AIR COMMANDO JOURNAL

A Professional Publication by the Air Commando Association
Dedicated to Air Commandos Past, Present & Future

COMBAT SHADOW

Farewell Issue

A Proud and Accomplished Lineage

Shadows Above

The Crash of Ditka 03

Low Altitude HAR Final

From Both Sides of the Drogue

Foreword by Matthew Caruso, CMSgt
AFSOC Command Chief

Vol 4: Issue 2

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ON THE COVER

A 67th Special Operations Squadron MC-130P Combat Shadow takes its final flight in the U.K. Jan 2014. The Combat Shadow, an airframe used for special operations missions since the mid-1980s, is the last of its kind to leave the European theater. (US Air Force photo by SrA Kate Maurer)

FOREWORD

It is my distinct honor and pleasure to introduce readers to this 14th issue of the *Air Commando Journal*. To all of our Air Commandos out there…past, present and future, thank you so much for what you do and who you are. In this issue, we pay special tribute to the men and women who maintained, operated and supported the MC-130P Combat Shadow and its crucial mission. The MC-130P recently retired its last tail number and it's only fitting we highlight this incredible workhorse to our *Air Commando Journal* followers and readers.

While the beloved MC-130P airframe was tired and worn well beyond her years, we couldn't have been more blessed to operate and maintain such a reliable and sturdy platform. I have really put some deep thought into this and I am sure most of you will agree.....what really made this aircraft and its mission so successful was its people. The most important aspect of any AF weapon system is people.

I often talk about grit, determination, toughness, relentlessness, tenacity and skill when I refer to the character of an Air Commando. Other exceptional qualities we have come to expect in Air Commandos are teamwork, humility, pride, loyalty and a steadfast commitment to the mission. During my time as an MC-130P Flight Engineer, I was introduced to these key traits from the entire Shadow Community and it was demonstrated day in and day out. You would never hear us say it, but the joint partners we worked with and supported still talk about it to this day. We were just doing what we do and getting the mission done.

For Combat Shadow Airmen who built the platform and performed the mission, it was never about the glory or a decoration on your chest, it was always about the supported unit, the customer and each other. It was about being on-time and on-target every time with hoses out, ready for anything, anytime and anyplace. I am certain that this was the source of the bonds we share today after many years in combat and generations of Airmen growing up in this incredible family.

I know each of you will find similarities in the articles in this issue and your own AFSOC platform and experience. For it is that overall sense of Air Commando pride and sense of history and culture that comes out in everything we do, regardless of the weapon system we maintain or operate. I trust you will find this issue a good read and one that helps all of us appreciate one another for what we bring to make AFSOC America's specialized air power.

Matthew M. Caruso, CMSgt, USAF
Command Chief, AFSOC

CHINDIT CHATTER

Full disclosure, this is a very bittersweet edition of the *Air Commando Journal* for me. My primary weapon system was the MC-130P Combat Shadow. I loved the mission and was truly privileged to serve with some of the finest aircrew and maintainers in all of the Air Force. I was introduced to the mission in late 1990, a time when the aircraft and crews had barely completed the transition from Rescue to SOF. HC-130s were making the transition from Rescue platform to SOF. These old birds were not made for utilizing the Night Vision Goggles (NVG), critical to the Shadow's primary mission of covertly refueling helicopters at low level during the night. Aircrews were still evolving the mission tactics, techniques, and procedures. For example, because the cockpit was not compatible with NVG use, one of the engineer's pre-flight duties was taping over the warning lights in the cockpit and creating unique ways to cover the gear warning handle so if any warning lights came on during NVG operations they would not "wash" the NVGs out and render the crew essentially blind. Some engineers used a combination of a Copenhagen can and tape to cover the gear handle light. At one unit, an unofficial and innovative use of commissary rollers replaced Benson tanks and were installed in the aft of the aircraft to allow airdropping supplies. Those were finally replaced after many years of Dual Rails proponency (dual rails allowed carrying and airdropping essentially any cargo that C-130 platforms were capable of), funding was finally found to allow this last modification. Some classified defensive capabilities were also made allowing the Shadow the ability to venture further into hostile airspace.

From that rudimentary beginning, as my career progressed, I watched the various Special Operations Force Improvement modifications evolve with the crew capabilities. Included were refueling capabilities, Forward Looking Infrared pods, fully NVG capable cockpit lighting, and several others that allowed the Shadow to be utilized in expanding roles. Speaking with little bias these new modifications and an innovative crew and maintenance force allowed the Shadow to become one of the most diversely capable and versatile platforms in the inventory. Even without Terrain Following and Terrain Avoidance radar, the crews learned to use the systems at hand with great coordination to complete missions in poor weather and low illumination conditions. This was because these teams embraced the true Air Commando ethos of finding ways to complete missions that others could not or would not attempt. Some older Shadow crewmembers coined the quip "half the equipment and twice the skill" in a friendly rivalry with our Talon brethren. And even though the Shadows operated in those very dire situations in a variety of combat situations, we fortunately never lost a crew—on the mission of Ditka 03 the tail was lost, but miraculously the crew all survived. (That story is highlighted on page 15 of this journal). This truly amazing accomplishment is something everyone involved in the mission of Combat Shadows should simultaneously take great pride and give thanks.

The Shadow and the people who flew and maintained her were called upon and flew with great efficiency and honor in literally every conflict in every theater that AFSOC participated in from its very first day after the conversion to the SOF realm. It is a proud group, as are all airmen associated with Air Commando weapon systems, that is sad to see the old work horse move to the boneyard. With great pride we now see an aircraft at each of the two major AFSOC base's airparks. The airplanes, the crews, the maintainers and all who supported her have now moved on to the realm of legacy. It is with great pride that we offer this edition of the *Air Commando Journal* dedicated to the Shadow's great history.

Dennis Barnett, Col, USAF (Ret)
ACA President and Editor In Chief

Hotwash

Intellectual Warrior

I just read the *ACA Journal* (Vol 4 Issue 1) and the last article "Intellectual Warrior Captain John Frederick Shiner" really hit home for me. At the end of my freshman year I was struggling at USAFA and I met an academic board. Lt Col Shiner was on the board, they voted to retain me, he came out and gave me the news and told me to come see him when school started. I did and he became my advisor for a while, he got me pointed in the right direction. The writer does an outstanding job describing him. I never knew of his background, I wish I had. I thought it was pretty amazing the impact he had on my life, just like you (Dennis Barnett) did.

Lt Col Chris Cicere

Miles Tanimoto

In Volume 4, Issue 1, you published an article by Jimmy Ifland describing photo recce in SEA. In that excellent article, Jimmy described two B-26 missions flown by Miles Tanimoto, my former RB-26 nav. It brought back many memories.

Air Commandos Johnny Johnson, Jimmy Ifland, and Miles Tanimoto at K.I. Sawyer AFB in 1964.

Would it be possible for you to send me two additional copies of that Journal that I can send to his widow and their children in Hawaii?

This issue was especially poignant for me since I deployed as a member of both Farm Gate and Water Pump, where I was Swede Svendson's No. 2. One of the Thai pilots we worked with there, Lt Nipon Sakornyen, showed up as one of my allied students at the Air War College in 1982 and later went on to become an RTAF Air Chief Marshal and then the Managing Director of the Airports Authority of Thailand, their equivalent of our FAA.

Thanks again for your help and support.

Cheers,
Ken Alnwick
(ACA Life member #32)

Mailing the Journal

I noticed the postage for the ACA Newsletter and the *Air Commando Journal* was a bit much to send to Australia. Included is an extra $100 toward your mailing costs.

Thanks for continuing to send to Australia. I am almost 73 years old and I appreciate all the excellent articles on "days-gone-by."

Airborne All The Way
William 'Bill' Mega
Queensland, Australia

For the Record

I feel that I have been truly blessed in my Air Force career and my association with the Air Commando's. Last year I gave my Commando Cash tickets to one of you to stand in for me. I suggested that, if I win, the proceeds should go to the young troops for a "Commando Bash," unfortunately I did not win, but will try again this year. I ask who ever opens this letter to please give the tickets to one of our proud young men or women to once again represent me. Enclosed is my check for the raffle drawing.

For the record The *Air Commando Journal* is outstanding and I look forward to each copy. Having a few hours in the "Goonie" and more hours in the "Herkie" I have thoroughly enjoyed each of the Journals stories, please keep it coming.

Sincere regards to all,
Richard J. Guetrin,
Col, USAF (Ret)
Williamsburg, VA

Ranch Hand

Reference *Air Commando Journal*, Volume 4, Issue 1, page 19. In the "Editor's Note," there is a comment that an article on Ranch Hand will appear in a subsequent issue. I have researched the *Air Commando Journal* archives and did not find an article on Mule Train. Do you intend to cover that very important event resulting in the introduction of tactical airlift assets into Nam? Assets that eventually were assigned to Air Commando units as they were introduced in-country.

I realize that Volume 4, Issue 1 contained an article on C-123s that addressed the personal observations of two individuals who were not veteran C-123 pilots at the time the original C-123 entrance into Nam occurred. However, unlike the articles on Farm Gate, Jungle Jim and Photo Recon, the C-123 article contained no background on how we "trash carriers" were placed in service in Nam. Mule Train had an interesting genesis and, during the early months, some very interesting situations.

How do I know this? I was the instructor pilot on Chalk 8 of the first 8 C-123s from the 346th TAS when we departed Pope AFB in December 1961, destination Clark AFB. In March 1962 I was the Flight Commander for the first flight rotation to the 346th. I had no orders for Nam. After several months in-country we were awarded Air Medals for "aerial support of a friendly country." As you know, we weren't there---the war started later.

If you want to fill pages in the Journal with personal remembrances, you should ask Mule Train personnel to contact you. I could give you lots of items such as the day I was fragged to airdrop supplies into the outpost, A Loui, up the valley to the north of A Shau. We were using former French equipment, not a good idea--- but we did not have an Aerial Port unit there as happened later. The pallet started out the ramp and then twisted sideways and jammed on the ramp---the ramp buffers and rollers came later. The pilot chute deployed then pulled the main chute out which sent my airspeed plunging toward

stall. We climbed at METO power and just above stall while the loadmaster cut away the chute---a tricky job with a small knife and the turbulence. Oh, did I mention that we were also climbing up the side of a Laotian mountain? We had been headed toward "Indian Country" to begin with and I had no other options. Obviously we made it.

Several years ago the Air Force Association printed an article about Ranch Hand. I questioned whether they were planning an article on Mule Train. They told me to get them some information and they would consider it. I contacted as many Mule Train people as possible and we overloaded Col Boyne with more information than he could use. I still have a copy of that issue with our story.

When I retired in 1980, after almost 28 years active service, I had spent 16 years flying the C-123, models B, J and K. Total C-123 time was 6600 Hours.

I hope that you will consider an article on Mule Train. Many of us eventually became Air Commandos as the C-123 mission flowed to the Commandos.

Thank you for your time.
Roger D. Haneline
Lt Col, USAF (Ret)

Air Commando Journal

... I am going to have to say I am bit upset with my Air Force SOF brothers. I came across the current issue of *Air Commando Journal* in my bosses office today. She offered and I took it (They lack the appreciation & knowledge in the Pentagon for such a great read).

This is the first time I have seen the journal, I know most of you take it for granted. I am all knowing when it comes to books & magazines particular SOF relevant ones. But this one has gotten past me...It's like giving a crack head heroin...I love this stuff. It's not often that I find an entire journal/mag worth reading. Some great stuff and fond memories captured in these pages. I got my AC-130 intro & appreciation during OPERATION JUST CAUSE. Saw firsthand as it pulled us out of some sticky spots more than once. Some great articles on the Vietnam Gunships, Specter, OPERATION HONEY BADGER (Desert I -part II).

Ryan Whittington,
Col, US Army (Ret)

Thank you for that fine article on "LAOS: THE SECRET WAR." I especially appreciated it because I served with two outfits that were mentioned in the piece. From April '68 through April '69, I had the very great privilege, and honor, of supporting the great warriors of MACVSOG while assigned to that unit. From September '70 through September '71, I was assigned to the Igloo

White program at "Naked Fanny."

Keep the fine, informative articles coming. Several of the SOG warriors have written books about their experiences. I tell anyone who has had interesting, unique, or special, experiences to write them down. And, if possible, get them published. For themselves, for their families, and for history. There are many stories out there that need to be, and should be, told. Memories fade and old soldiers pass on.

Gary Daugherty,
MSgt, USAF (Ret)

Gary
Thanks for your response. We welcome any and all feedback. I agree that folks need to record their experiences and we of course depend on that to fill our pages.

All the best
Dennis Barnett,
Col, USAF (Ret)

Dear Dennis,

All issues of the ACA Journal are superb in content. I suspect each hits home in a particular way. For me, the interview with Lt Gen Leroy Manor, and Laos: Part 4, continued that tradition of excellence. Thanks to each of you who provide the unparalleled leadership that continues to move our Association forward.

Richard Ivey
ACA Life Member #L4228

Richard
Thanks for the feedback. It is a labor of love with some great work by Jeanette in the layout and a group of volunteer editors. We will pass your kind words on.

Dennis Barnett,
Col, USAF (Ret)
President

Jungle Jim Article

I recently opened my new edition of the *Air Commando Journal* (Vol 4 Issue 1) and was reading the article on "Jungle Jim" and when I turned to page 11 and looked at the picture, looking back at me was my dad, Dan Fletcher Jr.

He spoke very little of his time in the Air Commandos and we have no photographs of this period in his life, as he always stated that it was "classified."

I would like to be able to get a copy of the photo for myself but to also share with my children. Please advise me who I can contact or how I can obtain a copy of this photograph.

v/r
CDR Dan Fletcher III

Dan
What a great discovery! Actually gives me chills. Our Graphic Designer, Jeanette Moore will gladly assist in getting you copies.
Thanks for giving us the opportunity to assist.

Dennis Barnett,
Col, USAF (Ret)
President

Dennis:

I just read Col Haas's article about Jungle Jim in the current issue of the *Air Commando Journal*. It brought back a lot of memories of the time I was TDY to Air Commandos. I was with them from January thru October 1963 and flew the T-28's. My time in Vietnam was from May through October. The reason I am writing is the picture on page 12 appears to have a A-1 Skyraider not a T-28.

I enjoy your publication as much as I did the time I spent with the Air Commandos.

Art McNay, ACA #3212

Regarding the article Jungle Jim in the latest magazine that I received I have a couple of additional comments. In the 1960 and early 70 era I Anthony Vessella and two of my fellow airmen, John Jesse and Peter Jannitto and others to numerous to remember and name, were in the 143rd Air commando Squadron of the Rhode Island Air National Guard which was mentioned in the article. What wasn't mentioned was the aircraft that we were using. We used the HU-16 Albatross on many of our missions including the U-10 and the U-6 later transitioning to the C-119 and then lastly the C-130A. We put on demonstrations for celebrities at Hurlburt Field and we also tested the Fulton Extraction System at Marana Airpark outside of Tuscon Arizona. We also flew missions out of Sembach AFB in Germany.

Anthony Vessella
USN, USAF, RIANG,
USAF Auxiliary (Ret).
Totaling 63 years service time.

Sir,
We were thrilled to get your response to the Jungle Jim article that appeared in the latest Air Commando Journal. Thank you for sharing more information about you and your fellow airmen's contribution to the many missions you were assigned to. Feel free to send us more on your time as an Air Commando we look forward to hearing more.

v/r
Jeanette Moore
Media Coordinator

Dennis,

My special thanks to you and members of your staff for yet another outstanding issue of the *Air Commando Journal*. This copy was particularly meaningful to me with the superb articles on "Jungle Jim at the Tip of the Spear" and "Farm Gate the B-26's in SVN." I was honored to be in the second class of the original Jungle Jim program and arrived for my first tour in Bien Hoa in October 1962 in support of this little known photo reconnaissance program. In this regard I'm particularly grateful to you and your editors for letting me share the story of this important program with our readers. Our effort was great, but overall our success was disappointing due to the elusive enemy and the formidable jungle canopy that they used to their great advantage.

Any Time, Any place
Jim Ifland, Col, USAF (Ret)

Submissions can be e-mailed to info@aircommando.org or mailed to Hot Wash c/o Air Commando Association, P.O. Box 7, Mary Esther, FL 32569. ACA reserves the right to eliminate those that are not deemed appropriate. Thank you in advance for your interest in the Air Commando Journal.

A Proud and Accomplished Lineage:

THE MC-130P COMBAT SHADOW

By David Mobley, Col, USAF (Ret)

The first two decades of the MC-130P's 45+ years of history were quite different than the most recent 25 years. Lockheed delivered the Air Force a fleet of about 100 HC-130 "King" search and rescue aircraft between 1964 and 1969 (see pages 26 - 27 for Mission Design Series [MDS] data). Its improved Allison T56-A-15 engines gave the HC-130 better high altitude/hot weather performance than similar-year C-130Es with Allison T56-A-7 engines. These new HC-130s were built to take on the busy mission of Combat Rescue in Vietnam. Initially, they were to use the Radio Directional Tracker located in the tracker radome (aka, "the piano bar") on top of the aircraft to find emergency locator beacons of downed aircrew. But in 1965, Harry Dunn and Don Eastman proved that a CH-3 could refuel behind a C-130 using helicopter air refueling (HAR) pods. In June 1967, Wright-Patterson AFB demonstrated that the HH-53 could also refuel behind the Herk. As a result, HC-130s refueled Jolly Green HH-3 and HH-53 helicopters rescuing downed aircrews throughout most of the conflict in Southeast Asia. Combat Rescue in Vietnam was a gallant mission with no shortage of heroic action.

An MC-130P Combat Shadow awaits its final checks on Kadena Air Base, Japan, before departing for the aircraft boneyard at Davis-Monthan Air Force Base, AZ., 15 Apr 2015. (US Air Force photo by A1C Stephen G. Eigel)

Editor's Note: This article has been modified and updated since first printing under the title of Casting a New Shadow in Vol 1, Issue 1 of the Air Commando Journal.

In the post-Vietnam 1970s, HC-130s continued to serve with distinction in peacetime search and rescue roles, but with few weapon system changes. Nevertheless, rescue HC-130 crews racked up thousands of civilian and military saves/assists alongside their Jolly Green counterparts. The late 1970s were stagnant for the US Air Force and the HC-130. The glaring result of this came to light during the rehearsals and attempt to rescue the Americans held hostage by Iranian extremists. In April 1980, America found out the hard way that deploying a large contingent of helicopters over long distances, using C-130 support and refueling, cannot be an ad hoc endeavor. To be successful, crews have to train regularly as a unified team in specific mission areas to meet the intense demands of special operations.

"Operation RICE BOWL, the attempt to rescue American hostages from the United States Embassy in Iran, ended in disaster at the Desert One refueling site in April 1980. As a result, the Holloway Commission convened to analyze why the mission failed and recommend corrective actions. This led to the gradual reorganization and rebirth of United States special operations forces."

By 1984, after lessons learned from RICE BOWL, a few MC-130Es were being modified with helicopter air refueling capability for use in special operations. But the small fleet of Combat Talons could not keep up with the growing number of in-flight refuelable special ops HH-3 and MH-53J helicopters (not to mention that early Talon crews seriously disliked those HAR pods). Thus, in Aug 1989, when 23d Air Force became an official component of US Special Operations Command, 28 HC-130s shifted from Air Rescue and Recovery Service to Military Airlift Command's 23rd Air Force. 23rd Air Force officially became Air Force Special Operations Command (AFSOC) on 22 May 1990. The AFSOC HC-130s remained un-named for several years; no longer "Kings," yet assigned no other official moniker. Regardless of re-naming initiatives, aircrews had certainly started the transition to flying special ops missions with AFSOC HC-130s. For example, as the only HAR pod-equipped C-130s in the Pacific in 1989 (when the 33rd ARRS HC-130s became the 17th SOS), the HC-130s became essential as an air refueling platform for the newly-arrived 31st SOS MH-53J "Pave Low" helicopters in that theater. A similar set of events was unfolding in Europe and at Eglin/Hurlburt, so HC-130 aviators had to adapt quickly. Working with SOF teammates meant that CSAR methodologies were no longer sufficient to the task.

