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# Journal of the Air Force Historical Foundation

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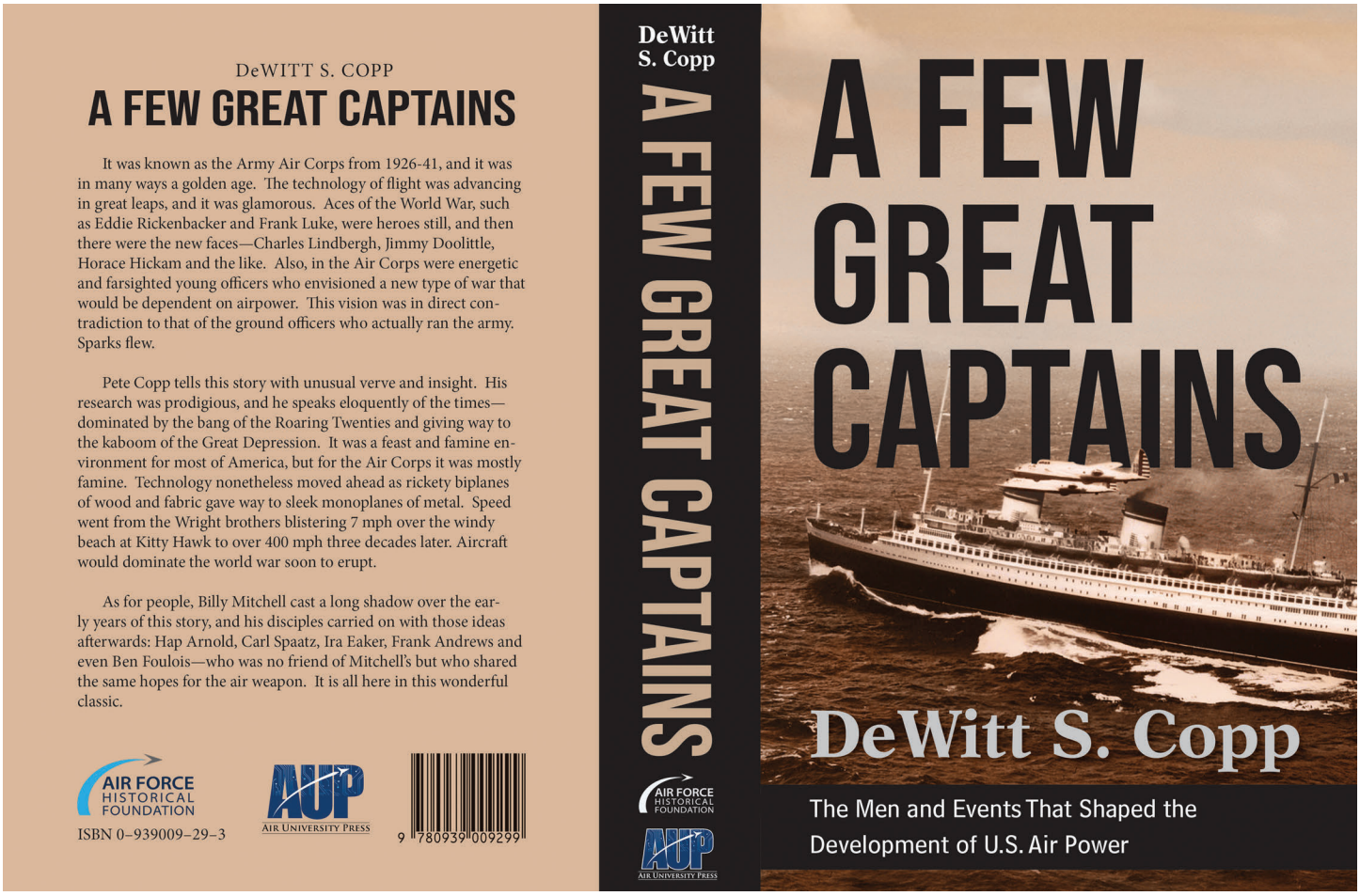
.....Shape the Future




In a joint program with the Air University Press, AFHF is proud to offer the newly published update of Pete Copp's air power classic (now expanded), *A Few Great Captains: The Men and the Events that Shaped the Development of U.S. Air Power*. The free digital version will be available soon from the Air University bookstore.

*A Few Great Captains* is a terrific book, suitable for airmen of any rank. Pete Copp wrote a masterpiece that takes the Air Corps and its leaders, both senior and junior, through the tumultuous period of the 1920s and 30s. Ground-oriented Army leaders felt threatened by the new weapon of the airplane and therefore labored to control it and those who flew it. For their part, the airmen refused to be bridled by the ground zealots and instead foresaw a future where the airplane would dominate war. The visions of the airmen were not completely accurate, but they were far more so than those who saw the airplane as just another weapon to support ground operations.

This publication marks the Foundation's return to publishing and disseminating important, relevant, and readable history to all.

KNOW THE PAST...SHAPE THE FUTURE!

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Features



Book Reviews



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Departments



FRONT COVER: U.S. Navy deck crew push a Bell UH–1 from the USS *Midway* flight deck to make room for incoming VNAF aircraft. *(Photo by USMC)*
BACK COVER: Female basic cadets during USAFA Field Day, July 1976. *(Photo courtesy USAFA Clark Special Collections)*

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# Book Review List (cont.)



# From the Editor

Our first two articles of this 1970s-themed edition focus on the last years of the Vietnam War. Bill Head explores the build up and execution of Operation FREQUENT WIND, America's final airlift from Vietnam in April 1975. There is far more to the story than Hubert Van Es's iconic photo of the last helicopter out of Saigon. O–1s on carriers? Read on.

As a prelude to FREQUENT WIND, Jayson Altieri examines Canada's involvement in Vietnam as a member of the International Commission for Control and Supervision. Under Operation GALLANT, Canadian airmen and soldiers served as treaty compliance monitors following the Paris Peace Accords. Their experience alongside Air America's pilots in 1973 foreshadowed what unfolded later.

As the service academies mark the 50th anniversary of the first females entering as students, our final article offers a perspective that is hard to match. Karen Wilhelm was a basic cadet at the Air Force Academy in June 1976, and one of the first 157 women to graduate from USAFA as a member of the Class of 1980.

As my co-editor Richard Wolf mentioned in the Spring issue, this edition is my first issue as the lead editor. Richard has been a fantastic coach and mentor throughout the transition. The good parts are his; any errors you might find are all mine. I also thank our regular contributors—Scott Willey (Book Reviews), George Cully (Upcoming Events), and Dan Simonsen (the History Mystery)—for their continued outstanding support.

Special thanks to Dik Daso and the board for giving me the opportunity. Let's get to it!

Paul "Abbie" Hoffman, Incoming Editor

# Leadership's Message

As the country enters the final quarter of America's 250th anniversary celebration, AFHF is looking forward to next year and the 80th anniversary of the creation of the United States Air Force. To celebrate this milestone, the Foundation's programing for 2027 will be focused by decade. Our Annual Symposium is targeting eight sessions—one for each decade. We will publish a "best of" reading list that will offer guidance and a starting point for all who seek a broad base in airpower history coverage.

The AFHF "Authors and Heroes" book club will feature our own members in an evening Zoom format and open to all. During these sessions, member's books and personal experiences will cover both general and specific topics ranging from critical air battles to the technology of modern air and space warfare. A special series examining USAF leadership from the Berlin Airlift to Operation Midnight Hammer is also being planned. The possibilities are as diverse as our member's experiences. If you would like to suggest a topic, a book, or tell your own "hero story," let us know and we will see what kind of slate we can come up with. (xd@afhistory.org)

On an administrative note, the Foundation has moved to an ANNUAL membership schedule which resets on June 1 every year. All members will get a few months of slack as we realign our membership system, but as of June 1, 2027, your annual membership renewal will come due and then every June after that. Donations will still gladly be accepted any time, and you may specify how you would like your contribution to be spent.

The Foundation's publication goal for next year is to release *Forged in Fire*, by Pete Copp, on September 18, 2027. This continuation of *A Few Great Captains* will complete our second publication project as a "Happy 80th Birthday" present to the USAF.

AFHF leadership visited Whiteman AFB to present the Doolittle Trophy and Superior ANG Unit Trophy in the company of the personnel that participated in Operation Midnight Hammer. Please enjoy these images of the presentation!

Always Looking Up,

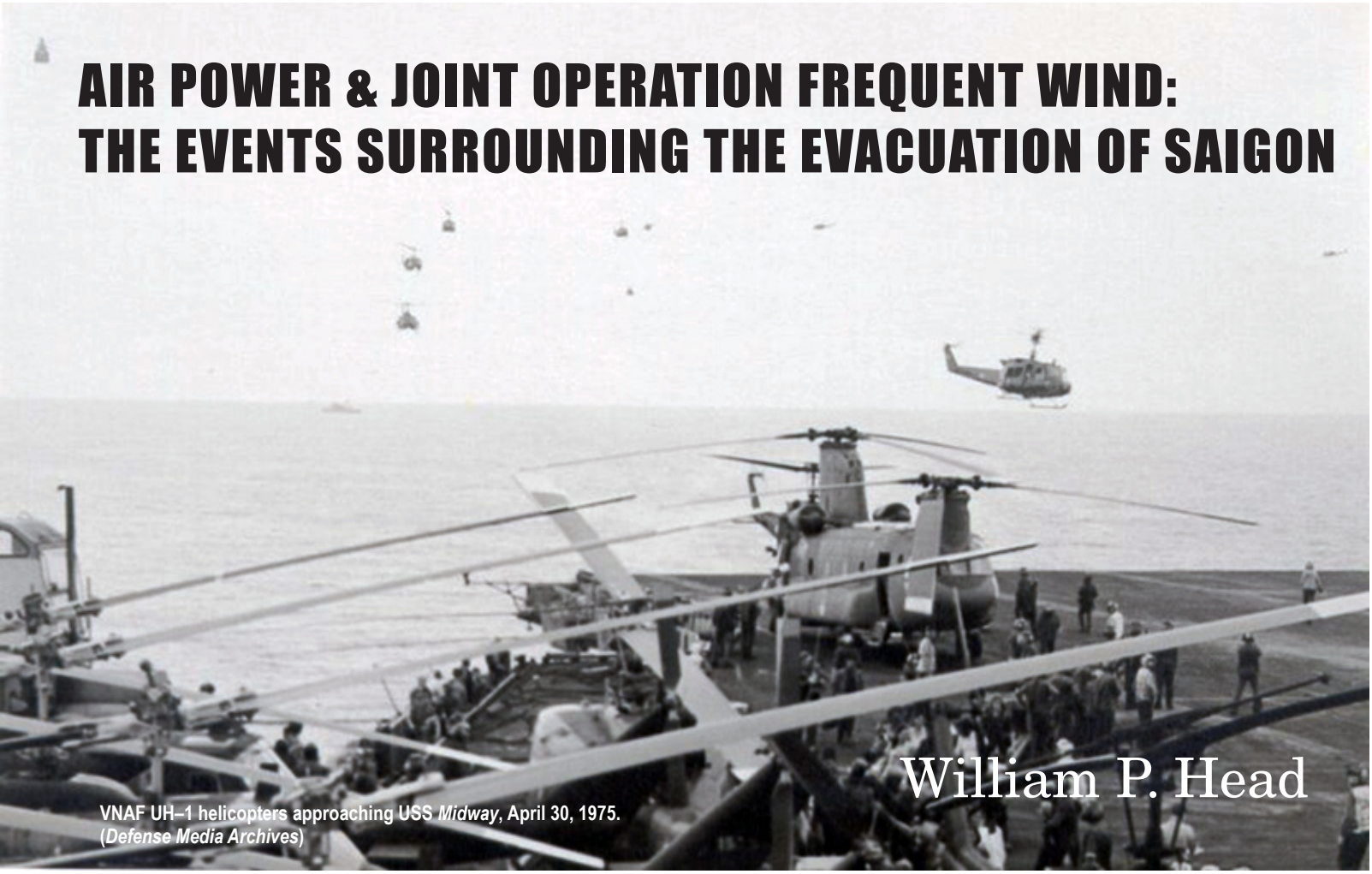
Lt Col Dik Daso, USAF (ret), PhD
Executive Director, AFHF

