the route. After the inspection, our aircraft keys were taken so that we could not freely have access to the

plane. If we ever needed something from inside the plane, we had to get the keys from the Chief Inspector. This procedure was implemented due to numerous instances of cheating throughout the race's history.

Finally, we went and checked in for the racer/airplane credentials inspection at TSTC. We had to wait a few hours, but this delay actually ended up being good because we realized we were missing a document for the airplane credential inspection. I called the maintenance staff at MTSU, and they were very helpful in getting the document quickly filled out. Our number was called. At the racer credentials, we just had to prove that we were current in our flight experiences, one of us was instrument rated (meaning that we could fly into weather conditions with restricted visibility), and that we had enough flight time to compete in the race. We also had to have every required document either printed out or downloaded onto our iPads. After the racer credentials, they inspected the airplane credentials. This also went really smoothly since the airplane was brand new and very few maintenance records. That evening, we went to Sweetwater's downtown area where there was a small concert put on in honor of the Air Race Classic.

On Saturday, my co-pilot and I did not have many items that we needed to complete. We had already done our credential inspections and checked in for the race. We spent the morning just lounging around. We attempted to stay in shape throughout the race, so we ended up using the very small gym in the hotel. At noon, we went to an aviation youth event called "Mingle with the Racers". Children from Sweetwater came, and we ran a photo booth. We also talked to the kids about what we were doing in Sweetwater and what we would be doing during the race. The town was very excited to host such a large event.

After a couple hours, my co-pilot and I headed back to the hotel. Sweetwater was covered with windmills, and we decided that we wanted to try to walk to the ones behind our hotel. Three hours later, we arrived back at the hotel. We had almost gotten eaten by some dogs, had not reached the windmills, and were also incredibly sunburned. We crossed the interstate and went to Wal-Mart to get some supplies for the next few days. On our way back to the hotel, one of our Race Stop Host's sons was driving the van. He watched us dart across the interstate and scolded us for not calling to ask for a ride. Then, he asked if we needed to go anywhere. Ever since we had arrived in Texas, I had loved the deep-south vibe. I grew up listening to old country music with my dad, so I fit right in. I had been toying with the idea of buying boots while in Texas, and this was my chance. I asked if he could take me just three miles down the road to Dandy Western Wear. Twenty minutes later, I had bought myself a new pair of authentic Texas cowgirl boots.

My co-pilot and I returned to the hotel and got ready for the "Welcome the Racers" event. I wore my new boots which ended up being the right decision because the town had planned a rodeo for us to attend! We had brisket in a horse barn, watched a cowboy play with some rattlesnakes, and then went to a rodeo. During the rodeo, however, the clown had an accident with his explosives. He lost his right ear and both eyes. It was a very sour note to end the evening on. After this, my co-pilot and I went to Skeet's Texas Grill with some other girls. The people of age had drinks while the others just sat and talked. Then, we went back to the hotel and had a girls' night in with our new friends.

Sunday was an extremely long, boring, yet also exciting day. We had briefings all day from 8:00 AM until 4:00 PM. These included a collegiate racers briefing, all contestants briefing, timing technology and judging briefing, and photography sessions. After sitting in a classroom all day, we ran back to the hotel, changed, and attended the Take Off Banquet. At this banquet, some awards and scholarships were given for people who had been doing the race the longest, people who had recruited a lot of other women involved in the race, and even people who were competing for the first time.

On Monday, we attended more briefings. The ARC really stresses safety and knowledge. These briefings included a racer fly-by briefing, a safety seminar, a race start briefing, a race terminus briefing, a weather briefing, and a first time racers briefing. We had all our questions answered by the end of the second day. We had sat through two full days of briefings, and it had been like drinking water from a firehose. There were so many rules. There were so many ways to get penalties. We had to remember to turn our GPS tracker on. We had to make sure we did not get so caught up in the race that we busted airspace along our route. We needed to figure out the best altitudes for cruise. We needed to remember to fill out a fuel slip at each stop and also decide how much fuel to carry. On the radios, we had to use “Classic Racer 48” instead of a tail number like we had done our entire flight career. We were nervous, and we were excited. The more briefings we sat through, the more that these feelings grew. Monday evening, we enjoyed some Mexican food and face masks with our Momma Birds and new friends. We had a powwow with our Momma Birds in our hotel room, and then we tried to get some rest.

One of the most important briefings we had on the second day was the fly-by briefing. In order to time the legs, racers did fly-bys at each airport. During the fly-bys,

planes had to fly a parallel side step to the runway and be 200-400 feet above the ground. There was a departure fly-by and an arrival fly-by for each leg with the departure from Sweetwater being the only exception. The ARC did this so that airplanes would not lose time by having to slow down to land. When departing from an airport and needing to do a departure fly-by, a team would fly about ten miles away from the airport. Then, the team would make two position reports—ten and five miles out—saying that they were going to be doing a departure fly-by. This procedure was the same for arrival fly-bys. The team would be finishing the leg, would line up with the runway, and make the same reports. It was possible for dual fly-bys to happen since planes were going all different speeds. Another important note to remember from the briefings is that during the weather briefing, we were told by the meteorologist that the weather across the United States was not favorable for the race. None of the teams thought much of his briefing or of his remark about getting as far as we could the first day because that's all the race would consist of.

On Tuesday morning, we had everything packed up from the hotel room. We got on the bus at 6:00 AM. Planes were supposed to start taking off at 8:00 AM. The ARC had planes grouped into about six different groups. They would tell these groups one at a time to either start their engines or to start taxiing towards the runway. It was incredibly exhilarating to hear and watch all those strong women get into their airplanes and get their engines running. We were the leader of our group based on where we were positioned along the taxiway. We pulled out of our spot around 8:40 AM and started taxiing towards the runway with the rest of the group behind us. We were airborne by 9:00 AM. We had officially left Sweetwater and started the Air Race Classic.

Leg 1: Sweetwater, TX (KSWW) to Alva, OK (KAVK)

As soon as the first leg began, my co-pilot and I realized that this was going to be totally different than anything we had ever done. I had the flight controls for the first leg while my co-pilot worked the radios. Since everyone had just left Sweetwater, there was not much spacing between us yet. Planes were constantly passing each other on the left and right. Everyone was around the same altitude because everyone wanted the best tailwind. We were all flying about 1,000 feet above the ground. We communicated with each other on the frequency 122.750. The frequency was filled with constant chatter. “Classic Racer 5 is 43 miles from Alva.” “Classic Racer 60, it’s Classic Racer 63. I think we are going to be passing you on the right underneath you.” “Classic Racer 23. We’ve got someone off our wing. We’ll snap some pictures of you!” It was one of the most exciting experiences I have ever had. The sky was filled with planes, and those planes were filled with women racing to Oklahoma. We flew with our engine running at maximum power (2700 RPMs). We had the air vents closed to prevent drag. We had our luggage in the very back of the airplane so that we had an aft center of gravity which provides better performance.

As we inched closer to Alva, it became evident that we were going to have a dual fly-by as our first fly-by. We lined up with the runway by the time we were a mile out and kept our wings level as we continued to descend down to 300 feet above the ground. During the dual fly-by, there was also a plane coming head on towards us and landing at Alva. Therefore, we were trapped between the dual fly-by on our left and the plane landing on our right. The only way we could go was up. After the fly-by, we climbed back up to a couple thousand feet above the ground. We pulled our power back and

opened our air vents. The ARC called this “cooling yourself and your airplane down” before going back to finally land. After about five minutes, we headed back to the airport to land. This part was even crazier than the dual fly-by. When we were approaching the runway, there was a fly-by happening. Therefore, we were approaching another aircraft head-on and only slightly sidestepped. When my co-pilot and I finally got on the ground in Alva, OK, we were filled with adrenaline and asking ourselves what had we gotten into. We quickly filled out the fuel slip, got goodie bags, handed out stickers to the townspeople watching from the bleachers, went to the bathroom, scarfed down some snacks, checked the weather, pre-flighted and were starting the plane up again.

Leg 2: Alva, OK (KAVK) to Beatrice, NE (KBIE)

The next leg was from Alva, Oklahoma to Beatrice, Nebraska. Planes were spaced out a little more for this leg, but not as much as we would be by the end of the race. We took off and did the departure fly-by. This race leg went by without a hitch. We flew to Nebraska and completed our arrival fly-by. After the arrival fly-by, we followed ARC instructions and made a left turn to come back around and enter the traffic pattern at Beatrice. The other MTSU completed their fly-by right behind us. They said they were going to follow us on the left turn and enter the pattern behind us. However, they made their turn sooner, and we had to do evasive maneuvers to prevent a mid-air collision. We landed, filled out the fuel slip, and got in line for fuel. We went and confronted the other team about the incredibly dangerous and rude maneuvers they had done in the traffic pattern. They said that they just assumed we were going to leave the area even though we had been announced our intentions five different times over the radio frequency.

Once in Beatrice, we noticed that something was off. Teams were not running around trying to get ready to take off again for the next leg. The lobby of the fixed base operator (FBO) was filled with women. All the chairs were filled; the floor was covered with people. Every woman was on a device looking at the weather. The weather was iffy in Beatrice, and it was iffy at our next stop of Faribault, Minnesota (KFBL). It was not too terrible yet, but it was getting there. Deciding whether or not to go was the hardest decision that my co-pilot and I had to make during the entire race. We were both torn on whether we should continue or not. If we continued and had to land at another airport due to bad weather, we would be disqualified. Everyone was discussing whether to go or not. In the end, forty nine teams chose to stay the night while six continued. We made the right decision to stay because out of those six teams, none of them were able to legally land at Faribault. Therefore, they were either disqualified from the race or received a massive penalty.

The Barnstorming Babes were stuck in Nebraska for the night. We had dinner with our Momma Birds and new friends. We all stayed up tracking the six planes that had attempted to make it Faribault and celebrated the fact that we had made the right choice in staying behind for the night. The next day, we spent most of the day at the airport. Beatrice was covered with bad weather and low clouds, so no teams were allowed to leave. We were all just sitting around the airport killing time until a decision was made. Rumors were going around that race officials were going to call off the next leg of the race and allow people to fly under instrument flight rules (IFR) to the next stop instead of visual flight rules (VFR). At noon, we all received an email saying that the stop in

Faribault had been eliminated and to get to Galesburg, Illinois either VFR or IFR (Appendix A).

There were a lot of questions about the email and no answers. The email stated that teams had to fly directly to Galesburg. Did that mean that teams could not make a landing anywhere else? Would a team be disqualified if they did so? There were storms along the way which could have made teams have to divert, so these were important questions that we could not get answers to. Some teams ran outside as soon as they got the email and left. My co-pilot and I checked the weather and decided not to go. Our Momma Birds and two other teams that we had become friends with also decided not to go. About thirty teams left Beatrice, thirteen teams dropped about, and nine teams stayed the night hoping for better weather conditions the next day.

The reason that some teams had to drop out was because some teams were not IFR rated which means that they could not fly in clouds. Our Momma Bird Teresa was IFR rated, but she was not up-to-date. We did not want to leave our mentors behind when we left Beatrice the next morning. Since my co-pilot and I are Certified Flight Instructors, we were able to help Teresa. We spent the Wednesday afternoon with Teresa and helped her get current again by giving her an Instrument Proficiency Check (IPC). After this flight that we did with her, she was then legal to fly into clouds again. However, some teams did not have to have team members or an airplane that was legally allowed to fly into clouds. Therefore, those teams had to withdraw because they could not leave Beatrice, Nebraska at all.

Leg 3: Beatrice, NE (KBIE) to Galesburg, IL (KGBG)

We woke up early Thursday morning. Beatrice was still very cloudy, but there were no longer thunderstorms in the area. My co-pilot and I had been in Beatrice for almost forty hours. We were ready to take to the skies again. We took off for Galesburg, Illinois along with our Momma Birds (Classic Racers 23) and our new friends from California (Classic Racers 55). The entire flight was in clouds, but we all safely made it to Galesburg, Illinois where we met up with the rest of the teams. Galesburg was just as cloudy as Beatrice had been, and all teams were once again stuck at the same airport. The waiting began again. Rumors started forming again. After waiting for a couple hours, we got another email (Appendix A). This email said four race legs had been removed. We were to no longer go to Auburn, Indiana (KGWB); Cadillac, Michigan (KCAD); or Newark, Ohio (KVTA).

