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**2020 - 2021  
EVENT  
SCHEDULE**

**Thanksgiving**  
**Closed**  
**Thursday & Friday**  
**Nov 26-27**

# Swift Museum Foundation, Inc.



Volume LII Issue #12

November 2020

## Executive Director Report by Scott Anderson

Happy Thanksgiving to the members of the Swift Museum Foundation, Inc. and your families!

Thanks to those of you that responded to our plea for interesting content for our newsletter. Long time member Mick Supina sent us a story of an opportunity he had that most aviation enthusiasts will never get. Very well written and great photos make this a must read for anyone interested in our military aviation might!

Below is long time member, Richard Aaron's tech tip on a method to keep your aircraft engine warm this winter. Yet another long time Swift member, Pete Johnson, shared a great stories from the 1990's. These are all interesting and informative. Watch for them all in upcoming newsletters.

Thanks again guys for your participation in making our newsletter interesting and allowing us to get to know our members better on a personal level. It's the people that make our organization great and we are blessed to have you as a part of the group.

I know there are more of you who have a story to tell or experience to share. Please keep sending in more stories, tech tips, maintenance, safety suggestions, or anything that may be of interest to the membership. We would love to share your knowledge and stories as well.

Have a safe, fun holiday and don't eat too much turkey. 'Gotta watch that gross weight!

### Richard Aaron's Tech Tip

Per Scott Anderson's request for some input, I thought that I'd send this pic of my version of a pre-heater.

The idea is not original with me but based on an item that I saw some years ago. The heater has a thermostat and is raised (using threaded rods) to avoid any gas fumes which may settle. Cowl air inputs are closed off with foam blocks. Works great.



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Paul Mercandetti  
Sam Swift  
Scott Anderson

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**President's Comments**

*By Jim "Frog" Jones*

In the past two newsletters a request was made for members to consider making a donation to the SMF based on not having to spend money on attending Sun N Fun, Oshkosh, or Swift National 2020. As of September the SMF had received donations totaling **\$3,850.00**. The donations received as of mid-October is **\$4,450.00**. The total of donations received as of October 27<sup>th</sup> is, **\$5075.00**. Lets see what we can do to keep this growing. It is drawing close to the end of the year when many people start planning for yearend taxes by making donations to their favorite 501(c)3. We hope you will consider the SMF one of your favorites and make a donation. These donations can be made by check, credit card, stock transfer, or donation from an IRA in the form of a Qualified Charitable Distribution, QCD. Another way of making a donation is by purchasing an original factory brick(s) for yourself or a friend, or purchasing replica bricks that will be displayed along the walkway and around the original flag pole base.

Special thanks go to those making the donations. The following are the first donations received in September.

**Nick Trouleman, Blake Leeper, Bill Tilley, Bruce Douglas, Weston & Ann Liu, Jim Clevenger, Warren Ross, Daniel Cammack, Todd Bengtson, Richard Kaczmarek, Robert Webster, Hammond Oldham, and Jim Jones.**

The following donors names were added to the list in October.

**Peter Boronkay, Jerry Kirby, and James (JP) Roberts.**

New donors as of October 27<sup>th</sup> are **Douglas Evans, Mike Spalding, Allan Jones, and Brett Kirby.**

Yearend is fast approaching and I know many are reviewing their end of year giving to organizations that are important them. I hope the Swift Museum Foundation, Inc. is important enough to add to your end of year donations.

Please remember to submit a story/article/input for the newsletter, it can be on a Swift trip/adventure, maintenance tip, or even "what caused you to have an interest and ownership in the Swift". Your stories are interesting and important.

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## Thanksgiving Holiday Closing

The Swift Museum Foundation, Inc. Office, Parts Dept., and Museum will be closed Thursday, November 26th and Friday November 27th in observance of the Thanksgiving Holiday.

