

AFA 335

TENNESSEE VALLEY FLYER

A Fiery Escape!

A heritage piece

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2021 Veteran's Day Parade

Article by AFA Chapter 335 President John Pennell, Lt Col, USAF (Ret)

One of the most exciting events in the Huntsville/Madison area is the annual Veterans Day Parade. In 2019, the parade was canceled due to inclement weather, and in 2020 it was nixed for concerns over COVID-19. The organizers weighed the risks, and decided in late October 2021 that the show must go on.

Over 100 groups, many of whom were Veteran Organizations, quickly signed up to take part. The Tennessee Valley Chapter of the AFA was one of them! Because of the short notice, several of our members were unable to join in the festivities, but we put together a team to represent the Chapter.

The parade was set to start at 11am, but the threat of significant bad weather forced the organizers to move the kickoff to 10am. A few phone calls later, the team was assembled at Bob Hovde's house, prepping the vehicles with the banners and sound system to hit the Time on Target at the assembly point. The old adage is still valid, "Flexibility is the key to Airpower".

The parade route was lined with thousands of people, young and young at heart. Many had shirts and hats displaying every branch of service, others wore red, white, and blue. Dozens more waved flags or held signs expressing their patriotism. At every turn, someone yelled out, "Thank you for your service", or "Go Air Force!". It was heartwarming to see the outpouring of support, and while I can't speak for everyone, I stood a little straighter, and had a big smile on my face the entire way around the route.

Luckily the rain held off until after the end of the parade, and the consensus among our team was that the event was a rousing success. We're looking forward to next year already. We hope you'll join us, since next year is also our 75th birthday!



F-106 Fire and Ejection

A Heritage Article By Page Stanley, Lt Col, USAF (Ret)

The morning of 9 February of 1971 promised to be a busy one for Detachment 2 of the 48th Fighter Interceptor Squadron at Homestead AFB in southern Florida. The Cuban Air Force had been penetrating the U.S. Southern Aircraft Identification Zone (ADIZ) all morning long with each incursion requiring intercept by F-106's of Det 2. The F-106 was a highly capable interceptor, however it required over 50 man-hours of maintenance for each hour flown and the 6 aircraft deployment was beginning to experience a reduction in combat-ready aircraft. As a consequence, single fighters were being scrambled instead of the normal two-ship elements.

When the scramble horn sounded, I ran from the alert trailer, quickly climbed into the cockpit, and strapped into my parachute harness. A crew chief took the ladder away and I initiated the start sequence. After the engine reached idle RPM, I contacted the tower and advised the operator of my active air scramble order. The tower operator cleared me to the departure end of the active runway and cleared me for takeoff with an afterburner climb to twenty thousand feet on a vector of 230. I performed my pre-takeoff engine checks, switched to departure control frequency, and released the brakes. After a short run to ensure brake release, I engaged the afterburner. This was a takeoff against traffic which would involve a slightly longer than normal takeoff roll, however there was only a slight tailwind so this presented no problem.

At about 160 knots as I rotated the aircraft, I noticed a light buzz in addition to the normal engine sounds. Since this was an active air scramble, I opted to continue the mission. Takeoff, gear retraction, and acceleration to 400 knots for climb-out seemed to be normal. Somewhere around twelve thousand feet I heard a slight pop sound behind the cockpit and the fire warning light came on steady. A quick check of the cockpit gauges indicated all systems normal. I pulled the throttle to idle and notified departure control that I had a problem. Departure control asked what the problem was and I answered that I had a fire light on.

At this time, a second F-106 was returning from a mission and observed my burning aircraft. The pilot selected the Guard Channel and transmitted that my aircraft was burning on the left side. At this point, I stopcocked the throttle and turned the fuel shutoff switches off. The fire warning light continued to illuminate steady although the engine gauges continued to read normal (fuel flow zero). After a series of "is it out now" and "no, it's still burning" exchanges with the other pilot, I confirmed that the aircraft was headed toward an uninhabited area of the Everglades, then transmitted that I was "punching out" and lifted the handle to be ejected from the plane.