This news was honestly a little disheartening for two reasons. For one thing, my co-pilot and I wanted to get the full race experience. The first two legs had been very exhilarating. However, this email made it clear that the race would only consist of those two legs and then the final leg from Penn Yan, New York (KPEO) to Fryeburg, Maine (KIZG). The second reason was that each race stop put in a lot of time and money to get ready for us. The townspeople were excited. The airport staff was excited. Gifts had been made. Food had been bought. Volunteers had been found. All that hard work was going to waste because the weather was preventing us from making it to those stops. Even though nothing could be done to help the situation, it was still frustrating and disappointing.

Leg 4: Galesburg, IL (KGBG) to Indianapolis, IN (KMQJ)

My co-pilot and I checked the weather, performed a preflight, and took off from Galesburg, Illinois. There was a line of thunderstorms in our way, but we had planned on going through the line of thunderstorms to Columbus, OH. However, the closer we got to the line of storms, the worse the weather got. We decided to divert to Indianapolis, Indiana (KMQJ) to catch a break before continuing through the storms. We got some lunch and sat at the airport for a little bit until we finally decided we were ready to face the squall line of storms.

Leg 5: Indianapolis, IN (KMQJ) to Erie, PA (KERI)

We took off from Indianapolis. The first part of the flight was very quiet. We were both focused on flying and watching the weather. It ended up being a pretty smooth flight. We finally made it to the other side of the squall line that had been disrupting the race for the past three days, and skies were clear! To reward ourselves, my co-pilot and I flew north towards Lake Erie and cruised along the coast of the lake for a little bit. This leg from Indianapolis to Lake Erie was over four hours long, but we pushed through it. We finally landed in Erie, Pennsylvania at 8:37 PM. We had been flying and fighting weather since 6:00 AM that morning, and we were not even done yet. We were determined to get to Penn Yan, New York in order to be ready for the final leg the next day.

Leg 6: Erie, PA (KERI) to Penn Yan, NY (KPEO)

My co-pilot and I had already flown three legs on Thursday, June 21, but we were not stopping until we got to Penn Yan. We left Erie around 9:00 PM and headed straight for Penn Yan. It was a beautiful flight. We watched the sunset over Lake Erie when we took off and then flew in the dark to Penn Yan. We surprisingly were not tired even

though we were up to eight hours of flying by this point. We landed in Penn Yan, New York at midnight. We flew over 900 nautical miles and were incredibly proud of ourselves for pushing through. Our Race Stop Hosts drove us from the airport to the hotel, and we immediately fell asleep.

There was one dangerous moment throughout the day. On this leg, my co-pilot had the flight controls while I was working the radios. When we got closer to Penn Yan, we listened to the weather and decided we wanted to use the longer runway that the winds were favoring. However, there was another plane approaching the airport. They wanted to use the shorter runway that the winds were not favoring. I told my co-pilot that we should just let them make their decision and stick with ours once they got out of the way. My co-pilot wanted to follow the other plane though. This decision was not one I would have made, but my co-pilot was pilot in command. I asked her if she would like to load an instrument approach into the airport since it was dark, and we were unfamiliar with the terrain. My co-pilot insisted that we not load an approach because she enjoyed flying into unfamiliar places in the dark to see if she could do it without running into anything. She described it as “exhilarating”. I was uneasy, but did not speak up which was my mistake. When we were three miles from the airport, I could see the runway, but my co-pilot could not find it. She was very lost. We entered the pattern incorrectly because she could not find the runway. I was trying to talk to her and help her, but she was ignoring my inputs. She continued the approach into the airport even though we were very low, and she had no clue where she was going. When we were very close to the runway, my co-pilot finally became uncomfortable with the situation and performed a go-around. She added power and climbed away from the ground. After this incident, I told

my co-pilot to either give me the flight controls or fly an instrument approach into the airport since we did not know the area. She complied.

Leg 7: Penn Yan, NY (KPEO) to Fryeburg, Me (KIZG)

We slept in on Friday morning. It was the last day of the race, but we only had one leg to complete. None of the teams from Penn Yan were in a rush to get to Fryeburg. Most teams were sitting around waiting for better winds, but they never came. My co-pilot and I decided that we wanted to go ahead and get to the Terminus. We waxed and fueled the airplane for our final leg. We took off and did the departure fly-by. About five miles after the departure fly-by, we realized that we had forgotten to turn on the GPS tracker. We were not allowed to go back and redo the departure fly-by. That mistake ended up counting as a penalty against us.

We made it to Fryeburg, Maine without any other incidents. Upon arriving, we were greeted by many spectators and applause. Our Momma Birds had already arrived, so that had told everyone about us and had the entire crowd cheering for The Barnstorming Babes once we arrived. We passed out dozens of stickers like we were celebrities. We had officially completed the Air Race Classic 2018. To be more correct, we had successfully gotten from Sweetwater, Texas to Fryeburg, Maine and completed only three legs of the Air Race Classic 2018. The official race route versus what we actually flew can be seen in Figure 2.

Terminus: Fryeburg, ME (KIZG)

We stayed in Fryeburg, Maine for four nights. We arrived on Friday, June 22 and did not leave until Monday, June 25. After our completion of the final leg Friday afternoon, we pried ourselves out of the airplane and headed to the hotel. We stayed at

the Red Jacket Mountain Resort which was located just across the state line in New Hampshire. We need to recuperate, rest, and relax for a few hours before the evening's Meltdown Party. The Meltdown Party took place on a farm in Fryeburg, ME. The farm had a beautiful new hangar that had just been built, and the hangar overlooked a large grass landing. Most of the people of Fryeburg were invited to the Meltdown Party and welcomed the racers into their town. We had a great time eating, drinking, and walking the length of the grass strip. After the Meltdown Party, my co-pilot and I went back to the hotel and passed out for the evening.

Saturday included a varying array of activities. We began by reviewing the score that we had gotten during the race. I went and met with the judges about the penalty that

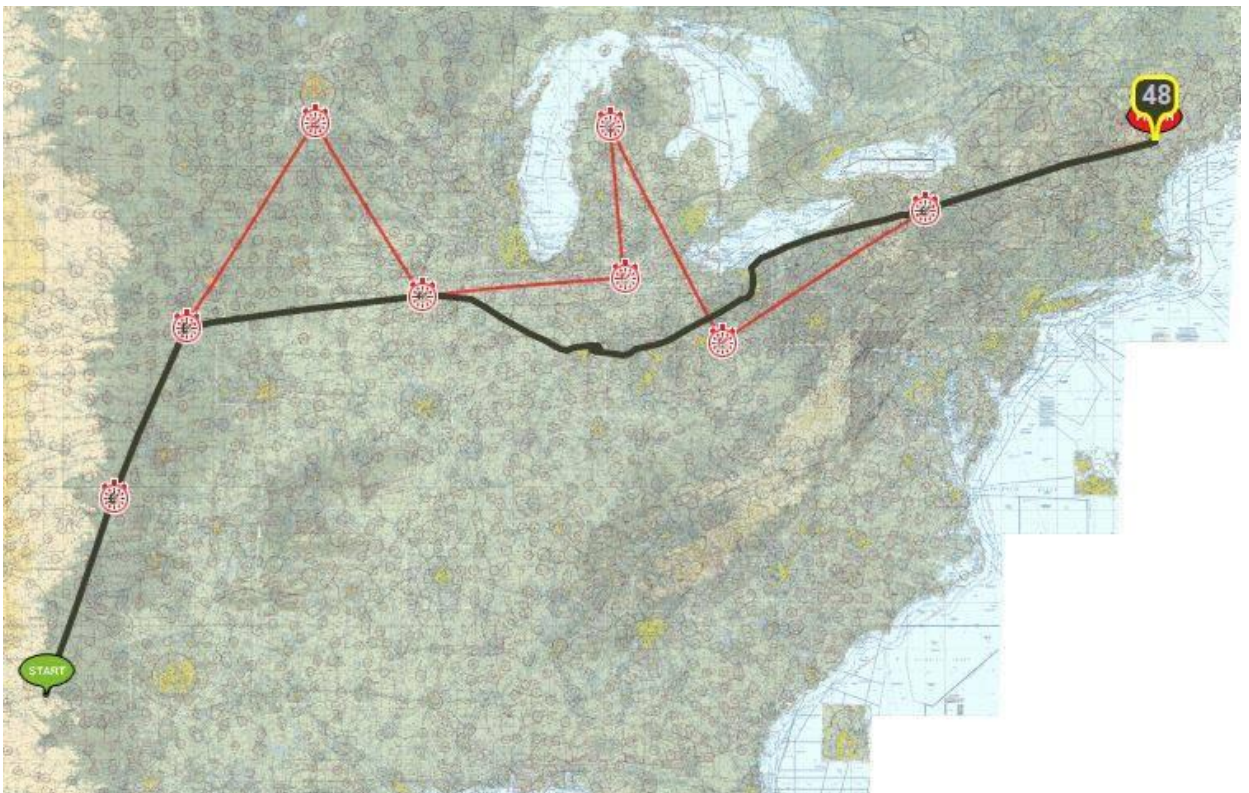


Figure 2. The race route is in red while the actual route of The Barnstorming Babes is in dark green.

we received. It was correctly given to us, so I did not argue with our score. I agreed with our score and signed the score sheet. Next, we went to the airport for a career fair. After that, The Barnstorming Babes helped out at another Meet the Racers event at the airport. During this event, we actually were able to give really helpful information to interested students about MTSU's aviation programs. We headed back to the hotel after lunch time and went to the indoor waterpark at the hotel with our friends from California. Finally, we ended the day with a girls' night in the hotel.

Sunday was our final day in Fryeburg, Maine. There was a mandatory breakfast from 7:00 AM to 8:45 AM that all racers had to attend with a mandatory debriefing right afterwards from 9:00 AM until 10:00 AM. After these two events, we had the rest of the day free until 6:00 PM. We decided to explore the area. We went on a small hike called Diana's Bath and then went shopping in the downtown area near the resort. Finally, we ended the day with our final Air Race Classic event—the Air Race Classic Awards Banquet.

The Barnstorming Babes did not receive any awards in the Air Race Classic 2018. However, my goal was not to win the race or win an individual leg. My goal was simply to finish. That being said, this task was actually quite hard to complete given the weather conditions for the race. Out of the fifty-five teams originally signed up for the race, only thirty-three competing teams actually ended up finishing the race. Of those thirty-three, my co-pilot and I ended up placing twenty-third. All the final results can be found in Appendix D. While I would not have been disappointed to have won, I was proud of how we did in the race as first timers. Our time with the Air Race Classic was over, and it was time to head back to Murfreesboro, TN.

Fryeburg, ME to Murfreesboro, TN

Our original plan on our way home was to fly over Niagara Falls. It was only thirty minutes out of our way. Against my co-pilot's insisting, I just wanted to call administration to make sure it was okay before we flew into Canadian airspace. It was a good thing that I called. Mr. Lenczycki told me that since the airplane was under lease, it was not allowed into foreign airspace so we made new plans. Momma Bird Denise was from Connecticut and invited the California girls and us to come stay the night at her house. All three teams left around lunchtime on Monday for Plainville, Connecticut (4B8). When we arrived in Connecticut, we went to Denise's house and got a tour of her mansion. Then, I got to drive Denise's Hummer and take all of us to go get pizza. Getting to drive the Hummer was almost the highlight of the whole adventure. We spent some time in town before spending the rest of the evening at Denise's house. My co-pilot and I planned with the California girls what we were going to do the next day. We wanted to fly through New York City along the Hudson River, but that required special training. Therefore, we spent our evening at Denise's completing the training online. We woke up the next morning ready to go.

Flying along the Hudson River corridor is a fantasy that most pilots have. New York City is known for its incredibly busy airspace. However, there is a small path that small planes can take straight through the middle of all the air traffic. Those planes have to be very low and very slow. My co-pilot and I completed the training Monday evening and did the flight Tuesday morning. We said good bye to our Momma Birds for the last time and headed off to NYC. The flight was spectacular. While flying the corridor, we were lower than some of the skyscrapers in the city. We circled the Statue of Liberty.