**In attendance were AFHF Artist for Life, Rick Herter; AFHF previous President, Jonna Doolittle Hoppes; AFHF Chairman, Gen Jim Slife, USAF (ret); Brig Gen Jared Kennish, Assistant Adjunct General, Missouri ANG; AFHF Board Member BG Paul Tibbets, IV, USAF (ret). *(USAF Image)***

**Col Joshua D. Wiitala, 509th Bomb Wing Commander, accepts the Doolittle Trophy from Jonna Doolittle Hoppes ). This is the second time that the 509th has received the Doolittle Trophy. The first time was in 2015. *(USAF Image)***

**Colonel Matthew W. "Stang" Howard, 131ST Bomb Wing Commander, receives the inaugural AFHF Superior ANG Unit Trophy from Foundation Chairman, Gen. James Slife, USAF (ret). The ancient Greek statue, "Winged Victory" (Nike of Samothrace) rests on the pedestal. *(USAF Image)***

# AIR POWER & JOINT OPERATION FREQUENT WIND: THE EVENTS SURROUNDING THE EVACUATION OF SAIGON



William P. Head

VNAF UH–1 helicopters approaching USS *Midway*, April 30, 1975. (*Defense Media Archives*)

For those who recall the details of the United States' war in Southeast Asia, Operation Frequent Wind is remembered for being a "last-minute" evacuation of U.S. citizens and Embassy personnel, American and vulnerable Vietnamese, from Saigon by a massive armada of Navy vessels known as Task Force (TF) 76. In other words, it was the Navy to the rescue. In fact, this was only a part of the story. Many of the events surrounding this desperate departure involved U.S. Air Power; specifically, A–7, AC–130, EC–130, HC–130, C–130, C–5, C–9, C–141, CH–53, HH–53, and F–4 Air Force aircraft. Indeed, the salvation of so many individuals was made possible by all those who carried out this joint operation and others that connected with it. In some ways the escape of so many puts it into the category of Dunkirk when something positive came from defeat.[1]

This final phase took place even as the People's Army of Vietnam (PAVN) took up positions to sweep in and overrun the South Vietnamese capital of Saigon. In short, it was the final act of the tragic fall of the Republic of Vietnam on April 29–30, 1975. The main aspect of the operation focused on more than 7,800 people being evacuated by helicopter from various points in Saigon.[2]

One official publication, written by Daniel L. Haulman, a respected Air Force historian, recalls the concerted Air Force evacuation efforts which began on April 22 when C–130s took 3,227 individuals out of Saigon. From that point on to the end of Operation Frequent Wind, each day increasing numbers of refugees were spirited out of harm's way. As April unfolded the evacuation sped up. By April 21 more than two thirds of South Vietnam, including 21 of 44 provincial capitals, were in PAVN hands. On the 21st South Vietnamese President Nguyen Van Thieu resigned and fled the country. Many hoped this would allow for a negotiated plan to allow for a peaceful sea lift by those fleeing South Vietnam. However, Northern leaders were in "no mood for compromise. They sensed total victory and anticipated occupying Saigon by the time of Ho Chi Minh's birthday in May." Still, publicly North Vietnamese officials announced, "they would not oppose an American aerial evacuation from Saigon but only if it took place immediately." This motivated local U.S. leaders to accelerate airborne departures. On April 26 roughly 12,000 evacuees departed Tan San Nhut Air Base (AB), on 46 C–130s and 28 C–141 flights. Late on the 27th two more C–130s of the 374th Tactical Airlift Wing removed 256 dependents of Army of the Republic of Vietnam (ARVN) Marines from Vung Tau.[3]

Shortly after, dozens more C–130s joined the operation when the 314th Tactical Airlift Wing (314 TAW) left Arkansas and arrived in the Philippines to take part in the evacuation process. Throughout this time Major Robert S. Delligatti, USAF and later, Col. Earl E. Michler, USAF from the 7th Air Force (7 AF) Control Center at Tan San Nhut AB oversaw the airlift. These officers worked with Col. Garvin McCurdy, the American Defense Attache Office

(DAO) Air Attaché and Brig. Gen. Richard T. Drury, the Air Forces' Pacific Theater Airlift Manager. The Air Force's early role in the evacuation proved to be sizable since by the end of April, officials in the DAO had processed more than 40,000 refugees and airlifted them out of South Vietnam. However, this was certainly not the end since the preparation of Operation Frequent Wind began before April ended and was mostly a story of helicopters evacuating thousands more by airlifting them to Naval TF 76 waiting in the South China Sea.[4]

**How Did It Come to This?**

One might ask, with the ARVN defeat at Da Nang and later at Xuan Loc, despite a heroic stand against overwhelming odds, and the breakdown of Southern defenses in Saigon itself, why President Gerald R. Ford and his advisers, continued to believe the anti-Communist regime in Saigon might survive. To this end, on April 10 , the President asked Congress for $722 million supplemental military aid to bolster ARVN forces and $250 million in economic and refugee aid. His reasoning seemed to have changed.[5]

In the past he had argued that without aid South Vietnam would become the first domino to fall in Southeast Asia, now he claimed he feared that, "If we say, 'no more money' Thieu. . . won't do something totally irrational."[6] In fact, he worried that the South Vietnamese might turn on the remaining Americans and demand a ransom. Ultimately, the Congress, influenced by anti-war sentiment throughout the nation and dominated by anti-war Democrats, determined that Ford was simply overreacting. They concluded he might very well be delaying the evacuation of the remaining U.S. personnel and civilians in Vietnam to force the aid bill through. Congressional debate ended on April 17. There would be no more funds for Saigon. By this point, Xuan Loc was being overrun and resistance was now futile.[7]

*Dr. William P. Head is Chief, 78th ABW History Office, Robins AFB, Georgia. He received his Ph.D. in U.S. diplomatic history from Florida State University in 1980. He has twenty-one book-length publications to his credit. His most recent book is Storms over the* Mekong: Major Battles of the Vietnam War *(Texas A&M, 2020). For his work* Shadow and Stinger: The History and Deployment of the AC–119G/K Gunships *(Texas A&M, 2007), he received the AFMC Book Award and won the Frank Futrell Air Force-level prize. He also wrote* Night Hunters: A History of the AC–130s and their Role in U.S. Air Power *(Texas A&M Press). Dr. Head has authored forty articles and a like number of book reviews in such journals as* Air Power History, Virginia Review of Asian Studies, Journal of Third World Studies, Journal of Military History*, and the* Journal of American History. *He has made presentations on Modern Military, air power, Asian and American history to 106 scholarly meetings over the past thirty years.*

Even as political maneuvering continued in the U.S., Lt. Gen. Nguyen Van Toan, commander of the ARVN II Corps, organized five centers of resistance for the defense of the capital city. The interlocking centers tightly connected to form an arc enveloping the entire area west, north, and east of Saigon. The 25th Division defended the Cu Chi front in the northwest, while the 5th Division safeguarded Binh Duong, in the north. Remnants of the 18th Division guarded Bien Hoa in the northeast, the 1st Airborne Brigade and one battalion of the 3rd Division secured Vung Tau and the 15 Route front, to the southeast. Finally, the Long An front, for which the Capital Military District Command was responsible, was defended by elements of the re-formed 22nd Division. The ARVN defensive forces around Saigon totaled roughly 60,000 troops. In addition, nearly 200,000 additional armed ARVN refugees from Xuan Loc and other disastrous defeats over the past month had made their way into Saigon. While this increased the number of troops, they were mostly exhausted and leaderless. In many ways, rather than increasing the number of defenders they, instead, only added to the confusion in Saigon.

Morale in the capital, which hung by a thread, was further eroded when, on April 17, the Cambodian capital of Phnom Penh fell to the Khmer Rouge, and the Americans did nothing to stop it. As noted, on April 21, Thieu resigned as president. In his televised speech, he admitted his order to evacuate the Central Highlands and the north led to the existing disaster. Still, he declared it had been the only course of action open to him and went on to say the plan might still have worked except that his generals had failed him. As noted, Thieu saved his greatest criticism for the U.S. saying that, "our great ally...the leader of the free world...The United States has not respected its promises.... It is inhumane. It is not trustworthy. It is irresponsible."[8]

**The NVA Assault Kicks the Evacuation into High Gear**

Meantime, General Van Tien Dung, Commander -in-chief of the North Vietnamese Army (NVA) was at his forward command post in Ben Cat, formulating his plans for taking Saigon. He had already surrounded Saigon with four NVA corps totaling 19 divisions supported by artillery and armored units—totaling roughly 130,000 troops. First, and foremost, he hoped to avoid concentrated street fighting inside Saigon, itself, by initially attacking and tying up ARVN forces in their outer defensive positions and then launching five assaults through them into the city, with each unit having a specific target. These included the Independence Palace, the Joint General Staff (JGS) headquarters, the national police headquarters, Tan Son Nhut AB, and the Special Capital Zone headquarters.[9]

The massive offensive began on April 26 with the communist forces launching an all-out attack on Bien Hoa and the extensive logistics complex at Long Binh

from the south and southeast. By April, 28 in an effort to draw the noose tighter, the PAVN also began attacks on the port city of Vung Tau and against the Cu Chi front. Throughout, the same chaos, lack of leadership and anarchy that caused the collapse of ARVN I and II Corps troops during their series of defeats in the Central Highlands spread all over Saigon. In an effort to curb the lawlessness, officials imposed martial law. It had little effect. The reality that the NVA would soon seize control of all Vietnam sent shock waves throughout South Vietnamese society leaving the citizenry petrified with fear and unable to act in any way to prevent their nation's downfall. To stimulate some kind of resistance, South Vietnamese officials warned that if the communists won, there would follow another massacre like the one in Hue in 1968 during the Tet Offensive. The ploy failed and, instead of unifying the populace it left them in a state of complete paralysis when the time came to defend the city.[10]

After nibbling away at the flanks of the ARVN defenses most of the 26th, the main PAVN assault developed on the 27th even as the South Vietnamese National Assembly made General Duong Van Minh the new president. President Minh was sworn in on the 28th believing he would be able to ascertain a cease-fire and re-open negotiations. In fact, this was a pipe dream since the communists had the upper hand on the battlefield and final victory was within reach, regardless of political changes in Saigon. After fighting for 30 years to unify Vietnam under a communist government, they were not going to be denied absolute victory. They were not going to make the same mistake they had made in the 1950s when they accepted the Geneva Agreement.[11]

As defeat became more certain with each passing minute, hard-liners in South Vietnam, especially those who had used extreme interrogation methods against National Liberation Front (NLF) operatives and sympathizers during their detainment, sought ways to escape Vietnam. Those Americans still in Saigon had been leaving since April 1 from Tan Son Nhut AB. This route eventually became untenable as the NVA attacks intensified. It was during this time that two Marines, Lance Corporal Darwin Judge and Corporal Charles McMahon, Jr., were killed by an enemy rocket attack while manning the main gate checkpoint at the airbase. They were the last Americans killed during the Vietnam War.[12]

**NVA tanks and infantry seize Cu Chi, April 29, 1975, advancing toward Saigon.**

On April 28, NVA troops pushed into the outskirts of Saigon. At the Cau Tan Cang or the Newport Bridge, roughly three miles from the heart of the city, ARVN forces made a desperate stand against communist forces trying to cross the bridge and cut Saigon's last overland connection to the south, gaining access to downtown Saigon. That afternoon, even as President Minh was completing his acceptance speech, four captured A-37s, flown by Northern pilots, bombed Tan Son Nhut airport ending exit flights by American and South Vietnamese. Concurrently, Bien Hoa AB fell and General Toan fled to Saigon. In his final report he informed the Saigon government that nearly all the top ARVN leadership had virtually resigned themselves to defeat and were seeking ways to extricate their families and themselves.[13]

As the attacks expanded on 29 April, chaos broke out everywhere. Military and civilians made a dash to get on any kind of aircraft to escape what they saw as certain death. In one case, crew members of one overloaded C–130 pushed ARVN soldiers off the rear cargo ramp for the plane to gain enough altitude to take off. One C–7 Caribou crashed and burned because it was overloaded.[14] Lt. Col. James Willbanks described the scene as follows: "VNAF pilots manned anything that would fly and took off for Thailand. This symbolized the disintegration of the Vietnamese Air Force; eventually 132 aircraft were flown to U Tapao Air Base in Thailand." These included 26 F–5 fighters and 27 A–37 fighter-bombers.[15]