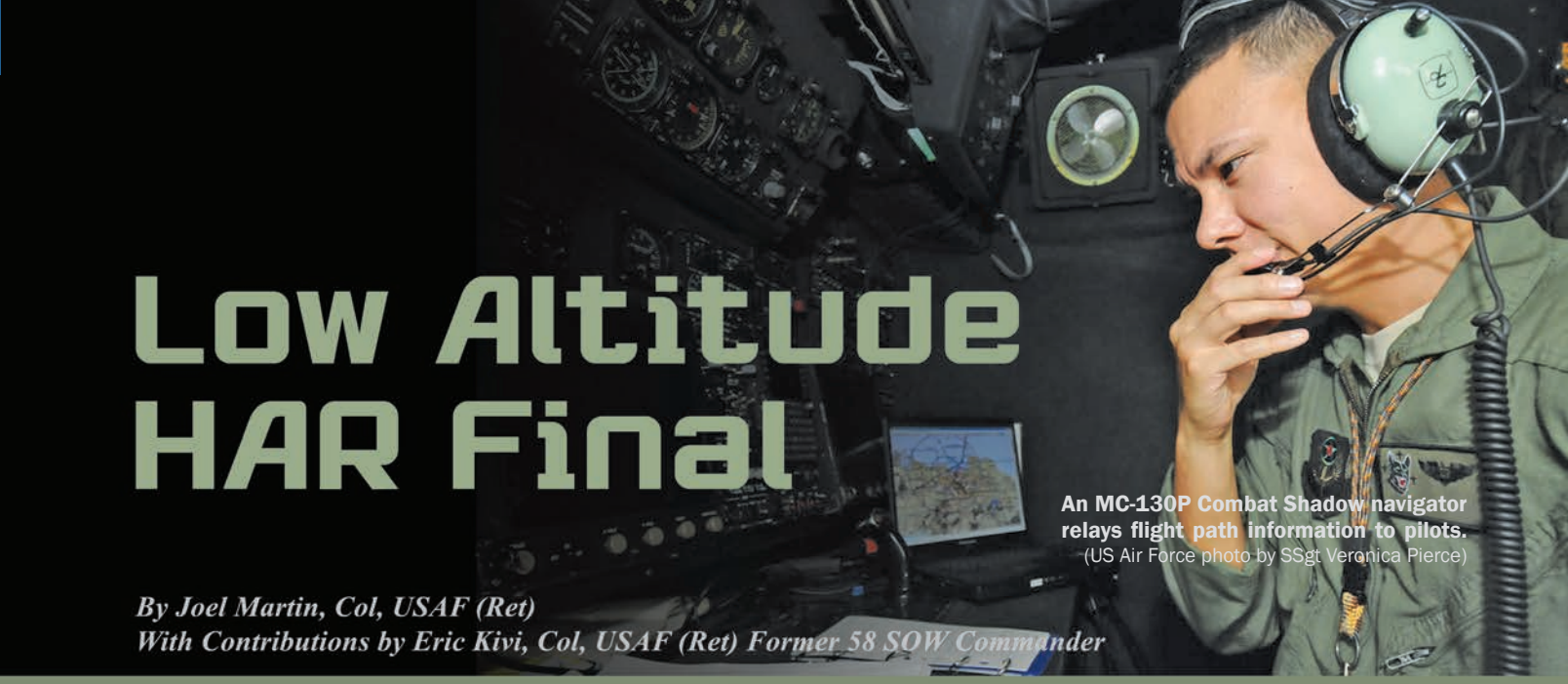
In the early 1990s, with the help of numerous young, energetic officer and enlisted aircrew, AFSOC leaders started reshaping the SOF HC-130 force from a conventional "rescue" mentality into a special operations NVG low-level infil / exfil / resupply /refueling weapon system. There were a few holdout Airmen who wanted to maintain the "search and rescue mission" status quo, but most Airmen eagerly took on the new special ops mission. 23rd Air Force had successfully recruited a number of talented "Honey Badger," C-130E Special Ops Low Level (SOLL), All-Weather Aerial Delivery System (AWADS), and other qualified aircrews to take these squadrons into a new era.

USSOCOM invested in new Center Wings for the (then) 25-year-old MC-130E and HC-130P aircraft. As a result, they had an extended life expectancy. This smart decision paid off big dividends 20 years later, in 2006, when most Air Force C-130s, including MC-130H and AC-130Us were nearly grounded due to Center Wing wear. 23rd Air Force had also initiated a major upgrade program for the HC-130 with improved self-contained navigation systems, an integrated Infrared Detection System (FLIR), an improved radar and situation display, Radar Warning Receivers, IR and RF Countermeasures, and NVG compatible lighting. These block-modifications, dubbed "SOF-I" for SOF-Improvements, would vastly improve operations when flying on NVGs to conduct low-level flight to helicopter air refueling. It also improved airdrop and airland precision. The new SOF-I aircraft arrived at the 9th SOS for Operational Testing in late 1993. This updated weapon system soon became a force multiplier for the command at a critical time in history.

By this time, the SOF mindset for the former rescue aircrews had taken hold. The challenges and accomplishments of DESERT STORM had clinched that ethos for the crews once and for all. By 1995, the availability of SOF-I modified HC-130s caught up to the aircrews' capabilities and solidified the mission. As a result of all these factors, HQ AFSOC/DO and XP, were finally successful in re-designating the AFSOC HC-130 into an aptly named SOF variant; the MC-130P "Combat Shadow." It was about time too; the aircraft was a different weapon system and its aircrews were, by then, an integral part of the joint SOF team.

Superb leadership, an awesome aircraft, and especially the highly-skilled and motivated aircrew, led to over two decades of accolades for the MC-130P Combat Shadow and her Airmen. They proved their skills and earned medals for combat and other operations on a regular basis: Operation JUST CAUSE, DESERT STORM, Operation ALLIED FORCE over Bosnia/Kosovo, Operation ENDURING FREEDOM-Afghanistan, Operation PUMA in Iraq, OEF-Philippines, tsunami relief operations for Thailand, Indonesia, and Japan, and several very challenging, unique, and classified missions all the way through the weeks prior to the Shadow's official retirement in April 2015. Though most of the "iron" is now in the boneyard, with one "resting" on a hilltop in Afghanistan, four still in service with CSAR at Moffett Field, CA, and a few in Airparks around the country, the professional Airmen who flew the Shadow still tell of its unwavering support to their mission. These Airmen and their accomplishments will always be the lasting legacy to our Nation; but they are justifiably proud to say that they were MC-130P Combat Shadow aviators.

David Mobley was the Deputy Commander, 1st Special Operations Group, Hurlburt Field, FL and an MC-130P Combat Shadow Navigator prior to his retirement.



Low Altitude HAR Final

An MC-130P Combat Shadow navigator relays flight path information to pilots.
(US Air Force photo by SSgt Veronica Pierce)

By Joel Martin, Col, USAF (Ret)
With Contributions by Eric Kivi, Col, USAF (Ret) Former 58 SOW Commander

Helicopter aerial refueling (HAR) is an integral and enabling capability inherent in our MC-130P crews. However, the mission is very challenging and requires intricate crew coordination by the COMBAT SHADOW crews. The following is a narrative of the intercom communications between MC-130P crewmembers as they carry out a rendezvous and refueling with a special operations helicopter.

LEFT NAVIGATOR: "Pilot, Nav. Radar contact, 10 o'clock, 5 miles, two possible targets."
PILOT: "Nothing in sight."
LEFT NAVIGATOR: "Roger, keep present heading and speed. I will call your turn."
PILOT: "Roger."
LEFT NAVIGATOR: "Targets 9:30 for 3 and a half miles. Stand by to turn…Ready, ready, turn. Left standard rate, roll out on heading 160."
PILOT: "Copy, in the turn."
LEFT NAVIGATOR: "Twenty to rollout. Ten to rollout. Roll out now. Lead receiver is at 11:30, 2 miles."
PILOT: "Receivers in sight."
LEFT NAVIGATOR: "Receivers twelve o'clock, one and a half miles. Keep this heading."
PILOT: "Roger.
LEFT NAVIGATOR: "Receivers one mile, confirm visual."
PILOT: "Receivers in sight, flaps 50."
COPILOT: "Flaps coming 50."
LEFT NAVIGATOR: "One half mile."
PILOT: "Flaps 70."
COPILOT: "Flaps coming 70."
PILOT: "Crew, we're abeam the receivers."
COPILOT: "120 knots."
ENGINEER: "Hoses coming out."
LEFT LOADMASTER: "Receivers in sight, Loadmaster."
ENGINEER: "Hoses coming in… hoses extended. System set."
PILOT: "Loadmaster, clear them in."
LEFT LOADMASTER: "Signal sent, lead receiver moving from Observation, second receiver crossing over. Receiver on the left is 20 feet back,10 feet… pre-contact… contact left. Receiver up and stable."
ENGINEER: "Fuel flowing, left."
RIGHT LOADMASTER: "Receiver in sight on the right... receiver in Observation, right."
PILOT: "Clear them in on the right."
RIGHT LOADMASTER: "Signal sent… receiver moving right…20 feet…10 feet…precontact…contact right. Receiver up and stable right."
ENGINEER: "Fuel flowing right."
LEFT LOADMASTER: "Receiver moving to disconnect left… disconnect left. Receiver in Observation, left."
RIGHT LOADMASTER: "Receiver moving to disconnect right… disconnect right. Receiver moving up and aft… crossing over…receiver out of sight on the right."
LEFT LOADMASTER: "Second receiver in sight left. Rejoined to the outside… both receivers descending, moving down and away left."
PILOT: "Post AR checklist."
ENGINEER: "Hoses coming in left… and right."
LEFT LOADMASTER: "Hose approaching the pod left. Hose in the pod, appears stowed left."
RIGHT LOADMASTER: "Hose approaching pod right. Appears stowed right."
ENGINEER: "Hoses stowed and locked. Flaps…"
PILOT: "Flaps 50."
COPILOT: "Flaps 50."
PILOT: "Flaps 20….flaps up."
COPILOT: "Coming to 20…and up…Flaps are up."
ENGINEER: "Post HAR Checklist complete."
LEFT NAVIGATOR: "Crew, Nav. Next heading 255, MSA 6500 feet."

If you're familiar with helicopter refueling, you will recognize the dance I just described. It's fairly intricate. The success of a refueling event is contingent upon all parties knowing and doing their jobs well and successfully communicating during all elements of the maneuvers. There are a lot of problems that can crop up and make the event very interesting if a crew is unprepared.

Receivers can, and have chopped hoses off. Hoses occasionally fail to rewind and then sometimes fail to jettison. Refueling drogues have fallen off just in front of the receiver as they approached the drogue to make contact. No Visual Contact has occurred during a rendezvous at night over water with no lunar illumination and no visible horizon. Spare tankers have rejoined on the wrong lead airplane at the conclusion of refueling. Name the problem and odds are it has happened to a Combat Shadow crew on a mission. Nevertheless, Shadow aircrews excelled at the tactic, with stellar results the world over.

Of all the places we refueled customers, in my opinion, the most challenging was at extreme low altitude. By which I mean refueling at 500 feet above ground level. Hey, easy stuff, you might say. Just like refueling at a thousand feet, only lower—except, we flew 500 foot, modified contour all the time! So, not that easy.

Why? We planned and flew modified contour low levels at 210 knots indicated, or faster, but Helicopter Aerial Refueling (HAR) was accomplished at 110-115 knots with flaps at 70%, and in no case faster than 130 knots. (The event is often akin to instrument slow flight—consider that at 500 feet above the ground.) The lower and slower you go, the more risky the event. There was more risk to the plane and crew, for the helicopters, and therefore risk to successful mission accomplishment. The only way to mitigate those risks was to climb to higher altitude and speed up. Of course, there was a reason we were flying low, so higher altitude might not be permissible, and faster is not an option when refueling helicopters or when using the Sargent Fletcher hose and drogue refueling system without high-speed drogues.

How, then, did the Shadow community get into the extremely low altitude refueling regime? The answer is the Joint Chiefs of Staff exercise EARLY VICTOR.

In the summer of 2000, I was a new Major, and newly assigned Chief of Standardization/Evaluation, and was looking forward to my first mission commander job for the squadron. That opportunity arrived when the 9th Special Operations Squadron deployed two MC-130P Combat Shadows to EARLY VICTOR. The 160th Special Operations Aviation Regiment (SOAR) also sent a flight of four MH-47E Chinook helicopters.

In the few weeks before the deployment, we met with Hunter AAF based 160th SOAR planners at MacDill AFB, FL, and Ft. Campbell, KY, to review and update objectives and training plans. In my first conversation with them, the SOAR's lead planner asked if we had ever practiced alternate refueling options where tankers were late to the refueling track, or receivers had too little fuel to make it to the track and had to land to wait for us. We had not. The 160th had made one previous attempt to fly some of these options with the 8th SOS, but there had been no follow-up events to date. EARLY VICTOR was the first opportunity for this type of effort in the MC-130P that I am aware of since the deployment for Desert Storm.

Fuel contingency planning to the MC-130P community meant carrying extra gas in the fuselage tank, and relying on conventional tanker support from KC-135s or KC-10s. To the SOAR fuel contingency planning required Forward Area Refueling Points (FARP). Essentially, an additional MH-47 with extra fuel would ground laager short of the objective area and remain available in case of emergency. Availability of fuel via FARP might negate the need for MC-130 aerial refueling support. It could also assure critical fuel if we were delayed, but required the Army to deploy larger numbers of helicopters. Aircraft availability might not always allow rotary wing FARP. With that in mind, we had to identify alternative rendezvous methods that could get the helicopters to a refueling track in a hurry with minimum fuel expenditure.

The options we chose were helicopter rendezvous from a ground laager and lower altitude refueling. We then adjusted our training plans to focus on training our crews to proficiency in alternate rendezvous techniques that might be necessary during a TEXACO (emergency or contingency fuel request).

If you're familiar with the MC-130P, you'll know most of the aircrew said they hated HAR. Helo AR could be boring, when crews spent seemingly endless hours shuttling between our AR tracks and the HAR track, and trolling around with receivers in tow. But the truth was we were proud of our reliability in meeting our scheduled times on target (TOTs) and performing the procedures by the book. It was the one capability we were called on far above all others (except hauling parts for Paves and Talons—sorry fellas!). EARLY VICTOR was our chance to expand our capabilities in our core mission.

Among our deploying navigators were Captains Mike Guischard, John Peak and Dave Belfiore (the primary planner). We were also fortunate to have Lt Col Gary Morrison and Maj Andy Beno along doing mission requalification. Their experiences in DESERT STORM were invaluable to building our training plans for EARLY VICTOR.

The planners created a refueling track in our corner of Jordan that would support our training, and we "what-if'ed" probable scenarios for no-notice requests for refueling support. Some of the questions we thought needed answers to were: What minimum information will we need to quickly build a contingency HAR track? How fast could it be built on the fly? Were there any changes to crew duties that would be necessary during a TEXACO? What altitudes and clearances can we safely and effectively use for rendezvous and refueling? What do we need to do to assure we can find a flight of receivers in a ground laager? Will air-to-air TACAN be of use? Would the infrared system help us find the receivers? What signal would we use to notify receivers to lift off and proceed down track? Where might they ground laager? Will the helicopters need to shut down engines and wait? If so, how long will it take to start engines, climb to HAR altitude and be ready to refuel?

How far out do we signal? Should we signal in miles or in minutes, in trail or when abeam? What restrictions should be established to ensure safety of flight at low altitudes and in contingencies?

One of the big challenges we faced with designing and executing a contingency HAR, especially critical at low altitudes, was completely evaluating the proposed track for enemy threats, terrain, and obstacles. The constraint of time, in this instance is a tremendous challenge. A crew might have very little time in which to build a contingency track. The lack of time limits threat mitigation and raises the risk levels due to potential crew error. Standard crew duties had the left navigator responsible for enroute navigation, guiding the crew to the event on time, supported by the right navigator (Shadows flew with two navigators), who was also responsible for sensors and other duties. In case of a TEXACO, the right navigator would have to build the proposed track on his own, while the left navigator directed the pilots during the enroute portion.

From the pilot's perspective, then, Lt Col Eric Kivi, 9th SOS/DO, Capt John Cline, 16 OG/OGV, and I talked about mission risk and pilot technique for refueling at altitudes than standard training tracks (i.e. below 1,000 feet AGL). We knew the biggest challenges facing crews during HAR is vertical and horizontal track clearance and the reduced margin of error. Whether you are talking clearance from threats, weather, man-made obstructions, or terrain, any of these factors can result in a missed or unsuccessful refueling. These problems have claimed aircraft and lives.

Peacetime helicopter aerial refueling tracks are typically low risk locations. They are well planned out, consistently used, reviewed and modified, and known to air traffic control and local general aviation communities. There is a great deal of built-in risk mitigation.

During a contingency where the receivers make a TEXACO call and the enroute Shadow crew has to build a track from scratch based on the coordinates passed by the receivers in trouble, risk in the HIGH category is likely, with few options for mitigation. In my opinion, for a flight of MC-130s and receivers on a contingency refueling track at half their normal altitude in hostile airspace, at night, in mountainous terrain with enemy threats, poor weather, and low/zero lunar illumination, with the potential for unforeseen issues on track to force extension past the planned end HAR point, etc., the only risk mitigation option is crew competency.

It is a fact that the lower you fly, the more time you spend avoiding the ground. Flying nearer the earth with receivers in tow also leaves little space for them to maneuver. Under any circumstance, you have to fly a defined MSL altitude to maintain a stable platform to give the receivers the best opportunity to successfully refuel. We concluded refueling at any altitude would be done at a set MSL altitude that might be as low as 500 feet, but it would be an average altitude for the length of the track to assure a solid refueling platform for the receivers.

By mid-August, with our planning done and appropriate waivers for training at nonstandard altitudes approved, we were ready to go, and managed the mayhem of an early departure with visits to St. Johns, Newfoundland, and RAF Mildenhall in the UK. We left Eglin AFB five days early with tropical storm headed for landfall on the Panhandle. Normally we would HUREVAC to Ft. Campbell so we could ad lib some training with the SOAR. With EARLY VICTOR pending, the 16th SOW kicked us off to Jordan five days early. While we were deployed, the USS Cole was bombed in Yemen.

Upon arrival in Jordan several days later, we experienced bare-base living in the Middle East. The Jordanians hosted us at a dusty little base in the southwest of the country, by the name of King Faisal, where they flew F-5s. Their Vietnam era fighters didn't make our 1960s vintage MC-130s look quite so ancient. There was no telling what the Jordanian pilots thought of us or the events we and the SOAR flew. Airdrops, blacked out landings, and helicopter refueling probably just made them shake their heads in confusion as to why we'd do those dangerous things so low to the ground.

View from one the MC-130s as the receiver approached the drogue to onload fuel during EARLY VICTOR in October 2000. (Photo courtesy of the author)

Our crews typically flew one training mission per day—each crew rotated between planning and flight duties. There was ample opportunity to achieve proficiency in day and night low-level ops, air drops and blacked out landings, as well as to give the SOAR's MH-47 crews what they needed to perfect their aerial refueling skills.

Most helicopter pilots I knew looked upon aerial refueling with a strong sense of loathing. It was necessary—vital even, to their ability to complete missions. But it would never be enjoyable. One USMC CH-53 squadron commander in the midst of a discussion of HAR training with us said he would rather perform an unnatural act than refuel his bird in the air. I guess that's a statement of how difficult the maneuvers are for helicopter crews.

The SOAR may have detested the HAR requirement, but they recognized its importance as a force extender. Their crews threw themselves at the job with impressive vigor, and improved rapidly. After the first week, we were collectively satisfied with daytime proficiency, and switched to nights and

NVGs. Once proficient at normal night procedures and altitudes, we focused on our advertised objectives and threw curve balls at the crews. We gave TEXACO calls that limited the amount of time crews had to build and reach the track, changed the vertical limits of the rendezvous maneuver and changed the helicopters' rendezvous to force them to a ground laager, as if their fuel was running low and we were delayed. All our crews improved rapidly and along the way built a great deal of mutual trust. By the time of our departure from Jordan in November, both the 9th SOS and 160th SOAR had met all training objectives.

Why was this exercise so important? On the face of it, EARLY VICTOR was just another in a long line of JCS exercises that became annual events, with nothing in particular to distinguish one from another other than the changing of the last digit of the year in the exercise title.

I mentioned the USS Cole bombing occurred while we were deployed. That event happened less than 200 miles from our deployed base. The attack put our presence in Jordan in a completely different light.

Jumping forward to the 9th SOS' first deployment to Uzbekistan in response to the attacks of 11 Sep 2001, the impact of EARY VICTOR 2000 becomes very clear. The pairing of SOF units, the proficiency and trust gained and built during our deployment, and the improved capabilities that resulted from those training and exercise flights set the stage for a profoundly successful partnership between the 9th SOS Combat Shadows and the 160th SOAR Nightstalkers in TF Dagger — the Joint Special Operations Task Force that operated in northern Afghanistan at the beginning of Operation Enduring Freedom.

EARLY VICTOR was the springboard. The training we conducted in Jordan was key to the success of our efforts operating from Uzbekistan, and though we were paired with different battalions from the SOAR during the two deployments, the mutual trust we rebuilt within TF Dagger was so firm, the SOAR stopped sending a FARP bird along on the long-range missions into Afghanistan. They trusted, with good reason, that the Shadow crews would always be there for them.

Leadership, training, and focus made our efforts effective during EARLY VICTOR. As others have shown, after operation JUST CAUSE the path was wide open for AFSOC to improve its capabilities. As a fledgling major command, AFSOC's sole wing and the two overseas groups strove to better their capabilities with single-minded determination. Leaders down through squadron level generally gave aircraft commanders the tools to do their missions, then let them loose.

Across the command we participated in a number of robust JCS exercises, monthly readiness exercises, and rigorous squadron continuation training programs where we put ever-increasing challenges in front of some of the best crews AFSOC could produce. Our squadron continuation training programs focused crew efforts on the elements the command believed were most critical to extending and enhancing SOF capabilities. Leadership pointed the way and regulatory guidance allowed us the leeway to innovate and find ways to succeed within those boundaries. And we did.

Loadmasters send signals from the back of a MC-130P Combat Shadow to the crew of a US Army MH-47 helicopter from the 160th Special Operations Aviation Regiment (Airborne) during an aerial refueling mission. (US Air Force photo by TSgt Aaron Cram)

About the Author: Joel Martin, Col, USAF, (Ret), is a 1989 graduate of the US Air Force Academy, and is married to Mrs. Lori Martin of Albuquerque, New Mexico. They have a son, Matthew. Col Martin is a former MC-130P and HC-130P Evaluator pilot and served in multiple leadership positions in both the Special Operations and Rescue communities, including Squadron Commander, Deputy Operations Group Commander, and MAJCOM Division Chief. Among his military awards and decorations are the Legion of Merit and the Distinguished Flying Cross with Valor.