People were standing around it taking pictures of the statue and of us circling. I have never been to NYC, so that experience was even more breath-taking for me. After we flew the corridor a couple times, we continued flying southeast bound and landed in Lancaster, Pennsylvania (KLNS).

We got fuel, took a break, and debated where fly to next. There were storms starting to build in the southeast. My co-pilot and I needed to head that way, and the original plan was for the California girls to go with us. However, they had another two days' worth of flying before they got home and did not want to risk getting stuck in some weather. They decided to go a different route. This decision meant that this was the last time we would be seeing the California girls. We hugged goodbye on the ramp, and they headed directly east while we continued southeast bound towards Tennessee. We decided to stop in Danville, Virginia (KDAN) for our next point. Skies were clear in Pennsylvania, but they became more overcast the further south we flew. By the time we reached Danville, the clouds were at the lowest altitude they could possibly be at for us to land. I was flying the leg, and I flew the instrument approach all the way down to its lowest point. At that moment, we saw the runway and were able to land. When we got out of the plane and walked inside the building, the people working inside said that they were very impressed that we were able to fly the approach in and land in the poor weather conditions. We got fuel, took a break, and looked at the weather. It was not looking good. We needed to head almost directly east to get to Murfreesboro. However, there was a massive storm sitting in our way. We decided to try to swing south of the storm and get to Murfreesboro.

We left Danville, Virginia around 5:00 PM with every intention of flying south around the storm and back north to Murfreesboro, Tennessee. However, our plan fell through. Mother Nature is almost impossible to predict, and she did not want us to make it all the way back on Tuesday. The storm grew, and we diverted to Camden, South Carolina (KCDN) around 8:00 PM. We landed ten minutes before the terrible storm hit the airport. After making sure the plane was not going to blow away, we ordered a taxi and found a hotel for the night.

Wednesday morning came, and we were determined to get back to Murfreesboro. During the summer, storms start to build around lunchtime. We woke up early and tried to get a head start so that we could get back to Murfreesboro, Tennessee before the storms grew. We left Camden, South Carolina on Wednesday morning and made it to Murfreesboro, Tennessee around noon on Wednesday. Figure 3 shows the route that we took over the course of three days from Fryeburg, Maine to Murfreesboro, Tennessee (KMBT).

We had traveled almost four thousand miles. We had covered about eighteen states. We had flown exactly forty hours. I grew an incredible amount as a pilot during this race. I had been training for years, and the Air Race Classic finally gave me the chance to put all my skills to use. It was real life application. Figure 4 shows the entire route that I flew from Murfreesboro, Tennessee to Murfreesboro, Tennessee in fifteen days.

Different Environments

It was evident during the race that it was a much different environment than the flight instructing that all my previous flying experience had come from. There were three



Figure 3. The legs from KIZG to 4B8, 4B8 to KLNS (including the detour over NYC), KLNS to KDAN, KDAN to KCDN, and KCDN to KMBT.

preflight their aircraft. This procedure is done in an attempt to find a mechanical problem on the ground before it affects the airplane in flight. My co-pilot and I preflighted our aircraft before every flight. At the MTSU Flight School, every plane is preflighted before every flight. However, during the race, there would be times where people would not perform a preflight because they were in a rush to get to the next stop. While it was a competition, the race was not important enough to forego safety procedures.

Another difference I noticed was flying into instrument meteorological conditions (IMC). During the race, teams were much more likely to fly into IMC than during flight

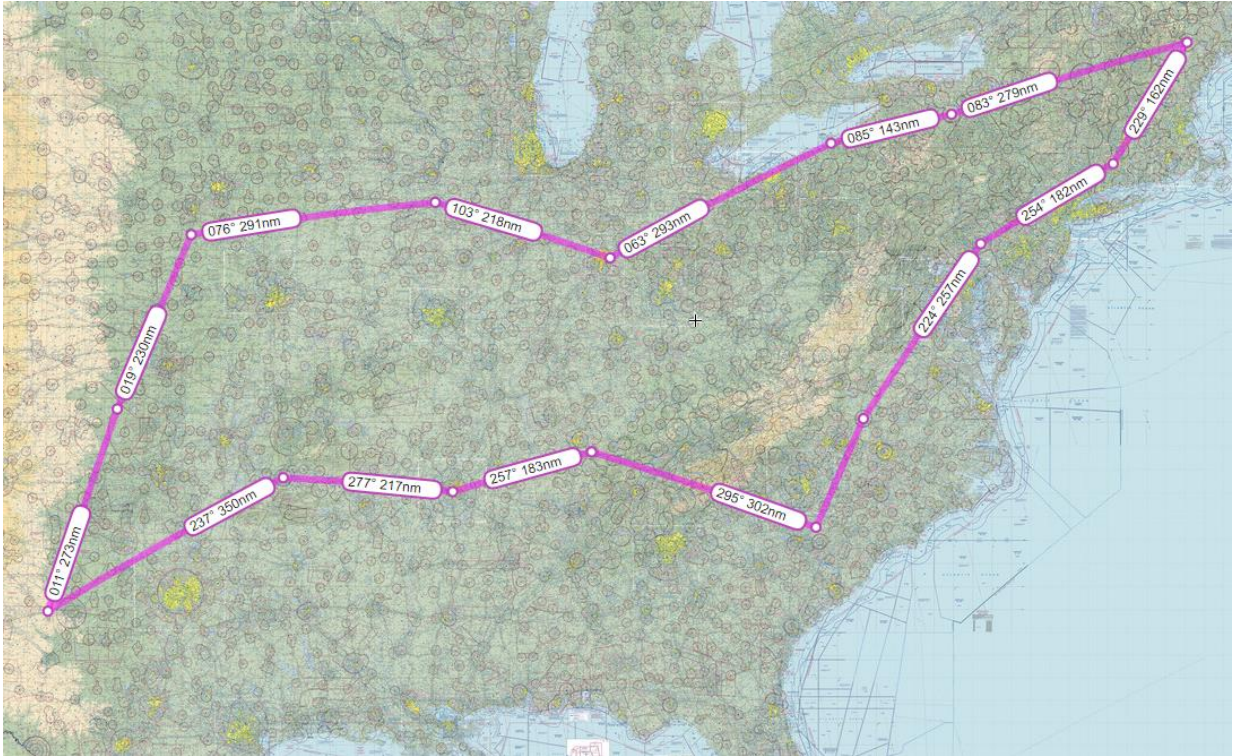


Figure 4. The entire route that The Barnstorming Babes had covered in two weeks.

training. My co-pilot and I pushed ourselves to fly in IMC whenever we got the chance because it does not happen as much as it should in flight training. The procedures for flying in clouds are taught, but the implementation lacks a bit in the training environment. We got to fly in some very low level IMC that really put our knowledge of instrument flying to the test. We came out feeling more confident in our skills as pilots and as flight instructors.

Finally, the third difference I noticed between the race environment and the training environment is people's awareness of plane proximity. During flight training, people tend to get nervous about another aircraft if it is within five miles or five thousand feet of their position. In the race, however, plane proximity was pushed to the side as we all raced side by side from Texas to Nebraska. It was still a safe practice because we were in constant communication with one another, but my co-pilot and I were completely

bewildered at first because we had never been so close to so many other aircraft before. When I came back to MTSU and continued flight instructing, I realized that this numbness of plane proximity had rubbed off on me. Now, I will be flying with a student and do not get nervous about other planes nearby as long as I can see the other plane. However, the students tend to freak out when the other plane passes five hundred feet right below us. It is just a difference in environments and experiences.

There were important lessons I learned from this race. I grew as a pilot and learned that I *do* have the knowledge and capability to fly long legs with bad weather. I learned that I need to speak up when a situation seems wrong which I should have done to prevent the life-threatening approach into Penn Yan, NY. I learned to be more confident as an instructor because I actually do have knowledge to impart to my students. I learned that I want to remain a part of general aviation even after I make it to the major airlines like Delta or American. I learned that I cannot control every aspect of my life such as people or the weather, and I need to just roll with the punches. Most importantly, though, I had it reconfirmed that aviation absolutely is my one true passion.

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Appendix A – Emails

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Top Hawk Email

Good morning,

We are working on an application to the 2018 Top Hawk program. For those of you that don't know, Textron will provide 5 universities a new Cessna Skyhawk for use during 2018 for marketing and promotion. As part of our application, we need to develop a 3-5 minute video on our program (more details below). **This is where I need your help!**

If you have videos or pictures you would be willing to share, please send them my way (NOT VIA EMAIL). You can bring a thumb-drive by my office, upload to Google-drive and share, whatever. If you can make it available, I would appreciate it. I will also look through our social media to see if there is useable material there.

If you would like to participate – please let me know. Student participation would help distinguish our application from the others. If you have video-editing experience, please let me know. If you know other students that might be willing to help, please let me know.

I appreciate any help you would be willing to provide. This should be a fun project!

Thank you, in advance, for your help!

Nicholas Lenczycki

Co-pilot Email

Mary Lou,

Would you please send the following email to all aerospace students:

MTSU will be entering the Top Hawk Skyhawk in the 2018 Air Race Classic. We are looking for a female student to join the team. Minimum qualifications specified are:

- Private or higher airman's certificate with a ASEL rating;
- Minimum 100 hours PIC (pilot In command) logged (by 2/23/2018);
- Current medical certificate;
- Proof of required flight review or added rating; and
- A minimum of 500 hours PIC or a current instrument rating.

<https://www.airraceclassic.org/>

If you meet the qualifications above and are interested, please submit a one-page typed essay on why you would like to be part of the 2018 ARC to Nicholas.Lenczycki@mtsu.edu by **Friday, 2/23/2018**.

Thank you!

Nicholas Lenczycki

Air Race Classic Beatrice Email



The decision has been made to eliminate Fairbault from the race route.

To restart your time, Teams must fly directly to Galesburg, either VFR or IFR.

If you are to Flyby to Continue, you must cancel your IFR flight plan prior to reaching GBG.

Anyone on an IFR flight plan between Galesburg and Auburn will be disqualified.

Takeoffs from Beatrice must be done in RON list order. Flybys at Galesburg must be done in VFR conditions.

Air Race Classic Galesburg Email



Hi everyone,

Unfortunately the weather is continuing to cause issues for the race and we have made the difficult decision to eliminate all the legs between Beatrice and Penn Yan.

Please make your way safely, either VFR or IFR to Penn Yan anyway possible, including filing an IFR flight plan. You may spend the night at an off-route stop on the way to Penn Yan if you notify Race Central. You may fuel wherever needed.

PLEASE NOTE: Do not cross the Great Lakes.

When you arrive at Penn Yan, if you are VFR and want to do a "flyby to continue" to start the time for the last leg, you may do that. If you are not doing a "flyby to continue", then you should land and you will not be timed upon landing. After fueling or resting, you can then taxi for a "departure flyby" to start the time for the last leg.

Thank you all for your flexibility and understanding.

Appendix B - Top Hawk Application

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Standard Operating Procedures

2018 Top Hawk



Operations Plan

Middle Tennessee State University

(MTSU)

This document outlines the procedures and policies to be used for all operations involving the Top Hawk aircraft. Guidance contained in FAA-approved aircraft flight manuals, pilot operating handbooks, and regulation supersede the guidance in this document. All conflicts or questions regarding policy shall be directed to Mr. Nicholas Lenczycki, Flight Operations Program Manager, prior to flight.

Maintenance Plan

Middle Tennessee State University (MTSU) has a strong maintenance program that works solely with MTSU's training aircraft. Mr. Matt Taylor is the head of maintenance operations with a staff of 4 full-time A&Ps (3 hold IAs) and a handful of student workers. Mr. Taylor has been a mechanic for 24 years and has held an Inspection Authorization (IA) since 1996.

The Top Hawk aircraft will be maintained in accordance with the latest guidance from the aircraft manufacturer for commercial operations, including 100-hour requirements and 50-hour inspections. All required ADs will be completed prior to any flight.

Top Hawk Storage

The Top Hawk aircraft will be stored in the MTSU maintenance hangar whenever it is not being operated or participating in the various events.

Insurance

MTSU insures all aircraft with \$3,000,000 in liability coverage and a hull value in excess of the airframe Blue Book value. Cessna will be shown as sole loss payee for hull coverage of the Top Hawk aircraft.