Finally on April 29 at 1051 hours (Vietnamese time), U.S. helicopters commenced Operation "Frequent Wind," the aerial evacuation of American military, embassy, and civilian personnel as well as South Vietnamese who were deemed to be at risk of communist reprisals. By the time the exodus had started, 42 ships of the U.S. 7th Fleet had arrived to recover the choppers and their passengers. All told, 1,373 American and 5,595 Vietnamese were flown to the waiting armada. In addition, approximately 60,000 more were rescued from boats, which made their way out to the American vessels.[16] During the last two months, "the evacuees included 57,507 removed by air and 73,000 by sea." As they left, Saigon "descended into pandemonium."[17]

### How Do We Get Out of Here? Evac Options 1–4

To be sure, evacuation plans did not spring to life at the last minute. For weeks Allied officials had wrestled with various option that already existed and mirrored standard procedures for American embassies. At the beginning of March, fixed-wing aircraft such as C–5s, C–130s and C–141s had already begun evacuating civilians from Tan Son Nhat Airport and the neighboring Air

Base through bordering countries such as Thailand. By mid-April, contingency plans were in place and preparations were underway for a potential evacuation employing Air Force CH/HH–53 helicopters and U.S. Marine UH–1E Hueys and CH–5A Sea Stallions among others. As the collapse of Saigon became imminent, the U.S. Navy assembled Task Force 76 off the coast near Vung Tau to support this planned helicopter withdrawal and provide the vital air support that would likely be needed. In the aftermath of the fall of Saigon many experts came to believe that PAVN forces paused on the outskirts of Saigon, anticipating the collapse of South Vietnamese government and avoiding a possible confrontation with the U.S. by allowing the mostly unopposed evacuation of Americans from Saigon.[18]

**What Were the Specifics of the Plans to Escape?**

In fact, final planning for the evacuation of U.S. personnel and their South Vietnamese allies from South Vietnam had begun when President Gerald R. Ford met with the members of the National Security Council (NSC) on April 9, 1975, to discuss an increasingly likely evacuation. The meeting lasted more than two hours and was highlighted by Secretary of State Henry Kissinger's report that revealed that there were as many as 1.7 million people who State Department planners and officials determined to be possible evacuees. This group included: American citizens and their families, the diplomatic corps, members of the International Commission of Control and Supervision (ICCS), third-country nationals under contract with the U.S. government and the employees of the U.S. and their dependents which it was estimated totaled 200,000 people. In addition, the Vietnamese relatives of American citizens and senior Government of Vietnam officials and their dependents, estimated at roughly 600,000 people, were also identified as prospective émigrés. Last, but not least, were Vietnamese formerly employed by the U.S. and their dependents.[19]

Although American officials at the highest levels of the intelligence community such as CIA Director William Colby were convinced that the South Vietnamese government would collapse, the U.S. government underestimated the speed of the NVA assault would proceed during the Spring Offensive of 1975 and how quickly the ARVN might cave in. In fact, the plans for the evacuation were to be comprised of standard procedures for all American embassies and other such offices.[20]

In the case of the Saigon plan, it had been fleshed out by U.S. senior officials over a period of several years and originally codenamed "Talon Vise." Following the departure of the vast majority of U.S. military personnel in 1973, leaders renamed the operation "Frequent Wind" mainly due to the fact that the original code had been compromised.[21]

At this point, as the NVA's offensive grew U.S. officials refocused the Frequent Wind plan on extricating almost 8,000 U.S. citizens and third-country nationals, but it was never able to decide on how many South Vietnamese to include. There were about 17,000 at-risk Vietnamese on embassy rolls, which, supposing an average of seven dependents per family, meant that the number requiring evacuation was 119,000. Taken with other categories of Vietnamese, the number quickly expanded to more than 200,000. Even though they wrestled with this aspect of the withdrawal, Frequent Wind planners set forth a total of four potential evacuation options. These included: "Option 1—Evacuation by commercial airlift from Tan Son Nhut and other South Vietnamese airports as required; Option 2—Evacuation by military airlift from Tan Son Nhut and other South Vietnamese airports as required; Option 3—Evacuation by sea lift from the Saigon port; and/or Option 4—Evacuation by helicopter to US Navy ships in the South China Sea." Indeed, plans called for the helicopter evacuation of this final option to be similar to Operation Eagle Pull, the American evacuation by air of Phnom Penh, Cambodia, on April 12, 1975.[22]

**Preparations on the Ground**

As early as April 1, 1975, organizing personnel and U.S. leaders had established an evacuation control center manned by Army, Navy, Air Force and Marine personnel operating at the Defense Attache's Office. They operated on 12-hour shifts, soon expanding to 24-hour shifts. In addition, on that same day military officials initiated, Plan Alamo to defend the DAO compound and its annex so it could be employed as a holding area for 1,500 evacuees for five days. By April 16, Alamo was complete with stockpiles of ammunition and ordnance, water supplies, C-rations, petroleum, oil, and lubricants (POL) as well as the installation of backup electrical generators; sanitary facilities and concertina wire which protected the perimeter.[23]

On April 7, Air America pilot Nikki A. Fillipi, along with U.S. Marine Corps Lieutenant Robert Twigger, who had been assigned to the DAO as the U.S. Navy liaison officer, surveyed 37 buildings in Saigon as probable landing zones (LZ), declaring 13 of them fit for use. In turn, employees of Pacific Architects and Engineers visited each of the 13 LZs to remove obstructions and paint Hs the size of a UH–1 Huey helicopter's skids to mark the landing spot.[24]

On April 11, President Ford, in a public address to the nation, assured Americans that he would evacuate Vietnamese civilians at risk of arrest and death. A day later, Brigadier General Richard E. Carey, commander of the 9th Marine Amphibious Brigade, which were scheduled to provide helicopters and security forces to carry out the evacuation, sent a delegation to speak with U.S. Ambassador Graham Marsh. Instead of discussing plans for withdrawal, an impassioned Martin advised them that under no circumstances would he tolerate any outward indications that the United States intended to

abandon South Vietnam. Instead, "all planning would have to be conducted with the utmost discretion."[25]

The following morning General Carey flew to Saigon to meet with Ambassador Martin. In later years he stated, "The visit was cold, non-productive and appeared to be an irritant to the Ambassador." Later that day, 13 Marines from the Marine Security Guard (MSG) detachment were deployed to the DAO Compound to relieve the 8 Marine guards who had been providing security after they were withdrawn from the closed DaNang and Nha Trang consulates.[26]

Soon after, Air America helicopter crews were flying several daily shuttles from Task Force 76 to the DAO Compound to enable the 9 MAB to make evacuation preparations at the DAO without exceeding the Paris Peace Accords' limit of 50 U.S. military personnel in South Vietnam. Ironically, the U.S. government was continuing to observe its obligations under the Accords, notwithstanding the North Vietnamese invasion. In late April, the MSG Marines were ordered to abandon Marshall Hall/Marine House, their billet at 204 Hong Thap Tu Street (now 204 Nguyen Thi Minh Khai Street), and move into the recreation area in the U.S. Embassy compound.[27]

The two major evacuation points chosen for Operation Frequent Wind were the DAO Compound next to Tan Son Nhut Airport for American and Vietnamese civilian evacuees, and the U.S. Embassy, Saigon for its staff. The plan for the evacuation included stationing buses and American civilian bus drivers at 28 buildings throughout metropolitan Saigon. The buses would follow one of four planned evacuation routes from downtown Saigon to the DAO Compound, each route named after a Western Trail: such as Santa Fe, Oregon, Texas, and so forth.[28]

While at first this seemed to be only a possibility, on April 28, the NVA lobbed artillery shells into Tan Son Nhut AB and aircraft from the Vietnamese People's Air Force strafed the airbase as well. This caused Allied leaders to halt the fixed-wing evacuation and initiate Operation Frequent Wind. Ultimately, during the fixed-wing evacuation 50,493 individuals, that included 2,678 Vietnamese orphans were extricated from South Vietnam.[29]

This final phase of the withdrawal mainly occurred out of the Defense Attache's Office compound, starting just before 1400 hours on the afternoon of April 29, and concluding early the next morning with the rotary-engine aircraft suffering only minor small arms damage. Planners had originally anticipated using the U.S. Embassy as a secondary evacuation site mainly for the Embassy staff. However, as things got more desperate for pro-American Vietnamese they crowded around the building begging to be rescued along with the remaining Americans. Ultimately, in the midst of this frenzied melee, dozens were left behind as the final helicopters departed the embassy roof at 0753 hours on April 30. Later, those having managed the departure discovered that a couple dozen Americans either chose to remain or were left behind. In addition, more than 400 non-American or Vietnamese were also left behind. Americans hoped that those from nonaligned nations would not be harmed by the PAVN.[30]

Tens of thousands of Vietnamese evacuated themselves by sea or air. With the collapse of South Vietnam, numerous boats and ships, Republic of Vietnam Air Force (RVNAF) helicopters and some fixed-wing aircraft sailed or flew out to the evacuation fleet. Helicopters began to clog ship decks and eventually, some were pushed overboard to allow others to land.

**Babylift Crash Site.**

Pilots of other helicopters were told to drop off their passengers and then take off and ditch into the sea, from where they would be rescued. In Operation Frequent Wind a total of 1,373 Americans and 5,595 Vietnamese and third-country nationals were evacuated by helicopter. All totaled, 138,869 Vietnamese were evacuated during Frequent Wind or found their own way out of Vietnam and ended up reaching American authorities for processing as refugees entering the United States.[31]

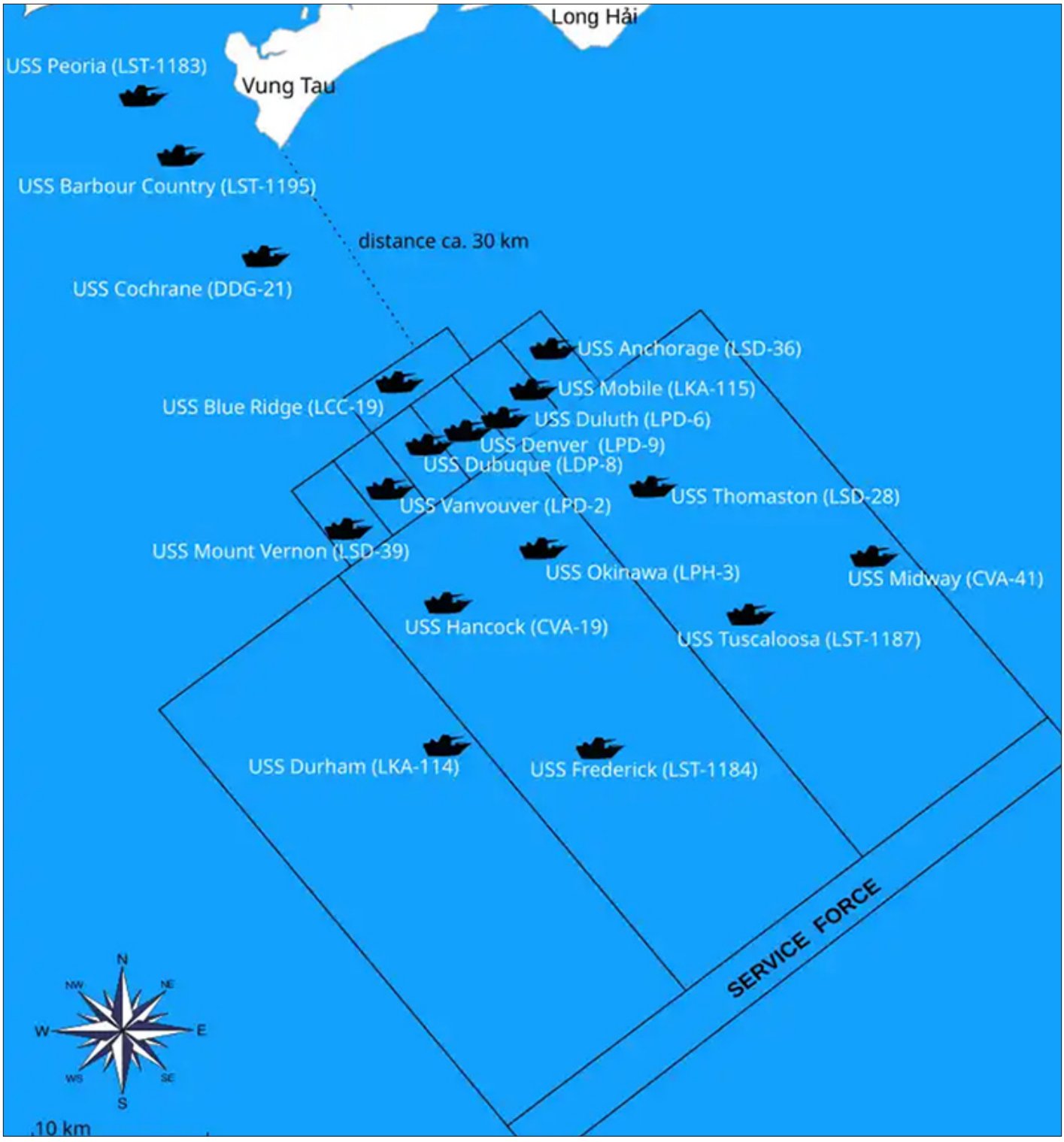
### Options One and Two: Fixed Wing Evacuation