Men in the Arena:
The Crash of Ditka 03

By George Akins, Lt Col, USAF (Ret) and John D. Cline, Col, USAF

[Part 1 of a 2 Part Series]

When Dennis Barnett asked Col John Cline and I if we were interested in writing an article about the crash of Ditka 03 for the upcoming "Air Commando Journal" dedicated to the Combat Shadow, I readily volunteered to submit a re-telling of our experience. I say "re-telling" because the account has already been expertly chronicled in three chapters of Michael Hirsh's book None Braver: US Air Force Pararescuemen in the Afghanistan War (Penguin Books, London, 2003). Mr. Hirsh does a fantastic job capturing our story, but his full content far exceeds this journal's tight space limits. We therefore attempted to condense and capture the key elements of Mr. Hirsh's narrative while sprinkling in first-hand side notes/comments. A consequence of this approach is that not all the vivid details are able to be presented and not all viewpoints are covered, so I highly recommend reading Mr. Hirsh's book for the "full story."

Benefiting from the perspective of hindsight and reflecting back through the 13-and-half years since the incident, I have come to embrace our story as not one of heroics; rather it is a story of survival, deft airmanship on part of the pilots during the final minute of flight, joint recovery efforts following the mishap (I hate that word), and a story of a beloved, most forgiving workhorse of an aircraft: MC-130P Combat Shadow tail #66-0213.

On 13 Feb 2002 the day starts as it typically does with a sunset departure from our base in Jacobabad, Pakistan of a 2-ship mission to refuel a couple of MH-53s somewhere southwest of Kabul; after which the formation is to split up and continue on separate sorties to support intra-theater movement of troops and supplies. Our hard crew consists of: Aircraft Commander Maj John Cline, Copilot Capt Jason Wright, Right Navigator Maj Don Tyler, myself as the Left Navigator, Flight Engineer MSgt Jeff Doss, Radio Operator SSgt Rodney Young, Left Observer/Loadmaster SSgt Chris Langston, and Right Observer/Loadmaster TSgt Jeff Pohl.

As the sun fully sets and we approach the End of Nautical Twilight the crew dons their Night Vision Goggles (NVGs), with the exception of the navigators who assemble their NVGs into a hand-held configuration. As long as there is any available light whatsoever, usually star light, our view through the "nogs" lights up our surroundings pretty effectively. A full moon can make the landscape look as bright as daylight, albeit the world is presented in shades of a green hue due to the color of the NVG phosphors selected by the manufacturers (the color deemed most sensitive to our eyes). It's important to note that if there is very little starlight available to amplify, due to an overcast for instance, the view through the nogs begin to sparkle, or scintillate, which can significantly diminish night vision. Keep this aspect in mind as our narrative progresses.

The first part of the mission continues uneventfully, however, during the aerial refueling we are called back to base to reconvene and plan for a high priority emerging mission. We experience about a 4 hour delay in receiving any definitive course of action (which was not unusual), and after milling around our planning hanger we finally shoot out the door to launch at about midnight local time with some very sketchy information. All we know is we are to conduct HAR with 3 x MH-47Es. We know an approximate location of the objective area, a HAR TOA, and the lat/longs for 2 points: the Aerial Refueling Initial Point (ARIP) and the Aerial Refueling End Point (AREP). And to add to the fun, after doing some quick number crunching on the way to the plane it's revealed we are already about 20 minutes late for the TOA; and that is if everything goes super-smooth for our expedited take-off. As we depart we have no execution check-list, no HAR set-up sheet, no appreciation of any ground scheme of maneuver, and definitely no opportunity to conduct any sort of route study – basically just another day in theater, but easy to see in retrospect that this was a contributing factor on how our night was going to end up.

During our approximate one hour flight to the ARIP we receive word the helos are slipping their TOA. We also hear a radio transmission to AWACS from a recon aircraft reporting he'd been fired at by a surface-to-air missile which, judging

from the excitement of his voice, apparently comes pretty close to him. Adding to our own excitement, we plot where the apparent SAM was launched and see the area where he reported the incident is in the vicinity of the helos' objective area. This comes into play later. Another issue which later comes into play is that our Infrared Detection System (IDS) on its own begins to cycle between NORMAL field of view and NARROW field of view. NARROW FOV presents a tapered,

Maj Cline's crew prepping for a pre-sunset departure from Jacobabad, Pakistan. From left to right, kneeling: SSgt Langston, SSgt Young, Capt Wright, Standing left to right: Maj Tyler, MSgt Doss, Maj Cline, TSgt Pohl, Maj Akins. (Photo courtesy of Col John Cline)

"zoomed in" view, like looking through a soda straw. After a while the IDS freezes in NARROW FOV, which presents a useless presentation for us when it comes to discerning surrounding terrain features. Oh, well…it's not like it's anything for which we'd even consider to abort. The Combat Shadow is a visual platform, and the IDS serves as an aid to what are primarily visual tactics. So, other than these couple of occurrences we arrive at the ARIP ok, and during our hour and forty minutes of loiter while waiting on the continuous delay of the -47s we're joined by our sister Shadow who were maintenance-delayed and did not make our planned formation take-off. The -47s finally arrive and we execute the rendezvous and start proceeding down the 60-mile AR track East to West as a 2-Ship with a 3-ship of -47s in tow. The AR track follows a long, somewhat narrow valley with significant rising ridgelines paralleling us on either side. Our AR altitude is about 9,000' MSL and the parallel ridgelines rise up from about our altitude to about 10,000' MSL, and in some places disappear into a rather solid overcastof 10,000' – 11,000'.

Although there is a moderate chop and we're getting bounced around just a little bit, the first two -47s get their gas rather effortlessly. We are about 20 minutes down track with another 10 minutes of track time remaining when it appears our initially hazy plan is actually going to come together.

Then it's number 3's turn to get on the hose.

After experiencing some initial difficulty connecting with the drogue and trouble maintaining refueling contact position, our moderate chop becomes a bit more pronounced and the overcast deck drops a bit – combining to further complicate number 3's effort to connect. Although we're only traveling at 2 miles a minute, we eat up the remaining track distance rather quickly. As we approach the end of the track, we begin to kick around options: Pull a 180 and return back up the track? No, this will drag the assault force away from their objective and add to the re-fueling requirements (additionally, time becomes a factor as we consider the approaching daylight only a few hours away). Extend the current track and continue straight ahead down the valley? No, as we travel West the valley floor begins to rise and blend in with surrounding ridgelines – effectively disappearing – and the visibility looks to deteriorate as ceiling sinks lower.

A look to our left-forward quadrant reveals a nice looking valley, in addition to being in the general direction of the objective area. We ask the helo airborne mission commander what he'd like to do and he requests a heading of 210, which confirms our train of thought. So as we come to the end of the established AR track, we make the left turn to 210 and continue for about 10 miles while number 3 still tries to get plugged in. Then we approach a Y in the valley and Don and I converse off headset about our best route ahead. Really, "yelling" is more descriptive as at that time there is no NAV Private intercom and we're forced to elevate our voices to hear each other over the din of aircraft noise. Don determines the leg off to the left is more attractive (about a 120 heading), while I'm thinking the one on the right is more effective. This is a critical occurrence because at the time I believe Don understands my position to take the right leg of the Y; but weeks later when Don and I finally have an opportunity to discuss it it's evident he never picked up on my conclusion to take the right branch.

Here, I'll pick up excerpts of how Mr. Hirsch tells the story, with a few of my sidebar comments:

….Cline explains how it looked from the left seat. "We initially turned down a valley on the 210 heading the helos had requested. With Chalk 3 swinging and missing all the way through the eight- or nine-mile long valley, we found ourselves slowly turning due south, onto a 180-degreee heading. We could see that there was a Y in the terrain about five miles ahead of us. The right branch ran on about a 210 heading, which is the way the helos wanted to go, and it angled away from the objective area, whereas the left branch ran on about a 120 heading. I saw that we could have easily cleared the terrain to the left, but not wanting to get any closer to the objective area because of noise and the potential missile threat, I asked the navs specifically if the terrain on the right was going to "box us in." I received conflicting info from my navs, but it was mostly for good reason. George, the left nav, said there was terrain up over ten thousand feet in that direction (which was correct), and Don said, "No, we weren't going to be boxed in," that there was terrain down to ninety-two hundred feet (we were at ninety-five hundred feet when I asked that question). Looking right, down the valley on the 210 heading, that is exactly what I thought I saw: terrain up over ten thousand on one side, and a nice cut in the terrain down to below our altitude on the other, so what the navs told me seemed to make perfect

sense. I remember looking down the valley and not being concerned at all with what I saw. Yep, we're going to go up here about five miles, turn right about 20 degrees through this – there was an arch of significantly lower terrain off to the right about five miles ahead of us."

The conflicting info from the navs occurs because they are getting their information from different sources. Akins is getting his information manually off a paper 1:500,000 chart, and the pilots expect him to be able to identify only the highest terrain. They know he's trying to read contour lines on the paper chart in a darkened flight deck as they bounce along. Tyler, on the other hand, is using the GPS moving map display on laptop computer where the cursor provides greater accuracy.

Akins: Don's comment that we weren't going to be boxed in really confuses me as it does not occur to me he's talking about the left leg.

Cline says, "Our bad luck was that Don was referring to terrain down the left valley. Knowing where each nav was getting his information from combined with the visual illusion to make these two pieces seemly conflicting info makes perfect sense to me."

The fact that they're still dragging a 47 Echo behind them is certainly complicating the task of flying the plane. During refueling, they can do only about 110 knots, barely above what the manual says is stall speed. What's more, they're heavy with roughly 48,000 pounds of fuel and as a consequence the controls are very sluggish. To top it off, the optimism Cline had several miles back about the helicopter needing only a few more minutes on the hose had faded quickly. Things were, indeed, getting uglier.

From the left paratroop door where he'd been signaling the helo's pilots, Langston cuts in on the intercom. "Holy shit, I hope he doesn't do THAT again!" The next time the helo lunges forward, Ditka 03 hits a bit of turbulence, popping the hose straight up into the end of the rotor blades. "He cut the hose!" Langston shouts. Doss tries to clarify: "Confirm he has cut the hose." Langston responds, "Hey, the hose is not cut. He just collapsed the drogue."

The difference between a cut hose and a collapsed paradrogue is important. Cline, explains: "It was pretty important distinction from our point of view, emergency procedure-wise. The hydraulic system is active at that point, so it's only the drag that's on that parachute out there holding that basket up that keeps the hose out. Without the drag on that chute out there, the hose just shoots back into the pod; the hydraulics overcome the drag, and the hose wraps into the pod as fast as it can, which is the case if you just cut the parachute drogue material and it collapsed. As long as the big metal coupling is still on the end of the hose, it'll get inside the pod and hit the limit switches and shut the thing off. Kind of no harm, no foul. But obviously, if he's actually cut the whole thing off the aircraft, you've got a three-inch-diameter open fuel line thrashing around inside the pod, because there's nothing to stop it. You can have the pod up there whipping this open fuel line against hydraulics and electrics, and it's a pretty delicate control assembly up inside that pod. So again, in my mind at that point, the terrain wasn't my biggest concern. I saw what I saw, and I was really worried about what was going on inside that pod."

Because Cline is concerned with the possibility of damage to the left wing, he calls Langston, "Hey Chris, look out on the wing; how's the wing look? How's the pod look?" He hears what he hoped to hear. There's no metal hanging out, no torn-open panels. No fuel spray. No fire. Nothing to be concerned about.He then turns his attention back to flying the plane, asking the navs which way he should be heading. One of the navs says, "Go to the right." Cline responds, "I see it." What he sees, and the FE confirms, is a cut in the ridgeline the plane is heading toward. A few seconds elapse, and the left nav, who's got his eyes glued to the radar screen, says, "I'm not painting clear." "Painting" means the radar sweep in front is clear. If the plane is higher than the peaks the radar is showing, they're "painting clear."

Akins: During the approximate 30 second hose/drogue discussion between the pilot, loadmaster, and engineer I'm trying to reconcile the conflicting information I'm receiving from Don about not being boxed in coupled with the apparent affirmation from John that we're visually clear, and what I'm seeing on the radar scope and chart. This is where an operable IDS usually resolves the conflict - one quick glance typically confirms what I'm seeing on the radar scope, But alas, it's useless to me at this point being stuck in NARROW FOV.

How could they, in a matter of seconds, go from having a gap to fly through, to having a rock wall of the Hindu Kush range in their face? Here's what John Cline thinks happened: "When I refocused my attention out front, the horizon line is a low-contrast ridge line. We had the big snow-filled bowl down this valley, and then that high overcast made for not a huge amount of contrast between where the mountains ended and the skies began. What I'd thought I saw, five miles previous, ended up being just a kindof a crease in the ridgeline itself, not the actual dividing line between the sky and the mountains. Turns out the ridge was about two hundred or three hundred feet higher than that. The supposed open area to the right turned out to be just kind of a shadowing effect off of a big out cropping of rock, whichwas throwing a shadow up against a big open snowfield. So the escape "out"straightahead to just climb over the thing - all of a sudden the terrains is a lot higher than what I had perceived just a couple miles before. And my bailout to go to the right – just a mirage. It evaporated in front of our eyes. So at that point, what can you do?"

All the pilot can do now is throw the throttles forward in an attempt to get the airplane to climb. Cline is thinking, "Hey, we're going to scare the hell out of ourselves here," but they all believe they're going to make it over the ridgeline.

Cline's pulling the aircraft back, trying to will it to climb at the same time that he's pushed the throttles

all the way forward. And both he and Jason remember the simulator training at Kirtland,and what pops up in their minds, in big, bold type: the full power-on stall characteristics of a C-130, especially one that has pods out on the end of each wing, as does the MC-130P Combat Shadow, typically involve a wing roll that ends unpleasantly with the plane cartwheeling into the ground.

The action that this message translates to, in Cline's words, is, "You gotta keep the wings level on this airplane." And what's going through his mind, knowing that they were going to be close to terrain, is "Hey, we're not dead yet, we're not dead yet. Keep flying, keep flying."

Man in the Arena

"It is not the critic who counts, nor the man who points out where the strong man stumbled, or where a doer of deeds could have done them better. The credit belongs to the man in the arena whose face is marred by dust and sweat and blood, who strives valiantly…who knows the great enthusiasms, the great devotions, and spends himself in a worthy cause. The man who at best knows the triumph of high achievement and who at worst, if he fails, fails while daring greatly, so that his place will never be with those cold timid souls who never knew victory or defeat."

— Teddy Roosevelt

So with his right hand, Cline has pushed the power all the way up on all four throttles, causing the propellers on the constant-speed engines to take the maximum bite possible of the cold, thin air. His left hand is instinctively pulling back on the yoke, and his feet are on rudder pedals. Just trying to "keep the ball centered,"so the tail's not meandering right or left.

The copilot, meantime, is pretty much an observer of the process. It's not a time for conversation, and the only question Wright asks is if Cline wants him to reconfigure from 70 percent to 50 percent flaps. What he asks is, "Do you want flaps fifty?"What the pilot responds with is, "Close the bleeds." It's directed at the engineer, who says, "They're already closed." The "bleeds" are valves that bleed hot air off the engines and drains power from the engines and provides power to certain systems. Once again the copilot asks if he should reset the flaps to 50 percent. And once again, the pilot ignores the question. The decision to leave the flaps set where they'd been is a judgement call. Cline has been running through his head everything he's ever been taught or learned from flying 130s, and nothing matches the situation they are currently in. The classic notion of trading speed for altitude won't work, because he needs both at the same time if they're going to fly out of the terrain trap they're in. If they reduced the flap setting to 50 present, they might pick up some airspeed, but in all likelihood, the plane would lose lift and they'd sink a bit. What he needs aerodynamically, is the best angle of of climb they can get. Cline says, "I didn't have the real estate to lower the nose and accelerate forward.... I figured tracking the flaps to fifty, we were going to lose some lift. And if we lost any lift at all, we were so critical that, y'know, that power-on stall is the biggest fear I had. So it was basically a gut decision, on the spot, to leave the flaps at seventy."

With the pilot flying the plane and keeping the wings level, copilot Jason Wright focuses his attention on the instruments, and then watches the horizon. The horizon line moving up tells him that either they're not climbing, or the mountain is rising faster than the airplane. The navigator, who's watching the radar is seeing this same image, and from behind the pilot, George Akins says, "Climb, climb!"

Cline's response to that command is fairly automatic: he pulls back on the yoke, putting the nose up. Wright notes that they immediately lose 10 knots. And then the plane starts buffeting, an indication that it's about to stall, which is to say, stop flying and drop like a 130,000-pound rock. At his radio console in the back, Rodney Young hears the copilot say, "We're stalling. We're stalling," and he reacts. "That's the very moment that I was literally scared. I was cool and calm up to that point because I trusted my pilots and I trusted the navs that we were going to get out of it. That's when my heart went to the bottom of my shoes."

AKINS: I keep expanding the scope – grasping at anything and providing the false sense of security that we had more airspace to work with – only to watch the terrain approach us that much quicker.

Again, John tries to bring the nose up between ten and twenty degrees "trying to find that sweet spot," as he describes it. "I kind of pulled back into the heavy buffet, the plane would start to get real mushy, and I'd let off. I did that two or three times and found kind of the happy medium, y'know, right in the kind of light tickle where, hey, this is all this airplane is going to give us."

At that instant, just for a second, Maj John Cline stops being the technician, or perhaps the artist, and gives in to a very human emotion. "As we came closer to the terrain, I just had a flash of just absolute white-hot anger at myself, swept over me for a couple of seconds, and then y'know, the only airplane I've ever flown, I've prided myself on being able to do this stuff well. MAJCOM evaluator pilot, the chief pilot of the whole command for this airplane, and how in the hell did I get us in this situation? But just as quickly as it came, it went away. I was too busy to dwell on it. I just needed to keep flying this airplane."

His copilot, who has a lot of hours in the right-hand seat and admires Cline for his adroit handling of the -130, does not share whatever anger Cline is feeling toward himself. He sees that pilot's response to his warning that they're stalling is to let up on the stick pressure a little bit, and then milk it right there – they call it a "burble." It's where the plane is shaking because the wings are starting to lose lift – the definition of a stall – but the pilot is max-performing the aircraft, which is something they learn on the simulator. "He had it max-perform and held it right there. It was perfect, remembers Wright. "There's nothing more you can do."

Ditka 03's radar altimeter had an adjustable bug that the crew would set so that if they dropped below the set height above terrain, a warning light popped on. Their low-light level was set for 450 feet, and Cline's recollection is that it had already been on for about thirty seconds, and it was continuing to slowly count down.

What the pilot sees out the window through his NVGs is featureless terrain covered with snow. On both sides there are big, craggy rocks, and he taps the rudders a bit just to keep the plane headed into the snow bowl. He begins watching the radar altimeter needle count them down, lower and lower, the needle sweeping down slowly. It became obvious they aren't headed for a vertical wall where they are just going to crash and all die. That isn't going to happen if he can stick with the game plan: "Don't let the airplane stall; do not let the wing drop down, 'cause once the wing drops, you cartwheel and you're done."

AKINS: Unlike John and Jason (Pilot and Copilot), I can't see the immediate topography features of the terrain. There is terrain directly in front of us, and for all I knew it was a vertical wall.

Behind him a feeling of profound sadness accompanied by fear has overcome the left nav, George Akins. With no real tasks to occupy his mind, he's thinking about his wife and children as the recognition hits that this is what it's like to die.

And to Cline's right, copilot Jason Wright is thinking about his friend who was killed when a Marine C-130 crashed a month earlier after taking off from the same airfield they'd left earlier that night. He especially focused on his wife, Amanda, and how difficult it had been for her. And then he begins to dwell on what it is going to be like to die. "About a million things flashed through my mind. I guess some people say that a million things can go through your head in a second, and it really did at that point. The next thing I expected was the whole mountain to just come right through me. I thought about what happened when my friend crashed, and I figured, Well, he probably never knew what hit him, 'cause the mountain hit him so hard. It just collapsed the whole airplane. So that's kind of what I expected to happen."

In the meantime, John pulls the airplane back in and out of heavy buffeting a couple of times. "I took a last scan of the instruments and I think the last thing I saw was eighty-five feet on the radar altimeter, and eighty knots of airspeed, which was incredible, considering how heavy we were. I had never, never flown an airplane down to that airspeed before. And the airplane was flying wings level."

Thermal image of Ditka 03, MC-130P #66-0213 minutes after impact. The hot spots are displayed in darker colors. Visible are one of the deployed 20-man life rafts, and our egress tracks in the snow in and around the destroyed aircraft. (Photo courtesy of Col John Cline)

Jason Wright's last recollection is glancing at the radar altimeter and seeing twenty-five feet. That was when he knew they weren't going to clear the ridgeline. "And my heart just sank because up until then I was thinking, 'we're going to make it. We always make it.'"

On the right side of the plane, loadmaster Jeff Pohl is looking out the window and sees that the refueling hose, which Doss is in the process of reeling in, is hanging almost straight down. It dawns on him that the reason is that they don't have enough airspeed to keep the paradrogue inflated. Seconds later he sees the basket and the hose coupling strike the ground, sending out a shower of sparks as it rips away from the wing.

AKINS: Then we hit the mountain.

About the Authors: George Akins retired from the Air Force in December 2013 after 23 years of active duty accumulating over 4200 navigator hours. His operational flying experiences include: OPERATIONS JUST CAUSE, DESERT SHIELD, SOUTHERN WATCH, OEF, and OIF. Flying assignments include the 40th TAS, 550th FTS, and the 9th & 67th SOSs. George's last assignment was with the HQ AFSOC IG team. He currently enjoys sharing ownership of a small business in Destin, FL - Gulf Coast Electric.