Training

The Flight Operations Program Manager (FOPM) is responsible for the training and standardization of all Top Hawk pilots at MTSU. The FOPM has an Airline Transport Pilot certificate with commercial privileges for airplane single-engine land (ASEL) aircraft. As a former Chief Instructor of two 14 CFR Part 141 flight schools, he has over 2,000 hours of dual given and extensive experience with G1000-equipped Cessna Skyhawk aircraft.

Each pilot-in-command (PIC) must receive approval from the FOPM prior to any PIC operations. This training will include normal and emergency operations as well as a comprehensive evaluation in accordance with the current airman certification standards (ACS).

Standard Operating Procedures

Safety Reporting

- A. Should a PIC violate any Federal Aviation Regulation, he/she should file a report through NASA's Aviation Safety Reporting System. The details of NASA's ASRS can be found in FAA Advisory Circular AC 00-46. ASRS reports are located in the safety binder behind the Dispatch Manager's desk.

All safety concerns and incidents should be reported to the Safety Manager by submitting a Safety Report to the lockbox located on the wall near the dispatch area in the Flight Education Center. Forms can be found on the ledge beneath the lockbox.

Personal Habits and Dress Code

- A. Smoking or the consumption of any tobacco product is not permitted in MTSU aircraft or anywhere on the KMBT operations ramp.
- B. No food or beverage, with the exception of water, is permitted in the aircraft. Do not leave trash of any sort in the aircraft.
- C. All occupants of MTSU aircraft are required to wear long pants and closed-toe/closed-heel shoes with socks. High heeled or thick soled shoes are not authorized.

****Due to high cockpit temperatures during the summer months,
shorts may be worn between 1 June and 1 October****

Physical Condition/Drug and Alcohol Prohibition

- A. PICs should be in good physical condition and have the proper mental attitude. Proper rest, a balanced diet, and a positive attitude are essential to ensure adequate alertness and safety.
- B. When ill, PICs should not fly if the illness will interfere with the safe operation of the flight (14 CFR 61.53) the PIC should be aware that most prescription and over-the-counter medications have been found to interfere with the safe operation of aircraft. It is imperative that PICs not take medications prior to flight without the approval of an Aviation Medical Examiner.

C. Pilots shall not drink alcoholic beverages less than 12 hours before a scheduled flight.

Ground Operations and Procedures

Preflight Planning

- A. Prior to each flight, appropriate preflight planning should be performed in accordance with 14 CFR 91.103, and a form containing the following information should be submitted to dispatch: weight and balance calculations, a weather report, navigation information, and takeoff and landing distance calculations. It is recommended that a standard weather briefing be obtained before every flight, either by contacting FSS or logging into www.duats.com. Pilots should be aware of any TFRs along the route of flight.
- B. Prior to every flight, the PIC must ensure that a weight and balance form has been properly completed for the aircraft to be flown. One copy of the completed form must be onboard the aircraft during the flight and a second copy will be left with dispatch.
- C. Invoices must be signed by the PIC and include current aircraft Hobbs meter and tachometer readings, planned flight destination, time of departure, and time of return. Any approved passengers must have their names listed on the invoice along with emergency contact phone numbers.
- D. Cloud and Visibility Minimums:

VFR Day		Ceiling (AGL)	Visibility (s.m.)
	Pattern	1500	3
	Local	2000	3
	XC	2500	5
VFR Night			
	Pattern	1800	3
	Local	2500	5
	XC	3000	5

IFR Day	Reported and forecast ceiling and visibility must be sufficient for completing a published instrument approach or visual approach at the departure airport. Under all circumstances, a legal destination alternate must be available within a one hour flight from the departure airport.
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IFR Night		1000	2
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E. Wind Restrictions:

	Max Surface Winds (Incl. gusts)	Maximum Crosswind Component*
MTSU Instructor	25 kts	15 kts
	*Aircraft are restricted to the maximum demonstrated crosswind component as published in the appropriate AFM or POH.	
Other PICs	Maximum surface winds are 20 knots or the maximum listed above for dual flights in the aircraft, whichever is less. Maximum crosswind component: up to the maximum demonstrated crosswind component for that aircraft.	

F. Other Weather Restrictions:

- a. No flights shall be flown through areas of reported **severe turbulence**.
- b. No flights shall be flown through areas of known or reported **icing** conditions.
- c. No flights shall be flown through areas of an active **Convective SIGMET** without prior approval of the FOPM. All **thunderstorms** must be avoided by a margin consistent with safety and as recommended by the AIM and applicable FAA Advisory Circulars.
- d. Winter restrictions: All snow, ice, or frost must be removed prior to flight.
 - i. Aircraft that have not flown in the hour preceding an intended flight shall be preheated if the ambient air temperature is at or below 40°F. Verify the latest POH and/or flight operations recommended procedures as the colder weather may require you to follow a very specific starting procedure.

G. Fuel Reserves Necessary for Local and Cross-Country Flights:

- a. All flights (VFR, IFR, day and night) are required to have 60 minutes of reserve fuel at all times. No aircraft shall depart with less than ½ a tank of gas each side. If weight-and-balance is an issue approval for reduced fuel shall be obtained from the FOPM.

- b. Cross-country departures must carry the maximum fuel allowed by weight-and-balance calculations.

Standard Dispatch Procedures

- A. Prior to any flight, dispatch must receive a completed invoice form. The dispatcher must review all invoice information for completeness.
- B. The Hobbs meter and tachometer time must be checked against the aircraft's clipboard during preflight. If any difference is noted, the actual time must be reported to dispatch prior to flight. Dispatch must approve and initial any changes in the times listed on the clipboard.
- C. MTSU utilizes an online scheduling system to track aircraft maintenance. All pilots must also verify the aircraft status and the tachometer time prior to flight for compliance with FAA-mandated and MTSU inspections.
- D. Upon completion of a flight, the aircraft keys, clipboard, and invoice will be returned to dispatch.

Redispatch procedures after delays

- A. If a PIC becomes delayed for any reason during a cross-country flight, the PIC must contact dispatch or the FOPM as soon as possible and prior to leaving any airport.

Redispatch procedures after unprogrammed landings, on and off airport

If a PIC lands at any airport other than the one assigned, the PIC must contact dispatch or the FOPM prior to departing that airport. In the event of an off-airport landing, attend first to your own safety and that of others on the ground, secure the airplane as necessary, and contact the Flight Education Center/FOPM.

Do not attempt to move the aircraft from an off-airport site.

Preflight Inspection

- A. A thorough preflight inspection by reference to the appropriate MTSU and manufacturer's checklist must be accomplished prior to each flight.
- B. Any discrepancy noted must follow the procedure under this section. For all flights, the PIC must personally perform a preflight inspection. Fueling, de-icing, and preheating activities shall be done only by a PIC, line personnel, or any other qualified person authorized by the FOPM.

- C. The PIC must personally verify the fuel level in each tank prior to departure.
- D. Although authorized by the FARs, preventative maintenance performed by non-maintenance personnel will be limited to changing light bulbs and tire inflation. Any other maintenance or preventative maintenance by non-maintenance personnel shall be approved by the Maintenance Director.
- E. Use extreme caution when repositioning a propeller by hand. Although a remote possibility, the engine may start unexpectedly by moving the propeller, even without engaging the electric starter motor or activating the magnetos. If it is necessary to reposition a propeller by hand, the propeller should be turned opposite of its normal direction of rotation and only as far as required.

Aircraft Discrepancies, Malfunctions, and Approval for Return-to-Service Determinations

- A. When a discrepancy is encountered and/or identified while performing a preflight inspection or “run-up”, the PIC must advise dispatch and maintenance. The initial aircraft discrepancy sheet, located in the aircraft clipboard, must be filled out according to the instructions listed on it.
- B. Maintenance and/or the PIC will make the determination as to whether the aircraft is airworthy for the intended flight based upon the appropriate Federal Aviation Regulation.
- C. Every effort should be made to confer with maintenance personnel in person or by phone. An aircraft will not be approved for return-to-service until the proper action has been taken and the corresponding FAA records and paperwork are completed.
- D. If a PIC identifies a discrepancy away from the main operations base, he/she should follow the same procedures as above. Consult with dispatch, the FOPM, the maintenance director, or a designated maintenance technician. If ever in doubt **DO NOT FLY**. If airborne, land at the nearest suitable airport and make a call. If the problem is resolved and the aircraft will be flown, the PIC must call MTSU for re-dispatch prior to departure.

Fueling Procedures

- A. Fuel Truck: It is the PIC's responsibility to determine that the aircraft has the required fuel (including MTSU reserves) for the desired flight. If the aircraft needs fuel, contact dispatch/line service on 123.5 or coordinate with line service personnel on the ramp for fuel. If there are no line service personnel on duty, it is the PIC's responsibility to fuel the aircraft.
- B. KMBT Fuel Pumps: If the fuel truck is not operational, line service personnel will direct an incoming aircraft to taxi to the KMBT fuel pumps. The following procedure will be used if the aircraft is fueled at the KMBT pumps:
 - a. The PIC will ensure that the aircraft is parked safely, wire grounded, and fueled correctly.
 - b. Under no circumstances is an aircraft to be left unattended at the KMBT pumps. The PIC and MTSU line service personnel must coordinate returning the aircraft to the MTSU ramp.
 - c. If possible, the PIC should coordinate fuel service with line service personnel prior to the flight. This will help eliminate confusion for the returning aircraft.
- C. Only trained and authorized MTSU line service personnel and PICs may operate the fuel truck and fuel aircraft. PICs are not allowed to operate the fuel truck or fuel aircraft.
- D. No MTSU aircraft may be refueled while its propeller(s) is/are turning.

Fire Precautions and Procedures

- A. Smoking is not permitted within 50 feet of any aircraft, hangar, maintenance facility, fueling facility, or on the MTSU ramp at any time.
- B. During extremely cold or hot starts, pilots should have a person standing by with a fire extinguisher and use the aircraft's approved cold or hot start procedure, as listed in the POH, as appropriate.
- C. All flight personnel should familiarize themselves with the locations of fire extinguishers in the aircraft, on the ramp, and in the training and maintenance facilities. Fire extinguishers are located in the following locations:

- a. Flight Education Center: One extinguisher next to the water fountain; one extinguisher next to the bathroom doors; one extinguisher in the hallway near the west exit
- b. Fuel truck: Two extinguishers on the back of fuel truck
- c. Sim building: One extinguisher located on the north wall of the simulator bay by the light switches
- d. Maintenance hangar: Two extinguishers are located on the north wall; two located on the south wall; one near the delivery rollup door
- e. Airway Science hangar: Two extinguishers located on west wall; two located on east wall
- f. Aircraft: One extinguisher in each

Starting and Taxiing Procedures

- A. No person may board or exit aircraft while its propeller is turning.
- B. All aircraft shall be started and operated in accordance with the appropriate checklist.
- C. Safe and reasonable taxi speeds are expected. When taxiing in any wind condition other than calm, the pilot shall hold the controls in accordance with the POH.
- D. Aircraft may not be run up in tie-down areas.
- E. The aircraft may not be hand-propped under any circumstances. Aircraft may be started using an external power unit attached to the appropriate receptacle in accordance with the POH.
- F. Batteries must be removed from the aircraft for charging.
- G. Monitor AWOS, or appropriate weather, before taxiing.
- H. Prior to beginning taxi at KMBT contact Blue Raider Ops on 123.5 to verify radio operations and to receive any special instructions. If no dispatcher is available, contact KMBT Unicom on 123.075.

- I. The pilot is responsible for ensuring obstacle clearance at all times. The painted taxiway centerline will not always guarantee wingtip clearance. Shut down the engine and seek assistance in constricted areas.
- J. Aircraft may not be taxied through a line of tied-down aircraft.
- K. Use caution to avoid runway incursions. All PICs will, before taking a runway at any airport, verify that no traffic is on the runway or on final.
- L. Use of lights will be in accordance with aircraft checklists.

Flight Operations and Procedures

All operations will be conducted within the operating parameters and limitations outlined in the Pilot's Operating Handbook (POH). Each pilot-in-command will be either an MTSU flight instructor or an aerospace PIC with at least a Private Pilot certificate with airplane single-engine land rating and instrument-airplane rating.