By late March, the U.S. Embassy began to reduce the number of U.S. citizens in Vietnam by encouraging dependents and non-essential personnel to leave the country by commercial flights and/or Military Airlift Command (MAC) C–141 and C–5 aircraft, which were still bringing in emergency military supplies. In late March, two or three of these MAC aircraft were arriving each day and were used to evacuate civilians and Vietnamese orphans. On April 4, a C–5A aircraft carrying 250 Vietnamese orphans and their escorts suffered explosive decompression over the sea near Vung Tàu and made an emergency crash-landing while desperately attempting to return to Tan Son Nhut AB; 153 people on board died in the crash.[32]

With the cause of the crash still unknown, the C–5 fleet was grounded, and the MAC airlift was reduced to using C–141s and C–130s. Rather than loading as many

evacuees as possible, each refugee was required to have a seat and a seatbelt, reducing the number of passengers that could be carried on each flight to 94 in C–141s and 75 in C–130s. However, these restrictions were relaxed and eventually ignored altogether as the tempo of the evacuation accelerated. At the same time, armed guards were assigned to each flight to prevent hijacking. Moreover, U.S. commercial and contract carriers continued to fly out of Tan Son Nhut Airport, albeit with decreasing frequency. In addition, military aircraft from Australia, Indonesia, Iran, Poland, the United Kingdom, France, and other countries flew in to evacuate their embassy personnel.[33]

Throughout April, the "thinning out" proceeded slowly, largely because the South Vietnamese government was slow to issue papers allowing Americans to take Vietnamese dependents with them, with the result that MAC aircraft were often departing




**April 1975 map showing the positions of Task Force 76 ships during Frequent Wind.**

nearly empty. Finally, on April 19, a simple procedure was implemented that cleared up the paperwork jam and the number of evacuees dramatically increased.[34]

On April 21, the ARVN withdrawal from Xuan Loc and the resignation of President Thieu elevated the numbers of desperate individuals in search of a way out of South Vietnam via the DAO Compound as it became apparent that Saigon was about to be overrun. The following day, Air Force personnel began 20 C–141s and 20 C–130s flights a day carrying evacuees out of Tan Son Nhut AB to Clark AB, Philippines. However, Philippine President Ferdinand Marcos soon announced that only 2,500 Vietnamese refugees would be permitted into the Philippines at any one time, further increasing the strain on MAC which now had to move evacuees out of Saigon and move roughly 5,000 émigrés from Clark AB on to Andersen AFB, Guam, Wake Island Airfield, and Yokota AB, Japan. On April 25, President Thieu and his family left Tan Son Nhut AB on an Air Force C–118 cargo transport aircraft for exile in Taiwan. That same day, officials of the U.S. Federal Aviation Administration (FAA) halted commercial flights into South Vietnam. Perhaps not so ironically, the directive was subsequently reversed since some operators had ignored it anyway. Even so this action, for all intents and purposes marked the end of the commercial airlift from Saigon. On April 27, PAVN rockets struck Saigon and Cholon for the first time since the 1973 ceasefire. U.S. officials decided to stop using the less maneuverable C–141s, which had been loaded with up to 316 evacuees, and use only C–130s, which had been taking off with more than 240 individuals.[35]

**Task Force 76**

With the fall of Saigon imminent, between 18 and April 24 the U.S. Navy assembled ships off Vung Tau under Commander TF 76, which was comprised of USS *Blue Ridge* (command ship), and USS *Oklahoma* (Seventh Fleet flagship); Task Group 76.4 (Movement Transport Group Alpha), USS *Okinawa*, USS *Vancouver*, USS *Thomaston,* and USS *Peoria;* Task Group 76.5 (Movement Transport Group Bravo), USS *Dubuque*, USS *Durham*, and USS *Frederick;* and Task Group 76.9 (Movement Transport Group Charlie), USS *Anchorage*, USS *Denver*, USS *Duluth*, and USS *Mobile*. The task force was joined by USS *Hancock* and USS *Midway*, each carrying eight CH–53 Marine helicopters from the 21st Special Operations Squadron (21 SOS), and two Air Force HH–53 helicopters from the 40th Aerospace Rescue and Recovery Squadron (40 ARRS).[36]

Other ships in the armada included the amphibious ships USS *Mount Vernon*, USS *Barbour County*, and USS *Tuscaloosa*; the USS *Worden*, a guided missile frigate; and eight destroyer types for naval gunfire, escort, and area defense, including the USS *Richard B. Anderson*, USS *Cochrane*, USS *Kirk*, USS *Rowan*, USS *Gurke*, USS *Bausell*, and USS *Cook*.[37]

Also acting as part of the overall evacuation fleet were the USS *Enterprise* and USS *Coral Sea* carrier attack groups which were part of Task Force 77 stationed in the South China Sea to afford operational air cover. In addition, Task Force 73 was present to guarantee logistic support. Also on hand was the USMC evacuation group, specifically Task Force 79.1's 9th Marine Amphibious Brigade (9 MAB) which consisted of three Battalion Landing Teams (BLT). These were the 2nd Battalion, 4th Marines (2/4), 1st Battalion, 9th Marines (1/9), and 3rd Battalion, 9th Marines (3/9), as well as three helicopter squadrons, the Heavy Marine Helicopter (HMH)-462, HMH-463, and HMM-165 joined by other support units from the Marine Aircraft Group 39 (MAG-39). Furthermore, there was a flotilla of Military Sealift Command (MSC) vessels present to execute seaborne evacuations from Saigon Port. It was comprised of the tugboats *Asiatic Stamina*, *Chitose Maru*, *Haruma*, *Osceola*, and *Shibaura Maru*, alongside the large transport ships SS *American Challenger*, SS *Boo Heung Pioneer*, SS *Green Forest*, SS *Green Port*, United States Navy Ship (USNS) *Greenville Victory*, SS *Pioneer Contender*, SS *Pioneer Commander*, USNS *Sgt. Truman Kimbro*, and USNS *Sgt. Andrew Miller*.

**Tan Son Nhut Under Attack**

Almost concurrently, on April 28 at 18:06, three A–37 Dragonflies piloted by former RVNAF pilots, who had defected to the Vietnamese People's Air Force during the fall of Da Nang, dropped six Mk81 250-pound bombs on Tan Son Nhut Air Base (AB) destroying several aircraft. Five RVNAF F–5A Freedom fighter aircraft launched in pursuit, but they were unable to intercept the A–37s. Crew members of C–130s departing the airbase reported being fired on by enemy 12.7 mm and 37 mm anti-aircraft (AAA) fire, while sporadic PAVN rocket and artillery attacks also started to hit the airport and air base. Officials temporarily halted the C–130 flights following the air attack but resumed around 20:00 hours on April 28. At 21:00 hours on April 28 Major General Homer D. Smith, the Defense Attaché, informed the evacuation control center that 60 C–130 flights would come in on April 29 to evacuate 10,000 people.[38]

Early in the morning around 0330 hours, on April 29, a PAVN rocket round struck Guard post number 1 at the DAO Compound. It almost instantaneously killed U.S. Marine Corporals Charles McMahon and Darwin Judge who became the last American ground casualties in Vietnam. Less than a half-hour later, C–130E T/N 72-1297, flown by a crew from the 776th Tactical Airlift Squadron (776 TAS) was destroyed by a 122mm rocket as it taxied to a position where it could take on refugees at Tan Son Nhut AB. Ironically, it had just unloaded a shipment of BLU-82 anti-personnel mines. As such, the crew was able to escape the burning aircraft and later, leave on another C–130 that had previously landed. This was the last USAF fixed-wing aircraft to leave Tan Son

Nhut. At the same time, between 0430 and 0800 hours roughly 40 artillery rounds and rockets exploded all around the DAO Compound.[39]

At dawn the RVNAF pilots and crews began random take off from Tan Son Nhut Air Base even as A–37s, F–5s, C–7s, C-119s, and C–130s departed for Thailand. In turn, helicopters with less range such as the UH-1s took off headed for the ships that comprised TF 76. Some RVNAF aircraft remained and continued to fight the advancing PAVN forces. Indeed, during the night of April 28–29, one VNAF AC-119K gunship spent the night making pylon-turns over enemy forces dropping flares and firing 7.62 mm minigun rounds and 20 mm cannon rounds at the advancing PAVN ground forces with deadly precision.[40]

As the 29th dawned around 0530 hours, two A–1 Raiders began patrolling the perimeter of the Airport and AB at 2,500–2,800 feet. About 20 minutes into the mission one of the propeller aircraft was shot down, probably by an SA-7 shoulder-fired surface-to-air Missile (SAM). At 0700 hours, the aforementioned AC–119 was also struck by an SA-7 forcing it to crash-land.[41]

Even as these events took place, Gen. Smith advised Ambassador Martin that fixed-wing evacuations should cease and that Operation Frequent Wind itself, the helicopter evacuation of U.S. personnel and at-risk Vietnamese should commence. A frustrated Martin refused the General's recommendation and instead insisted on visiting the Tan Son Nhut area to survey the situation for himself. At 1000 hours Martin reluctantly agreed with Smith's assessment and at 1048 hours he contacted Washington to recommend Option 4, the helicopter evacuation commence.[42]

At 1051 hours Admiral Noel A. M. Gaylor, the serving Commander-in-Chief Pacific Command (CINCPAC) sent out the order to commence Option 4. However, given the chaotic situation in Saigon and misunderstanding in the chain of command, Gen. Carey, nor anyone else in the 9 MAB received the order to execute Frequent Wind until 1215 hours. Some eight hours later, RVNAF Commander, Lt. Gen. Tran Van Minh, along with 30 members of his staff arrived at the DAO compound requesting they be evacuated. They soon became just some of the senior members of the South Vietnamese hierarchy to be airlifted out of Tan Son Nhut AB. This act of desperation made it clear that RVNAF was done for as its command and control had completely disintegrated.[43]

NVA troops overrun Tan Son Nhut Airport, April 30, 1975.

**Executing the Fourth Option**

Looking back, in the days leading up to the actual evacuation, members of the U.S. Embassy had circulated a 15-page booklet entitled *SAFE* or "Standard Instruction and Advice to Civilians in an Emergency." The brochure included a map of Saigon pinpointing "assembly areas where a helicopter will pick you up." In addition, it contained an insert page that stated, "Note evacuational signal. Do not disclose to other personnel. When the evacuation is ordered, the code will be read out on Armed Forces Radio. The code is: The temperature in Saigon is 105 degrees and rising. This will be followed by the playing of 'I'm Dreaming of a White Christmas.'"[44]

In fact, after the evacuation signal was given, the buses began to pick up passengers and drive them to the DAO Compound. As it turned out, the process worked so well each bus was able to make three return journeys rather than the anticipated one. The biggest issue arose when the ARVN unit guarding the main gate at Tan Son Nhut refused to allow the last convoy of buses into the DAO Compound at about 1745 hours. This hitch in the proceedings was overcome because a firefight broke out between two ARVN units and several rounds hit the buses in the rear, disabling two of the vehicles. Amidst the bedlam the ARVN commander controlling the gates finally agreed to let the remaining buses enter the compound. No doubt General Carey's threat to use the AH–1J Sea Cobra helicopter gunships flying overhead had a great deal to do with the ARVN commander's acquiescence.[45]

This entire closing act of this American tragedy in Southeast Asia, soon took on the eerie quality of a nightmare or narcotic illusion. Years later, in the early 1980s, U.S. journalist and the Chief CIA Analyst in Saigon, Frank W. Snepp, remembered the arrival of helicopters at the U.S. Embassy as something akin to a "bizarre Kafkaesque time." There they were waiting for the helicopters to spirit them away from PAVN forces about to overrun the entire city of Saigon while a "cheerful" Christmas song was playing over the radio. The entire scene soon took on a dreamlike quality. At the same time, some Japanese journalists, had been in a panic over the fact that they might not be able recognize "White Christmas." As a result, they summoned up their best English and contacted their U.S. colleagues to get them to sing a verse to them. Ultimately, even that seemed to work out.[46]

**Calling in Air Support**

Meanwhile, for the Americans anxious to depart Saigon, one issue confronting them was would the Communists and/or Southern forces attempt to interrupt the evacuation. To this end, planners had to consider all possible eventualities to ensure the safety and success of the evacuation. For example, 9 MAB staff members had to determine what routes, altitudes, and checkpoints would be employed to guarantee the safest flight operations. To prevent mid-air collisions, organizers chose altitudes which would provide separation of traffic and also the ability to see and avoid the PAVN's AAA, SA-2 and SA-7 missile threats. Specifically, inbound flights to Saigon came in at 6,500 feet and outbound at 5,500 feet. These outbound aircraft were leaving Saigon on their way to Navy ships. These altitudes were also high enough to avoid small arms and artillery fire.