***Wishing you and yours a safe and very happy Thanksgiving!***

## In Memory of Charles L “Chuck” Mosely



We are saddened to report the loss of a long time Swift member and friend Chuck Mosely of Weirsdale, Florida. We were contacted by Mary Ann stating that his death was due to complications from COVID-19 and pneumonia. He had only been ill for two weeks.

Chuck's artwork is prominent in the Swift Museum and facility as well as many of your homes in the form of the very popular pen and ink drawings of the Swift. These include the Globe, TEMCO, and Super Swift.

Chuck and the late Ray Brown traveled to Athens to complete the Museum's serial #3 suspended display (photo right). Their expertise made this tedious task of hanging #3 go smoothly with a beautiful final display.

Chuck's talents will be forever a part of our organization. Godspeed dear friend.

*The following is Chuck's published obituary.*

Commander Charles Lesley 'Chuckmo' Mosely USN (Ret) was born on December 4, 1943 and passed away on October 8, 2020. He served 35 years in the U.S. Navy as an aviation maintenance officer, and after retirement he continued to serve the military and the general aviation community as president of All Coast Aircraft Recovery. He spent nearly 20 years after his navy retirement moving aircraft for museums, private owners, and the military to preserve our aviation heritage.

Chuck had a passion for everything aviation related. He retired into an aviation community in Central Florida. He was a FAA certified pilot and was Aircraft & Powerplant certified. He was also a skilled pen and ink aviation artist.

Chuck leaves behind his wife, Mary Ann Mosely, and his two daughters, Tara Machin and Angel Hoey. He also leaves behind his extended family, and countless friends and shipmates from around the United States. He was a Son, a Brother, a Grandfather, an Uncle, a skilled mentor, and an honest, straightforward man. He will be missed by many.

Fair winds and following seas, Sir! We have the watch! All hands render honors!



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#### Founded by

**Charles E. “Charlie” Nelson**  
1968

## B2: unBelievable!

By Mick Supina



*Mick, the B2 and Col. Vander Hamm carrying Alley Oop's big Ax.*

I recently had the great pleasure to meet Colonel Scott Vander Hamm, whose latest assignment was Commander of the 325<sup>th</sup> Bomber Squadron of B2's at Whiteman AFB located close to Kansas City, MO. Our initial greetings and discussions only took about 30 seconds for Scott to discover I was a pilot and to offer me the opportunity to tour Whiteman, see the B2 up close and personal and to 'fly' the WST (simulator). It only took another 5 seconds for me to accept and offer some dates when I could be there!

Don't hold me to the specs I mention in the following description of my tour since I was not taking notes and was so wowed by the Plane and the Personnel and the Facility that I am sure I did not absorb all the information given 100% correctly.

### The Tour:

Whiteman is not a large facility and there are only two dozen B2's in existence. The facility is extremely clean and well organized. Much of the housing is from the 1950's and is currently being renovated. I was initially surprised to see dormitories – just like a college campus. Then, I realized the most of our military personnel are 18 – 21 year old soldiers, so a dorm makes perfect sense. Lunch in the Officers' Club was great and that is certainly top notch. We drove out to the main runway, which is a concrete ribbon over 12,000 feet long. "I could land a Cub on the width of this monster," I thought. Next, we drove by the 'Docks' for the B2's. Each plane has an individual dock (no, not a hangar – hangars are cheap to build and docks are expensive to build). Inside, everything associated with the plane is done in complete secrecy. Once the dock bays open, the plane taxis out and takes off. This plane is invisible 24/7. The dock provides security, fueling, maintenance, arming, and fire protection – everything behind closed doors. The tarmac between the rows of docks is huge. You could park a fleet of C5A's out there and still have maneuvering room. This is a serious facility.

The 325<sup>th</sup> squadron's mascot is the cartoon character 'Alley Oop' riding a tiger and swinging his big rock ax. Naturally, Scott's call name is 'Caveman'. Over the years, the 325<sup>th</sup> has flown B17s, B29s, B52s, F111s and now, the B2. They have a rich tradition and are justifiably proud of their history.