Positive Exchange of Flight Controls

When one pilot wishes to give the other pilot control of the aircraft, he or she will say, "You have the flight controls." The other pilot acknowledges immediately by saying, "I have the flight controls." The first pilot again says, "You have the flight controls." A visual check is required to verify that the exchange has occurred.

There should never be any doubt as to who is flying the aircraft.

Minimum Altitude Limitations

- A. (VFR) Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes (reference 14 CFR 91.119):
 - a. Anywhere: An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.
 - b. Over congested areas: Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.
 - c. Over other than congested areas: An altitude of 500 feet above the surface, except over open water or sparsely populated areas, or when operating with the intention of a landing. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure (natural or man-made).
 - d. Around KMBT: Try, to the extent possible, to avoid flights over the city of Murfreesboro. When using runway 36 for landing, the base leg should be initiated at or before the intersection of Clark Street and Memorial Boulevard (use U-Haul and a BP gas station as landmarks).
- B. (IFR) Except when necessary for takeoff or landing, no person may operate an aircraft under IFR below:

- a. The applicable minimum altitudes prescribed in 14 CFR Parts 95 and 97; or
- b. If no applicable minimum altitude is prescribed in those parts,
 - i. In the case of operations over an area designated as a mountainous area by 14 CFR Part 95, an altitude of 2,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown; or
 - ii. In any other case, an altitude of 1,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown.

Simulated Emergency Landing Instructions

- A. No simulated engine failures may be conducted below 500 feet AGL.
- B. Simulated emergency landings shall be conducted on training and standardization flights only and shall terminate at or above 500 feet AGL, unless making a landing at an authorized airport. Make sure to clear the engine each 500ft to 1,000 ft. Do not use the mixture or fuel selector to simulate engine failure.
- C. Do not execute an off-airport simulated emergency landing in the vicinity of residences or businesses.
- D. Simulated emergency landings may be conducted at KMBT provided the number of aircraft in the pattern allow for safe recovery. Simulated emergency landings should **NOT** be performed if there are aircraft on base or final in front of the practicing aircraft. It is recommend that any such practice be done at a towered airport where proper coordination with participating traffic is more effective.

Traffic Pattern, Arrivals, and Departures

- A. All non-controlled airfield traffic pattern operations will be conducted in accordance with recommended procedures published by the FAA. All towered airfield traffic pattern operations will follow the instructions of the controlling authority. Specific pattern procedures may be prescribed for a particular airport. PICs shall familiarize themselves with these specifics and the applicable sections of the Federal Aviation Regulations, Aeronautical Information Manual, Airport/Facilities Directory, VFR and IFR navigational charts, and any publications that address airport operations and the airspace surrounding them.

- B. Due to the volume of traffic at KMBT, specific operating procedures are in place there for MTSU aircraft. These procedures are meant as a general guideline in the interest of safety and are in no way a substitute for good judgment and common sense when dealing with pattern entry, departure, and general traffic pattern operations.
- C. Communication in the pattern is key. Pilots need to be vigilant in their search for conflicting traffic and voice their intentions always. Position reports may reference a local landmark. However, a compass reference and distance are required of each report. (ex. "123MT is currently 5 miles west of KMBT")
- D. MTSU aircraft shall not overfly the KMBT runway to enter the local traffic pattern. Although normally an accepted practice, VFR and IFR arrivals into Smyrna preclude this method of entry. Aircraft shall circumnavigate to arrive at the 45° entry. Upwind and downwind departures are authorized provided the departing aircraft is at or above pattern altitude and clear of any arriving or transient aircraft.
- E. Stop-and-go landings may only be conducted at airports with a runway length of at least 5,000 feet. The takeoff roll may only be initiated from the stopped position on the runway if at least 2,500 feet remain in front of the aircraft from that point.

Cross-country Flights

- A. All cross country flights must be approved by the FOPM.
- B. PICs are restricted to the route assigned unless a deviation becomes necessary for safety reasons (see *Redispatch Procedures after Delays*).
- C. The PIC must note the cross-country route by making a notation on the invoice form.
- D. All cross-country flights must be conducted on a flight plan that has been filed and activated with the appropriate FAA Flight Service Station. A separate flight plan must be filed for each leg of the cross-country.

Avoidance of Other Aircraft in Flight and on the Ground

- A. No aerobatic maneuvers are authorized at any time. No spin training will be conducted using the aircraft.
- B. No formation flights are authorized.
- C. No maneuvers are to be conducted lower than 500 feet AGL.

Restrictions Pertaining to Portable Electronic Devices

- A. Any and all portable electronic devices used in any aircraft MUST comply with 14 CFR 91.21.
- B. No portable electronic devices are authorized to be attached to the exterior of any aircraft without prior approval from the Maintenance Director.
- C. No portable electronic devices shall be used below 1000' AGL unless it is being used for procedural or navigational purposes (i.e. checklists, approach plates, etc.). Operation of portable electronic devices above 1000' AGL must not interfere with the safe operation of the flight.

Night Operations

- A. No night flights are authorized without prior approval from the FOPM.
- B. Night flights may not be initiated if the airplane doesn't have all required aircraft lights and an operating landing light. Contact maintenance personnel about replacement of lights.

Post-Flight Procedures

SECURING AIRCRAFT WHEN NOT IN USE

It is the responsibility of the PIC to secure the aircraft at the completion of each flight. Ensure that the aircraft is tied down and/or chocked, and install the control lock. In winds above 10 knots, the aircraft must be tied down or placed in the hangar.

All overnight stays require the use of tie downs or hangars. All doors and windows must be closed and locked.

After each flight, all personal effects of any kind, including any refuse, must be removed and the airplane left in a clean and organized manner.

Closing Flight Plan/Notifications to Flight Operations and Maintenance

- A. Flight plans are to be closed as soon as practicable after flight. It is preferable that flight plans are closed when the aircraft is safely on the ground. Flight plans may be closed by telephone (1-800-WX-BRIEF) or over a designated frequency.
- B. Communication with flight operations or maintenance should use the most direct means possible. If there is a maintenance issue and it is after hours, notify maintenance personnel by phone or, as a last resort, write a note to place in the aircraft clipboard along with the initial aircraft discrepancy sheet.

Building Security

- A. The last employee to leave the Flight Education Center is responsible to assure all exterior doors are locked before leaving the premises.

Marketing Plan

Mission Statement

Middle Tennessee State University (MTSU) will show off our True Blue spirit, love of aviation, and the Cessna Aircraft brand to instill a lasting positive impression of the amazing technology and capabilities of the Cessna Skyhawk and the experience and passion of MTSU's Department of Aerospace.

Target Market

Students, staff, faculty, children, teens, young adults, and the young-at-heart with an interest in aviation

Marketing and Promotional Strategies

- Air shows - Air shows frequently attract thousands of eager eyes, making them the perfect place to capture the imagination of those interested in learning about aviation. Our aviation ambassadors plan to attend several local air shows, along with the Dobbins ARB Air Show in March, Sun'n Fun Fly-In and Thunder over Louisville in April, and EAA's AirVenture in July.
- Social Media - MTSU's Department of Aerospace Facebook group has 1,496 active members with over 85,000 people following MTSU's main page (@mtsublueraiders). We plan to leverage this presence, along with other platforms, to promote this exclusive partnership. Our marketing and promotional support from the university is world-class.
- Summer Camps - MTSU offers three amazing aerospace camps each summer: two for high school students and one for teachers from throughout the state. Both students and teachers take part in one or more exhilarating flights with the first often their first flight experience.
- Aviation Days - These events offer MTSU an opportunity to fly to airports across Tennessee to share our passion and knowledge of flying (as well as career opportunities) with interested middle school and high school students from partner schools. With the Top Hawk Skyhawk, we will be able to expand our offering to include UAS and maintenance ambassadors.
- Air Race Classic - June 19th through the 22nd - One of our student flight instructors will lead a team in the Air Race Classic as part of her published senior thesis. The air race is

an event not only popular with aviation enthusiasts, but also inspires in towns throughout the country as teams race across the nation.

Goals

- Attend 3 local, 2 regional, and one national air shows;
- Expand our social media presence by at least 500 members and reach over 100,000 views;
- Inspire at least 50 high school students during our 2018 basic and advanced summer camps;
- Introduce at least 30 teachers to Cessna Aircraft during our 2018 teacher workshops; and
- Participate in at least five “Aviation Day” events throughout Tennessee.

Appendix C - News Articles

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[MTSU aerospace students receive Top Hawk Cessna Skyhawk 172 to recruit, promote program \[+VIDEO\]](#)

WICHITA, Kan. — Middle Tennessee State University [aerospace](#) students claimed their prize — use of a new, custom-branded **Cessna Skyhawk 172** — as part of **Textron Aviation Inc.’s 2018 Top Hawk** program.

Six student flight instructors and aerospace administrators accepted delivery of the plane from Textron Aviation officials April 12 during a ceremony in the Flight Operations building at Textron Aviation headquarters at Dwight D. Eisenhower National Airport in Wichita, Kansas.

Elizabeth Keller and **Harry Arcamuzi**, two of the flight instructors, submitted MTSU’s application, which was one of five chosen by Textron Aviation.

MTSU learned last November of its selection. Under the Top Hawk program, MTSU will use the plane until late September 2018 to support flight training, recruiting efforts and promotional activities throughout the spring and summer.

Lewis University, the University of Dubuque, Embry-Riddle Aeronautical University-Prescott and California Aeronautical University joined MTSU in being chosen as the other 2018 Top Hawk participants.

Keller, Arcamuzi and **Nick Lenczycki**, MTSU flight operations program manager, flew the plane back to Murfreesboro late Thursday.

“The aerospace department is thrilled to be selected by Textron Aviation to be a Top Hawk school,” said department chair **Wendy Beckman**. She and her students were Christmas morning-level elated upon entering the hangar and viewing the plane they earned.

“Using this state-of-the-art aircraft for events such as air shows, the **Air Race Classic** and **Experimental Aircraft Association AirVenture**, will assist MTSU in its continuing efforts to introduce young people to aviation,” she added. “Our Top Hawk team students, who worked hard to create and submit the winning proposal, will have a busy summer flying the aircraft to these venues.”



MTSU aerospace students and administrators check out the Cessna Skyhawk 172 they will get to use until late September to recruit potential students and promote the program. MTSU received delivery of the plane April 12 from Textron Aviation officials at the company headquarters in Wichita, Kan. (MTSU photo by Andy Heidt)

”At Textron Aviation, we make it a priority to support general aviation through the enhancement of student pilot training — and working with organizations and flight schools like Middle Tennessee State University is essential to achieving that success,” said Allison Varriano, manager of Training and Fleet Sales at Textron Aviation. Lenczycki said Keller and Arcamuzi are “extremely excited and incredibly honored” to be retrieving the Top Hawk airplane.

Keller developed a required marketing plan. The duo then created a script for an accompanying video, which Arcamuzi filmed and edited. The final video, marketing plan and standard operating procedures were submitted to Textron Aviation for review. Keller said she is “so grateful” to be able to fly the plane in the Air Race Classic this summer. Both students will take the Top Hawk aircraft to the EAA AirVenture in Oshkosh, Wisconsin.

“This Top Hawk plane will allow us to spread the word about collegiate aviation,” she said. “Most middle and high school students just don’t even know it is an option.”



Elizabeth Keller, left, and Harry Arcamudi, right, receive instructions about the Cessna Skyhawk 172's cockpit features from Textron Aviation flight instructor Chelsea Carlin in the company's Flight Operations building hangar April 12 in Wichita, Kan. Keller and Arcamudi helped fly the plane back to Murfreesboro. (MTSU photo by Andy Heidt)

Arcamuzi is also excited to be able to take the plane to Oshkosh.

“I have been going to Oshkosh since I was a child,” he said. “Now I will be able to go with MTSU. I am so excited to spread the word about our university and general aviation.”

Lenczycki said MTSU attended the EAA AirVenture in Oshkosh in 2017, where students and Textron Aviation officials began discussions about the Top Hawk program.

Among the numerous events they plan to attend, MTSU will take a DA 40, the Top Hawk aircraft, drones and about six students to the Shelbyville, Tennessee, Aviation Day, April 28, Lenczycki said. They also will go to Good Neighbor Day at Peachtree-DeKalb Airport in Atlanta, Georgia, May 19, and Owensboro, Kentucky, in September.