I blacked out for a short time due to the seat rocket lifting me clear of the vertical stabilizer. When I came to, I was still in the seat and it was tumbling. With my head back against the headrest I could see the back-up airspeed indicator reading around 400 knots and decided to ride the seat for a while to slow down. I felt the man-seat-separator beginning to reel-in and remembered that the parachute timer for low altitude ejections was activated at seat separation. I pushed the seat to below my feet. I heard the parachute deployment gun chug and the "lights went out" for a while.

I came to again in the parachute to the sound of whistling. The parachute had multiple panels blown out and several broken riser lines blowing loosely. The lanyard for the survival kit was wrapped around my legs and feet. I could see a HAWK missile site below me and pulled on the left rear parachute strap to steer toward it. This caused a couple of the risers to break so I carefully released the strap. I spent most of the descent unwrapping my feet from the survival kit lanyard. My trajectory was toward a grassy field between two canals. As I neared the ground, I passed my arm through the vee in my parachute straps and pulled the parachute quick release cable. As my feet hit the ground, I released the parachute strap which caused the canopy to collapse. As I was gathering up the parachute, I heard a helicopter approaching. It landed a short distance away and the PJ directed me to board the front to avoid the rotor blades. Ten minutes after takeoff, I was back at Homestead AFB, somewhat battered..... but alive.

Lt Colonel Page Stanley, currently living in Limestone County, is a retired Air Force officer with 22 years of service, including over 2,300 hours flying the F-106 Delta Dart from US bases and one deployment flying it from South Korea during the Pueblo Crisis. Lt Col Stanley held the rank of Captain when the incident described above occurred. He also flew a one-year tour as a Forward Air Controller (FAC) in the 0-1 Bird Dog, flying missions over South Vietnam and Laos.



F-106



Cislunar Space

Article by Vic Budura, Col, USAF (Ret)

Our Air Force has been the steward of the Space Domain since the early 1960's until November 2019 when the Space Force was stood up. The Area of Operations (AOR) is defined by Keplerian orbital mechanics for satellites in Earth orbit. These orbits are described by their altitude above the surface such as LOW (100-600 miles), MID (10,000 to 12,000 miles) and Geosynchronous (21,500 miles) above the Earth's surface. All of the satellites in these orbits are tracked by ground based radars and their observations are sent to NORAD which generates a satellite catalogue of classic two card (IBM punch cards) orbital elements.

Now as we move from Geosynchronous out to the Moon's surface, spacecraft will operate in a new AOR called Cislunar Space. This Cislunar AOR encompasses an area 17,000 times larger than that contained inside the orbital regimes noted above. In order to move beyond airspace to thinking about this new AOR, three concepts are key to our understanding. These concepts are: the gravity well, Lagrange points, and trajectories.

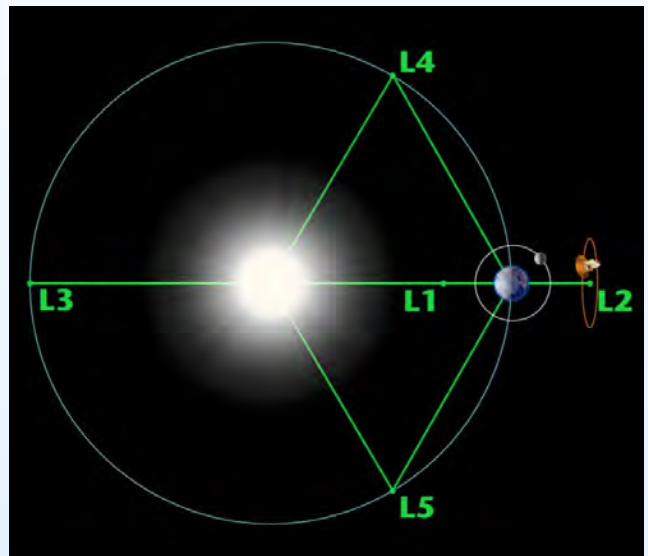
Back in the day at Air War College (AWC), we used a slide which portrayed the Earth and Moon at the bottom of their own unique GRAVITY WELLS. We walk around at the bottom of ours but the force of Earth's gravity decreases as we rise up in the well whereas the Moon's gravity well is 1/6th as deep as ours. The next concept is LAGRANGE points which are stable points around any two gravity wells like the Earth and Moon in our Cislunar system. These positions were calculated by a French mathematician in the 18th Century. Control of these points are critical like the Panama and Suez canals. These Cislunar Lagrange positions could become critical for eventual Planetary Defense against asteroids and other Earth crossing objects. The third concept is the idea of traveling in TRAJECTORIES vs. being in orbit which is illustrated in the Primer article I mention below.