Moreover, plans called for there to be two orbiting MAG-39 CH–46 Sea Knight helicopters to be present in case evacuation helicopters were shot down or had to make an emergency landing in hostile territory. Each CH–46 was manned with 15-man, quick-reaction "Sparrow Hawk" teams of Marines from 1st Platoon, Company A, 1st Battalion, 9 MAB. They were part of the contingency of troops on the USS *Blue Ridge* and were prepared to land and provide security enabling a search and rescue helicopter to pick up the crew. Furthermore, tactics called for there to be two more CH–46s available to afford medical evacuation capabilities. In addition, AH–1J Sea Cobras were scheduled to fly top-cover for the transport helicopters and for any ground units who might ask for support. Planners also used the AH–1Js as Forward Air Controllers (FACs).[47]

Of note, was the fact that an F–14A Tomcat from the Navy's strike fighter squadron VF-2 "Bounty Hunters" was launched from USS *Enterprise* on April 29 1975 to counter potential enemy threats. This was the first combat deployment of the brand-new swing-wing jet fighter built by Grumman. Indeed, the air wings of both the USS *Enterprise* and USS *Coral Sea*, were ready to provide close air support (CAS) and anti-aircraft suppression (AAS) if required employing their A–6 Intruder and A–7 Corsair II attack aircraft. They were also prepared to provide continuous fighter cover across the evacuation route. As noted, the Navy was not the only source of air power. The Air Force sent its aircraft operating out of Nakhon Phanom AB, Korat AB, and U-Tapao AB located in Thailand to also provide top-cover overhead for the duration of the helicopter evacuation. In addition, a C–130 Airborne Command and Control ($AC^2$) was also up on evacuation day. Its job was to regulate all American air operations over land. They also deployed their F–4 Phantoms, F–111 Aardvarks, and A–7s to provide air cover during daylight hours while 16th Special Operations Squadron (16 SOS) AC–130 fixed-wing gunships took over at night. Throughout KC–135 aerial refueling aircraft from the Strategic Air Command (SAC) provided air-to-air refueling.

The evacuation generally proceeded without interference from the PAVN. However, one aircraft flying air cover for the evacuation reported being tracked with surface to air radar in the vicinity of Bien Hoa AB, which had been overrun by enemy forces on April 25. Even so, there were no missile launches. Later evidence suggested that officials in Hanoi as well as General Dung on site, determined that it was better to let evacuation be completed as soon as possible to reduce the possibility that the U.S. might retaliate in force should any large number of the evacuees be harmed.

In the meantime, South Vietnamese police officer in Saigon were promised they would be removed from the city in exchange for protecting the American evacuation buses and control of the crowds in the city during the withdrawal. Still, some disgruntled ARVN troops feeling betrayed and abandoned shot at U.S. helicopters with small arms as they left them behind to face the enemy's occupation of their capital city. Ultimately, they did not cause much damage. In spite, of direction not to fire on the Americans, a few PAVN units fired AAA at USAF and USN aircraft who in turn did not "officially" attack any of the PAVN AAA or SAM sites during the evacuation.[48]

However, sometime after the operation ended, an Air Force after-action report indicated that around 1600 hours that afternoon an F–4C Wild Weasel and an F–4D from the 388th Fighter Wing were patrolling between Tan Son Nhut and Bien Hoa when the Wild Weasel crew detected SAM radar emissions emanating from the north. They immediately turned to confront the threat, and numerous rounds of anti-aircraft projectiles were fired at the two aircraft. In the final operations report, the four crew members estimated that in total, they had more than 500 rounds of 23-mm, 37-mm, and 57-mm fired at them in a matter of minutes. After receiving permission from the airborne commander, the Wild Weasel identified and targeted the three 57-mm sites with an AGM–45 Shrike missile. To avoid the incoming enemy fire the Wild Weasel then took evasive action and dodged the incoming tracers. The F–4D pilot subsequently requested permission from the Air Controller to counterattack. He was cleared to destroy the 57 mm batteries. He made his run dropping two CBU–71 and two CBU–58 cluster bombs, destroying the site, which was located 10 miles northeast of Saigon. Neither aircraft was damaged.[49]

While officials remained concerned about enemy action throughout the process, ultimately, the weather proved to be the severest problem. Even as Operation Frequent Wind commenced in earnest, pilots and crews in the first wave reported scattered overcast and severe weather from 2,000 to 20,000 feet altitude with 15 miles visibility. The worst weather was caused by severe fog over Saigon, where clear visibility reached only one mile. This meant that scattered clouds existed below their flight path while a solid layer of clouds more than two miles above them concealed the sun. This was certainly not perfect weather and as the operation went on the

weather conditions increasingly deteriorated.[50]

**Air America**

One important part of the evacuation plan was that Air America committed 24 of its 28 available helicopters to support the evacuation with 31 of their pilots remaining on site to fly them. Indeed, this meant almost all these helicopters had only one pilot rather than the customary two. On April 29, around 830 hours, as the shelling of Tan Son Nhut Airport diminished, Air America began moving their helicopter and fixed-wing pilots from their homes in Saigon to the Air America compound at Tan Son Nhut, across the road from the DAO Compound.

Once in place these Air America helicopters began flying to the rooftop LZs in Saigon to either take the evacuees back to the DAO Compound or fly them directly to the carriers of TF 76. By mid-morning all of Air America's fixed-wing aircraft had departed Tan Son Nhut AB, evacuating all non-essential personnel and as many Vietnamese evacuees as possible on their way to safety in Thailand. Concurrently, a group of RVNAF personnel fled in five ICCS UH–1H Hueys and one Air America Bell 204 helicopter from the Air America ramp.

Just before noon, with the security circumstances deteriorating at the Air America compound (LZ 40), and with General Carey loath to risk the safety of his Marines by extending their perimeter to protect LZ 40, he shifted all Air America helicopter operations to LZ 35 or the tennis courts in the DAO Annex. While this improved security it meant that Air America no longer had access to the fuel supplies in their compound. At first, TF 76 officials were reluctant to supply them with fuel from their ships. Eventually, this dire situation was fixed, and the ship's crew did provide them with fuel as needed.

One of the more interesting situations supposedly unfolded at 1230 hours. An official Navy report stated that an Air America Bell 205 landed on USS *Denver* with Air Vice Marshal Nguyen Cao Ky, Madame K , Dorothy Martin, the wife of Ambassador Martin. Much more recent evidence, that includes photographs, clearly proves that Ky flew his own UH–1H helicopter to USS *Midway*. In many ways this indicates just how increasingly frantic and confused the situation became as the operation unfolded.[51]

**Air Vice Marshall Ngyuen Cao Ky after landing his UH–1 on the *Midway*.**

Other interesting and clandestine events took place that afternoon around 1400–1430 hours when an Air America Bell 205 marked with tail number N47004, set down on the roof top of the Pittman Apartment Building at 22 Gia Long Street to evacuate a senior Vietnamese intelligence informant and his family. This particular structure was not an approved LZ, but when the originally specified escape point at the Lee Hotel at 6 Chien Si Circle was declared unusable, CIA station chief Tom Polgar asked Oren B. Harnage, deputy chief of the embassy's Air Branch, to change the LZ to the Pittman Building, which was the home of the assistant station chief and had an elevator shaft that proved to be able to support the weight of the helicopter. Harnage embarked on an Air America UH–1H from the embassy's rooftop heliport and "flew the short distance to the Pittman Building. Harnage leaned out of the Huey and helped the roughly 15 evacuees board the Huey from the narrow helipad." This famous photo was shot by famed Dutch photographer Hubert van Es and is only slightly less iconic that the photo of the last American helicopter leaving the roof of the U.S. Embassy.

As Leeker notes in his famous history of Air America, "Air America helicopters continued to make rooftop pickups until after nightfall by which time navigation became increasingly difficult. Helicopters overflew the designated LZs to check that no Americans had been left behind," and then the last helicopters, many flying of fumes, made their way toward TF 76, located USS *Midway* or USS *Hancock* and landed for their last time around 2100 hours. All total Air America had moved more than 1,000 refugees either to the DAO Compound, the Embassy, or to the ships of TF 76.[52]

**The DAO Compound**

That afternoon, throughout the evacuation operation, the gravity of this critical effort became increasingly obvious to the leaders involved and the place where this was most apparent was at the DAO compound. For example, at 1406 hours two UH–1E helicopters carrying Gen. Carey and Colonel Alfred M. Gray, Jr., Commander of Regimental Landing Team 4 (RLT 4) landed at the DAO Compound. Throughout their approach into the compound, both officers witnessed, firsthand, scenes which demonstrated the enemy's combat potential as artillery shells and rockets periodically fell on Tan Son Nhut Airport. Without hesitation, they immediately created an ad hoc command post in preparation for the arrival of ground security forces aboard Marine CH–53s.

At roughly 1500 hours, they completed their preparation just in time for the initial wave of 12 CH–53s to arrive from the HMH-462. On board were members of the Battalion Landing Team (BLT) 2/4

The CIA's 14 emergency assembly sites in Saigon.

headed by command groups Alpha and Bravo, supported by Company F and reinforced Company H. The Marines quickly took action to reinforce the existing perimeter barricades. Ironically, the greatest concern arose not from PAVN shelling but from small arms fire from ARVN troops even though it had not caused any significant damage. Ten minutes later, a second group of 12 CH–53s from HMH-463 landed carrying more Marines. Almost immediately a third, and final contingent touched down comprised of two CH–53s from HMH-463 and eight Air Force CH–53Cs and two HH–53s helicopters from the 40 ARRS. All of these were from USS *Midway*. This was just one example of joint nature of the overall operation.[53]

The members of the Alpha command group, two rifle companies, and the 81 mm mortar platoon deployed around the DAO headquarters building and its adjacent landing zones. In an act of dark humor, they had designated this building "the Alamo." At the same time, Companies E and F respectively occupied the northern and southern segments of the compound between the Alamo and the DAO Annex. Meantime, members of the Bravo command group, consisting of two rifle companies and a 106 mm recoilless rifle platoon, rushed to secure the DAO Annex itself and its adjoining landing zones. Company G occupied the eastern section of the Annex, while Company H assumed control of the western section. Indeed, as soon as this disposition was completed evacuees boarded the HMH-462 CH–53s and departed the compound. At 1540 hours they landed on their target ship and unloaded the first evacuees. While this was the beginning of the evacuation, it was not officially Operation Frequent Wind. However, in the years since most people and even historians and military experts have come to refer to the entire evacuation of Saigon as Frequent Wind.