Michael Smith, left, Textron Aviation delivery coordinator, and Nick Lenczycki, MTSU flight operations program manager, discuss MTSU's use of the Cessna Skyhawk 172 April 12 at Textron Aviation headquarters at Dwight D. Eisenhower National Airport in Wichita, Kan. (MTSU photo by Andy Heidt)

Following the informal signing of documents and key exchange between Lenczycki and **Michael Smith**, Textron Aviation delivery coordinator, company officials provided a guided tour of its large Wichita West Campus airplane production facility for Cessna jets. Textron Aviation works with universities, training organizations and flight schools throughout the world, and the Top Hawk program plays a vital role in the initiative to support the advancement of general aviation and modernization of aircraft training fleets. Garmin and Bose are sponsoring the Top Hawk program again this year by providing several of their products. Garmin will supply a G1000 NXi database subscription and a Garmin Pilot subscription, while Bose will provide two A20 Aviation Headsets for each aircraft.

[MTSU](#) has more than 240 combined undergraduate and graduate programs. The Department of Aerospace is part of the [College of Basic and Applied Sciences](#).

— Randy Weiler (Randy.Weiler@mtsu.edu)



MTSU aerospace students and administrators stand next to the 2018 Cessna Skyhawk 172 delivered to them April 12 in Wichita, Kan. The plane is part of the Textron Aviation Top Hawk program, which awarded five altogether to U.S. universities. (MTSU photo by Andy Heidt)



Featuring MTSU logos as part of the plane's detail, the 2018 Cessna Skyhawk 172, which MTSU aerospace students will use this spring and summer to attend air shows and aviation events nationwide, is shown nose to nose with the university's Beechcraft King Air 200 April 12 on the taxiway at Dwight D. Eisenhower Airport in Wichita, Kan. MTSU accepted keys to the smaller plane, which is part of the Top Hawk program. (MTSU photo by Andy Heidt)



Maryville Barnstorming Babe to fly in 2018 Air Race Classic

- By Amy Beth Miller amy.miller@thedailytimes.com
- May 26, 2018

Next summer Elizabeth Keller plans to begin her career as a commercial airline pilot, but this summer she's one of the "Barnstorming Babes."

That's the team name she and her co-pilot chose for next month's Air Race Classic, where they will compete against other women in a four-day event that will cover more than 2,600 miles from Texas to Maine.

The origins of the race date back to the Women's Air Derby in 1929, when men didn't want them flying in other races, Keller explained.

Amelia Earhart placed third that year.

"It gives me goosebumps to think I'm doing the same thing Amelia Earhart did so many years ago," Keller said.

Field to flight

Growing up on a Maryville farm on the approach path to McGhee Tyson Airport, Keller would watch the planes with her grandfather.

Later she remembered watching fighter jets during Veterans Day celebrations, and when she was in seventh grade she began seriously considering a career as a pilot.

"A lot of people don't know it's an option," said Keller, who noted that only about 6 percent of U.S. pilots are women.

During her junior year of high school, Keller had an internship at FlightChoice air charter service in Knoxville.

"That was my first time in the cockpit, and I was so lost," she said.

The summer before she started classes at Middle Tennessee State University, Keller began flight lessons at Knoxville Flight Training Center. “I knew it was for me when I started my lessons,” she said.

She made her first solo flight in June 2015.

Next July she plans to complete her Aerospace Professional Pilot studies at MTSU and begin her career as a commercial pilot.

“College was never an option for me; it was a have-to,” she said.

This summer Keller is adding hours of necessary flight time by serving as an instructor.

She’s also preparing for next month’s race.

The race

This year, 55 teams of women from 34 states and five foreign countries will participate in the Air Race Classic, from college women like 20-year-old Keller to one pilot in her 80s.

Because Keller and [her co-pilot] are flying the race for the first time, they are called “baby birds” and have been assigned more experienced “mama birds” as mentors.

The race will begin at 8 a.m. June 19 in Sweetwater, Texas, where Women Airforce Service Pilots trained during World War II, and end by 5 p.m. June 22 in Fryeburg, Maine.

Keller said the teams will take off every 15 seconds the first morning and fly only during daylight in visual flight conditions when they don’t need to rely on instruments alone.

They must fly more than eight “stops” in between to register times for each leg of the journey, which covers 2,656 miles over 15 states and will test them in different types of conditions.

For example, it’s likely to be warm when they start from Texas, and Keller said, “Airplanes do not perform well when it’s hot.”

The teams are flying against themselves, she explained. “You’re racing your own plane and how it should perform,” striving for the best time against that benchmark for each leg of the journey and the entire trip.

The team that beats itself by the greatest margin wins.

Every detail can make a difference, such as deciding to fly when they will have a tail wind. They'll even wax the plane after every leg of the journey. "It can make a 2- or 3-knot difference," she said of the impact of cleaning the plane.

This isn't just a race for Keller, who is starting her master's program in aviation safety. She's also writing her thesis on it.

The plane

The 2018 Cessna 172 Skyhawk they will fly is actually on loan to MTSU.

Keller and her fellow students won it in Textron Aviation Inc.'s Top Hawk program to promote aviation and pilot training through a competition that included making a promotional video and marketing plan.

MTSU students and staff picked the plane up from the factory in April and will take it to at least half a dozen air shows and other demonstrations before they have to return it in late September.

"It has some of the coolest, most advanced avionics," Keller said. Equipped with a G1000 display system, "it provides you with a lot more information in the air."

"It comes with a lot of safety features that make flying less risky and more enjoyable," she said.

This week the Barnstorming Babes team flew its handicap flight, setting the time against which it will race.

Today and tomorrow, there will be a yard sale to raise money for the team at the farm at 932 Hitch Road where Keller watched airplanes fly above. The team also is selling T-shirts, mugs and stickers with their logo.

The Barnstorming Babes have an "Air Race Classic 2018" GoFundMe page too, where they have raised \$3,5000 of their \$5,000 goal.

Appendix D - Air Race Classic Documents

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Budget

Totals	Entry Fee per Team	Charts	Team Shirts	Fuel	Hotel	Car Rental	Car Gas	Race Number	Total
Totals	\$1,180.00	\$105.80	\$252.18	\$2,057.06	\$1,366.13	\$378.16	\$25.28	\$45.60	\$5,410.21

Registration

Date/Time: 3/14/2018 9:00 AM

Air Race Classic 2018 Team Registration

Thank you for submitting your Team registration! Entry Administration will review your information and all documents uploaded by Team members. It may take several days to review all documents. After review, we will send you an email either to accept your registration and list your Team on the racer list, or to request further information or documentation.

Pilot: Elizabeth Keller Entry Fees (Registrations: ARC Racer, \$320; Start Weekend, \$135; Terminus Weekend \$135)	\$590.00
Co-pilot: My co-pilot Entry Fees (Registrations: ARC Racer, \$320; Start Weekend, \$135; Terminus Weekend \$135)	\$590.00
Sub-Total:	\$1,180.00
Grand Total:	\$1,180.00
Cardholder Information:	Elizabeth Keller 932 Hitch Rd Maryville, TN 37804 (US) Phone: (865) 705-4060
Payment Method:	VS XXXXXXXXXXXX8361 10/2021
Transaction ID:	ch_1C5c1kDY3Oj6T973Lz5UmSIA
Date/Time:	3/14/2018 9:00 AM

Here is the Team information that was reviewed & submitted by Elizabeth Keller.

2018 Team Registration

Registration:	<u>Status</u> New
----------------------	----------------------

Admin:	Race # TBD			
	<u>ID</u> 815	<u>Race Year</u> 2018	<u>Date Added</u> 3/12/2018 8 5:13 PM	<u>Updated</u> 3/14/2018 8 8:56 AM
Team Entry:	<u>Entry Class</u> Competition			
	Team Name Barnstorming Babes			
	Team Website <i>None</i>			
	Requested Race # <i>none</i>			
	We would like to be assigned a Mother Bird, who will assist us in our first race. (X) Yes () No			
Collegiate:	Yes; Collegiate			
	School Middle Tennessee State University			
	Advisor Name Tyler Babb			
	Advisor Phone (615) 440-3887			
	Advisor Email tyler.babb@mtsu.edu			
Pilot:	Pilot Elizabeth Keller			
Co-pilot:	Co-pilot My co-pilot			
Teammate #1:	Teammate #1 <i>unassigned</i>			
Teammate #2:	Teammate #2 <i>unassigned</i>			
Upload Files:	Team Photo(s) Classic_KellerE_pilot_M_co-pilot.jpg 1.46 MB 3/12/2018 5:33 PM Pilot's Documentation of Undergraduate Status IMG_3120.jpg 255.7 KB 3/14/2018 8:56 AM IMG_3126.jpg 297 KB 3/14/2018 8:56 AM			