The November issue of the Air Force magazine has an excellent article titled *Cislunar Space* and it recommends an AFRL article called *A Primer for Cislunar Space*. I recommend reading both articles to aid in a deeper understanding of this new Space Force AOR.



The Moon (Left), Eric Silkowski, Col, USAF (Ret)

Lagrange Points (Below), NASA/WMAP Science Team



Aircraft Restoration Update

The US Space and Rocket Center has recently completed renovating its US Air Force T-38 Talon aircraft. They used the vendor Display Aircraft. That is the same vendor that our AFA chapter discovered for them and which was used to renovate the F-4 Phantom, the F-111 “Aardvark”, and the AGM-168 Hound Dog Air to Surface Missile (ASM) in July of 2019.



Tactical Airborne Command and Control

A Technical Heritage Article By Steven Cornelius, Col, USAF (Ret)

Tactical Air Command conceived of a tactical Airborne Battlefield Command and Control Center (ABCCC) and modified 7 C-130E "Hercules" to accept the USC-48 capsules, thus forming the 7th Airborne Command and Control Squadron (ACCS). Before its retirement in 2002, ABCCC (A-B-Triple-C) as it was known, was an integral part of the Air Force's Tactical Air Control System (TACS). Aircraft modifications included addition of HF/UHF/VHF external antennas to accommodate more than 70 radios in the capsule, heat exchanger pods for additional air conditioning, an aerial refueling system and special cargo deck mounted rails for inserting and removing the USC-48 capsule. ABCCC aircraft had distinctive fuselage mounted air cooling intakes ("Mickey Mouse ears") just aft of the flight deck, two HF radio probes mounted on wing pylons outboard of the external fuel tanks, three mushroom-shaped UHF antennas on the top of the aircraft and numerous VHF blade antennas on the belly. While functioning as a direct extension of ground-based command and control (C&C) authorities, the primary mission was to provide flexibility in the overall control of tactical air resources. To maintain positive control of air operations, ABCCC provided communications to higher headquarters, including national command authorities, in both peace and wartime environments. EC-130E aircraft were retired in 2002 and the ABCCC mission was 'migrated' to the E-8 JSTARS and E-3 AWACS fleets.

The USC-48 capsule was designed to fit into the C-130 cargo compartment and measured 40 feet long, weighed approximately 20,000 pounds and cost about 9 million. ABCCC provided unified and theater commanders an airborne battlefield C&C center, with the capability to deploy worldwide supporting combat operations during war, contingencies, exercises, and special classified missions. Mission roles included airborne extensions of the Air Operations Center (AOC) and serving as an Airborne Air Support Operations Center (ASOC) for C&C of Offensive Air Support (OAS) operations; and airborne on-scene command for special operations such as airdrops or evacuations.

Crew Composition

The flight deck crew was a standard C-130 crew while the airborne battle staff could be tailored to fit any mission based on operational needs. The battle staff consisted of four functional areas: command, operations (ops), intelligence (intel), and communications (comms). Normally, it included 12 members working in 9 different specialties:

- The Director of the Airborne Battle Staff (DABS)/Command Section was responsible for the overall battle staff ops; monitoring the current air situation and emphasizing integration of offensive and support ops. The DABS was normally a Major or Lt Col and a fighter or bomber pilot. He was the mission commander and was responsible for the overall C&C of offensive and support air operations within the assigned area of responsibility (AOR).
- The Battle Staff Operations Officer (BSOO) ran the Ops Section which consisted of Airborne Strike Controllers (ASCs) and Airborne Close Air Support Coordinators (ACASCOS).
- The Intel Section: Airborne Intel Officer (AIO) and Technician (AIT) continually correlated, analyzed, fused, and disseminated intel and ops data to the battle staff and other agencies. This section updated battlefield intel, maintained friendly and enemy order of battle and fire support measures, and validated targets so tactical aircraft had the latest threat warning information. The AIO was also the focal point for coordinating electronic combat.
- The Comms Section provided comms support for the battle staff. The Airborne Comms System Operators (ACSO) maintained voice comms (capsule radio and interphone systems), data link, and teletype equipment. While an Airborne Maintenance Technician performed necessary in-flight maintenance on the different systems in the ABCCC capsule, including booting, initialization, and loading of the tactical database taken from the ground-based mission planning system into the capsule's onboard integrated computer processors.