Col John Cline is a career MC-130P pilot with broad operational flying experience in SOUTHERN WATCH, NORTHERN WATCH/ PROVIDE COMFORT, PROVIDE PROMISE/DENY FLIGHT, UPHOLD DEMOCRACY, OEF, and OIF. A former 9 SOS and 466 AEG Commander, he currently serves as the HQ AFSOC Chief of Aircrew Standardization and Evaluation at Hurlburt Field, FL.

FROM BOTH SIDES o

By Travis Hill, Col, USAF

I finally received my first AFSOC assignment to the 9th Special Operations Squadron (SOS) in June 1999. As an enlisted airman and again as a young Lieutenant, I tried every avenue to get an AFSOC assignment; but my desires didn't align with the "needs of the Air Force." Finally, after three years flying C-130s at Yokota, my commander, Lt Col Tim Hale worked an assignment for me to Eglin AFB, FL flying the MC-130P Combat Shadow. After arriving at the 9th, it wasn't long before I started to understand that I had gotten myself into a unique culture. The Combat Shadow crews had a unique balance of pride and humility that resonates with me to this day. A culture that I would come to embrace 13 years later when I had the honor of commanding the 9th SOS; followed by the unique opportunity to command our primary customer the 8th SOS flying the CV-22 Osprey. As such, I have been able to witness a unique culture from which the Shadow community thrives "from both sides of the drogue."

The Combat Shadow was the primary refueling platform in AFSOC, period. Shadow crews qualified in all of the other MC-130 Mission Essential Tasks, but Helicopter Aerial Refueling (HAR) was clearly their "bread and butter." HAR provided a bedrock for what I call the "assault mentality." This mentality bled over from our primary customers, the MH-53 Pave Low, the 160th Special Operations Aviation Regiment (SOAR) Night Stalkers and ultimately the culture of the assault crews flying the CV-22.

The assault mentality is used to describe the humble and proud sense of mission focus understood by those that conduct combat assaults. Assault crews don't consider failure an option…ever. Assaults are extremely challenging, assume no room for error and imply high risk by the very nature. Assault crews hang it all out every night whether they're training around the flagpole or conducting Direct Action missions. It has been said that the hardest mission in AFSOC is flying a CV-22 from 3 miles out to the objective. Add to this the close brotherhood tie with the assault force and you get a sense of purpose like no other. This mentality bled over to the Shadow community. Although we weren't "going to the X," we knew that the Shadow was critical in that without gas, the mission would fail. Conversely, we also embraced our supporting role by understanding that all that mattered at the end of the night was how prepared we could be to support the Helicopter Assault Force (HAF). It didn't matter what you did to get there, just get there.

Air-to-Air Refueling isn't necessarily appealing but it is a critical requirement in support of SOF infiltration, and it's as close to the tip of the spear as you can get in a C-130. Unless you've lived under a rock the last 15 years, you know that the assault force gets to the objective by HAF or Ground Assault Force (GAF). There are a few exceptions

of the DROGUE

The aircraft had the perfect mix of weight, speed, range, low and high-speed refueling capabilities.

such as Military Free Fall, Boat Assault Force or more covert means, but HAF/GAF typically meets the Ground Force intent of surprise, minimum force and contingency response. As such, I learned early on that if you want to be where the action is, you need to be a part of the assault package. And in my experience, helicopters always need aerial refueling or at a minimum they'll want contingency gas options when things don't go as planned. Either way, the Combat Shadow and her crews were very good at utilizing visual NVG low-level procedures to provide the required amount of gas (and then some), always and on time.

Additionally they were the best at formation flying, no one in the Air Force flew the C-130 in formation like Shadow crews. We were very comfortable flying around in low illumination with no more than two ship lengths of separation (taxi interval for most C-130s). The requirement for close formation came into question routinely, and there were tactical discussions regularly on whether the risk was worth it. I saw close formation mitigate risk on numerous occasions and even salvage some missions when the weather was worse than predicted, and we never had a midair or accident due to formation flying.

The Combat Shadow proved invaluable during the initial counterinsurgency missions in Afghanistan. The Task Force called on the men and women of the 9th SOS repeatedly to support Direct Action missions and to meet on-call refueling requirements. On one particular night, Shadow crews played a key role in one of the first Direct Action raids of OEF. On 7 Jan 2002, I was Airborne Mission Commander for a four-ship of MC-130Ps tasked to support 7 MH-53s during the infil of SOF personnel to a known terrorist bed down location in central Afghanistan. The intent was to secure the objective and any sensitive information that could be used to fight the War on Terror. Due to the tyranny of distance from Pakistan, the entire package consisted of 7 MH-53, 4 MC-130P, 2 KC-135 and 2 AC-130H gunships. Besides some small arms and AAA while crossing the border into Afghanistan, the low-level infil was uneventful until actions on the ground turned the scatter plan into chaos. Due to extended time in the objective area, multiple helicopters were low on gas, most critical was second element Flight Lead's helicopter. He finally plugged with merely 2 minutes of gas remaining before flameout. At the time, there were only two Shadows on station (Ditka 01 and 02). In relatively short order, Ditka 01/02 were able to consolidate all helicopters and provide enough gas to continue the mission and get everyone back to the base. Due to the Shadow's light weight, the Flight Engineers were able to fit 160K pounds of gas on board while refueling at 11,000' MSL. Had we not been able to carry that much gas; the 7 MH-53 helicopters would've been looking for places to land in the middle of Afghanistan that night.

The MC-130P was a mobility workhorse as well. With the recent (late) addition of dual rails and an average of 7K lbs weight advantage on the MC-130H, the Shadow successfully moved tons of cargo around Iraq, Afghanistan and the Horn of Africa. The lightweight allowed it to fill a unique kinetic strike requirement that no other AFSOC aircraft could perform and in May of 2011 it was critical in removing the nation's number one terrorist from the battlefield. Shadow crews were also very good at airdrop, the tactics and procedures were antiquated but proved tried and true every time.

In April 2011, three Special Operations Force (SOF) teams came into contact with enemy forces in a remote mountainous region in northwestern Afghanistan. After multiple hasty engagements, the teams were spread out over several miles in the severe mountainous terrain and were running low on food, water, ammunition, batteries for night vision devices, and other critical supplies. The teams' extraction plan was to exfil the area by rotary wing assets, but they were unable due to thick, low cloud decks encompassing the entire region. In preparation for holding their ground until the weather broke; the ground teams established three drop zones with associated points of impact (PI). They were within four nautical miles of one another in an east-west running canyon connected with multiple narrow valleys. The Air Component was tasked to conduct an emergency resupply mission to sustain the teams in enemy territory until the weather allowed for extraction. Due to the mission complexity, unforgiving terrain, the amount of cargo and marginal weather; the mission was allocated to an MC-130P Combat Shadow. The aircrew of Agile 77 was immediately alerted for the rescue resupply mission while maintenance hastily prepped the aircraft. In the minimal time allotted, the aircrew meticulously planned a non-standard airdrop flight profile to the multiple Point of Impact (PI) locations. The profile had to allow for the expeditious aerial delivery of all required supplies while minimizing the aircraft's and the SOF team's exposure to the threat of unknown insurgent locations in the area.

Weather en route to the objective area was worse than forecasted and did not allow for a visual descent into the valley openings along the planned route of flight. The crew used ground mapping radar, infrared detection system, and in-depth mission planning to penetrate the weather and safely flew through the unforgiving terrain. While completely obscured by weather, the crew descended below the ridgeline peaks and used planned altitude step-down points to navigate through the valleys and into the canyon to the objective area. Once terrain permitted, the crew descended below the weather to airdrop altitude. The crew established positive radio communication with the isolated ground team and received drop clearance and updated surface wind information. The navigator compared the information with altitude winds from the aircraft mission computer and recalculated a new computed air release points for all three PI locations. At the first drop location, the loadmaster manually cut the restraint and released the first set of lifesaving supplies. He then rapidly repositioned to the next bundle while the aircraft executed a sharp climbing left turn to line up for the next airdrop. Approximately one minute later, the aircraft was established on airdrop altitude and airspeed, and the second bundle of vital supplies exited the aircraft. Once the load was reported clear of the aircraft, the crew executed a sharp right turn and descended to the final airdrop altitude. Less than two minutes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later the third and final emergency resupply bundle exited the aircraft. The ground controller reported all bundles landed at the precise location and thanked the Combat Shadow crew for the rapid response and perfect execution as the aircraft egressed the area.

The ground teams received their supplies and in the next few days, the weather cleared and coalition helicopters safely extracted the SOF teams from the mountainous area. The expertise exhibited by the crew of AGILE 77 from the initial alert notification through the flawless execution reflects the high standards of the Combat Shadow aircrews and maintainers. Later, the Air Component Commander wrote, "I sent the Shadow crew on what was the most difficult airdrop mission…it was a feat of airmanship as good as any I've ever seen."

Since the Shadow did HAR so well, along with the revolutionary CV-22 came a new Tiltrotor Aerial Refueling or TAR requirement. The CV-22 has proven to be a game changer for how we conduct assault operations. The speed and range of the Osprey make it the only long-range assault platform in SOCOM, but it adds other challenges to the refueling equation. The range is perfect to facilitate standoff establishment of an Intermediate Stagging Base or mitigate the tyranny of distance in places like the Horn of Africa. But it also means that the tankers have to reserve enough gas to cover the same distances.

Again, the Shadows showcased the capability in December 2013. Bor, Sudan was in a civil war, and the rescue package of 3 CV-22s and 2 MC-130Ps were tasked to evacuate an unknown number of US citizens to safety. When the 3 CV-22s sustained heavy battle damage from small arms, AAA and RPGs over the airfield, the Shadows were there to drag them across North Africa to an alternate base to transload the wounded. A recovery that otherwise wouldn't be possible without strategic tanker support, but the Shadows were able to provide the required gas (and then some).

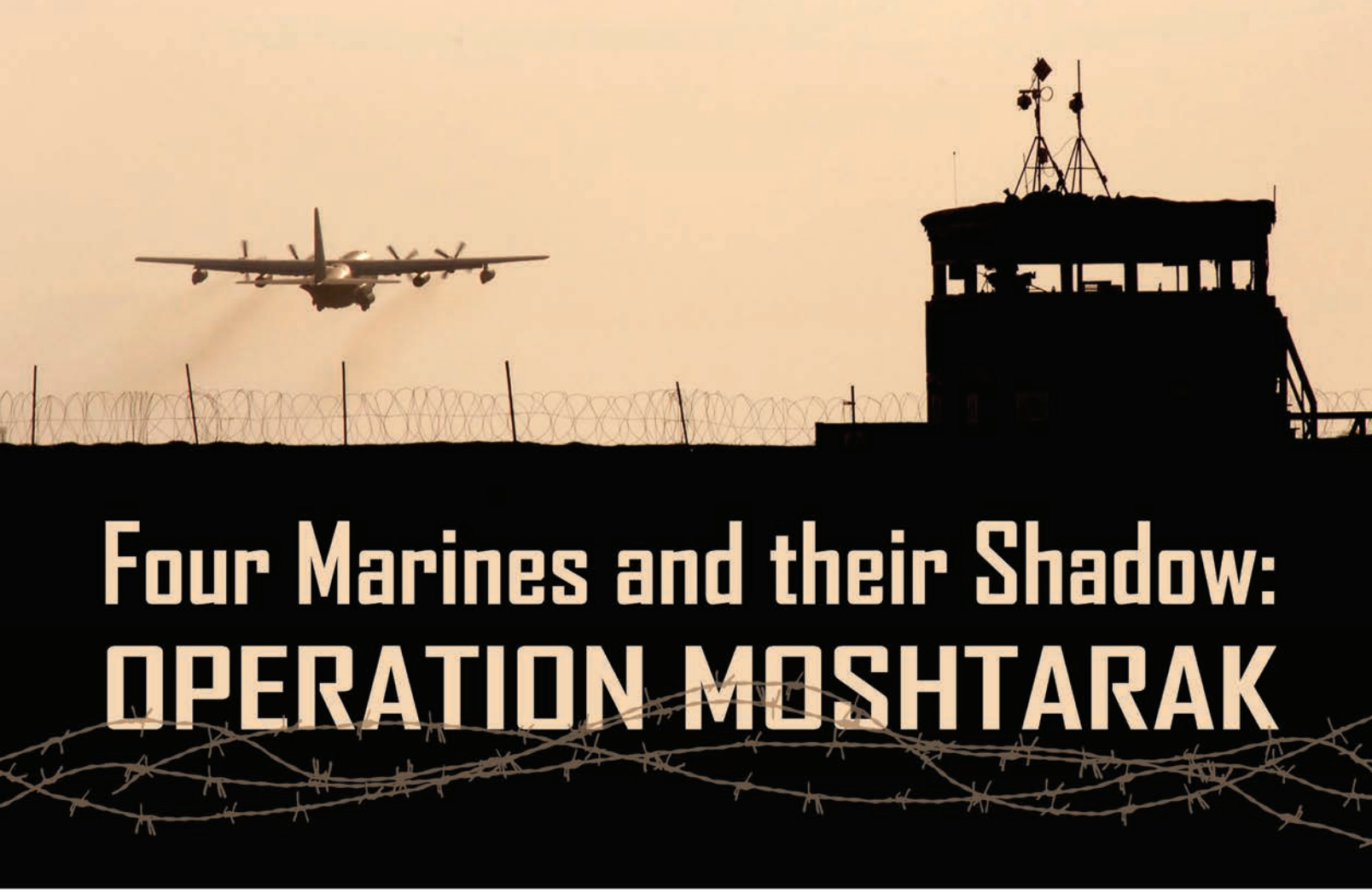
The Combat Shadow has been the platform of choice for many contingency operations. Arguably, it's refueled more SOF/CSAR assets than any other MC-130 ever. But, it's performed flawlessly conducting airdrops when no other platform could. Precision airdrops in the mountains of Afghanistan under inclement weather were some of the most challenging airdrops ever accomplished, but the Shadow crews always nailed it. Additionally, being 7-8K pounds lighter than the other MC-130, the Shadow proved to be a premier SOF mobility platform. It lifted millions of pounds of cargo and personnel around the world.

AFSOC will never replicate the Combat Shadow. The aircraft had the perfect mix of weight, speed, range, low and high-speed refueling capabilities. The maintainers always were able to keep it flying and were so familiar with it that they typically had it fixed before you left debrief, despite all the modifications. Lastly, the crews knew the mission and their role in the mission, but more importantly they made the Combat Shadow what it had to be: flexible and responsive. That humble Shadow pride that comes from a mission that "isn't that sexy but relevant for combat operations" will permeate through AFSOC as the crews disband to other weapons systems. Personally, from being on both sides of the drogue, it's good to see.

A former MH-53 Flight Lead said it best when he wrote, "I consider myself very fortunate to have found my way from the US Army to AFSOC, flying the MH-53 from 1998 to 2007. My final flying assignment was as an evaluator at the 551st SOS at Kirtland AFB, and I gave the final mission evaluation of my career in May of 2007. Like so many of my flights over the years, this one would have us joining with an MC-130P over the desert late in the night. I would validate my student's ability to perform a task he would never have the chance to repeat. Unfortunately for him and me, the MH-53 had been selected to be retired from the inventory, and in less than a month we would fly our 7 Pavelows from Kirtland to Davis Monthan AFB, and put them to a final rest in the boneyard. Those thoughts were on my mind that night as one of AFSOC's last MH-53 students made contact with the basket, moved up and left into refueling position, holding there until we had taken what could be considered a sufficient amount of gas to call him "complete." A brief flash of the position lights and we were moving for disconnect; then the basket dropped from view, and we were back in observation position. I remember wondering how many times had I refueled behind a Shadow...and how easy the crews in the MC-130P made the process, ultimately enabling us to do our mission, night after night. We were smacking parts of our two aircraft together in the middle of the night at 110 knots, and the outcome was almost assured to be successful. The Shadow and the crews who flew her were simply as dependable as my Timex watch. In my nine years in the Pave, I never questioned if you would be there ready to give me the gas I needed...I knew you would be. You always were. I owe a great debt of gratitude to all of you who crewed and flew her and dropped out of blackness precisely on time to pass us the precious fuel we always were so short of. I can only hope that the MC-130P's history is preserved properly. You deserve a befitting tribute to the courage, conviction and professionalism of your crews; and to the dauntless dependability of that Pavelow pilot's best friend, the Combat Shadow."

Lord, guard and guide the men and women who flew and maintained the Combat Shadow as they continue the Shadow legacy of flexibility and responsiveness any time, any place.

About the Author: Col Travis Hill started his military career as an enlisted airman and then commissioned from Embry Riddle Aeronautical University ROTC in 1994. His is a Command Pilot with over 4,800 hours, 750 combat hours, and has been mission qualified in various versions of the C/MC-130, the PC-6, PC-12, C-208, DHC-6/8, the CV-22 and other aircraft. He commanded both the 9th and 8th Special Operations Squadrons flying the MC-130 and CV-22 respectively and has multiple combat deployments to OEF, OIF, HOA and other small scale contingencies as pilot, Joint Special Operations Detachment Commander, J-3 and Squadron Commander. He attended Air Command and Staff College, numerous courses at the USAF Special Operations School and served as J-5 Special Plans for Joint Special Operations Command, Ft Bragg, NC.



Four Marines and their Shadow: OPERATION MOSHTARAK

By Shelley Rodriguez, Col, USAF

It was February 2010, near the end of my tour as the MC-130 Mission Commander in Afghanistan, working in the familiar compound located on Bagram Airfield, when I was summoned to the Task Force (TF) Headquarters Commander's conference room. Through the wooden door, I entered an in-progress meeting of commanders being briefed by GEN Stanley McChrystal, commander of the International Security Assistance Force (ISAF), and was promptly put on the spot when asked simply, "Are your crews ready?" No introduction, no briefing of the mission, no tasker…just a question. After witnessing countless intense and successful missions over the course of the few months I had commanded in Afghanistan, combined with 19 years in AFSOC as a Combat Shadow pilot, there was no hesitation as I answered, "Absolutely." "Good, now sit down," was the response from the TF commander, an Army colonel.

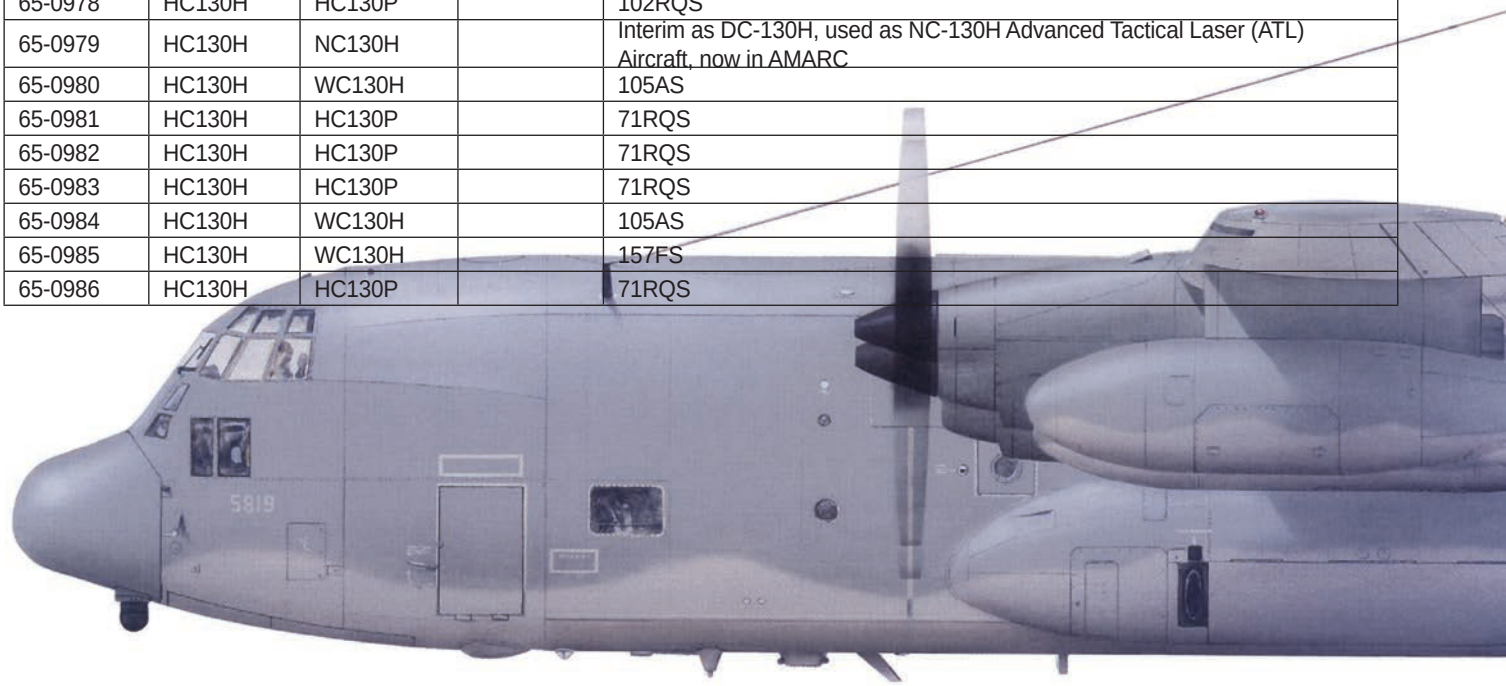
I listened intently to an incredibly detailed plan to remove the Taliban from the city of Marjah, by means of a battle named "Operation Moshtarak." The name meant "joint," reflecting a new way to fight the enemy in Afghanistan. While the efforts in Afghanistan had always been joint to the coalition, this effort was different as it would include brigades of Afghan forces alongside, and independent of, the coalition. This would showcase the advances made by the Afghans in combat skills, battlefield maneuvers, and general ability to wage war on the enemy. One other aspect of the operation was also decidedly different. Upon completion of the operation, GEN McChrystal wanted to insert what he called a "government in a box."