Roster and Handicap Speeds

ARC #	Team	Team Name	Collegiate	Aircraft	N-Num	Handicap (MPH)
1	★ Kate Kalousek, Cindy Blair, Shelbe Jarrett	Lady Hornets 2	Delaware State University	2000 Piper Archer II PA-28-181	N279CG	—
2	• Alicia Sikes, Nancy Rohr	Over the Moon!		1979 Mooney 201 M20J	N799EC	177.171
3	• Lorraine Denby, Amy Myzje	Blue Footed Booby		1968 Piper Arrow PA-28R-180	N7614J	162.224
4	• Minnetta Gardinier, Theresa White	ARC 4 Ffinella		1978 Cessna Cardinal 177B	N1351C	150.788
5	Madeline Hooks, Brittany Danko, Rachel Malone	Flying Sycamores	Indiana State University	2009 Diamond DA40	N463TH	160.492
6	• Ariene Wohlgemuth, Julia Matthews	Unusual Attitude		1978 Cessna Skyhawk 172N	N739FY	143.115
7	Kenzie Alge, Helen Miller	Flying Flashes	Kent State University	2016 Cessna Skyhawk 172S	N540KS	143.977
8	• Candie Oldham, Susan Westervelt	Missile Minions		1980 Mooney 201 M20J	N3515H	200.324
9	• Dee Bond, McKenzie Krutsinger	Kiwi Express		1982 Cessna Skylane 182R	N9863H	161.704
10	Tiffany Brown, Rachel Khoury	Punny Pilots		1962 Cessna Skylane 182E	N9279X	158.122
12	• Lin Caywood, Bev Weintraub	Freakin' Awesome		2007 Cessna Skylane 182T	N935FA	165.663
14	Erika Jordan, Kaitlyn Allen, Meredith Boardman	Liberty Belles I	Liberty University	2016 Cessna Skyhawk 172S	N714LU	141.351
15	• Mary Wunder, Juliet Lindrooth	Nile Queens		1975 Mooney Executive M20F	N38V	177.246
16	★ DeMornye Joyce, Megan Bradshaw, Kristi Serafin	Liberty Belles II	Liberty University	2016 Cessna Skyhawk 172S	N715LU	144.107
19	• Jo Alcorn, Kathy Howitt	Flamingo Flyers		1997 Cessna Skyhawk 172R	N172JE	147.333
20	• Debi Dreyfuss, Morgan Mitchell	DC3(-1)		2005 Cessna Skylane 182T	N199CA	166.350
21	• Elaine Stook, Judy Snow	Silver Belles		1957 Cessna Skylane 182A	N6375B	152.291
22	• Susan Carastro, Marie Carastro	The Flying Carastros		2011 Cessna Skylane 182T	N269SA	162.475
23	• Teresa Camp, Denise Robinson	The Purple Hearts		1980 Piper Archer II PA-28-181	N8321T	(Not Competing)
24	• Gretchen Jahn, Jan McKenzie	Misplaced Mooney Girls		1972 Cessna Skylane 182P	N21017	160.147
25	• Sherry Kandle, Martha Molina	Flying Fillies		1967 Cessna Skylane 182K	N2507R	160.070
26	• Corbi Bulluck, Stephanie Wrenn	Dakota FlyGirls		1979 Piper Dakota PA-28-236	N8124J	166.853
28	• Margaret Wint, Sue Glisson	Michiana Redbirds		1970 Cessna Cardinal 177B	N30691	146.506
29	• Caroline Baldwin, Lydia Baldwin	Baldwin Family Flyers		1972 Piper Cherokee PA-28-180	N1569S	147.012
30	★ Rose Ganim, Tara Strassburg	Road Killers		1995 Piper Arrow III PA-28R-200	N84NA	—
31	Mia Hallgring, Jody Brandel	Riddle Racers Gold	Embry-Riddle Aeronautical U.	2017 Cessna Skyhawk 172S	N414ER	(Not Competing)
32	★ Alice Novatnak, Abbey Baltzegar	Riddle Racers Blue	Embry-Riddle Aeronautical U.	2017 Cessna Skyhawk 172S	N422ER	(Not Competing)
33	★ Barb Filkins, Nancy Smith	The Flying Tigresses		1975 Grumman Tiger AA-5B	N1527R	159.246
34	• Sue Jones, Bj Carter	Beech Blue		1981 Beechcraft Sundowner C23	N450BA	136.244
35	Jenna Annable, Dakotah Osborn, Monique McAnnally	Frozen Force	University of North Dakota	2018 Piper Archer PA-28-181	N706ND	145.459
36	★★ Frances Englund, Samantha Horne	Finger Lakes Flash		1978 Cessna Skyhawk 172N	N3314E	145.090
37	• Tessa Roberts, Emmy Dillon	Sky Vixens		2016 Cessna Skylane 182T	N262MT	165.287
38	★ Kathy Fink, Shannon Osborne	PALS in Motion		1984 Mooney M20	N57229	(Not Competing)
39	• Camelia Smith, Susan Larson	Ragin' Racin' Redheads		1980 Cessna Skylane 182R	N182LG	172.054
40	Gabby Escudero, Rachel Piacentini	Saluki Aces	Southern Illinois University	2011 Cessna Skyhawk 172R	N549A	140.047
41	Alyssa Harvey, Tiffany Imhoff		Purdue University	2010 Cirrus SR20 G3	N594PU	179.673
43	★★ Shavana Jones, Penny Kimani	Lady Hornets 1	Delaware State University	1994 Piper Warrior PA-28-161	N496DS	—
44	★ Rachel Chaput, Madi Bright	Flying Fins	Jacksonville University	2007 Cirrus SR20	N494DA	171.893
46	★ Madeleine Mena Zapata, Michèle Rivest	Demois'ailes	École Nationale d'Aérotechnique	1977 Cessna Skyhawk 172N	C-GUZC	129.037
47	Kali Hague, Jess Murphy	Jetlaw		1946 Luscombe Silvaire Deluxe 8E	N1770K	108.202
48	★ Elizabeth Keller, Madison Taylor	Barnstorming Babes	Middle Tennessee State U.	2018 Cessna Skyhawk 172S	N239TH	144.507
49	Lauren Quandt, Shelby Satkowiak, Kelly Erdmann		Western Michigan University	2006 Cirrus SR20	N54DN	172.345
50	Megan Shaffer, Jane Zieba	Lewis Flyers	Lewis University	2018 Cessna Skyhawk 172S	N238TH	143.782
51	★ Mindy Lindheim, Chelsea Carlin	#FlyFactoryNew		2014 Beechcraft Bonanza G36	N836BC	(Not Competing)
52	Nicoletta Fala, Cathy Troyer, Morgan Pietruch	Purdue Pilots Incorporated		1984 Piper Warrior II PA-28-161	N4347G	138.151
53	Jenn Lowe, Brenda Nava	The Thumb Beauts	Embry-Riddle Aeronautical U.	2018 Cessna Skyhawk 172S	N236TH	(Not Competing)
54	★ Sabrina Hockenson, Hayley Harris	Flying Mermaids		1979 Cessna Skyhawk 172N	N612BZ	123.168
55	★★ Taylor Thompson, Ellie Nikita	CAU Aviatix	California Aeronautical U.	2018 Cessna Skyhawk 172S	N237TH	148.562
56	★ Monica Skrezyna, Dallas Syverson, Kate Hanley	Lady Spartans	University of Dubuque	2017 Cessna Skyhawk 172S	N235TH	144.915
57	Debby Rihn-Harvey, Chris Dale	Houston Hot Flashes		1977 Cessna Skylane 182Q	N759JN	157.448
58	Aly Bond, Josie Cotugno, Yasmine Abu Arab	Lady Buckeyes	Ohio State University	2015 Cirrus SR20	N321WZ	172.336
59	Mattie McKenna, Ashley Tucker	War Eagle Women	Auburn University	2017 Cessna Skyhawk 172SP	N857AU	143.845
60	• Ailisa Moseley Cutting, Sarah Wendt	Florida Navigators		1946 N. American Navion NA-145	N1CS	174.266
61	★ Mariah Ferber, Paige Kessler	Nashville Flight Training		1998 Cessna Skyhawk 172R	N434EP	142.951
77	• Jordan Cantrell, Gabriella Lindskoug	White Lightning	Middle Tennessee State U.	1999 Cessna Skyhawk 172R	N9550S	145.618

Handicap Pilot

Elizabeth and My co-pilot,
The Handicap Coordination Committee has been working hard to match teams with handicap pilots.
Our primary considerations are weight, availability and distance from the airplane home base to the
handicap pilots' home base.

Elizabeth Keller and my co-pilot of Team 48, you have been matched with Caroline Hodges as your handicap pilot.

Elizabeth, as handicap flight PIC, you are responsible for contacting Caroline and setting up a time to fly together. As a reminder, handicap flights are scheduled no later than 5/15/2018 and flown no later than 6/1/2018. Please let me know when you have a date selected and when you complete the flight. The PIC for the flight will be Elizabeth. Caroline will replace My co-pilot and will sit in the co-pilot seat.

This yields the following weight profile:

	<u>Pilot/PIC Wt</u>	<u>Co-pilot/HCP Wt</u>	<u>Team1 Wt</u>	<u>Team2 Wt</u>	<u>Total</u>
Race team:	190	130	-	-	320
HCP flight:	190	130	-	-	320
Difference:					0

The difference between the race team weight and the HCP flight weight is 0 lbs. The Handicap Pilot Coordinator has determined that you do not need to make any weight adjustments. When you meet for the handicap flight, please be sure to verify all weights, fuel quantity, and review both the Handicap Weight and Balance and H-05 data.

To improve the likelihood of a successful handicap flight, please carefully read the H-01 document and pay special attention to section 6.8.3 regarding handicap flight course and weather conditions. Contact me ASAP if you have NOT yet received your Bad Elf data logger!!!

The PIC must complete the ARC Weight and Balance on her team dashboard and provide a screen print or electronic copy to the Handicap Pilot at or before the flight. The flight should not be conducted if the ARC Weight and Balance results are not within accepted CG or weight limits and contents listed are verified and noted as such on the H-05 form.

If you have any questions, please let me know. If any of the information below needs correcting, please do so on the website in your Account, Racer Registration or Airplane Registration, and let all of us know of the correction.

Contact information:

<u>Elizabeth Keller</u> h (865) 983-2174 m (865) 705-4060 egkeller4524@yahoo.com	<u>My co-pilot</u>	<u>Caroline Hodges</u> m (256) 426-2960 carolinehodges27@gmail.com
Airplane based:	KMBT Murfreesboro Municipal Airport (Murfreesboro, US-TN)	
Handicap pilot home base:	KHSV Huntsville International Carl T Jones Field (Huntsville, US-AL)	
Team Name:	Barnstorming Babes	
School:	Middle Tennessee State University	

	<u>Races Flown</u>	<u>Grade</u>	<u>Hrs PIC</u>
Elizabeth Keller	0	CPL	276
My co-pilot	0	CPL	310

Airplane:	Cessna Skyhawk 172S Nav III
RegNum:	N239TH (W/B/BK)
Fuel Max:	56 gal Usable: 53 gal Race Fuel Burn: 15 gal/hour

Annual Inspection:	4/11/2018 100 Hr? Yes Progressive? No
AD Comply Date:	5/1/2018 Last raced: Never Handicap: n/a

Equipment on the airplane: <ol style="list-style-type: none"> 1. ADS-B 2. Alternate Air Source 3. Autopilot Installed 4. Autopilot Working 5. Fuel Flow Meter 6. Pitot Heat 7. RAM Air 8. Slaved DG 9. Closable Air Vents 	Equipment <u>NOT</u> on the airplane: <ol style="list-style-type: none"> 10. Air Conditioner 11. Carburetor Heat 12. Constant Speed Prop 13. Cowl Flaps 14. Manifold Pressure Gauge 15. Retractable Gear 16. Retractable Step 17. STOL Kit 18. Tip Tanks 19. TKS (anti-ice) 20. Wheel Pants 	On the equipment list: <ol style="list-style-type: none"> 21. Fire Extinguisher 22. Tow Bar 	<u>NOT</u> on the equipment list: <ol style="list-style-type: none"> 23. Emergency Kit
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POH Data: max speed 120 kts at 6000 ft, 77% power, fuel flow 10.4 gph

In the last 12 months:

- **The engine** has been replaced.
- The propeller has been replaced.

Again, please contact me if you have questions. Best wishes for a successful handicap flight.
Sherry Kandle and the 2018 ARC Handicap Coordination Team

Handicap Rejection

Hi Caroline,

I am not sure if this e-mail was intended for hcpdata or the PIC. It went to hcpdata so I wanted to give you a little insight. There are actually four 2018 Cessna 172s Nav III planes in the race this year. We have handicap data on three of them so far. One was ~143, one was ~145 and this plane was 141.6. In looking at the data, the fuel flow for those other two planes was 11.5 gph and 11.8 gph but the fuel flow for this plane was only 10 gph. That indicates to us that possibly this plane was leaned for best economy and not best power. In addition, we have data for older model 172s Nav III planes and fuel flow for successful flights for those is in the 11.5-12.5 range. For the reflight, we will be looking for fuel flow in those ranges.

Hope this helps clarify your questions and helps with the re-flight.

Linda Evans
Handicap data team

On Mon, May 28, 2018 at 7:25 AM, Caroline Hodges <pipeann@icloud.com> wrote:

I am surprised! It appeared to me that you did everything correctly. You were at full throttle and had it leaned. What are your thoughts?

Sent from my iPhone

On May 27, 2018, at 20:55, Jeneanne Visser, Handicap Data Coordinator <hcpdata@airraceclassic.org> wrote:



Elizabeth,

Your handicap flight from May 23, 2018 was not able to be used to determine a handicap for your team and a re-flight will be necessary. We evaluated all options before making the decision because we know that a re-flight has both a time and financial impact on you. The reason your flight was rejected was:

Current & historical data for this aircraft model indicates the speed for this flight is low, fuel flow is low and rpm is low. The airplane must be leaned for best power and run full throttle.

To provide you with more information on your flight results, attached is the final output from the GPS logger data that was processed.

Please reschedule your handicap flight as soon as possible. Contact your handicap pilot, Caroline Hodges, to set a time for your re-flight and notify Sherry Kandle, the Handicap Flight Coordinator, of your new date. If you have scheduling difficulties, contact Sherry at hcpflights@airraceclassic.org for assistance.

We appreciate your patience while we worked through the decision and look forward to receiving the data from your re-flight. Please let me know if you have any questions.

- Jeneanne Visser and the 2018 ARC Handicap Calculation Team



Mother Bird & Baby Bird Air Race Classic First Time Racer Support Program

April 1, 2018

Dear Elizabeth and Madison,

Are you ready for a great time? We know the Classic is a very special race. You will meet women who will become "best friends" for years to come and you will have unforgettable experiences.

Racing the Classic is not only the most challenging way to sharpen your aviation skills, but certainly the most enjoyable. Many of the pilots you meet have raced previously, some for a number of years. But, do not be intimidated. They too were once first time racers and just as green as you may feel now. Your Mother Birds can help you get the most out of the race experience.

The Mother Bird program works like this:

- Do you have a question about the Rules? Ask your Mother Bird.
- How about tips to make that transcontinental trip manageable? Should I use sectional charts or will ForeFlight on my iPad be sufficient? Just ask. Your Mother Birds will share their knowledge with you.
- Want to know what clothes to bring? Do you know of our non-mandatory but fun tradition of teams dressing alike? Mother Birds will share what has proved comfortable and appropriate for air racing.
- Is it important to read that long, boring Rule Book? Again, ask your Mother Bird.
- Don't know what to ask? Get acquainted with your Mother Birds and through conversation, questions that you haven't thought of will come up and be answered.

You get the picture. They are there to help you!