This first trip of evacuees initiated a continual process of taking those escaping the beleaguered city to the waiting carriers and returning for a new batch. At about 1730 Gen. Carey ordered that Marines of 3rd Platoon, Company C, BLT 1/9, which had been landed at the DAO Compound on April 25 to assist the Marine Security Guard to be boarded on choppers and evacuated. Later, between 1900 and 2100, he moved three platoons, roughly 130 troopers of BLT 2/4 inside the embassy compound to provide additional security for the Embassy. He also sent the last Marines at the Annex to the Alamo where the remaining evacuees were waiting to depart. At this point, the remining defensive perimeter included only LZ 36 and the Alamo. An hour later, the last refugees boarded their helicopters and departed followed by the extraction of the landing control teams from the Annex and Alamo. At about 2300 hours, the General ordered the withdrawal of the ground security forces from the DAO Compound. Forty minutes later, the remaining Marines destroyed the satellite terminal, the Compound's last means of direct communication with the outside world. On April 30 at 0030 hours, thermite grenades, which had already been placed in designated buildings and other locations, detonated even as the last two CH–53s left the DAO parking lot carrying the last elements of BLT 2/4.[54]

**The Embassy Events**

While the DAO Compound wrestled with its evacuation process, other matters of equal importance were unfolding at the U.S. Embassy where an overly optimistic Ambassador Graham Martin, after much resistance, finally departed his post. Looking back to April 25, 40 Marines of the 9 MAB wearing civilian clothes, stationed on USS *Hancock*, were flown in Air America helicopters to the DAO compound to bolster the 18 Marine Security Guards assigned to defend the embassy. In addition, six other Marines were assigned to protect Ambassador Martin. Throughout the last grim days, despite of the obvious signs to the contrary that defeat was imminent, the Ambassador had remained optimistic that some kind of a negotiated settlement could be reached allowing the Americans to remain in South Vietnam. To avoid despondency and panic he instructed Major James Kean, commander of the Marine Security Guard Battalion and Ground Support Force Commander United States Embassy Compound, "not begin to remove the tamarind tree and other trees and shrubbery which prevented the use of the embassy parking lot as a helicopter landing zone."[55]

As the morning of April 29 dawned, American observers reported to their superiors that roughly 10,000 people had crowded gathered around the

Embassy, even as more than 2,500 evacuees inside awaited their turn to escape the invading enemy forces. The desperate mob meant that the Americans could no longer use ground transportation to bring departing personnel from the Embassy to the DAO Compound. Those last individuals eligible for escape instead had to identify themselves to the Marine guards or Embassy staff manning the walls and be lifted over them into the Embassy compound. Among these were Phan Quang Dan, former Deputy Prime Minister and Lt. Gen. Dang Van Quang, Minister for Social Welfare and Refugee Resettlement.[56]

In the hours just before noon, Kean and his Marines finally received the orders to "topple the tamarind and other trees and move vehicles to create an LZ in the embassy parking lot behind the chancery building." This action carved out two LZs within the Embassy compound. In addition, "the rooftop could be used for UH–1s and CH–46s and the new parking lot LZ for the heavier CH–53s." At this point, as previously mentioned, "Air America UH–1s began ferrying evacuees from other smaller assembly points throughout the city bringing them to the Embassy's rooftop LZ." It was mid-afternoon when the first CH–53s were sighted heading towards the DAO Compound. In turn, Kean contacted the 7th Fleet and explained what their needs were since until that point "the fleet believed that all evacuees had been bussed from the embassy to the DAO Compound and that only two helicopters would be required to evacuate Martin and the Marines from the embassy."

By the time the first CH–46 arrived at 1700 hours the situation inside and out had become very tense. With night fall looming on the 29th, there were 175 Marines securing the Embassy and with the evacuation from the DAO Compound complete around 1900 hours the subsequent incoming helicopters could be routed to the Embassy. This came as a relief to Kean who had been told "that operations would cease at dark." To prevent this Kean radioed Naval officials that the LZ was "well-lit and he had vehicles moved around the parking lot LZ with their engines running and headlights on to illuminate the LZ." This temporarily extended operations. However, around 2200 hours a CH–53 pilot told Kean that Rear Adm. Donald Boone "Big Daddy" Whitmire, Commander of Task Force 76, "had ordered that operations would cease at 2300." With key personnel still needing rescue Kean asked Ambassador Martin to contact the White House to get President Ford to extend the airlift until everyone was flown out. Concurrently, Gen. Carey, contacted Admiral Whitmire and convinced him to resume flights to the Embassy "despite pilot fatigue and poor visibility caused by darkness, fires and bad weather."[57]

In the wee hours of the next morning, "one CH–46 and one CH–53 were landing at the Embassy every 10 minutes." With Embassy officials advising officials that they required more than 19 airlifts to complete the evacuation they were told that was all they would get. "At that time Kean estimated that there were still some 850 non-American evacuees and 225 Americans, including the Marines." A downcast Martin simply told Kean, "to do the best he could." In turn, Martin directed the major "to move all the remaining evacuees into the parking lot LZ which was the Marines' final perimeter." Famously, it was around 0330 hours that President Gerald Ford ordered that "no more than 19 additional lifts would be allowed to complete the evacuation." At 0430 with the 19 limit already exceeded, "Kean went to the rooftop LZ and spoke over a helicopter radio with Carey who advised that President Ford had ordered that the airlift be limited to U.S. personnel." They then ordered him to "withdraw his men into the chancery building and withdraw to the rooftop LZ for evacuation."[58]

The final moments were truly tense. As Major Kean later recalled: [59]

> He returned to the ground floor of the chancery and ordered his men to withdraw into a large semicircle at the main entrance to the chancery. Most of the Marines were inside the chancery when the crowds outside the embassy broke through the gates into the compound. The Marines closed and bolted the chancery door, the elevators were locked by Seabees on the sixth floor, and the Marines withdrew up the stairwells locking grill gates behind them. On the ground floor a water tanker was driven through the chancery door and the crowd began to surge up through the building toward the rooftop. The Marines on the rooftop had sealed the doors and were using Mace to discourage the crowd from trying to break through. Sporadic gunfire from around the embassy passed over the rooftop.

One of the last to depart at two minutes before 0500 was Ambassador Martin, who boarded the Marine CH–46 Sea Knight helicopter, "call-sign *Lady Ace 09* of HMM-165 and was flown to USS *Blue Ridge*.

**CH–53s on the USS *Midway*.**

When *Lady Ace 09* transmitted 'Tiger is out,' those helicopter crews still flying thought the mission was complete and delayed evacuating the Marines from the embassy rooftop." A flight of CH–46s "evacuated the Battalion Landing Team around 0700 and "after an anxious wait a lone CH–46 Swift 2-2 of HMM-164 arrived to evacuate Kean and the ten remaining men of the Marine Security Guards," lifting off at 0753 hours on April 30 and landing on USS *Okinawa* at 0830.[60]

**The Conundrum at Sea**

While the scene in Saigon was hectic to say the least, things at sea were equally frenetic. Even as the Americans were leaving, an unexpected number of RVNAF helicopters flew out of what remained of South Vietnam to the try to contact the U.S. fleet. Sometime near noon, half a dozen South Vietnamese UH–1Hs and one of the appropriated ICCS UH–1Hs, landed on the USS *Blue Ridge*. The RVNAF pilots were assured that once they had deposited their passengers if they ditched their helicopters they would be picked up by one of the ship's tenders. The pilot of the appropriated ICCS Huey had been told to ditch off the port quarter of the ship, but seemed reluctant to do so, flying around the ship to the starboard bow he jumped from his helicopter from about 40 feet. The pilotless aircraft spun out of control and struck the side of *Blue Ridge* before crashing into the sea. In turn, the tail rotor sheared off and embedded itself in the engine of an Air America Bell 205 that was busy undertaking a hot refueling on the helipad at the rear of the ship. The Air America pilot shut down his helicopter and left it. Moments later a RVNAF UH–1H attempted to land on the helipad, locked rotors with the Air America Bell, almost shoving it overboard. More chaos ensued when an Air America Bell 204 landed on USS *Kirk*, from where American Navy pilots flew it to *Okinawa*.[61]

So numerous were the RVNAF helicopters that requested and received permission to land on the ships of TF 76 that some "45 UH–1 Hueys and at least one CH-47 were pushed overboard to make room for more helicopters to land. Other helicopters dropped off their passengers and were then ditched into the sea by their pilots, close to the ships, their pilots bailing out at the last moment to be picked up by rescue boats."[62]

**Major Buang-Ly's Act of Heroism**

Amidst all the events that occurred during the evacuation of Saigon and South Vietnam by U.S. and South Vietnamese personnel (including Frequent Wing) one of the more notable took place on the *Midway* when a South Vietnamese pilot flying a Cessna O–1 Birddog dropped a note on the deck of the carrier. It read, "Can you move these helicopters to the other side, I can land on your runway, I can fly 1 hour more, we have enough time to move. Please rescue me. Major Buang-Ly, Wife and 5 child." *Midway*'s commander was Captain Lawrence Cleveland "Larry" C. Chambers, the first African American U.S. carrier commander and only the second to graduate from the Naval Academy. He was so impressed that Major Buang-Ly had gotten this far and was sympathetic to his plea; thus, he ordered the flight deck crew to clear the landing area as quickly as possible. The only means to achieve this clearing process in time was to push several UH–1s overboard into the South China Sea. Chambers made a bold move even though these helicopters were worth between $10 and $12 million dollars in 1975. As one source recalled, "Once the deck was clear Major Buang approached the deck, bounced once and then touched down and taxied to a halt with room to spare. Major Buang became the first RVNAF fixed-wing pilot to ever land on a carrier." A second Cessna O–1 was also recovered by USS *Midway* that afternoon.[63]

While the landing itself was spectacular enough, it would be remiss not to examine the whole story of Major Buang-Ly and his amazing escape to freedom.

As the end drew near, it found "Buang and his family stationed on Con Son Island**,** about 50 miles off the southern coast and home to one of the last bases still under South Vietnamese control." The site was employed mostly as a prison camp, which also had a modest airfield. In early April, Buang-Ly and his wife were contacted by his superiors on the mainland to tell them that PAVN forces would soon overrun ARVN troops around Saigon leaving his own situation untenable. With no other means of escape and knowing their lives were in jeopardy, they quickly loaded as many of their possessions as possible into the Major's plane. In fact, they really had no real plan of escape, but they knew if they stayed they faced certain death.

Their means of escape proved to be the aforementioned O–1 Bird Dog, which was a military reconnaissance version of a Cessna 170. It was a light, single-engine plane with a fixed landing gear. Despite this it had a reputation for being rugged and very maneuverable. During American presence in Vietnam the O–1s performed a large number of missions, such as

**Major Buang-Ly lands on the USS *Midway***

"spotting enemy targets and then marking them with white phosphorous rockets to guide U.S. artillery shelling and airstrikes. The planes could take off and land on a dime, but their range was limited to just over 500 miles when fully fueled." In Buang's case his fuel tank was not full.[64]

In this case taking off, with the aircraft so full of cargo and people, was hard enough. In addition, designers never made the O–1 to fly over water. Further it lacked refined navigation gear, life vests, and the "ability to safely ditch in an emergency." The major knew of the massing of U.S. Navy ships in the South China Sea but after a brief thought or two he decided to make for what would turn out to be TF 76. While Buang was a decent pilot he "had never seen, much less landed on, an aircraft carrier." To complicate things, this particular Bird Dog had no working radio since Buang had not been able to find a headset to bring with them.

After flying for a half-hour, Buang saw a group of helicopters in the distance heading east. Later, Buang-Ly remembered, "I was searching for a safe place. It made me think there was something out there I could depend on." In a TV interview 35 years later, Capt. Chambers recalled "A flight deck is a hazardous operation under normal conditions. And when you see little kids and mothers holding little babies, and airplanes, helicopters are taking off and landing, you just kind of hold your breath." Little did he know he had not seen anything yet.

To make matters worse, weather conditions were steadily deteriorating with rain falling, 17 mile-per-hour winds across the deck and only five miles of visibility. Fortunately, the sea was relatively calm, which meant the deck, though sometimes slick with water, was not pitching. Air traffic controllers employed every means necessary, even signal flags and hand signals, to keep the swarm of helicopters executing Operation Frequent Wind in order as they approached. Mostly, things had gone as planned, even the unexpected arrival of the previously mention 45 UH–1s. As each chopper landed sailors working on the deck helped the arriving evacuees off the deck inside the carrier itself.[65]

As the afternoon seemed to be winding down to a conclusion of the evacuation a carrier spotter identified a tiny two-seat O–1 headed toward the *Midway.* Other spotters affirmed the plane's location and reported there were "at least four people in the plane, which had South Vietnamese markings." According to Rutz, "The Bird Dog began circling overhead with its landing lights switched on. Periodically the pilot rocked the plane's wings." Attempts to radio the plane were predictably unsuccessful. Chambers "asked task force commander Adm. William Harris, who was at his battle station below deck." Later, he recalled that "The admiral ordered me to tell the Bird Dog to ditch. A helicopter could be dispatched to drop swimmers in the water and rescue the occupants." After all, that is what many helicopters did during that day.