The "government in a box" was a ready-to-use, Afghan-only, government structure complete with a sizeable Afghan police force and a small Red-Horse-like construction unit to both protect government personnel and ensure the city retained its power and utility services for the population. In the past, it was usually weeks or months after an operation before a government structure was negotiated, but in this case, the government was agreed to and formed by Afghan President Hamid Karzai months earlier. To my surprise, Operation Moshtarak was not a new operation, but in fact, was already in progress and the multitude of airdrops done by the crews earlier in my tenure near Lashkar Gah and south and west of Marjah were in support of Afghan special forces teams being built by coalition special forces, as well as preparation of the battlefield with leaflet drops.

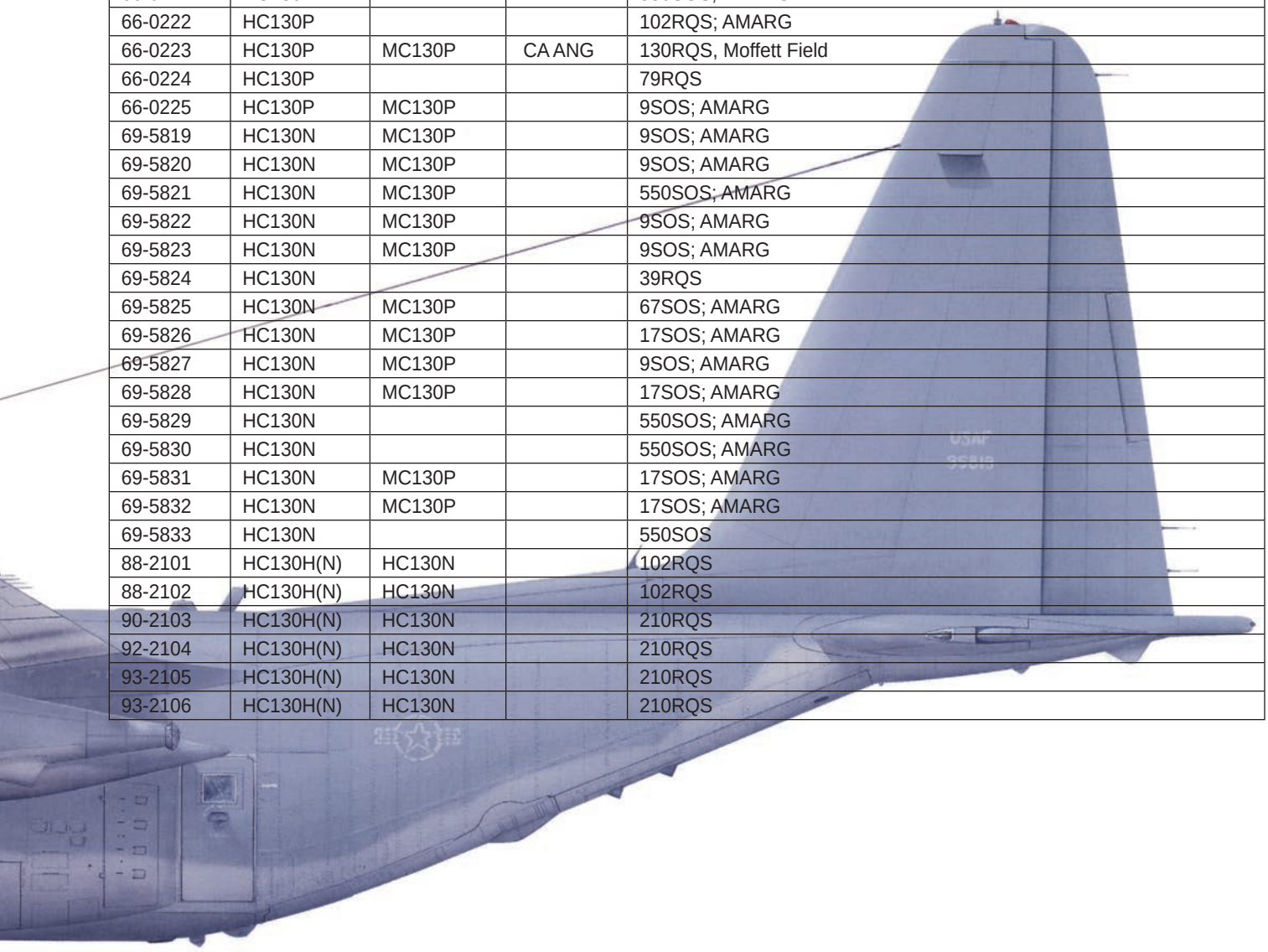
Unbeknownst to the crews and I, a massive public affairs campaign had been waging since fall 2009, in advance of the operation, to both convey support to the local populace, but also encourage the Taliban to leave the city they had occupied for several years. While we knew the missions were to provide supplies and support for the construction of forward operating bases and smaller

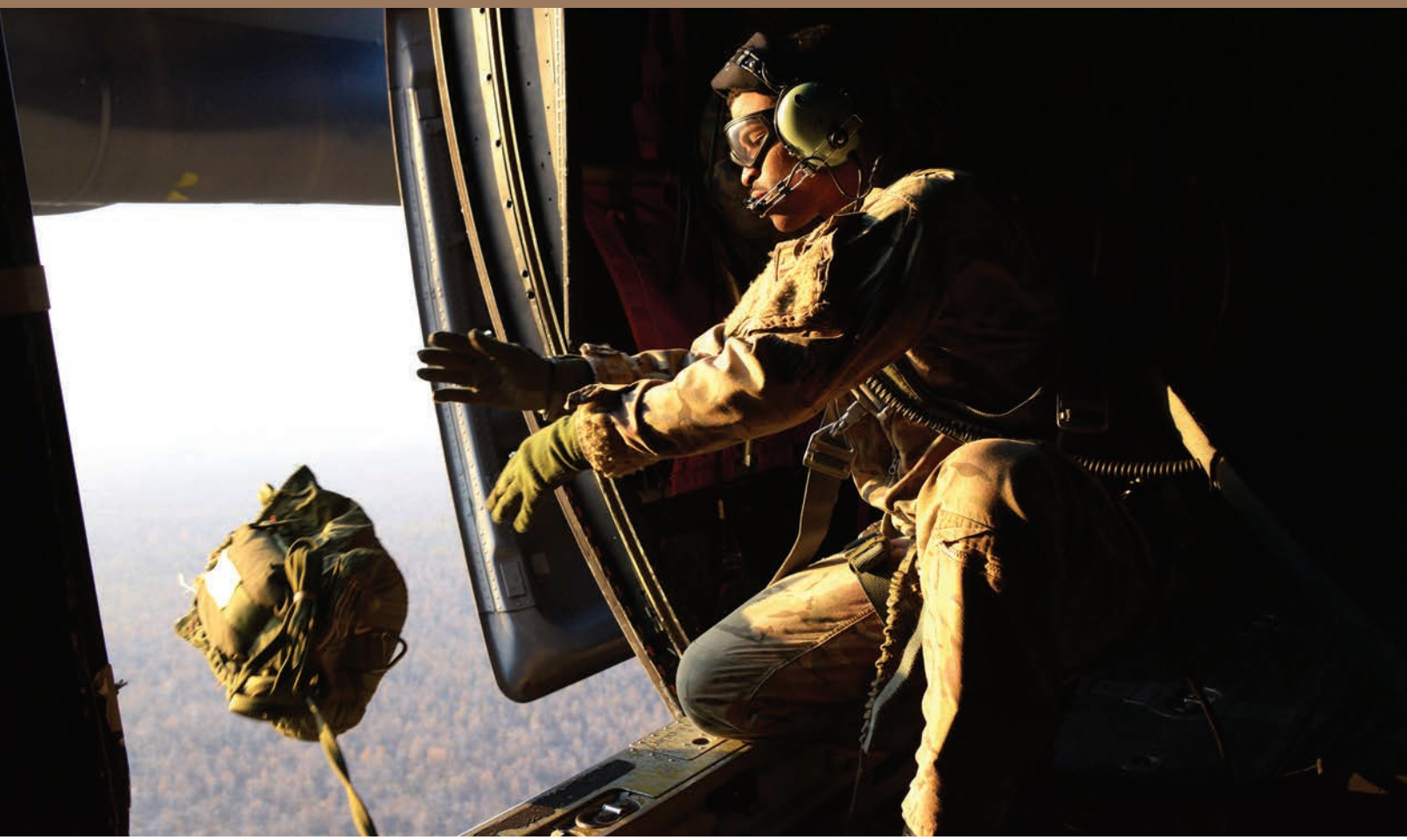
(Continued on page 28)

Tail #	Orig MDS	Final MDS	Changes	Estimated Disposition (Where They are Now)
1454	HC130H		67-7185	Ground Trainer, Kirtland AFB
64-14852	HC130H	HC130P		39 RQS
64-14853	HC130H	HC130P		39 RQS
64-14854	HC130H	MC130P		AMARG
64-14855	HC130H	HC130P		39RQS
64-14856	HC130H	HC130P		Crashed due to fuel starvation off coast of CA in service with 304 ARRS, 11/96
64-14857	HC130H	C130H	348	Crashed during service with Jordanian AF, 07/00
64-14858	HC130H	MC130P		AMARG
64-14859	HC130H	C130E		Once used as AFSOC “Slick” C-130E, now at AMARG, CF338
64-14860	HC130H	HC130P		79RQS
64-14861	HC130H	WC130H		105AS
64-14862	HC130H	EC130H		Flying 41ECS
64-14863	HC130H	HC130P		71RQS
64-14864	HC130H	HC130P		39RQS
64-14865	HC130H	HC130P		79RQS
64-14866	HC130H	WC130H		159FS
65-0962	HC130H	TC130H		43ECS, No EC Gear, No External Tanks
65-0963	HC130H	WC130H		105AS
65-0964	HC130H	HC130P		79RQS
65-0965	HC130H	WC130H		Disappeared near Taiwan during Typhoon Bess, 10/74
65-0966	HC130H	WC130H		105AS
65-0967	HC130H	WC130H		122FS
65-0968	HC130H	WC130H		105AS
65-0969	HC130H	C130E		Scrapped, Corroded; Fuselage trainer, Trenton, Ontario
65-0970	HC130H	HC130P		39RQS
65-0971	HC130H	MC130P		550SOS
65-0972	HC130H	C130E		Scrapped, AMARG, CF183
65-0973	HC130H	HC130P		71RQS
65-0974	HC130H	HC130P		102RQS
65-0975	HC130H	MC130P		550SOS
65-0976	HC130H	HC130P		39RQS
65-0977	HC130H	WC130H		39RQS
65-0978	HC130H	HC130P		102RQS
65-0979	HC130H	NC130H		Interim as DC-130H, used as NC-130H Advanced Tactical Laser (ATL) Aircraft, now in AMARC
65-0980	HC130H	WC130H		105AS
65-0981	HC130H	HC130P		71RQS
65-0982	HC130H	HC130P		71RQS
65-0983	HC130H	HC130P		71RQS
65-0984	HC130H	WC130H		105AS
65-0985	HC130H	WC130H		157FS
65-0986	HC130H	HC130P		71RQS



Tail #	Orig MDS	Final MDS	Changes	Estimated Disposition (Where They are Now)
65-0987	HC130H	HC130P		71RQS
65-0988	HC130P			71RQS
65-0989	HC130H	EC130H		43ECS
65-0990	HC130H			Disappeared/crashed off coast of Taiwan, 02/69
65-0991	HC130P	MC130P		9SOS; Airpark-Cannon AFB
65-0992	HC130P	MC130P		67SOS; AMARG
65-0993	HC130P	MC130P		9SOS; AMARG
65-0994	HC130P	MC130P		17SOS and 9SOS; Airpark-Hurlburt
66-0211	HC130P			Crashed near Magdalena, NM during severe turbulence/winds, 04/86
66-0212	HC130P	MC130P	CA ANG	130RQS, Moffett Field
66-0213	HC130P	MC130P		Combat Loss in Afghanistan (Ditka 03), 02/2002
66-0214	HC130P			Destroyed by sapper charge on ground in Vietnam, 07/68
66-0215	HC130P	MC130P		67SOS; AMARG
66-0216	HC130P	MC130P	CA ANG	130RQS, Moffett Field
66-0217	HC130P	MC130P		9SOS; first SOF-I MC-130P; AMARG
66-0218	HC130P			Destroyed by sapper charge on ground in Vietnam, 07/68
66-0219	HC130P	MC130P	CA ANG	130RQS, Moffett Field
66-0220	HC130P	MC130P		17SOS; AMARG
66-0221	HC130P			550SOS; AMARG
66-0222	HC130P			102RQS; AMARG
66-0223	HC130P	MC130P	CA ANG	130RQS, Moffett Field
66-0224	HC130P			79RQS
66-0225	HC130P	MC130P		9SOS; AMARG
69-5819	HC130N	MC130P		9SOS; AMARG
69-5820	HC130N	MC130P		9SOS; AMARG
69-5821	HC130N	MC130P		550SOS; AMARG
69-5822	HC130N	MC130P		9SOS; AMARG
69-5823	HC130N	MC130P		9SOS; AMARG
69-5824	HC130N			39RQS
69-5825	HC130N	MC130P		67SOS; AMARG
69-5826	HC130N	MC130P		17SOS; AMARG
69-5827	HC130N	MC130P		9SOS; AMARG
69-5828	HC130N	MC130P		17SOS; AMARG
69-5829	HC130N			550SOS; AMARG
69-5830	HC130N			550SOS; AMARG
69-5831	HC130N	MC130P		17SOS; AMARG
69-5832	HC130N	MC130P		17SOS; AMARG
69-5833	HC130N			550SOS
88-2101	HC130H(N)	HC130N		102RQS
88-2102	HC130H(N)	HC130N		102RQS
90-2103	HC130H(N)	HC130N		210RQS
92-2104	HC130H(N)	HC130N		210RQS
93-2105	HC130H(N)	HC130N		210RQS
93-2106	HC130H(N)	HC130N		210RQS





A loadmaster from the 17 SOS, drops a simulated airdrop training bundle from an MC-130P Combat Shadow over a drop zone. The MC-130P Combat Shadows participated in training exercises for possible situations similar to OPERATION MOSHTARAK. (US Air Force photo by TSgt Kristine Dreyer)

outposts, the broader operational scope leading to a strategic governmental structure was not revealed to the air units until this meeting.

As I sat alongside my counterpart from the 160th Special Operations Aviation Regiment (SOAR), I listened intently to a highly complex briefing about an operation beginning in less than 36 hours, involving more than 15,000 US, coalition, and Afghan personnel, in the largest battle since Fallujah (Iraq) in 2004. To say that the air plan was "complicated," as the TF commander put it, is an enormous oversimplification of the word. There would be waves of helicopters – 97 to be exact – inserting forces around the clock in all quadrants of the city. The Marines were the preponderance of forces, along with coalition and Afghan forces, with nearly all of our special operations forces scattered throughout the city. Forces and aircraft would come from the United States, the United Kingdom, Canada, Afghanistan, and other nations. Given that there was not an international solution to common communications on the battlefield, coordination of the air and ground plan was astronomically challenging. The JSTARS and AWACS crews' management of the campaign would prove to be miraculous over the next several days.

Instead of the Taliban leaving Marjah, as was the intent of the public affairs effort ahead of the operation, the enemy had instead embedded themselves deeper in the city, planting improvised explosive devices at an unprecedented daily rate, then importing anti-aircraft weaponry throughout. While there were thousands of Marines and special operations forces already on the ground prior to this meeting, they could not keep up with the requirement to diffuse the number of Improvised Explosive Device (IED)s given the limited number of Explosive Ordnance Disposal (EOD) teams.

While it seems sensible to simply clear the area of people and then detonate the devices in absence of the EOD personnel, this tactic was contrary to GEN McChrystal's newly minted "courageous restraint" memorandum issued weeks earlier. The ISAF commander wanted the ground forces to use their brainpower rather than firepower when dealing in close proximity to civilians to avoid increasing the locals' animosity towards US and coalition forces. This involved heavy modification and, in some cases, cessation of the night raids conducted for years in Afghan provinces – a significant change in battlefield tactics. As an aircrew member not on the ground, I'm unable to definitively ascertain whether this change increased or decreased the Taliban's ability to maneuver within the city, but it was commonly opined to be the case amongst the special operations teams we supported.

Because of the significant risk to fixed wing aircraft by the anti-aircraft

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– Breanna Walters, daughter of Air Force Tech Sgt. Howard Walters who lost his life in 2003 while assigned to the 20th Special Operations Squadron.

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weaponry, the insertions for Operation Moshtarak were left to the multitudes of helicopters. The role of the Shadows would be nothing new to the crews: be heavy on fuel to support the 160th SOAR, but full of ammunition and equipment to resupply the troops, as well as ready for impending casualty evacuations. Another day in the life of AFSOC's MC-130 crews in Afghanistan.

After the hours-long briefing, I returned to my desk via the plywood door separating the TF and AFSOC ops centers, and began to review the crews' schedules. I had three and a half crews and a mission requiring six – the usual situation for AFSOC's crews. After much adjusting of the schedule and a bit of creativity, the crews were lined up for Operation Moshtarak, but with little room for much else. Like any other day, the crews were briefed of the upcoming airdrop and air refueling missions, but per the ISAF commander's guidance, were not briefed of the larger effort of the operation. It would not be until the completion of their missions would they understand the full scope of the effort.

With less than 24 hours to go to the insertions that would kick off the tactical portions Operation Moshtarak, I was again called into the tactical operations center (TOC) to learn there would be a delay. The Afghans were attempting to negotiate with the Taliban in an effort to remove them from the city. When the negotiations failed hours later, the operation went into full swing with the immediate launch of the air plan. Insertions went around the clock and the Shadow crews supported flawlessly, unaware of the full impact of their missions.

During the night, a frantic radio call was intercepted by someone on the TOC floor who happened to be listening in to random frequencies. It was from four Marines, separated from their convoy days earlier, out of water, food, and ammunition. The air campaign had begun and the firefight was raging, pushing the enemy closer to the Marines' now isolated position. Because of our now well-known airdrop accuracy rate, the person who intercepted the radio call asked if we could divert a crew to get life-saving supplies to the isolated Marines. The Combined Joint Special Operations Task Force (CJSOTF) commander gathered all available intelligence troops, gave them the coordinates of the drop, and asked for a full intel assessment while I determined which crew I could launch or divert to help the Marines.

Because we were now hours into the operation, the crews that were already airborne were low on supplies and still on task to refuel the returning helicopter forces. The only crew I had left was a crew that landed from a lengthy mission only hours earlier, having completed a series of missions over several nights that would have normally ended with a "down day." Of course, there was no day off in Afghanistan, as a down day was actually just a crew's alert day given the surge requirements of the task force over the previous three months. The situation update was grim: of the four Marines, all were severely dehydrated, one was in and out of consciousness, and all were down to their last packs of ammunition with a retreating enemy headed their way. The only crew left would have to forgo their full crew rest in order to launch, significantly raising the risk to mission and crew.

The intelligence troops re-entered the ops center with concerned faces and calmly briefed multiple anti-aircraft artillery positions surrounding the Marines' location. In nearly every direction of approach, there was anti-aircraft artillery. The best approach would be from the south, where there was "only" a single 14mm. Not only were the Marines cut off from their convoy and unable to rejoin due to a verifiable minefield of IEDs separating their positions, but now they were seemingly unreachable by air. As is the very nature of AFSOC, however, the ops center had a solution within minutes to make it happen. All that stood between the Marines and their lifeline was the risk assessment and the word "go." The air commanders evaluated the risk and with the CJSOTF commander's approval, would launch the MC-130P, divert an AC-130 overhead, and task a pair of Apaches to lead the way to the drop site.

I left the ops center to head to the flight line to see the crew off. This was a high-risk mission given the unknown state of the 14mm on the inbound flight path and I wanted the crew to understand both the impact of the mission and that they had the power to call knock it off should they determine the drop to be too high risk. It was days after the mission that the flight engineer would tell his fellow crews in the planning center he "knew it was serious because the commander returned my fist-bump." (Laughter ensued, of course, at the thought of the "old maid" having any understanding of the fist-bump.)

Maintenance and logistics crews loaded the MC-130P at warp speed and the crews launched, diverted, and strafed a path to the Marines while I managed the mission from ops center. Listening in to the radio exchange between the crews, the Marines, and the TOC, radio contact was sporadic along the run-in and the silence was deafening after the crew commenced the approach to the drop zone. The twenty-minute, ten-minute, and subsequent calls were all only pieces of conversation over a broken frequency until a crystal clear call from a euphoric Marine was heard: "F-YEAH! The sh*t's at our feet!" This was followed by a comment even more politically incorrect noting that the resupply had nearly taken the toes of the Marine who was lapsing in and out of consciousness because he was unable to move quickly enough. It was only then that I realized the entire mission was also being watched next door via predator feed, with full audio for forty-plus operators and support personnel in the audience as the TOC erupted in celebration. The drop was a success, and thanks to the teamwork of the full force of AFSOC, as well as Army logistics and Apache crews, the Marines and their Shadow lived to fight another day.