Your Mother Bird will be in touch with you shortly or you may contact them first if you wish. I have matched you with a team that can help answer your questions. Your Mother Bird team has also received a letter from me with your contact information.

Your Mother Birds are:

Teresa Camp teresaacamp@hotmail.com

Denise Robinson deniserobinson12@icloud.com

Looking forward to seeing you at the ARC Start!

Mary Wunder, Director
Air Race Classic, Inc.

Start Events Schedule



42nd Annual Air Race Classic
Look How Far We've Flown!

Start Events Schedule
 Hampton Inn & Holiday Inn Express
 Avenger Field Airport (Sweetwater, TX)
 June 15-19, 2018



Date	Local Time (CDT*)	Event	Location
Friday, June 15	0800-1700	Airplane Inspections ***	TSTC, Transportation 4TTC Rooms 121/124
	0900-1700	ARC Credentials ***	
	0900-1800	Start Check-In / Hospitality Open	National WASP WWII Museum
	1800-2100	Early Arrivals – <i>Argos Brewhouse & Booksellers</i>	209 Oak Street, Sweetwater
Saturday, June 16	0800-1500	ARC Credentials ***	TSTC, Transportation 4TTC Rooms 121/124
	0800-1500	Aircraft Inspections ***	
	0900-1500	Start Check-In / Hospitality Open	National WASP WWII Museum
	1200	Racers Arrival DEADLINE	
	1200-1500	Youth Aviation Event – “Mingle with the Racers”	National WASP WWII Museum
	1500	ARC Credentials & Aircraft Inspections CLOSE	
Sunday, June 17	0800	Start Check-In CLOSE	
	0800-0900	Collegiate Racers Meeting – MANDATORY	TSTC
	0900-1200	All Contestants Briefing – MANDATORY	Temple Dickson Center 4TDC Room 120
	1330-1500	Timing Technology & Judging Briefing – MANDATORY	
	1500-1600	Photography – All Racers	TBA
	1700-2100	Take Off Banquet – MANDATORY	National WASP WWII Museum
Monday, June 18	0800-0930	Racer Flyby Briefing – MANDATORY	TSTC Temple Dickson Center 4TDC Room 120
	0930-1030	Safety Seminar (WINGS credit) – MANDATORY	
	1030-1130	Race Start / Terminus Briefing – MANDATORY	
	1130-1200	Weather Briefing	
	1330-1430	First Time Racers Clinic – MANDATORY	
	1500-1530	Race Officials Meeting	
	1500-2000	Hospitality Open	Hampton Hotel
Tuesday, June 19	0600-0630	Pick up breakfast in the lobby	Hampton / Holiday Inn
	0630-0700	All Contestants Final Briefing – MANDATORY	TSTC
	0800	Start TAKE OFF!	Avenger Field Airport

*** All race teams must check-in and have aircraft inspected during these times. Refer to ARC rules.

Start Committee Members Start Co-Chairs: Sherie Alldredge 325 721-3339 Paula Carmichael 325 725-4655 Airport: Bob Elliott 325-235-8478 Hospitality: Pat Fox 325-725-4417 Inspections: Dave Gibb 612-868-7771 Registration: Monica Graham 817-714-6439 Transportation: Karen & Al Hunt 325-721-0111 Volunteers: Pat Fox 325-725-4417 Youth Activity: Sara Lara (325) 201-4311	Badge Color Codes Board of Directors: Blue Start Committee: Green Racers: Red First Time Racers: Yellow Volunteers: Purple	Weekend Locations Hotel – Hampton Inn Sweetwater 302 SE Georgia Ave, Sweetwater, TX 79556 (325) 235-3337 Holiday Inn Express & Suites Sweetwater 300 SE Georgia Ave, Sweetwater, TX 79556 (325) 235-3500 Airport – Avenger Field Airport 317 Homer K Taylor Dr, Sweetwater, TX 79556 325-235-8478 Manager: Bob Elliott 325-207-2868 (cell)
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2018 Race Results

Place	ARC #	Team	Collegiate	Elapsed Time	Speed (MPH)	Handicap (MPH)	Penalty (MPH)	Score (MPH)
1	61	Mariah Ferber, Paige Kessler		5:50:24.382	154.148	142.951		11.197
2	57	Debby Rihn-Harvey, Chris Dale		5:20:27.882	168.550	157.448		11.102
3	8	Candie Oldham, Susan Westervelt		4:16:46.346	210.359	200.324		10.035
4	20	Debi Dreyfuss, Morgan Mitchell		5:06:30.757	176.222	166.350		9.872
5	49	Lauren Quandt, Shelby Satkowiak, Kelly Erdmann	Western Michigan University	4:57:15.164	181.712	172.345		9.367
6	9	Dee Bond, McKenzie Krutsinger		5:15:48.975	171.031	161.704		9.327
7	58	Aly Bond, Josie Cotugno, Yasmine Abu Arab	Ohio State University	4:58:28.800	180.965	172.336		8.629
8	26	Corbi Bulluck, Stephanie Wrenn		5:09:06.496	174.742	166.853		7.889
9	59	Mattie McKenna, Ashley Tucker	Auburn University	5:56:54.701	151.338	143.845		7.493
10	2	Alicia Sikes, Nancy Rohr		4:53:38.159	183.950	177.171		6.779
11	29	Caroline Baldwin, Lydia Baldwin		5:51:23.321	153.717	147.012		6.705
12	46	Madeleine Mena Zapata, Michèle Rivest	École Nationale d'Aérotechnique	6:33:09.547	137.385	129.037	1.667	6.681
13	5	Madeline Hooks, Brittany Danko, Rachel Malone	Indiana State University	5:23:07.822	167.160	160.492		6.668
14	7	Kenzie Alge, Helen Miller	Kent State University	5:59:13.989	150.360	143.977		6.383
15	41	Alyssa Harvey, Tiffany Imhoff	Purdue University	4:50:52.909	185.692	179.673		6.019
16	14	Erika Jordan, Kaitlyn Allen, Meredith Boardman	Liberty University	6:07:32.709	146.960	141.351		5.609
17	3	Lorraine Denby, Amy Myzie		5:23:32.440	166.948	162.224		4.724
18	50	Megan Shaffer, Jane Zieba	Lewis University	5:56:42.370	151.425	143.782	3.000	4.643
19	15	Mary Wunder, Juliet Lindrooth		4:54:25.800	183.454	177.246	1.667	4.541
20	40	Gabby Escudero, Rachel Piacentini	Southern Illinois University	6:06:20.960	147.439	140.047	3.000	4.392
21	35	Jenna Annable, Dakotah Osborn, Monique McAnnally	University of North Dakota	5:56:24.766	151.550	145.459	2.000	4.091
22	52	Nicoletta Fala, Cathy Troyer, Morgan Pietruch		6:15:37.598	143.798	138.151	1.667	3.980
23	48	Elizabeth Keller, Madison Taylor	Middle Tennessee State U.	5:59:47.363	150.128	144.507	1.667	3.954
24	12	Lin Caywood, Bev Weintraub		5:15:33.054	171.175	165.663	1.667	3.845
25	44	Rachel Chaput, Madi Bright	Jacksonville University	5:10:14.465	174.104	171.893		2.211
26	16	DeMorny Joyce, Megan Bradshaw, Kristi Serafin	Liberty University	6:09:28.148	146.194	144.107		2.087
27	33	Barb Filkins, Nancy Smith		5:34:49.255	161.323	159.246		2.077
28	22	Susan Carastro, Marie Carastro		5:16:43.115	170.544	162.475	7.667	0.402
29	56	Monica Skrezyna, Dallas Syverson, Kate Hanley	University of Dubuque	6:15:47.483	143.735	144.915	1.667	-2.847
30	55	Taylor Thompson, Ellie Nikita	California Aeronautical U.	6:07:17.976	147.058	148.562	8.333	-9.837
31	37	Tessa Roberts, Emmy Dillon		5:11:07.213	173.612	165.287	25.000	-16.675
32	77	Jordan Cantrell, Gabriella Lindskoug	Middle Tennessee State U.	5:51:02.049	153.872	145.618	25.000	-16.746
33	39	Camelia Smith, Susan Larson		5:34:50.470	161.313	172.054	30.333	-41.074
NC	23	Teresa Camp, Denise Robinson		5:56:15.411	151.616		(Not Competing)	
NC	31	Mia Hallgring, Jody Brandel	Embry-Riddle Aeronautical U.	7:04:17.284	127.306		(Not Competing)	
NC	32	Alice Novatnak, Abbey Baltzegar	Embry-Riddle Aeronautical U.	7:17:40.281	123.413		(Not Competing)	
NC	51	Mindy Lindheim, Chelsea Carlin		4:24:54.151	203.903		(Not Competing)	
NC	53	Jenn Lowe, Brenda Nava	Embry-Riddle Aeronautical U.	6:12:45.301	144.906		(Not Competing)	

Not Scored:

Place	ARC #	Team	Collegiate	Legs Flown
DNF	4	Minnetta Gardinier, Theresa White		2
DNF	10	Tiffany Brown, Rachel Khoury		2
DNF	19	Jo Alcorn, Kathy Howitt		2
DNF	21	Elaine Stook, Judy Snow		2
DNF	24	Gretchen Jahn, Jan McKenzie		2
DNF	25	Sherry Kandle, Martha Molina		2
DNF	28	Margaret Wint, Sue Glisson		2
DNF	34	Sue Jones, Bj Carter		2
DNF	36	Frances Englund, Samantha Horne		2
DNF	47	Kali Hague, Jess Murphy		2
DNF	54	Sabrina Hockenson, Hayley Harris		2
DNF	60	Ailsa Moseley Cutting, Sarah Wendt		2
DNF	38	Kathy Fink, Shannon Osborne		2 (Not Competing)
DNS	1	Kate Kalousek, Cindy Blair, Shelbe Jarrett	Delaware State University	0
DNS	30	Rose Ganim, Tara Strassburg		0
DNS	43	Shavana Jones, Penny Kimani	Delaware State University	0
DQ	6	Arlene Wohlgemuth, Julia Matthews		3

Appendix E – Fundraising

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List of Sponsors

<u>Name</u>	<u>Amount</u>
Kelmont Farms Inc.	\$3,000
Xpress Aircraft Maintenance	\$1,000
FlightChoice Charter Inc.	\$50
Amelia Earhart's 99s – Tennessee Chapter	\$250
Evans Pet Goat Farm	\$1,000
Watson Family Dentistry	\$100
Experimental Aircraft Association – Chapter 17	\$500
Openroads Media	Video valued at \$2000
Murfreesboro Aviation	\$1,000
INS Bank	\$200
Camille's Construction Company	\$100

First Level of Sponsorships

Amount	Rewards
<\$50	Bumper sticker
\$50-\$249	T-shirt or coffee mug, bumper sticker
\$250-\$499	T-shirt and coffee mug, name on t-shirts, bumper sticker
\$500-\$999	Social media advertisement, t-shirt and coffee mug, large logo on t-shirts, bumper sticker
>\$1,000	Logo on plane during race, social media advertisement, t-shirt and coffee mug, name on t-shirts, bumper sticker

Second Level of Sponsorships

Amount	Rewards
\$200-\$499	Social media advertisement, t-shirt and coffee mug, bumper sticker
>\$500	Logo on plane during race, social media advertisement, t-shirt and coffee mug, bumper sticker

GoFundMe



Air Race Classic 2018

Share

Tweet

258 shares

Thank you for visiting my GoFundMe! Allow me to explain what this is for.

My name is Elizabeth Keller, and I am in the Honors College at Middle Tennessee State University studying Aerospace Professional Pilot. In order to finish my time at the Honors College, I must complete an undergraduate thesis. I have chosen to participate in the Air Race Classic this summer!

What is the Air Race Classic? The Air Race Classic is an all women's air race that began in 1929. I will be

Manage your campaign

\$3,715 of \$5,000 goal

Raised by 33 people in 6 months

[Donate Now](#)

Share on Facebook

Created March 21, 2018

Elizabeth Keller
Education
MARYVILLE, TN

Top Supporters

First Donor

Shanda Keller
\$100

Most Raised From Sharing

Shanda Keller
\$100 from sharing

Recent Donations

\$50
Alisa Mason

Barnstorming Babes Logo