Capsule with 14 crew workstations and movable white boards for status updates and tactical displays

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Flying on ABCCC

I was assigned to the 7th ACCS, from November 1977 until June 1982. I arrived at Keesler Air Base straight out of tech school as a green bean 2nd lieutenant and was completely unprepared for the intensity of flying command, control and combat support missions with "old head" fighter pilots, many of whom had their 100-mission patches flying F-105s and F-4s in Southeast Asia. After a couple of years being "trained" by and gaining these guys' trust, I flew in every major exercise conducted by USAF Tactical Air Command, including multiple Red Flags (Nellis AFB, NV), Reforgers (Europe), Cope Thunders (Korea and The Philippines), and a couple of contingency operations in Central America. Flying on board ABCCC was challenging and once airborne and on a station in the AOR, Everyone on the battlestaff was very busy. We took our job of aircraft control very seriously and wanted to ensure that each asset delivered available ordnance to maximum effect.



EC-130E based at Korat Air Base Thailand. Note the fuselage mounted air scoops used to cool USC-48 ABCC Capsule

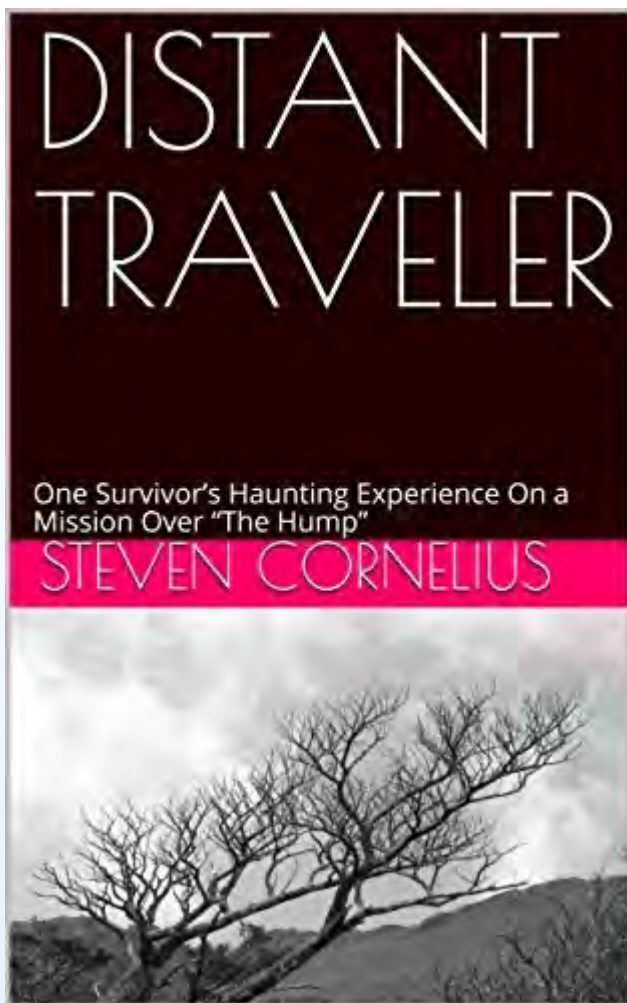
As I gained experience, I was often sent ahead as the exercise planning liaison officer. The 7th participated in 6 or 8 major joint exercises each year. In 1980, I was sent to Hunter Army Airfield (outside Savannah, Georgia) to help plan a joint exercise (Atlantic Fury) involving Navy, Air Guard and Army air assets. After arrival, it didn't take long to find the operations tent and get my marching orders from the exercise director, which were simple: plan ingress/egress routes into and out of a small firing range about 20 miles north of Hunter AAF for live ordnance drops by about 75 fighter/bomber aircraft and attack helicopters flying multiple sorties each day.