About the Author: Col Shelley Rodriguez is currently Commander, 58th Operations Group at Kirtland AFB, NM. She entered AFSOC in 1993 as an MC-130P Combat Shadow pilot and served in all four MC-130P squadrons, including 9 SOS at Eglin AFB, FL; 17 SOS at Kadena AB, Okinawa; 550 SOS at Kirtland AFB, NM; and commanded 67 SOS at RAF Mildenhall, UK. She has logged 23 years of service, all in AF Special Operations.

SHADOWS ABOVE

By Rolf E. Place, Capt, USAF

The Untold Story of the MC-130P Refueling Mission to Save Three Battle Damaged CV-22s Over South Sudan

(Editor's note: Call signs in this article have been changed due to the ever emerging threat environment these crews and aircraft operate in future and on-going operations)

It is anything but a normal sortie when CNN is airing breaking news on the mission you flew in support of, before you even RTB. That just happened to be the case on 21 Dec 2013. Shortly after landing back in our deployed location of Djibouti, I walked into our operations planning room to complete the normal post-mission paperwork. I had my attention diverted to a nearby computer by our 9th ESOS Mission Commander. He cued up a video splashed on the top of cnn.com with Pentagon correspondent Barbara Starr reporting on a developing story out of Africa. She broke the news of a failed rescue mission of Americans from South Sudan that resulted in three CV-22 aircraft being riddled with bullet holes and four seriously wounded Navy SEALs. Starr's initial reporting was followed up in the coming weeks and months with more revealing articles portraying the truly heroic efforts of the CV-22 aircrews and troops onboard. However, there is more to the story.

The safe recovery of the crippled tiltrotor aircraft and the lives of the injured onboard hung in the balance during a race against time along a desolate, expansive route of Africa. Severely punctured CV-22 fuel tanks and fuel lines quickly led to the aircraft bleeding JP-8 to dangerously low quantities. A formation of two MC-130P Combat Shadows would provide hope. That hope would come in the form of lifesaving fuel. The following is the refueling effort conducted by Shado 21 Flight...the rest of the story.

Erupting Violence

South Sudan was spiraling into a dangerous civil war in December of 2013. Americans in this young African country, many working for the UN, found themselves surrounded by the fighting between government forces and rebel fighters. The political environment at the time, just on the heels of the 2012 attack on the US embassy in Benghazi, Libya, allowed no room for error in regards to the safety of Americans in hotspots around the world. The US State Department a ordered the evacuation of its citizens in South Sudan, under Operation OAKEN SONNET.

In Djibouti, my crew (Shado 21) and the crew of Shado 22 were both at roughly the halfway point of our 90-day deployments when news of the unrest in South Sudan

caught our attention. Our efforts shifted abruptly to a 100% focus on planning the evacuation missions soon to be coming down the pipe.

The first mission was to extract Americans from the South Sudan capital city of Juba, flying into Juba International Airport. Planning revealed two C-130 aircraft would be enough to support the number of individuals awaiting pickup. This would be the first course of action (COA), involving a single Rescue HC-130 and a conventional C-130H. However, reporting indicated a tank had been positioned on the middle of the airfield's single runway. If this would remain true, no fixed wing asset would be able to land. Thus a second COA was adopted. This option included three CV-22 aircraft, each able to land on the airfield without the need for a full-length runway. In addition, our two MC-130Ps would be required for this second COA to provide tiltrotor air-to-air refueling (TAAR) en route to and from Juba.

Both COAs were presented at the highest levels of government and the decision was not to choose one of the COAs, but to execute both. Thus on the morning of 18 Dec 2013, Shado 21 Flight (our 2-ship Combat Shadow formation) launched alongside Raven 73 Flight (the 3-ship CV-22 formation comprised of Raven 73, Raven 74, and Raven 75). All five AFSOC aircraft were cranked without any hiccups and logged on-time takeoffs, a testament to the amazing work performed daily by our deployed maintainers.

Airborne enroute to Juba, along with the other two Herks from the first COA, we all awaited the final decision for who would land in South Sudan. Our Shadows conducted the day's first TAAR, extending the Osprey flight's range and putting Juba within reach. Not long after we received a SATCOM radio call informing us the CV-22s were no longer needed. The tank that was the primary cause of us launching with the CV-22s had since been moved and the runway was now free from obstructions. With that news, we conducted one more TAAR to ensure Raven 73 Flight was able to return to base (RTB). Due to the amount of fuel offloaded, both Shadows diverted to Entebbe, Uganda, to refuel before also heading back to Djibouti.

Shado 22, as seen off the right side of Shado 21. (Photo courtesy of Capt Rolf Place)

The other Herks encountered no hostilities in landing at Juba and were successful in providing transport for 120 personnel out of the capital city. Although it was not AFSOC's mission that day, we had refined our TAAR tactics, techniques, and procedures in this theater and familiarized ourselves with Entebbe International Airport. We had performed a rehearsal of sorts (unbeknownst to any of the five crews) for a few days later when there would be only one COA…us.

Fuel Planning

Mission planning for the next OAKEN SONNET mission proved to be a challenge. For the Shadow crewmembers, it involved us trading sleep and crew rest to build and refine a complex refueling plan. The CV-22 crews were similarly planning in their ops area for landing at another airfield with other Americans in Harm's way. This next mission would be into the rebel held town of Bor. The Bor Airport had no approved landing zone (LZ) survey, so for the foreseeable future the possibility of any fixed wing assets landing there was out. A helicopter or tiltrotor airframe was needed, and the CV-22s were chosen.

Up to the point of our deployment in which South Sudan became the mission focus, the pace of operations for the 9th ESOS was slower than it had been in previous theaters. Our two crews, along with the Shadow crews who had preceded us in Djibouti, had more than enough time to plan AND fly the missions. Since no dedicated Shadow mission planners had been needed, none were staffed. This left us with only ourselves, the ones who would fly this Bor mission, to do all its necessary preparations. Unfortunately, due to the urgent nature of this Bor mission and factors changing by the minute, planning continued for the aircrew throughout the night prior to the early morning launch.

The Combined Joint Task Force – Horn of Africa (CJTF-HOA), under US Africa Command (AFRICOM), controlled this mission. Under the direction of CJTF-HOA, we were directed to conduct the exfil out of Bor during daylight hours. The CV-22s were tasked with transporting the awaiting Americans to the safety of 'nearby' Entebbe. There was never a confirmed number of personnel awaiting pickup, even up to the point when we got airborne, so it was necessary to plan for two trips into this South Sudanese town 80 nm north of Juba. Our Shadows had the responsibility of ensuring the CV-22s would have enough fuel to make it from Djiboutii to Bor, Bor to Entebbe,

Entebbe back to Bor for a possible second exfil, Bor back to Entebbe to complete the second lift, and back to Djibouti from Entebbe for the RTB. As a result, we built four TAAR tracks and were allocated a dedicated KC-10 tanker overhead (in the airspace between Bor and Entebbe).

The first TAAR track was located on course between Djibouti and Bor. Prior to refueling, Raven 73/74 would position themselves in the lead element 1 nm ahead of Raven 75. Shadow formation lead Shado 21 would refuel the lead element, and wingman Shado 22 would refuel Raven 75 in the trail element. Post-refueling, Raven Flight would have enough fuel to reach Bor. Shado 21/22 would then push out to join a holding pattern south of Bor. We would do what we could to minimize our fuel burn, so our holding would be based off max endurance airspeeds.

Our second planned TAAR track was post-exfil from Bor en route to Entebbe. Upon notification of the Raven 73 Flight departure from Bor, we would proceed from holding for another rendezvous. As a result of the first refueling, Shado 21 would have less fuel than Shado 22. Thus Shado 21 would refuel Raven 73, alone in the lead element, and leave for an air-to-air refueling (AAR) with the KC-10 overhead. Shado 22 would stay on the track to complete the refueling of Raven 74/75 in the trail element. When TAAR complete, Shado 22 would proceed to their AAR. Shado 21 would then depart the AAR track to move on to the third TAAR track.

If there were remaining Americans on the airfield in Bor, a return trip for the CV-22s would be in order and it would require a TAAR after their departure from Entebbe. This third planned TAAR track would be enroute to Bor from Entebbe. Shado 21 would pass all the required fuel to Raven Flight. Post-TAAR, Shado 21 would land at Entebbe to refuel. Shado 22 would then be the sole refueler for Raven Flight after their departure from Bor. All four aircraft would continue on their flight path to Entebbe and land. Up to this point fuel would be passed airborne via eleven TAARs and AARs.

After all Shadow and Osprey aircraft were refueled on the ground at Entebbe, we would analyze if we had enough crew duty day left to RTB. The fourth planned TAAR track was placed along this flight path back to Djibouti.

The accuracy of this elaborate fuel planning was contingent on getting three CV-22s and two MC-130Ps flying, the Shadows being fueled to their maximum and each having their single high-speed hose functioning properly, no deviations from pre-calculated burn rates for any aircraft involved, and a KC-10 on-station. With all this planning and the changing criteria, it felt like the night before a big test. Bright and early the next morning would be our final exam.

Bor

It was the early morning of 21 Dec 2013. At that time I had my doubts as to whether the Bor plan would be given the go-ahead, but I trusted the mission risks would be weighed appropriately in the approval decision-making process. Regardless, the phone rang promptly at 0100Z (0400L). This phone call officially alerted our crews from the N+2 alert posture we were sitting (allowed thirty minutes from notification to show up at our ops building and two hours from then before our formation needed to be wheels up). A short time thereafter, just minutes after the sun began to rise above the horizon in Djibouti, the three-ship of CV-22s departed, immediately followed by our two-ship of MC-130Ps. An abundance of adrenaline (and caffeine) would fuel us. However, we would soon realize JP-8 would be the fuel of diminishing quantities in a dramatic balancing act.

Everything was going mostly according to plan leading up to our takeoff at 0335Z. My crew was flying with the addition of our Airborne Mission Commander (AMC), who happened to be the 8th ESOS Mission Commander, and two maintainers. The AMC assumed the callsign Raven 01. The crew of Shado 22 would add two maintainers as well. Although I was notified my aircraft was awaiting maintenance on the brake antiskid system, which was inoperative, we did not have a third Shadow in country to act as a spare, or time to fix the issue. Due to the mission priority, leadership approved us to take the aircraft as-is; I would just need to be especially cautious when applying the brakes.

While rendezvousing with Raven Flight along the routing to Bor, unforecasted clouds necessitated a climb above the thick ceiling of clouds. At 0539Z my crew passed the coordinated fuel load to the lead element of Raven 73/74. Simultaneously, Shado 22 passed their planned fuel to Raven 75 in the trail element. Post-refueling, our Shadows forged a path to the holding airspace south of Bor.

In our holding pattern we suddenly received a series of chilling radio calls from Raven Flight below. They had each been engaged by ground fire on their approaches into the Bor Airport. They were aborting. Each CV-22 had taken

Raven 73 leaking fuel over South Sudan, as seen from the cockpit of Shado 21. (Photo courtesy of Capt Rolf Place)

damage. When queried by Raven 01 as to whether they had sustained injuries, they confirmed four personnel onboard Raven 73 had gunshot wounds. I vividly remember that moment. My heart sank. However, I knew our Shadows above were in a position to help.

I made a radio call to Shado 22 on our interplane frequency requesting an immediate rejoin with my aircraft. I knew from referencing their position on my traffic collision avoidance system (TCAS) display they were positioned aft of us in holding, 1,000 ft above. This position allowed them to rapidly descend and be in a visual trail formation position off of us. After rejoining, our Shadow formation turned south and pushed up the throttles to attain our max airspeed in our effort to close the distance, as rapidly as possible, with Raven 73 Flight. They had reformed after their abort, and were now ahead of us in a southbound heading direct to Entebbe.

With the critical injuries sustained on Raven 73, getting those hurt to a hospital ASAP was absolutely vital. The nearest suitable hospital that could offer the required level of care was in Nairobi, Kenya. We received unfortunate news of the KC-10 being delayed. Thus additional fuel was nowhere to be found. Making matters worse, the CV-22 formation received 119 total bullet impacts, many of which struck the fuel tanks and fuel lines. This meant the CV-22 formation was depleting fuel at

The crew of Shado 21 (Photo courtesy of Capt Rolf Place)

shocking rates. They did not have enough fuel to make it to Nairobi, or Entebbe for that matter. Our Shadows, without the KC-10 support, did not have enough fuel to pass the Ospreys that would put Nairobi within their range and allow us to be able to safely land. There was only one viable COA. We needed to get Raven 73 to the airfield at Entebbe. We would then have the wounded moved to another platform that was ready and able to make it to Nairobi. This other platform would be my Shadow aircraft. We expected our fuel state to be such that refueling at Entebbe would not be required. Therefore, my loadmasters immediately began reconfiguring our cargo compartment with litter stanchions.

Raven 73 Flight requested fuel urgently. They would need it prior to the location of our planned TAAR track. While closing the distance with the southbound Ospreys, I decided we needed to make my aircraft the dedicated tanker for Raven 73. Post-refueling, this would allow our two aircraft to accelerate out towards Entebbe together, minimizing the time required for Raven 73's injured to arrive at Entebbe and be medevac'd. Meanwhile, Shado 22 would stay with Raven 74/75 to complete their larger combined offload (they had more fuel than my aircraft as a result of the first TAAR). Thus I requested the CV-22 flight to position Raven 73 in the lead element, ahead of Raven 74/75 in the second element. With no additional

fuel from a KC-10 coupled with a higher (but unknown) CV-22 flight fuel burn rate, our fuel plan was officially out the window. Thus our Shadow navigators feverishly crunched and re-crunched fuel numbers.

Our single high-speed hose and the one on Shado 22 were the only two in theater. This meant we had no redundancy in our ability to refuel, as we both had a low-speed hose on the right side. A malfunction of either high-speed hose from this point forward would have been absolutely catastrophic in our plan to recover Raven 73 Flight at Entebbe.

The view from Shado 21's parking spot at Entebbe International Airport of the old terminal building on 21 Dec 13. (Photo courtesy of Capt Rolf Place)

Not long after distinguishing the Ospreys' depiction on radar, we acquired all three of the tiltrotor aircraft visually while maneuvering for the rendezvous with the lead CV-22. The thick, white trail of fuel we saw pouring overboard Raven 73 from my vantage point was alarming. They had been hit the worst and it was evident they were losing fuel at the highest rate of the three-ship. We moved into position for the join-up as expeditiously as possible. My crew passed fuel to Raven 73 at 0725Z, before bringing in the hose and expediting together towards Entebbe. Shortly thereafter Shado 22 completed their TAAR.

The crews and personnel onboard Raven 73 Flight had their hands full. In addition to the fuel leaks, each CV-22 had lost a hydraulic system. Raven 73, who took the worst blow, experienced an electrical system failure and damage to the flight controls. Medics onboard Raven 74 drew blood from special operators whose blood types matched those who needed it so urgently in the lead Osprey. To refuel with our aircraft, the crew of Raven 73 was required to manually extend their refueling probe. In an effort to alleviate some of the burden from Raven 73 Flight, my radio operator assumed control of the ATC radios for all five aircraft inbound to Entebbe.

At 0800Z, Raven 73 notified us they were going to need more fuel. We were already in a visual trail position behind them so no rendezvous was necessary. We both simply slowed to our TAAR airspeed of 200 KIAS, while we moved forward of their position. While extending our single high-speed hose from the refueling pod on our left wing we experienced a hose malfunction. Luckily my flight engineer rapidly went to RESET on the corresponding reel response switch. This quick fix worked and the hose performed as advertised from this point forward. Upon completion of this additional TAAR, we no longer had enough fuel to reach Nairobi. Shado 22 now had more fuel than we did and it was enough that Nairobi would be within reach for them. Therefore, my wingman was now the primary medevac platform out of Entebbe.

As a result of slowing down for this last TAAR, Shado 22 and Raven 74/75 had caught back up to us (my aircraft and Raven 73). We were now essentially a five-ship formation approaching Entebbe International Airport. Inbound my radio operator spent the better part of ten minutes overcoming language barriers with Entebbe Approach Control. He declared emergencies for the Osprey crews, relayed two MC-130Ps and 3 CV-22s were going to land on the airfield within minutes, and informed what our landing order would be (1st Raven 73, 2nd Raven 74, 3rd Raven 75, 4th Shado 22, and 5th Shado 21). While relaying our intent, he also received word from our mission commander in Djibouti that a C-17 in Entebbe was now primary for the medevac to Nairobi. By chance an American C-17 was fueled on the airfield in final preparations for a departure to the US. We all knew it could get our critically wounded troops to Nairobi faster than any C-130, and every moment absolutely counted. The C-17 was about to see our aircraft touching down. Its mission had changed.

My aircraft stayed with Raven 73 until they passed the threshold of Runway 17 for their landing at Entebbe. We wanted to be there for any possible support up to the last moment. The crippled state of Raven 73 led to approximately 6,800 lbs of fuel being drained overboard their CV-22 during the 1.3 hour flight from the first TAAR after Bor to Entebbe. After they touched down, we maneuvered into a left downwind to fall in place behind our other three aircraft currently on final approach. At 0845Z we landed last behind Shado 22. They were now the secondary COA for the medevac to Nairobi. If any unforeseen issues occurred with the C-17, they would be primary.

We taxied and pulled into parking, on the ramp east of the shorter runway, alongside the shutdown CV-22s. We also commenced shutting down our engines hoping we would soon be able to locate a fuel truck and refuel. While we

A CV-22 Osprey from the 8th SOS, is refueled by an MC-130P Combat Shadow from the 67th SOS, during a training mission over Mali, Africa, Nov 2008. (Photo by Sgt Nicholas Hernandez)

were running checklists, the critically wounded troops were receiving lifesaving blood transfusions on the airfield from that previously collected onboard Raven 74. With the possibility of Shado 22 being chosen as the medevac platform, they could not risk an engine not starting. Therefore, Shado 22 would keep their engines running up until the successful departure of the C-17 bound for Nairobi.

After our Engine Shutdown Checklist was called complete, I stepped off our plane. I discovered a parking ramp flooded with large pools of fuel from the leaking CV-22s. I also observed our arrival had created quite a large commotion on the airfield, and people were coming out of the woodwork to see what it was all about. For this reason it was important to secure critical items. When helping to carry equipment off the CV-22s onto our aircraft, I could not help but notice the floor of the Osprey cabins covered with fuel and blood. I could see they had been through hell and back. We would onload CV-22 crew and occupants, along with their weapons, ammo, and essential equipment. When complete, Shado 21 would have 29 additional personnel and 9,000 lbs of cargo onboard awaiting transport back to Djibouti.

While awaiting the takeoff of the C-17, I remember taking a moment to examine the building immediately in front of our aircraft. It was the old terminal building of Entebbe International. Numerous bullet holes could be seen in its white facade. They were traces left behind from the historic 1976 hostage-rescue mission carried out by Israeli commandos. On 21 Dec 2013, our American commandos added yet another chapter to this fabled airfield's history.

In Conclusion

The C-17 successfully airlifted the wounded troops to Nairobi. They would all thankfully survive their injuries. My crew landed in Djibouti that same evening just as the sun was setting on the horizon, and Shado 22 arrived not long after. The next day, UN and civilian helicopters landed in Bor and evacuated the awaiting Americans.

We were very fortunate no lives or aircraft were lost this day. If that had been the case, the overall narrative would have been very different. There are takeaways from this mission beyond the survivability of the CV-22 or the refueling capabilities of the MC-130P. The heroics that saved lives have been rightfully applauded, but we also need to scrutinize and learn from this mission in preparation for the next.

It was a tremendous honor to lead our formation of Shadows on this mission. We overcame tremendous challenges. The MC-130P is a crew airplane, and on this day especially, every crew position was essential and all contributed greatly. There is no doubt these Shadow crews were instrumental in creating the best possible outcome out of a very dire situation.

It is my firm belief that the support provided on this particular day by the MC-130P, with its blend of raw capability and unique crew complement, could not have been matched by any other platform. Djibouti was the last deployed theater for the Shadow and it finished its long and historic career in its prime. It just so happened the very aircraft which flew this mission would be the final two MC-130Ps to be retired. Their formation flight together once again on 2 Jun 2015 would be the last time a Combat Shadow would ever take to the sky.

About the Author: Capt Rolf Place is currently an AC-130U Pilot in the 4th Special Operations Squadron, Hurlburt Field, FL. He was previously an MC-130P Instructor Pilot in the 9th Special Operations Squadron from July 2009 to April 2014 at both Eglin AFB, FL and Hurlburt Field. He resides in Fort Walton Beach with his wife Capt Lenora Grubb, an engineer at Eglin AFB.

A crewchief from the 353rd Special Operations Group checks the propellers of an MC-130P Combat Shadow at Yokota Air Base, Japan. (US Air Force photo/SSgt Samuel Morse)

Shadow Will Always Be a Part of Me

By Stacy Quarles

A lot of things shape the development of a man. Sometimes it is his parents, sometimes it is his upbringing, sometimes it is where he is or where he is going. There also things such as jobs, positions, and careers that all contribute to the development of a man. One significant contribution to me as a professional and as a man, was my time as a Shadow maintainer.

Before becoming a Shadow maintainer, I spent time as a slick C-130 engine mechanic and then worked as a Combat Talon engine mechanic. In both instances, I was just another wrench-turner going out to do a job. It was not until my assignment as a Shadow maintainer that everything I felt about maintenance changed. Shadow maintenance made me significant. I felt part of something and it prompted me to become better in everything I did. Becoming a Shadow maintainer was not about individual identity, it was about becoming part of a culture.