This solution was not acceptable given the situation Buang was in. Finally, during one circle around the carrier Buang-Ly "dropped three paper notes from the plane, but they blew over the side before the ship's crew could grab them. As noted earlier, on the next pass he stuffed a fourth note into his pistol's leather holster to weigh it down. He dropped it and sailors rushed to grab the little package after it hit the deck. "They read a scribbled message written on a crumpled chart of South Vietnam: 'Can you mouve [*sic*] these Helicopter to the other side, I can land on your runway, I can fly 1 hour more, we have enough time to mouve. Please rescue me. Major Buang wife and 5 child.'"

**UH–1 Huey is pushed overboard from USS *Midway.***

When Chambers read the note, as we have seen, he decided to do "whatever was necessary to let the Bird Dog land, even if that meant throwing millions of dollars' worth of equipment over the side and possibly being relieved of his command." He then gave the order to, "give me a ready deck." The Air Boss, Commander Vern Jumper "called for all available crewmen and volunteers to help prepare the angled flight deck for the Cessna. Meanwhile, with six boilers offline for maintenance, Chambers ordered his chief engineer to transfer the ship's electric load to the emergency diesel engines and make steam for 25 knots."[66]

Now, the *Midway* turned into the wind "to prepare for a fixed-wing landing." Members of the fire crew teams readied their hoses and donned fire-retardant suits." Next, "since the Bird Dog had no tail hook, sailors removed the four landing cables that normally spanned the runway. Other crew members leaned in together to heave three Hueys and one Chinook over the side. When their skids went over the flight deck's edge, the empty choppers nosed up, twisted, then fell backward into the sea with big splashes." Witnessing this odd event, five additional UH–1s which had arrived overhead "took advantage of the cleared runway to land and disembark their passengers." Chambers, already expecting he was going to lose his job, ordered those sailors on deck to throw these choppers overboard as well. Indeed, "He later told interviewers that since he expected to be deposed by prosecutors, he turned away from the action to avoid seeing exactly how many were pushed into the sea. In the same interview Jumper also claimed not to

know how many helicopters went overboard." To quote Rutz: [67]

> The old ship rattled and groaned as its speed increased. Jumper gave the green lamp signal to land. Buang made two practice passes over the ship to get a feel for the approach while translators—in English and Vietnamese—tried to warn him about the dangerous downdrafts that naturally occur behind the ship's fantail. With no response, the crew could only watch, hoping that he would carry enough power to fly through that turbulence. Buang lowered the Bird Dog's flaps and approached in a shallow descent at a speed of 69 mph. With the ship providing an estimated 46 mph of headwind to aid the landing, the light plane slowly caught up. It seemed to flutter for a moment just above the deck, then bounced once in the landing area and rolled to a smooth stop in the middle of the runway.

Appropriately, with the aging O–1 safely on the aging carrier "dozens of sailors ran toward the plane to grab it in case the aircraft's momentum was enough to send it over the side, but the Bird Dog stayed where it had stopped." In turn, "A hodgepodge of squadron crew and ship's company weighed the plane down with their bodies while Buang and his wife, carrying their youngest child, climbed out of the cockpit. He pulled forward the seat and out tumbled the other four children. Cheers rang out and sailors applauded while the family walked into the ship's island." The crisis was over and both Buang and Chambers would become heroes for their deeds that day.[68]

When Frequent Wind's evacuation ended a total of 71 Air Force, Navy, and Marine helicopters had completed 662 sorties from Saigon to the Navy warships waiting in the South China Sea. They had rescued more than 5,500 Vietnamese and exactly 1,373 Americans or roughly 7,800 people. The aforementioned 10 Air Force HH–53s had flown "four round trips from the *Midway* to Saigon, evacuating more than 1,400 personnel from the start of the operation on the morning of April 29 until its end at 9 a.m. on April 30." Around noon that same day, ARVN Gen. Duong Van Minh formally surrendered Saigon to PAVN Col. Bui Tin, effectively ending the existence of the Republic of Vietnam.

As for the O–1 Buang-Ly had used to save his family, it now hangs in the National Naval Aviation Museum in Pensacola, Florida. As one might have guessed Chambers was not fired. Instead, he continued to command aircraft carriers until he was later promoted to rear admiral. He served for more than 30 years and retired in 1984. As Rutz concluded: "Nobody was prosecuted for the estimated $10 million loss of the helicopters that Chambers ordered overboard. The *Midway*'s crew collected money to help ease the transition for the Buang family, who became seven of the estimated 130,000 refugees from the Vietnam War to eventually resettle in the United States. All seven are now naturalized American citizens."[69]

**Maj Buang Ly and family on *Midway* flight deck.**

### The End of the End

As this drama at sea played out, back on land the ad hoc remnant units of ARVN put up a tenacious struggle throughout the city, going so far as to execute a frontal counterattack against communist forces which completely out armed them. Sometime later, many senior PAVN officers admitted they were caught totally off guard by the ferocity of the ARVN soldiers who had been forsaken by their officers. Still, they heroically fought to the bitter end. While many continued their resistance since they were knew they were on the enemy's "execution lists." Indeed, they believed it was better to make a hopeless assault preferring a "quick death." The NVA forces assigned the capture of key buildings and targets, also found themselves being attacked by more disciplined forces commanded by officers who had not been able to escape. To quote one source, "They used the equipment left behind by their ARVN comrades, who had escaped, to create a perimeter around the city." They fought 'fanatically!' Nonetheless, their efforts proved to be futile since they lacked the men and arms to conduct a successful resistance.[70]

By April 30, nothing was left to stop the NVA advance into central Saigon. That same day, at around 0500 hours, American Ambassador Graham Martin, holding a furled U.S. ambassadorial flag under his arm, embarked on a CH–46, for the USS *Blue Ridge* stationed just off the coast in the South China Sea. Of course, as we have seen, it was left to President Minh to wrap things up. Five and one-half hours later, he directed all ARVN forces to cease fighting. It was a useless order since the ARVN had already ceased to exist. Soon after, Minh made his way to a nearby radio station and announced the unconditional surrender of his government.[71] In their book, *The Fall of the South* Clark Dougan and his colleague David Fulgham described the final moments as follows: [72]

A Soviet-built NVA tank breaks through the gates of the Independence Palace.

> Around noon, a PAVN tank, number 390, crashed through the gates of the Independence Palace. A crewman from the 843, which rammed into the side gate and got stuck, jumped out, ran up the steps, carrying the flag of the Provisional Revolutionary Government. A Western reporter on the scene asked the soldier his name and the man replied, "Nguyen Van Thieu." On that ironic note the Vietnam War came to an end.

Even with this, the war was not completely over. General Le Van Hung's ARVN forces in the Mekong Delta were still intact and, apparently ready to continue the fight. His plan was to assemble what he called a "secret section." They would exploit the abundance of the Delta's agricultural resources and form a resistance. The plan never came to fruition because the NLF's Southern guerilla forces, or VC, thwarted the plan.

Most Americans and South Vietnamese believed that they had been all but destroyed by the Phoenix Program designed to assassinate NLF leaders. The program proved to be less successful than thought and long hidden communist sympathizers fought these last ARVN soldiers. Ultimately, this ARVN IV Corps was isolated from Saigon or any other important city. Soon Le Van Hung was killed and, with him died the "secret plan" and the IV Corps.[73]

At the same time as the aerial evacuation, tens of thousands of South Vietnamese fled towards TF 76 aboard junks, sampans, and small craft. In addition, MSC tugs pulled barges packed with individuals escaping the Port of Saigon to TF 76. One spectacular scene witnessed a tiny convoy of 26 Republic of Vietnam Navy (RVN) ships and other vessels gathering near Long Song Island just barely southwest of Vung Tàu. Altogether, there were 30,000 sailors, their families, and other civilians on board. They too sailed out to the U.S. ships hoping to be saved. On the afternoon of April 30, TF 76 moved away from the coast, picking up more refugees as they went. As one source noted, "On 2 May, Task Force 76, carrying the Operation Frequent Wind evacuees and 44,000 seaborne evacuees along with the RVN Navy group set sail for reception centers in the Philippines and Guam.[74]

**The Aftermath**

In looking back on the results of the overall evacuation including Operation Frequent Wind itself, the departures via fixed-wing aircraft totaled 50,493 people, including 2,678 Vietnamese orphans, known as Operation Baby Lift. While most of this mission worked out one C–5 crash cost the lives of dozens of Air Force personnel and many of the children. Indeed, most of the fixed-wing process was handled by Air Force crews headed for Thailand and Guam and eventually for the Philippines and the U.S.

At the same time Marine pilots flew 1,054 flight hours during 682 sorties as part of Operation Frequent Wind. As we have seen, the evacuation of personnel from the DAO compound took nine hours to complete and involved more than 50 Marine Corps and Air Force helicopters. The evacuation by rotary-wing aircraft totaled 395 Americans while 4,475 Vietnamese and third-country nationals were also taken out of the DAO compound in Saigon. Furthermore, 978 U.S. and 1,120 Vietnamese and third-country nationals were airlifted out of the U.S. Embassy. In total, this meant that 1,373 Americans and 5,595 Vietnamese and third country nationals departed Saigon during Frequent Wind. Last, but not least, Air America and RVNAF aircraft of all kinds flew hundreds of more refugees to the TF 76 ships in the South China Sea. Fortunately for the thousands of the Vietnamese who left their nation behind, they were allowed to pass into the United States under the tenets of a bipartisan bill known as Indochina Migration and Refuge Assistance Act.[75]

Unfortunately, not everyone got out of Saigon. Around 400 evacuees wound up being left behind at the U.S. Embassy. This included more than 100 South Koreans soldiers and civilians. One Korean left proved to be Brig. Gen. Dai Yong Rhee, the intelligence chief at

The last Marine Embassy guards arrive aboard *Midway.*

the South Korean Embassy in Saigon. While none of them were killed after being captured, those interred feared for their lives since members of the South Korean contingency had been some of the most aggressive and hardnosed troops who fought the NVA. After many months of negotiations, in 1976, Communist authorities released these South Koreans who were ultimately returned to Korea. As for General Rhee and two other diplomats, they were held in captivity until April 1980 before being allowed to return home. Perhaps most embarrassing of all was that 49 Americans, including dependents, were left behind or they chose to stay behind in Saigon. As news of this *faux pas* came out U.S. diplomatic efforts commenced and finally, on 1 August 1976, they too were all flown to Bangkok, Thailand.[76]

In the end, most analysts and officials believed Operation Frequent Wind had been generally successful. However, the subsequent media accounts filled with photographs of the evacuation seemed to epitomize the tragic futility of America's involvement in Vietnam's War as a whole. In fact, President Ford himself later characterized the American departure from Vietnam and all of Southeast Asia as "a sad and tragic period in America's history. However, he also believed that 'you couldn't help but be very proud of those pilots and others who were conducting the evacuation." Still, this final phase of the Vietnam War, what President Richard M. Nixon had described as "Peace with Honor," had ended in a mortifying defeat, a scar that would remain until America's untarnished victory the Gulf War.[77]

## THE COST OF ESCAPE

While many analysts and experts have agreed that given the magnitude and complexity of Operation Frequent Wind and the entire evacuation of Southeast Asia, the casualties were minimal. Of course, there were individuals killed and wounded during this last phase of the war, perhaps the most well remembered were Marine corporals Charles McMahon and Darwin Judge, who were killed by PAVN shelling while guarding the entrance gate at the DAO compound. In fact, as we should recall they were the only U.S. military ground troops killed in action during the evacuation operation and the last American ground casualties in Vietnam.[78]

Still, there were other dire incidents. For example, a Marine AH–1J Sea Cobra ran out of fuel while searching for the USS *Okinawa* and had to ditch at sea. It proved to be a harrowing experience until search and rescue assets were able to locate and pick up the two crew members and take them to the USS *Kirk*. Another crisis occurred when a CH–46F of HMM-164 from USS *Hancock,* flown by Captain William C. Nystul and First Lieutenant Michael J. Shea, crashed into the sea on their final approach to the ship after having flown a night sea and air rescue mission. While the two enlisted crewmen survived, the pilots' bodies were never recovered. Following an extensive review of the crash no one could determine the cause of the crash either.[79]

## The Air Force's Role was Important!

For those who recall the end of the Vietnam War, which seems fewer each day, Operation Frequent Wind was at the core of the overall withdrawal. Documentaries, books, and articles have implanted in the national conscious images of Major Buang-Ly landing on the Midway and desperate people on the U.S. Embassy roof top begging to be saved. To be sure the Navy, Marine, CIA, and councilor personnel that saved so many in those chaotic last hours deserve great praise and should be remembered by history for their courage and goodness. However, while they were playing out their role another group of heroic individuals from the U.S. Air Force was also rescuing tens of thousands of other people, many from certain death.