Their current missions are long. Scott has flown multiple missions to the Mid East which are 38 hours round trip, non-stop. This will become even more amazing when I get to the mid-air refueling story later on!

### The Plane:

Scott told me with a smile that I should not leave his side anytime during the tour of the dock and the plane or I would be shot. Smile or no, I was staying within whispering range for sure! He led me through a couple of security checks and through some armored doors requiring a scan of his ID card. Finally, we opened the last door and there she stood – The **Sprit of Mississippi**. I did not know what to expect about size. I knew it was a bomber so it should be big, but I knew that you don't need a huge bomb load with today's smart bombs so maybe it would be small. Actually, it is somewhere in between. The wingspan is about 175 feet so 4 Swifts could park along the wing with no problem. The biggest impression is the lack of verticality: no tail – this is a horizontal machine – when they say flying wing, they mean flying wing!

After meeting some of the crew, I was able to walk right up and touch the beast. The feel of the surface was instantly recognizable – it feels like a Teflon coated pan – not a metallic feel at all. In making her radar invisible, Northrop also made her incredibly slick. The drag coefficient has to be fantastically low. There is not an open seam or protrusion of any kind anywhere on the entire surface. All access panel edges are covered with a UV cured radar absorptive tape. Panels that have to open in operation, such as bomb bay doors, crew hatch and gear doors have overlapping flanges that seal totally flat and gapless on closure. There is nothing resembling a traditional pitot tube. It is all done with flush mounted sensors on upper and lower sections measuring incremental pressure changes.



*Photo courtesy of USAF*

Scott mentions that the anti-lock braking system is the best system on any machine anywhere – period. I found it odd to be talking about the brakes when there were so many interesting flying related points of discussion. Next, we looked inside the two open bomb bays. They are pretty massive and work with a center mounted rotating shaft around which smart, dumb, standard or nuclear weapons – or combinations thereof can be mounted. I can't remember the exact weight capacity but we're talking lots of 500 and 1000 pound bombs. At the front of each bomb bay are two heavy white perforated grates extending into the air stream. Scott explains that they create air turbulence when the doors are open. Otherwise, the air stream is so smooth and laminar that bombs would have a tendency to drop into the air stream and then ride along with the plane rather than proceeding to target. A good and necessary design fix!



Mick ready to ascend. Note perforated plates to create turbulence ahead of the bomb bay.

I am able to climb a large ladder to view the plane from above. It is at this point I identify what she reminds me of – a Manta Ray. She is unusual but seductive; streamlined and perfectly functional in her role. Whereas the F117's bounce radar waves in a myriad of directions, the B2 focuses the energy in set patterns; like routing the flow of a water stream where you want it to go. Without a vertical tail, there are new terms to learn about control surfaces. Items like 'elevons' are utilized. In the traditional aileron location are very sophisticated air brakes with a scissor opening mechanisms that operate independently via computer control when turn inputs are made on the stick.

On the left topside is a glass lens facing straight up. This is an astronomical instrument to take readings from the stars – even in broad daylight. I suppose someone could jam GPS signals or even destroy the satellites, but nobody can manipulate the stars! This is an ultimate redundant system. OK, let's get an inside look!



*Inside the Mississippi's cockpit. Note yellow ejection handle!*

The cockpit is surprisingly roomy. The two positions are completely redundant for every instrument and glass panel. There are even two sets of throttles for the four engines. I had imagined a small armrest mounted control stick, but there was a beefy standard stick right where it should be. I liked that! The inside resembles a standard commercial airliner in appearance except for a couple of give-aways. One is the bright yellow ejection seat lever and the other is the set of buttons and switches in the center console area associated with removing the cargo in-flight. The power seats allow up/down, forward/back positioning to suit the pilot and the pedals adjust forward and back for a custom fit. The windshield has an imbedded mesh, similar to a screen door fabric, which is obviously designed to absorb and/or break up radar waves. Since the cockpit is at the very front of the aircraft, the visibility is superb forward and to the sides. There is no backward visibility. Behind the two seats there are storage areas and a toilet (which answered my first question about 38 hour missions!). With the hatch closed, there is enough floor room to lay down an air mattress so the crew can take alternating sleep breaks. Scott explained the multiple computer systems on board and the redundant hydraulic systems. She even has an on-board PC and printer than can send emails practically anywhere on earth in under 10 seconds. I am totally psyched to fly this bird!