As I walked out of the tent, the colonel added, "Oh by the way, captain, ensure that the ingress/egress routes don't disturb the local population." I nodded and got busy. Based on my best planning, in-bound aircraft would fly up the Savannah River almost to the southern edge of the range, make a hard right turn, drop down to tactical altitude and accelerate, calling initial point and inbound before entering the range. So far, so good. The egress route, after dropping ordnance, was more problematic. Each aircraft would still be at low altitude and moving at about 500kts. Almost every potential route away from the range was over densely populated areas north of Savannah...except one, which was a mile wide corridor with only a single building located in a swampy area several miles from any urban buildup. Jackpot!

I completed my planning, published the routes in "special instructions" provided to each aircrew and then briefed my boss, Lt Col Hardwick on what would happen the next morning when the exercise kicked off. We were both in the ASOC early the next morning, monitoring aircraft traffic as each 2-ship of fighters launched, checked in, entered the range, dropped ordnance and egressed north at the "speed of heat". Just after lunch, after about 4 hours of exercise play, the phone rang. Lt Col Hardwick was closest to the handset, so he answered. After listening for a few seconds, he said, "Okay" and handed me the phone. I gave him a questioning look. He shrugged and said, "They want to talk to the a***h**e in charge." I had a very brief conversation with the chief cardiac surgeon at the Sacred Heart Cardiac Recovery Sanatorium. He was hopping mad because his heart surgery patients, especially those resting outside in lawn chairs, enjoying the mild Georgia weather were being startled by fast-moving fighter aircraft streaking over their peaceful hospital grounds at treetop level, causing many of them to jump out of their skins. The only thing I could think of as a reply was, "Doctor, you should be thanking us. We're stress testing your work. If they're okay after such a shock, then their recovery is going well." He hung up on me.



Distant Traveler



Air Force Association life member Steve Cornelius has written a trilogy of historical novels. The first book in the series is, "Distant Traveler: One Survivor's Haunting Experiences on a Mission Over the Hump." This book is a historically accurate and detailed account of aircrew life in south Asia during World War II and the incredible stress each man endured while flying combat missions over the dangerous and unforgiving Himalayas. The book focuses on a C-46 aircrew and how their lives were forever changed during one resupply mission in May 1945. During Operation Matterhorn operations (China-India-Burma Theater) from 1942-45, more than 600 aircraft were lost to enemy action, weather or unexplained circumstances. This book and the two that follow are a tribute to the many good men, unsung heroes who laid their lives on the line each day in service to their country. Colonel Cornelius is a retired Air Force officer with 30 years' service, including more than 2200 flight hours in the EC-130E aircraft. Distant Traveler, Volumes I, II and III may be ordered through Amazon.com in print or as an eBook.

<https://www.amazon.com/DISTANT-TRAVELER-Survivors-Haunting-Experience/dp/B08GRQ9NZP>



Community Partners



Modern Technology Solutions, Inc

MTSI Executive Vice President, Tim King (Left), accepts the ACE Community Partner renewal medallion from Eric Silkowski, Tennessee Valley Chapter 335 Executive Council member (Right). A huge thanks to Modern Technology Solutions, Inc. for supporting aerospace education in the Tennessee Valley at the highest level!

AFA's 75th Anniversary

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LET'S CELEBRATE
In commemoration of AFA's 75th Anniversary we are telling our AFA story!

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Want to become a Community Partner at the Ace, Wingman, or
Basic level? Contact George Krym at george.krym@yahoo.com.*

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UPCOMING EVENTS

12 Jan: Huntsville High School Space Force JROTC Stand Up Ceremony / 5:30pm / Auditorium

20 Jan: Executive Council Meeting

17 Feb: Executive Council Meeting

Chapter 335 Officers

• **President**

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• **Treasurer**

Jack Royster

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• **Vice President**

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• **Secretary**

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Chapter 335 Special VPs

• **Aerospace Education:** Jay Carlson

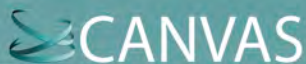
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