I was welcomed into the Shadow maintainer community with open arms, but my membership depended on two things: teamwork and work ethic. It was not openly demanded, it was silently expected by the "leadership by example" that was going on daily. Every person was accountable for their role in this culture. If this was not the way you did business when you got here, it became the way you did business by the time that you left.

Many people come to places with ideas about how to change it and make it better. In 1990, at Kadena AB, Japan, Shadow maintenance was part of the flying squadron, the 17th SOS. In my opinion, I call this the last great squadron of the Air Force. Now, there are plenty of good squadrons that followed, but the work, the people, and the culture of the Shadow flying 17th SOS was like no other. I am quite sure that every man and woman who worked there, regarded it as their favorite. I still say that grouping Shadow ops with Shadow maintenance was one of the brightest ideas to ever come out of the Air Force. And, the 17th SOS Shadow culture should be the model for future squadron development.

For starters, the operators and maintainers were the true definition of "one team – one fight." We worked together, we trained together, we fought together, and we played together. There was mutual respect for every person and piece of the puzzle. We had no trouble holding our people accountable. We trained the best aircrew members and developed the best maintainers in the Air Force. Our commanders became the best commanders. Our officers became the best officers, and our airmen became the best airmen. We were diverse in every way. We were professional in every way. We made things happen!

It is hard to say how this was made possible. Could it have been because of the great leaders that ran the 17th SOS, most of whom went on to do great things elsewhere? I think that had a lot to do with it, but one thing was evident, no one person was greater than the culture. You could enhance the culture, but you could not break the bonds of it. Going back through my own personal history, I can't think of a time that I have been around a more significant group of people than as my time as a Shadow maintainer. Most of these men and women have become leaders of leaders since this time and I attribute a lot of this to the "aura of the Shadow." The Shadow flew like it had great people around it. It was reflective of the great people that flew it as well as the people that maintained it.

I have no doubt that every person that became part of the Shadow culture of the 17th SOS is a better person for their experience there. If you think that the retirement of a great aircraft like the Shadow is the end of that culture, then think again. Each and every member of this great community is impacting people in great ways, and it will reverberate for years to come. Thanks to this fine piece of history, this fine group of people and this fine aircraft are a significant building block of everything I am about. The Shadow may retire, but the culture it created will live on forever.

Maintainers from the 353rd Maintenance Squadron solder a part underneath the leading edge of a wing on a MC-130P Combat Shadow. (US Air Force Photo by TSgt Aaron Cram)

About the Author: Stacey Antwan Quarles grew up in Topeka KS and was the second of five kids. He joined the Air Force right after high school for a dream to serve his country and travel. He spent 17 years in AFSOC as a Propulsion Technician and Crew Chief, before finishing his 22 year career in Compass Call.

CREW CHIEF SALUTES

By Rebecca Shelley, SMSgt, USAF

Seems like this year has been full of "lasts" for the Combat Shadow community; the last Shadow retired from Kadena, the last Shadow formation flight at Hurlburt, the last two Combat Shadows retire from the Air Force inventory. For me, today, 1 Jun 2015 was the last time I would sign an Exceptional Release on a Combat Shadow and the salute I gave to aircraft 217 as she made her final turn on to the taxiway was also a last….for both me and the plane. I guess it is kismet that I also experienced all of my Crew Chief "firsts" with the Eglin Shadows and aircraft 217.

22 years ago I signed into my first squadron, the 9th SOS at Eglin AFB as a 20 year old Airman Basic. My first experience as a Combat Shadow Crew Chief was at the wash rack. The Expediter dropped me off behind a green C-130 that looked like every other C-130 I had seen to that point. I was handed a bucket of green slimy soap, a hose, and a scrub pad and pointed in the direction of the belly. After spending my first month washing soil barrier and urine off planes I was not very excited about being a Crew Chief…..all those "your recruiter lied to you" warnings started to feel true. He said "You can be a Crew Chief, you will be in charge of the plane, you point and specialists will run in and fix , and you will fly with it wherever it goes."

Things started to pick up over the following year; I was finally assigned to my first plane…The Assistant to the Assistant Crew Chief on aircraft 66-0217. The Dedicated Crew Chief (DCC) sat me down and gave me a long expectations briefing, "When the plane lands empty the galley and cargo trash, sweep the cargo box, straighten all the seat belts, clean the windows, transcribe the forms, check the TO shelf for changes and post, if the load masters leave vomit bags under the red seats throw them away, make sure no one used the honey bucket, if they did call the load master back out to empty it"…..yeah right! Even though I had become an official Assistant Janitor to the Assistant Crew Chief I was proud to finally be assigned to a plane. Vomit bags couldn't diminish the feeling of pride when the DCC stenciled my name above the crew entrance door on 217.

Editor's Note: This article is derived from the speech by SMSgt Shelley during the MC-130P Heritage Flight at Hurlburt in May of 2015.

the FINAL SHADOW

217 was the first plane on the ramp at Eglin with the SOFI mod and it was the only plane painted special ops gray at the time…..like a brand new car compared to the rest of the camo paint jobs with the tracker humps on their heads. The 9th aircraft and crews were already deployed when I got to Eglin and some of the planes were going through mod. I recall the first "real-world" mission I generated was to Guantanamo Bay Cuba when thousands of Cubans and Haitians attempted to cross the Caribbean on homemade rafts. It was the first time I could relate our mission to what was in the news and it set the stage for so many more news worthy taskings.

I deployed for the first time in 1995 to Turkey in support of Operation Provide Comfort. My first time through St John's in February we changed a prop in 5 foot snow drifts. I recall Capt John Cline landing 994 wing-tip-low into Mildenhall through what felt like a hurricane, I vomited behind the power unit for an hour before someone finally carried me to the bus headed for the Smokehouse. "You will fly with it wherever it goes" he said! After four more trips to Turkey during Operation's Northern and Southern Watch I had finally gotten my landing sickness somewhat under control.

I was a young Staff Sergeant when 9/11 happened. I was in Las Vegas getting married when the towers fell. The unit called and asked me when I could get back; they were spinning up to go dish some pay back. I wasn't able to make it back in time to go on the first push out to Kharsi Khamabad (K2) but made the next round into Jalalabad, Pakistan (J-Bad).

We were a combined unit at the time so we were sharing missions with the 5th SOS and 719th MXS. I have so many memories of living and working with those maintainers and crews. Somehow a few of the Reserve guys managed to get their hands on a goat. They dressed it like a deer and cooked it in a hole in the sand behind the old hangars where we lived…. yuck! A weird thing to remember I guess but the living and eating conditions at J-Bad were not the best. The mission and maintenance was the best though; we were pushing two a night, twice a night launching real missions. Flags were hung in the cargo compartments, load masters and radio operators were

coming back with stories for us, the planes were flying great!

I remember the 213 crash like it was yesterday. The plane came back for a quick-turn and I was asked to top off the gas, the FE, MSgt Jeff Doss said they would be right back to go again. After refueling I sat on the end of the ramp with the two loads, SSgt's Chris Langston and Jeff Pohl talking until the officers came back. Motors again, goggles again and I marshalled them out…same as every other night. Chris gave me a wave as they turned on the taxi way and the ramp closed. I few hours later I was sitting on the power unit waiting on the plane to land when TSgt Stacey Quarles came out to tell me there was a briefing in the haz. I asked where turn-over was, told him that 213 was going to land, the sun was coming up, it would be down any minute, who is going to catch it?

The maintenance haz was full of ops, maintenance, everyone. Someone was up front talking, I couldn't see him but I heard him say, "213 crashed in the mountains, we don't have a status on the crew yet." My knees buckled out from under me, and then Chris Langston was waving to me before the ramp closed and the world stopped spinning. We found out within a few hours that the entire crew survived and had been rescued, the relief was indescribable. I struggle with the crash still, nothing like what the crew must have gone through but it left a hole in me. I asked myself a million times, "Why didn't I look at the plane?" I threw on the gas then sat and chatted for an hour and never looked at a thing during that hour between flights, "What if something had been wrong and I didn't even look?," "What if they hadn't survived?"

To our surprise most of the crew came back to J-Bad in the week that followed the crash. I was scared to talk to them when they got off the plane, afraid to face them thinking my neglect may have caused the crash that could have killed them. Eventually we found out what happened, it wasn't the plane, everyone was okay, the crews were flying again, the missions continued, and the world started spinning. All these years and I still reflect on that night when the ramp closed on 213's final taxi and I still ask myself "Why didn't I look?" That question remained with me for every inspection, repair, and launch of every aircraft I've touched to this day. I hope it remains with each crew chief I've trained to follow me, and while I know that sometimes we don't see everything and mistakes still happen….the cost is too great to not look.

I did several more trips with the Shadows, the 9th and the 5th after 9/11. Each trip had ups and downs; the heat, sand, tents, food options all took their toll but it was the really fun fixes on the road that kept us going. I remember 822 hitting the excavation hole in Baghram and Capt Travis Hill calling for a tire which ended up being an entire landing gear. There was the night 217 took the bullet in the wing in Kuwait and the week of in-tank maintenance in July to patch the hole. There was the time 4854 hit a pterodactyl somewhere over Oman that punched a 15 inch hole in the wheel well fairing and delayed our trip home for a week. I remember a pilot asking me if I could spray paint the Benson tank black so the enemy couldn't see the grey tank and shoot at it….."Like they won't see the grey plane and hear the 400 horsepower turbo props first?" I asked him…..then went to get the paint.

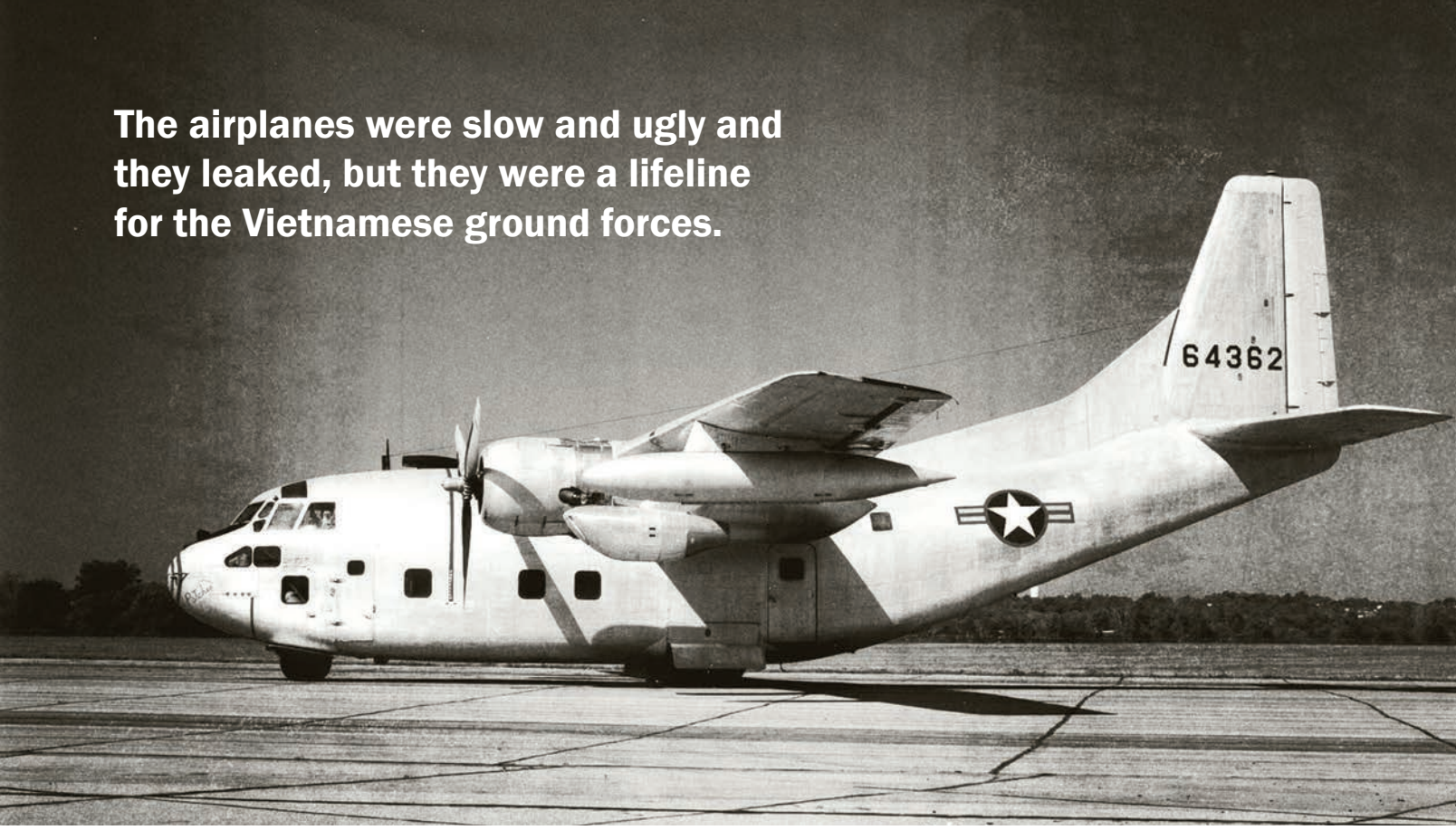
I recall the time Major X let me sit in the pilot's seat for 15 minutes somewhere over the Atlantic and told me "a little less rudder Bec," that was awesome! I'm sure I owe ret. CMSgt Gary Glover my life at least twice for saving me from wandering into a minefield at Baghram during a FARP and holding the ladder as I stood on the tippy-top, on tippy-toes to check prop servicing somewhere in South America.

But the best memories were with my maintenance crew Jimmy Drybola, Eric "EZE" Fair, Lance Roe, Ryan Landis, Stacey Quarles, Matt Beck, Matt McCombs and so many more awesome maintainers. We painted the parking squares and taxi lines in Djibouti out of the back of an EZ-GO with paint rollers, unloaded chaff and flare standing on the hood of a bobtail because we couldn't get AGE to bring us a stand. There was the time we popped a guillotine and it nearly shot through the side of the pod during a hose change. Then there was fuel cell maintenance on that key hole in Bermuda when the tail was hanging over the bluest water in the world. My Chief said I could never go to Bermuda again! Where has the time gone?

As the old birds go to the boneyard, it's hard not to feel a little resentment towards the industrial machine that's replacing them for newer and faster models. For the better part of 22 years taking care of them has taken me and so many of my AF brothers and sisters away from our families. I've spent half my life with these planes, more time than I spent with my oldest son. I often wonder if he will ever forgive my absence during his formative years because I was out playing with planes. When we finally set the fleet down in the dirt field I was heartbroken for the loss, the planes at Eglin had become my kids in a sense.

Over the past couple of years I've moved over to the Gunship side and I look forward to seeing the new AC-130J join the fight. I hope the young maintainers who start with this plane have as many wonderful firsts, middles and lasts as I did with the Shadow. I am eternally grateful to everyone who shared memories with me to include the planes. There is only one moment in all of my experience with the Combat Shadows that I would do over if I could; the rest would remain the same. In closing I say a final thank you to Col John Cline for finding me after the crash, giving me a hug and telling me she flew perfectly to the very end.

About the Author: SMSgt Rebecca Shelley entered the AF in February 1993 as a C-130 Crew Chief. Her first assignment was to Eglin AFB and the 9th SOS. She accompanied the Combat Shadow, 9th SOS and 5th SOS through 14 deployments ranging from Operation Provide Comfort II to Operation Enduring Freedom. In 2007 she volunteered for the maintenance cadre to set up the 27th SOMXG at Cannon AFB. While at Cannon she was assigned to Quality Assurance and the 16th Aircraft Maintenance Unit where she supervised AC-130H Gunship maintenance. In 2011 SMSgt Shelley returned to Eglin and the 1 SOMXS/9 SOS as Lead Production Superintendent and led the unit move and stand-up at Hurlburt Field. In 2013 Sergeant Shelley joined the 1 SOAMXS and the AC-130U Gunship team. SMSgt Shelley was selected as the AC-130J Gunship's first Aircraft Maintenance Unit Superintendent.



The airplanes were slow and ugly and they leaked, but they were a lifeline for the Vietnamese ground forces.

Fairchild C-123K Provider at the National Museum of the United States Air Force. (US Air Force photo)

MULE TRAIN

By Walter J. Boyne, Col, USAF (Ret)

The most satisfying flying jobs aren't always glamorous. Sometimes, a routine or even lowly task, offering no glory, turns out to be highly rewarding. Such was the case with Project Mule Train, a Vietnam– era operation that began on 11 Dec 1961, and technically ended on 8 Dec 1962.

The operative words here are "technically ended." Even though Mule Train officially came to a close after only one year, its innovative spirit influenced Vietnam War air cargo operations for the rest of the war. The name "Mule Train," now virtually forgotten, was always mentioned with respect.

USAF's Mule Train detachment was a C-123 airlift unit sent to provide tactical airlift support for South Vietnam's hard-pressed ground troops. Its primary purpose was to give the ground forces an assault capability via airdrop or insertion. Yet the unit also saw a great need for logistic support entailing daily delivery of supplies to remote sites in Vietnam.

While hauling troops into battle or supplies to the troops, the Mule Train crews often had to go into harm's way, operate independently with little air traffic control and under marginal weather conditions, flying in and out of small fields located in steep mountainous areas. And they did all this with an aircraft that was thought to be washed up. In reality, it proved to be perfect for the task.

"If ever an aircraft was in its element, it was the C-123B in SEA [Southeast Asia]," said Carl Wyrick, who as a captain flew the aircraft in Vietnam. "It was slow, ugly, leaked, and was hot when it was hot and cold when it was cold, but it was fun to fly—just like a big Super Cub."

The C-123, though never a candidate for best-looking-aircraft honors, was a solid performer, capable of carrying 60 fully armed troops, or up to 16,000 pounds of cargo. It could carry a variety

of equipment, including jeeps, small artillery pieces, and ground support equipment. It had a hydraulically operated rear ramp, and the floor was both strongly built and well-fitted with strong tiedown points.

In pre–Vietnam days, Pope AFB, N.C., was home to five squadrons of C-123Bs. The aircraft had been declared obsolete and was slated to enter retirement in 1961.

Kennedy's Decision

However, on Nov. 13, 1961, President Kennedy approved a recommendation by retired Army Gen Maxwell D. Taylor, who was serving as military representative to the President and was recalled to active duty in 1962 to serve as Chairman of the Joint Chiefs of Staff, and Walt W. Rostow, a top national security advisor, to increase the mobility of South Vietnam's hard-pressed military. The White House authorized the Air Force to deploy one of Pope's C-123 squadrons and 40 Army H-21 helicopters to assist South Vietnam's forces.

On December 6, the Defense Department ordered the 346th Troop Carrier Squadron (Assault) to the Far East for 120 days TDY "to participate in a classified training mission" in the official jargon of the day. The 346th was generally considered to be the best squadron in the wing and was manned by young pilots with an average 1,800 hours flying time—of which 1,500 were in the C-123. Crews were augmented with loadmasters (normally assigned to the Aerial Port Squadron) and additional ground personnel so that it could function as a unit upon arrival in Vietnam. (A second Mule Train squadron, the 777th TCS (A), arrived in South Vietnam on 15 Jun 1962. Eventually, both squadrons were placed under the 315th Air Commando Wing.)

On December 11, Lt Col Floyd K. Shofner led the first eight aircraft from Pope. A second contingent took off on 2 Jan 1962, led this time by the unit operations officer, Maj Wayne J. Witherington. The aircraft had to be specially modified in order to traverse the vast Pacific region. Upon arrival at Clark AB in the Philippines, the first crew spent two weeks recuperating from the long flight; later crews were often shipped out to Vietnam the same day. Two instructor pilots, Wyrick and Al Brezinsky, were pulled off to check out CIA's Air America pilots in the C-123. Later, Air America offered jobs to both, but they declined.

Original plans called for aircrews to be assigned temporary duty for four-month tours. Soon, however, experienced crews had become so valuable that tours were lengthened to 179 days. Soon, the Air Force was giving permanent assignments for units, with individual tours extending for a year or more.

The targets for the airdrops were sometimes small. One of them was described as being no bigger than a soccer field, allowing for only two bundles to be dropped per pass.

The First Group Arrives

Most sources fix 2 Jan 1962, as the date that the initial group of aircraft arrived at Tan Son Nhut AB in South Vietnam. The unit had been preceded on December 28 by a team of officers from the 315th Air Division, led by Col Lopez J. Mantoux. On January 2, the unit became the airlift branch of the Vietnamese Air Force/ 2nd Advanced Echelon joint operations center, with responsibility for managing C-123 mission activity.

Ground crews immediately began working on the airplanes, knowing they were going to sleep under mosquito netting in tents and eat at a field kitchen. There was no billeting for the officers, who happily went downtown to a still generally quiet Saigon, where their $16 per diem would pay for decent quarters at local places such as the Majestic Hotel.

Later, when some crews were transferred to equally primitive conditions at Da Nang, the officers also had to live under canvas on base and dine at the DOOM—Da Nang Officers' Open Mess—a three-barrel dip-and-wash facility.

Mule Train's C-123s commenced operations on January 3. Initial plans called for six airplanes to fly four hours per day for the foreseeable future. The detachment's task was not easy. While there were three major radar sites—at Da Nang, Tan Son Nhut, and Pleiku—command and control was casual in the extreme. There were no first-rate instrument approach systems, no navigation aids, and no true communications facilities. Communications depended primarily on the shaky Vietnamese telephone system.