### The Weapons Systems Trainer (simulator)

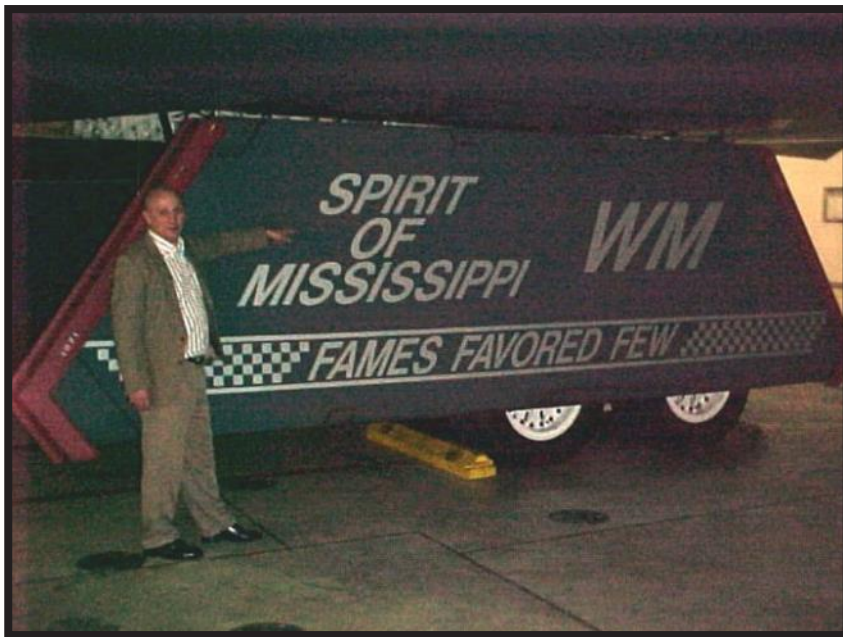
After more security checks, we get to the simulators. Mine has to be 'sanitized' before I can enter. The Walter Mitty in me says they must have an upcoming mission programmed in that has to be removed! The simulator is like an island with a drawbridge access. Once you cross the bridge, you chain the gate behind you and the bridge is withdrawn. Now the system can rock and roll to my inputs with its nearly full motion capabilities. The cockpit is identical to the Mississippi in every respect I can see. The view is from the tarmac at Whiteman. Once I am buckled in, Scott starts the engines and asks me to taxi her out. I remember all my instructors always telling me to keep it on the center stripe. My feet scramble for the pedals. I add power to the engines and we are moving. I realize she is pretty easy to keep on the center stripe as the cockpit is directly over the nose wheel. So, if I keep me centered, she is centered. As we taxi, Scott mercifully programs in dead calm winds. The computers analyze density altitude, gross weight (I am carrying a full bomb load and 60,000 pounds of fuel), etc. and give me the speed to rotate – about 145 knots as I recall. I get some additional instruction about the glass cockpit readouts and finally Scott tells me to fly her out! I apply full power to the throttles and have my feet ready to dance the pedals. There is a short spool up time and the plane accelerates down the runway. I am happily able to keep her centered nicely and soon the magic rotation speed is there and I pull back on the stick.