Perhaps a dozen of the major local airfields had low-frequency radio beacons, but these were considered too unreliable for instrument approaches. Consequently almost 100 percent of the flying was done under "Mark One Eyeball" Visual Flight Rules—often when the actual weather was below VFR minimums.

Mule Train crews soon adopted new operational techniques. Climbs and descents would be made in a spiral through a break in the overcast— the infamous "sucker hole"— and cruise would be just on top of the generally low-lying cloud layer.

All landing approaches had to be visual, but landings were sometimes made under highly marginal conditions. Whenever possible, flights were made at 2,500 feet along the coastline, away from heavy clouds and the ever-present Viet Cong marksmen.

All of the initial Mule Train missions were dedicated to carrying cargo. One-hundred-kilo sacks of rice were a major item, and at least one pilot over-grossed his aircraft by figuring them in at 100 pounds. The most typical commodities were live ducks, chickens, pigs, and cows, packed in locally made pens of wood and, when necessary, parachuted into the outlying camps. Mule Train aircraft also transported many Vietnamese natives. On more than one occasion, a Mule Train crew would smell smoke in the aircraft and find a traveler cooking food in the aircraft's cargo compartment.

There was no pretense that this was a South Vietnamese cargo operation, nor was there any training of Vietnamese for the task. Vietnamese were employed as "kickers" to move the cargo out the rear on resupply drops.

The Mule Train detachment, in its first month of operations, put in 548 hours of flying. In the next month, the daily flight hour total was bumped from four to seven, and the flying hour total would grow steadily for the next year.

Young Commanders

In Mule Train, the Air Force placed great confidence in young aircraft commanders, many of them first lieutenants. They were given authority to conduct operations with little oversight. In fact, many former Strategic Air Command crew members assigned to C-123 duty were awed at first by the freedom from having to call the command post when a decision had to be made.

Flying hours continued to grow, thanks to the dedication of the ground crews, who worked all night, in all weather, to get the aircraft ready. Flight mechanics were also invaluable, flying a mission, interpreting the problems, and then working with the ground crew to solve them.

Fortunately, the C-123 was a relatively simple and rugged aircraft. Its systems could take the heat and humidity better than more sophisticated aircraft. Tough landing gear and glider-strong fuselage could take the rough landings on short airfields, where stopping depended upon a slow approach, touching down on the edge of the airstrip, then full reverse and a steady, heavy foot on the anti-skid brakes.

Soon, the Mule Train route structure became linked to the hard-surface runways at Da Nang, Tan Son Nhut, Nha Trang, Bien Hoa, Pleiku, Ban Me Thuot, Hue, Da Lat, Soc Trang, Qui Nhon, and Vung Tau. Virtually every Mule Train sortie began or ended at one of these airfields, but intermediate stops could be anywhere.

Two C-123 aircraft were maintained at Da Nang to support northern outposts. Dropping supplies was handicapped by the lack of air-drop equipment, and for a time reliance was placed on 4-by-8 plywood sheets and leftover French parachutes. On one occasion, pilot Roger D. Haneline, then a captain, was dropping equipment when the plywood sheet twisted sideways on the interior aircraft ramp after the chute had deployed. The open chute kept dragging the C-123 down, and Haneline had to go to full takeoff power just to stay out of the treetops. He could not turn for fear of stalling, and the airplane was heading straight into "Indian Country"—Laos. At the last minute the loadmaster managed to cut the shrouds and the struggling C-123 could gain some altitude.

Frederick P. Horky recalls taking off from Da Nang to fly to Kontum, one of the main resupply points for the Special Forces camps. From there he flew air-drop sorties to a camp in the mountains near the Laotian border. The drop site was so small that Horky had to use five

Capt Frederick Horky (left) and his C-123 crew line up at Kham Duc during an off load. Horky says in the early days, aircrew carried an incredible assortment of weapons—including a Thompson machine gun the loadmaster holds here. (Photo by Frederick P. Horky)

passes, dropping two bundles on each pass, to deliver the cargo. The technique was to slide down the mountain, rotate to drop the bundles, claw up the hill on the other side of the camp, do a 180- degree turn, and then repeat the process, with the engines operating at maximum except takeoff power much of the time.

When he had delivered the cargo, Horky flew back to Kontum for the next load, making 10 sorties that day. During the entire period, the airlift control center had no contact with the aircraft nor had any idea of where they were or what mission they were flying. Control assumed correctly that necessary jobs were being done, satisfying the customer's needs on the spot.

Pressure for More

The Mule Train logistic operation was paying dividends. However, Secretary of Defense Robert McNamara and Air Force Chief of Staff Gen Curtis LeMay soon applied pressure for the Mule Train group to become more involved in the assault role. LeMay and other Air Force leaders were concerned that the Army might pre-empt the assault role if the Air Force didn't get moving.

The Mule Train crews were experienced in assault work, but they had to improvise for conditions in Vietnam. It was difficult to decide exactly where to drop paratroops over the rough terrain, and much depended upon the map-reading ability of the crew.

The die was cast on 28 Jun 1962, when 16 C-123s and 12 South Vietnamese C-47s dropped paratroops under adverse weather conditions about 35 miles north of Saigon. The operation went off well despite a 500-foot ceiling.

On other occasions, the C-123s would load up troops from the South Vietnamese airborne brigade in Saigon to fly to the relief of a village that had come under attack. Over the village, the C-123 pilot would reduce power, drop flaps, and spiral down to the drop altitude and give the paratroopers a green light to jump.

At times, C-123 crews were uncomfortable with the assault role. South Vietnamese Special Forces were sometimes capricious about when and where they would fight. Straight cargo operations were hazardous enough, especially during the monsoon season when South Vietnamese troops were socked-in in the mountainous valleys. To execute the mission, the C-123s would line up in a proper direction, let down in the undercast, and if they did not break out by a given altitude, would climb back up. There were usually 800- foot ceilings in the valleys, and most of the time they broke out.

Mule Train missions during 1962 became extremely diverse, with the C-123s serving in roles ranging from duck delivery to napalm bombing. In the latter role, the Provider carried nine wooden pallets, each holding three 55-gallon drums of napalm mixed with gasoline. With a good kicker, the load could go out the back ramp in less than five seconds and leave a pattern of flame 1,200 feet long.

The ground crews and the enlisted aircrews shared the dangers of the war with their officers, and it was an enlisted man, A1C Howard W. Wright, who would become the first C-123 crew member to be wounded by VC ground fire. He was hit in the right thigh while the aircraft was descending to Tan Son Nhut on July 10. The crews began using flak vests as interim armor plate.

The rapid influx of aircraft and ad hoc nature of the requests for airlift had resulted in some Army dissatisfaction with Mule Train operations. The problem lay in the lack of aerial port facilities and inadequate communications. There was little that could be done to rectify the situation.

In October 1962, there began what became known as the Southeast Asia Airlift System. Requirements were forecast out to 25 days, and these requirements were matched against available resources. The 315th Troop Carrier Group and 8th Aerial Port Squadron came into being and set the stage for tighter control of airlift operations. Secure field phones and a radio network became available, and the carrying of cargo became much more conventional, if perhaps a little less fun.

Flying became more stable and bureaucratic. The era of the Mule Train operation was over. It left behind a record of success and a collection of procedures and techniques for cargo work in Southeast Asia. Many of the men of Mule Train returned for second and third tours, some in the C-130 that replaced the C-123. For all of them, however, there was nothing that could replace the spirit and success of the original Mule Train.

About the Author: Walter J. Boyne, former director of the National Air and Space Museum in Washington, is a retired Air Force colonel and author. He has written more than 400 articles about aviation topics and 29 books.

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GOONEY BIRDS, NAPALM, & GREECE

By Randall Everett III, Maj, USAF (Ret)

I was one of the original Jungle Jim volunteers in the 4400th Combat Crew Training Squadron (CCTS). I'd like to share a few bits of history that to my knowledge have never been related in any of the Air Commando Jungle Jim stories.

In March 1961, I was a 1st Lt and I was ordered to report to the base commanders' office at Harlingen AFB, TX on a Sunday morning, which I thought was strange for a training command base. I was informed I would be asked a series of questions to which I was to answer yes or no. At any time I answered "no," then the interview would be terminated with the warning if any context of the briefing was discussed outside his office I was subject to $10,000 dollars fine or ten years in jail! I answered "yes" to every question, and soon afterwards that I had orders, coded " Jungle Jim," to the 4400th CCTS at Hurlburt Field, FL.

In April 1961, I reported in with about 1,000 total flying hours and a little over 40 hours logged in the C-47 in the right seat. The C-47 was officially called the Skytrain, but during the Second World War it had earned the nickname "Gooney Bird" by the crews who flew her. I was designated as first pilot, with 1st Lt Steve Edwards as copilot and 1st Lt Willie Seirer as my navigator. Tech Sgt Wylie was the final member of the crew, there to keep us safe.

For six months we trained, flying during the day and at night at 50 feet above the highest obstacles, sometimes flying at treetop altitude during cross country missions, with blackout landings and takeoffs, air drops, and short field landings and rapid turnaround takeoffs with Special Forces teams. We were sent to Stead AFB, NV, to undergo nine days of survival training, and we were administered psychological tests. Surprisingly several volunteers did not answer some questions correctly and they soon were eliminated from the Jungle Jim program. Eventually a 3,000 foot dirt runway was built just east of the present runway at Hurlburt Field so that the new aircrews could practice real short field and rough strip landings during the day and at night.

In September 1961, our commander, Col Ben King, collected all 4400th CCTS members in a guarded room and pulled a shade off a map Of South Vietnam, announcing that was where we were training so hard to go. Most of us had never heard of this faraway country. A short time later four Gooney Birds, with aircrews departed Hurlburt field on their long journey to Bien Hoa AB, South Vietnam.

About a month into the deployment, one of those first C-47s crashed without any survivors. One of my best friends, Capt Ed Kissam, was the aircraft commander. One of Hurlburt's main streets is now named after Ed. That crash is listed as the first US aircraft loss in the Vietnam War.

In January 1962, my crew was selected to replace the lost C-47 and aircrew. In February we departed Hurlburt with orders to deliver the Gooney Bird to Bien Hoa AB. We had a 500-gallon Benson (fuel) tank installed in order to eliminate extra stops for refueling. We

C-47s parked along with a C-123 on the ramp at Pleiku, Vietnam. (Courtesy of AFSOC History Office)

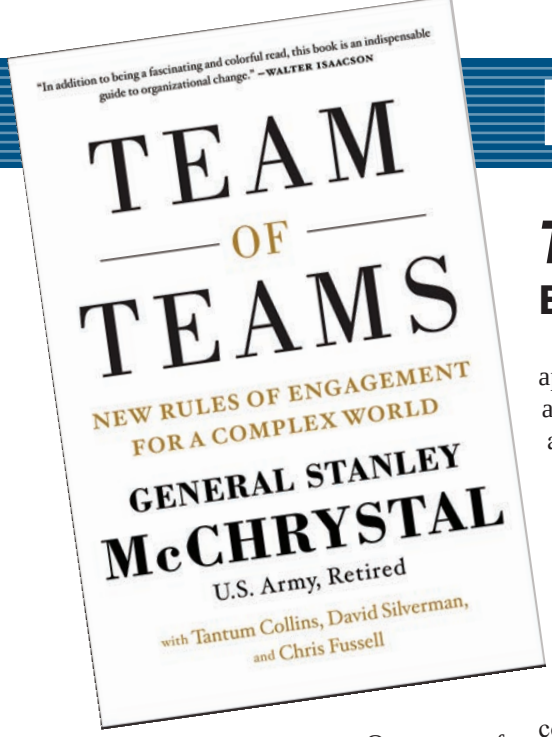
flew for 22 long hours at 130 mph from Hurburt Field to Travis AFB, CA. That was the longest flight I made in my 20 years of flying. Back then, airspeed was reported in miles per hour because none of our old aircraft were updated with newer, modern cockpit instruments. As a matter of fact, all of those C-47s were older than most of us flying them. We arrived at Bien Hoa after island hopping across the Pacific Ocean, flying 75 hours for close to 2 weeks.

After about a month at Bien Hoa, learning the geography while participating in the usual C-47 resupply missions to drop food and supplies to a few Special Forces outposts, dropping flares at night for the T-28 and B-26 attack missions, and leaflet dropping, our commander, Col Chester Jack, informed my crew that we were selected to drop napalm over a designated suspicious enemy activity site. Since this mission had not been accomplished before, I was instructed to fly a landing type approach, gaining top speed of about 170 mph, and turning final at around 40-50 feet, lining up on the target, with the crew in the back pushing one barrel out at a time on our green light signal. We had 10 55-gallon barrels filled with napalm. Each had an explosive cap strapped to explode on contact with the ground. The barrels were loaded on separate pallets, on a rail system the length of the cabin. We successfully dropped every barrel on the site without incident. On the way back to Bien Hoa, for a few minutes we were so excited we felt like we thought fighter pilots probably felt after a successful mission!

About a week or two later Col Jack informed me we had another napalm mission. After briefing, takeoff, and arrival at the target site, we executed three or four drops successfully. On the next drop I felt a tremendous shake on the plane's yoke and I started a climb to altitude while hearing the crew on the intercom hollering that a pallet had flown back and hit the tail section. We flew back and safely landed at Bien Hoa. After Col Jack viewed what basically was minor damage to the left part of the tail, he announced that there would not be any more Gooney Bird napalm missions. And there never was another C-47 napalm drop mission during the rest of that war. My crew was submitted for a medal, however, we were told that we weren't there because we were still Top Secret and that operation was never mentioned again!

One day we were told that a high ranking officer was on his way to Bien Hoa to observe the 4400th CCTS facilities and operations. The VIP turned out to be Gen LeMay, the Chief of Staff of the Air Force. We were told that a captain with Gen LeMay would be accompanying us while we flew a six hour flight. During that flight, at the captain's instructions we performed what seemed strange triangular patterns while he sat at the navigator's table working with a big strange looking piece of communication equipment! Later on, we realized that we had flown one of the first operational tests of the airborne radio direction finding equipment, for the intelligence and electronic surveillance program, code named "Phyllis Anne." The next day my crew was selected to dress in our green fatigue uniforms and stand under the wing of a C-47 while Gen LeMay inspected us. For us it was quite a thrill to see the big man himself, with the ever present half a cigar clamped in his teeth!

This journal has noted before many of the countries the Air Commandos operated in, but I've never seen Greece mentioned. In February 1963, Col Jack selected me, another pilot, Capt Henry Steidl, and Capt Dick Tegge, a navigator, along with a loadmaster and a combat controller, to proceed on to Athens, Greece, where for the next three months we flew with the Royal Hellenic Air Force in their C-47s, instructing and flying unconventional air warfare tactics. The operation was a great success. It was such a success, that while still flying C-47's out of Sembach AB in Germany in the fall of 1966, I was selected by my commander, Lt Col Stan Reece, to form a team and proceed to Athens, Greece, to participate in another training team mission with the Greek aircrews. The team was formed with pilot Capt Joe Conde and navigators Capt Bill Williams and Ted Scarpino, and Capt Tom Eggleston, a combat controller, along with a loadmaster. It was another great successful operation. I have always enjoyed the memories of flying with the Greek aircrews in their C-47's!



Teams of Teams

By Gen Stanley McChrystal, US Army (Ret)

One of the strengths of John Boyd and his OODA loop is that it is applicable to any competitive endeavor—certainly applicable to MiG Alley, but you can overlay it on basketball or business as well. While Boyd's theories are accessed most often by military historians and theorists, in the analysis of athletic competition, Vince Lombardi's wisdom from the gridirons at West Point, the Polo Grounds, and Lambeau Field are just as prevalent and applicable. He famously argued, for example, that "Individual commitment to a group effort—that is what makes a team work, a company work, a society work, a civilization work." Gen Stanley McChrystal (Ret), in *Team of Teams*, has similarly culled his experience leading the competition against Al Qaeda in Iraq (AQI) to tighten the shot group on not only making a team work, but networking that successful team with other teams; in his reflections on this process, Mr. McChrystal relates some lessons learned that are just as applicable in Green Bay as they are in Balad.

I personally believe it's a shame that when the word "McChrystal" comes up in conversation, someone invariably blurts out "Rolling Stone" and the conversation goes right off the rails. I heard Mr. McChrystal speak at the Air Command and Staff College shortly after his retirement, when he was starting the next phase of his life teaching International Relations at Yale, and he appeared relaxed in a sweater and slacks as he talked about leadership philosophy and what he might do next. The take-away was that he still had more to offer and he didn't seem emotional about his parting ways with the US Army after 34 years of service to America.

With the publication of *Team of Teams*, he and his new team (at least two of whom are former SOF professionals) he continues to contribute. The book first argues that teams need to stop using efficiency as a metric for progress. It then proceeds to elaborate and dissect the nineteenth-century revolution in management theory produced by Frederick Winslow Taylor, which emphasized doing "more, faster, with less"—a model ideal for a shop full of men cutting wire to prescribed lengths, but hardly appropriate for taking down a nimble network of violent actors enabled by access to modern communications. What revolutionized production in the Industrial Revolution, the book argues, was grafted onto the hierarchical military that values "standardization and uniformity… to bring a semblance of predictability and order to the otherwise crazy environment of war." While McChrystal acknowledges that this perspective provided success to corporations like General Motors, he points out that emphasis on efficiency—instinctively relying on training as military planners and leaders—was not working against AQI's tighter OODA Loop: "We deployed more resources, we put more people to work, and we strove to create ever-greater efficiency within the existing operating model." (p.81) Machines are efficient; organisms, however, adapt and survive.

The adversary, McChrystal argues, was acting more like an organism than a machine:

AQI was not concerned with efficiency. Through trial and error, they had evolved a military structure that was not efficient but was adaptable—a network that, unlike the structure of our command, could squeeze itself down, spread itself out, and ooze into any necessary shape. There was space between our forces—both geographically and in our communications sharing—that created safe pockets in which the enemy could expand. AQI learned to live and operate in the gaps of our system. (p.84)

The task, which the book elucidates, boiled down to creating a resilient but still robust network to counter and defeat the AQI organism. It is the journey to the adaptive 'Team of Teams'—breaking down the stove-pipes between operators and analysts and empowering subordinates to act in the absence of traditional decision-nodes in order to correct the slackening OODA Loop—that makes this book so readable and interesting.

Mr. McChrystal takes the reader to waypoints on that journey to buttress his argument: to NASA (7 years between President Kennedy's declaration of intent and the actual Moon Landing), Trafalgar (Admiral Nelson's advocacy of an early 'centralized control/decentralized execution' model; he may have died during the battle but Nelson's selected and nurtured 'Team of Teams' ended up smashing the French and Spanish fleets without him), and the adaptive and connected Boston trauma centers where medical marvels were performed in the wake of the Marathon bombing.

The SOF truths, while unwritten here, lay silently in the background (I actually scrawled 'Humans over Hardware' in the margin at one point) even without the more overt narratives on lessons learned in both Desert One and McChrystal's tenure at Joint Special Operations Command. He writes of SEALs and flight crews performing well under pressure, highlighting that "team members cannot simply depend on orders; teamwork is a process of reevaluation, negotiation, and adjustment; players are constantly sending messages to, and taking cues from, their teammates, and those players

must be able to read one another's every move and intent." (p.98) To enable this ideal, the book advocates pulling down stovepipes (e.g., the "need to know" mindset traditionally separating operators from analysts), and committing to disciplined and deliberate information sharing. In Iraq, Mr. McChrystal writes, "We wanted to fuse generalized awareness with specialized expertise." (p.153) This is done by sending the best liaisons possible to partner organizations, dismantling cubicles to make a more open shop floor (physically flattening the hierarchies and silos as Mayor Bloomberg has done at New York's City Hall and the Joint Operations Center did at Balad Airbase), and—like Admiral Nelson—ensuring there are no single points of failure in the organization/kill chain. He makes a cogent argument, citing The 9/11 Commission Report to show that the modern information firehose had provided all the cues of the impending attack but, in the absence of that ideal coupling of awareness and expertise, no one had acted to stop it.

I'd like to circle back and tackle the elephant in the room. As he advocates information sharing amongst the Team of Teams and an "eyes on—hands off" approach to leadership (where the leader considers himself less a chess master than a gardener nurturing the organizational structure, processes, and culture, then watches the team flourish), it's hard to avoid thinking about the aforementioned moment when members of his staff likely over-shared in front of a journalist. He admits the previous shift in leadership style and perspective was difficult, and that asking subordinates for opinions and advice at meetings, while necessary, was also uncomfortable. Like Admiral Nelson, though, Stanley McChrystal had "crafted an organizational culture that rewarded individual initiative and critical thinking, as opposed to simple execution of commands." Having cultivated this "adaptable, complex organism," Gen McChrystal and his staff found, fixed, and finished Abu Musab al-Zarqawi; moreover, they effectively exploited, analyzed, and disseminated the post-strike details because his team morphed and struck AQI via an emphasis on shared consciousness and empowered execution. Perhaps this is the sinew that links both McChrystal's and Zarqawi's exits from the fight; at the end of the day, though, Zarqawi has been positively identified and put in the ground—never to rise again and make mischief, and Stanley McChrystal is still gardening with his elite team from the campus at Yale. As Coach Lombardi once said, "The greatest accomplishment is not in never falling, but in rising again after you fall." *Team of Teams* represents yet another accomplishment in a long and venerable record.

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Gen (Ret), Former USAF Chief of Staff

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