Wow, what a rush. I try to keep her at 10 – 15 degree climb angle and once we are a few thousand feet up, Scott tells me to play with turns to get the feel. With the fly by wire systems, all turns are coordinated so there is no pedal input required. There is nothing back there resembling a rudder to manipulate anyway. After I am able to make fairly decent turns while holding altitude, we head back to make a low level pass over the docks at Whiteman. We descend to about 500 feet AGL and make a strafing run of the base – what a hoot! Scott tells me this is so I can appreciate the resolution of the simulator images, but I know a strafing run when I am in one!

Now, the Colonel decides we need to refuel, so he directs me to 20,000 feet at a heading to intercept our tanker. Sure enough, the tanker soon comes into site with its refueling boom dangling behind. We retard speed to 220 knots and I attempt to move into position. This is really hard stuff. The boom connects behind the cockpit to a blind spot; you have to be matching speed and distance exactly and precisely during the whole routine. The exhilaration of takeoff and simple turns is now replaced by lots of tension. Scott instructs me to lower my seat as far down as possible to get a better upward view. So, here I am – a SEL guy - trying to tweak four big GE engines with one hand and make precise ballet moves thru the stick with the other hand. I am too high and too fast and we break off the first attempt. I notice that every muscle in my legs from my little toe up to my hips is clinched in a death lock. I take a deep breath and back off for another attempt. I'll spare the gory details, but suffice it to say, I never got us any gas up there. Scott takes the controls for a couple of minutes and effortlessly hooks us up. I am amazed. This is a really difficult maneuver – believe me.

To get my morale back up, Scott has me fly station with the tanker for a few minutes and then has the tanker start flying various twists and turns and instructs me to fly formation with it. When I over fly her at one point (I have lots of power at my command here, guys!) we switch to some fighter tactics and Scott has me making moves to intercept my slower foe. Cat and mouse between tanker and a B2 – not your normal mission assignment! Anyway, enough fun, we have to land this baby.

Scott shows me all the IFR and autopilot controls and mechanisms available to get back on the ground. I remind him I am a VFR guy and would prefer to try to do it visually/manually. Not a problem, he brings up the VASI lights at Whiteman and we are set for my first attempt. I am lined up and remember to lower the gear - everything looks good. Scott is encouraging me onward. I bring all power off and pull back on the stick just before touch down. Now, I am certain most everyone has flown a Warrior at some time. So, you know how the ground effects with the low, large wing surface plane can cause it to float down the runway interminably until you get the knack? OK, now consider wing



*Mick and the Mississippi*

surfaces a couple of orders of magnitude greater --- got the picture? I pull back too much and she floats endlessly as runway is disappearing beneath me. Finally, I apply full power and do a go round. A few more tries with similar results. On one, I try to climb too fast and the stick shaker goes off – that grabs your attention quickly. On another, I forget the gear, but a computer voice reminds me to get it down. One hard bounced landing and finally – on the fifth try – everything works and I set the mains on the runway and keep them there. You have to fly the nose wheel down. Forward stick pressure brings it down, and then I step on the brakes and realize why Scott was so enamored of them. She stops in a heartbeat; I still have a mile of runway left! I look at Scott and ask “are the brakes really that good?” “We could have stopped a lot sooner if you had really stepped on them “, he replies with a smile.

So, there you have it – my big adventure with the Air Force and the B2. Scott had just received his promotion to full colonel a couple of days before my visit, so I truly appreciate his taking time to show me the ropes with all his new responsibilities. I know there is lots of controversy about the B2 and its cost. But let me say this, I am darn happy she and the crew that supports her are in our arsenal and not someone else's. It is an incredible piece of engineering supported and flown by the most professional and patriotic soldiers on earth.

As a postscript, Colonel Vander Hamm presented me with a poster of the B2 signed by several of the pilots. One interesting signature was from Lt. Col. 'Nuke' Tibbets, grandson of a rather famous bomber pilot from a different era.



**Great photo...  
Start 'em young!  
Submitted by  
Allen Wood**

Here is one of my  
favorite Swift photos.

This is my son  
**Dalton Wood**  
helping dad work on  
the Swift.

**N33TC S/N 2106**

August of 2016