During the month of April, specifically between April 1–29, U.S. Air Force personnel flew 201 C–141 and 174 C–130 sorties taking Vietnamese and Americans fleeing from the PAVN onslaught. As Dan Haulman states, "Between April 5 and 29 these aircraft airlifted more than 45,000 people from Saigon, including more than 5,600 U.S. citizens." Even so, "Thousands of refugees and many U.S. citizens including the ambassador, his staff, and many DAO members remained in Saigon when the last C–130s departed. Fourteen North Vietnamese Army divisions armed with antiaircraft weapons surrounded the city. At this point, President Ford ordered the final aerial evacuation of Saigon by helicopter—Operation Frequent Wind."[80]

While the actual Operation focused on Navy actions, as noted earlier, the Air Force did play a key role in Frequent Wind, not just its preliminary evacuations. To be sure, 10 Air Force CH–53 and HH–53 helicopters from the 56th Special Operations Wing and the 40th Aerospace Rescue and Recovery Squadron stationed in Thailand all had a hand in ferrying escapees to the Naval ships at sea. In fact, this Operation was the first time USAF choppers had flown their helicopters to and/or from an aircraft carrier. During this phase of Frequent Wind, Col. Lloyd J. Anders, Jr., commanded the Air Force contingent which also flew F–4s, A–7s, and AC–130s from bases in Thailand to provide cover for the helicopters. Lastly, Air Force crew members provided KC-135s to refuel fighters and a C–130 Airborne Command and Control aircraft to manage air traffic.

Later, the Military Airlift Command's (MAC) C–141s and C–130s made 135 flights to move more than 31,000 evacuees from the Philippines to Guam. By mid-May, over 50,000 Indochinese refugees were housed on Guam until a more permanent solution could be figured out. When time came to fly these individuals out of Guam, most to "refugee reception centers in the continental United States" the USAF bore the brunt of this mission. This action lasted until the end of the summer and totaled more than 600 flights which landed at one of several military bases already prepared for them. These included Ft. Chaffee, AR; Camp Pendleton, CA; and Eglin AFB, FL. Later, a fourth facility was opened at Ft. Indiantown Gap, PA.

One factor affecting the speed DOD acted to set up these sites was the need to move as many refugees as possible out of Guam since the typhoon season was upon them and the potential disaster was too horrible to imagine. In the end, Operations New Life and New Arrivals settled 130,000 evacuees from Southeast Asia in the U.S. Clearly, the Air Force played a major role not only in Frequent Wind, but in all the actions undertaken prior to and following the more famous operation.[81]

**Some Final Reflections**

In the aftermath of this massive undertaking many senior officers and analysts from all branches of the U.S. military spent years examining the various aspects of the evacuation of South Vietnam. As Dan Haulman stated, "Fragmented command and control hindered the operation, especially during Frequent Wind. A single military commander, and not the ambassador, should have controlled all military forces involved in the final phases of the evacuation." In fact, a lot of those who participated in the overall operation agreed on scheduling, LZ locations, how to gather evacuees into places where they could be taken from Saigon, nor when to give the order to begin the Operation. It is worth mentioning that the single military commander was what was in place when the U.S. evacuated Afghanistan.

Perhaps the biggest thorn in the evacuation's side was Ambassador Graham Martin. Indeed, he loved both the U.S. and South Vietnam but he could not bear the thought of losing South Vietnam. Thus, no one seemed to be able to convince him that the end was closer than he was willing to accept. As the PAVN finally broke the defenses at Xuan Loc and began the final march to victory, he still advised President Ford and those in Washington, D.C. that things could still be salvaged if only America would fund money to rebuild the ARVN forces and send a sufficient American military contingent of ships, troops, and aircraft the Republic could hold on and be saved. It took a lot of convincing to finally help him realize all was lost. In the end, when the evacuation began later and slower than it should have and it took a heroic effort by the brave military members to get out with as little damage and as few losses as there were.[82]

Of course, it is always easy to second guess someone or some event when you lose. In this case, it was the loss of a nation for which the United States had spent 20 years trying to preserve and spending 58,000 lives to prove the Republic of Vietnam was viable and should exit. Ultimately, what the evacuation of South Vietnam proved was that victory in that nation was not up to America, rather it was for the people of Vietnam to decide. In truth the Republic was probably gone when the U.S. agreed to the Paris Peace Accords in January 1973. It just took more lives and time to finally realize it. Two years to be exact and when "the end of the end" came it was something that should not have been a surprise. Besides, when playing the blame game, it is worth remembering what Gen. George Pickett told a news reporter in 1879 when asked why the South lost the Civil War, "I think the Yankees had something to do with that!" The same was true in Vietnam. For whatever reason the PAVN simply won the war.

That aside, one should at least give credit to the brave and talented soldiers, sailors, airmen, and marines who in the midst of final defeat behaved like the heroes they were and salvaged what little was left of the 20-year commitment. Heroes like Major Kean working to the bitter end to make things work out in Saigon. Captain Chambers who had the courage to dump expensive aircraft into the ocean to save a desperate family who had risked everything to get out. And, finally, all those military members and civilians from all the American branches of the service who carried out a nearly impossible joint operation because that was what they had trained to do and because they could store their interservice rivalries long enough to "get the damn job done" since, ultimately, they were all on the same team—the United States! ■

**Surrounded by the *Midway* flight deck crew, Maj Buang Ly and family deplane their O-1**

**Buang Ly's family at the National Naval Aviation Museum, Pensacola, Florida**

NOTES

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**29**. Drury and Clavin, *Last Men Out*, 86.
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**37**. Navy History Blog, *Operation Frequent Wind: April 29–30, 1975*, (Washington, D.C.: Naval History & Heritage Command, 2010); Navy History Blog, *Operation Frequent Wind: USS Bausell*, (Washington, D.C.: Naval History & Heritage Command, 2011).
**38**. Lavalle, et al., Monograph 6, Tobin et. al, *Last Flight*, 70-77.
**39**. Ibid., 79-82; Quinlan and Dunham, *Bitter End*, 182; John Pilger, *The Last Day: America's Final Hours in Vietnam*, (New York: Vintage Books Inc., 1976), Original (Arlington, Texas: Mirror Group Books, 1975), 55-57, [hereafter *The Last Day*].
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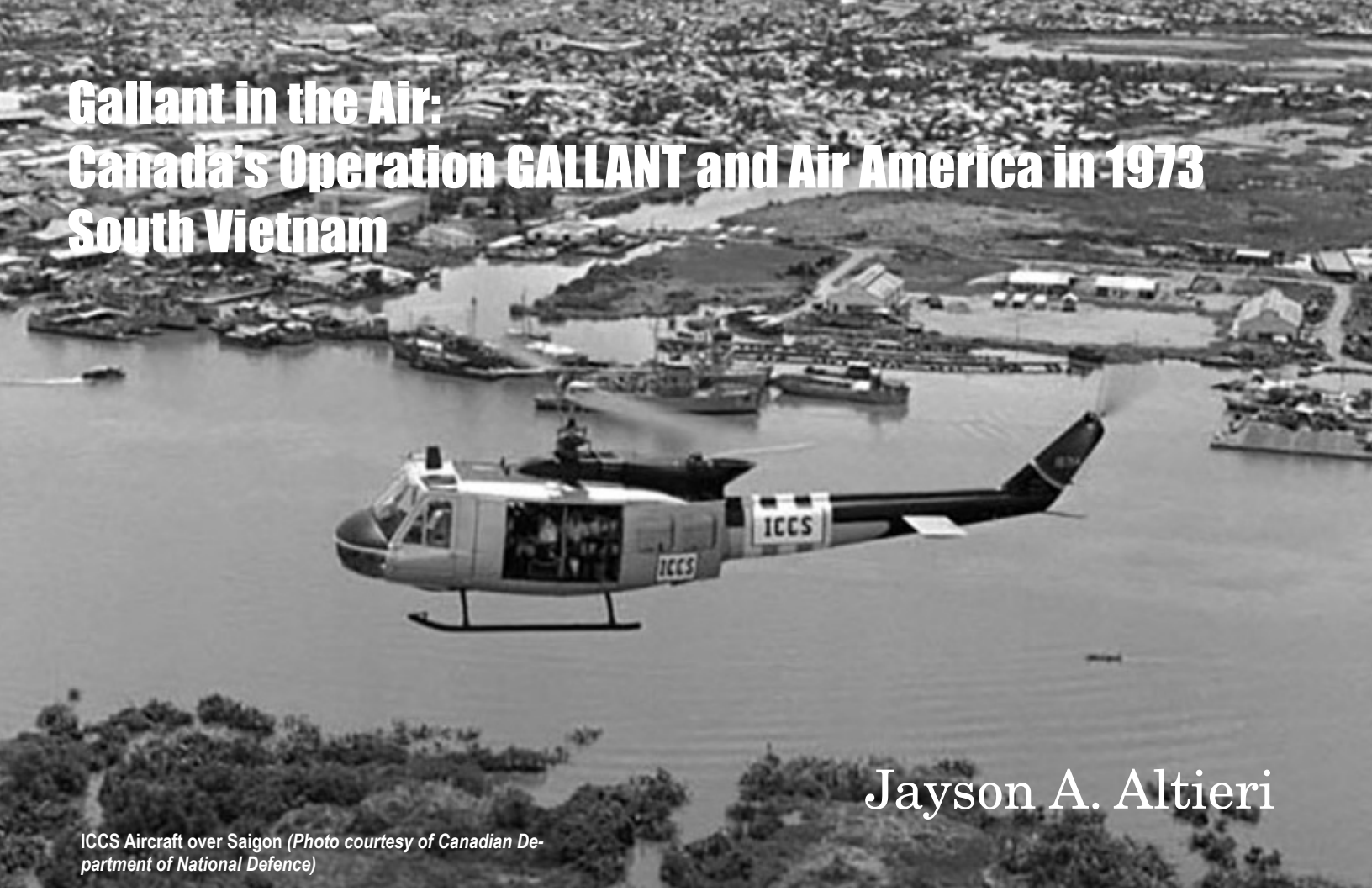
**41**. Lavalle, et al., Monograph 6, Tobin et al., *Last Flight*, 82-

84; Head, *Shadow and Stinger*, 236-238.
**42**. Lavalle, et al., Monograph 6, Tobin et al., *Last Flight*, 78-91; Johnson AAR, 47-58.
**43**. Lavalle, et al., Monograph 6, Tobin et al., *Last Flight,* 85-100; Dunham and Quinlan, *Bitter End,* 183.
**44**. Obituary Article, by Matthew Schudel, "Thomas Polgar, CIA official during the fall of Saigon, dies," *Washington Post*, (31 March 2014); Obituary Article, by William Yardley, "Thomas Polgar, CIA Officer Dies at 91, Helped Lead U.S. Evacuation of Saigon," *New York Times*, (7 April 2014). For more on Thomas Polgar see Thomas L. Ahern, Jr., *CIA And The Generals: Covert Support to the Military Government in South Vietnam*, (Washington, D.C.: Center for the Study of Intelligence, 1998), 117-188. [Declassified 19 February 2009].
**45**. Dunham and Quinlan, *Bitter End*, 179-181.
**46**. Pilger, *The Last Day*, 63-64.
**47**. Dunham and Quinlan, *Bitter End*, 187-190.
**48**. Lavalle, et al., Monograph 6, Tobin et al., *Last Flight*, 92-99, 101-111. Also see, Frank Snepp, *Decent Interval: An Insider's Account of Saigon's Indecent End told by the CIA's Chief Strategy Analyst in Vietnam*, (New York: Random House, 1977), 478.
**49**. E.H. Hartsook, *The Air Force in Southeast Asia: The End of the U.S. Involvement, 1973-1975,* (Washington, D.C.: Office of Air Force History, 1975), 126-127. "Wild Weasel" is a code name given by the USAF to any airframe equipped with HARM anti-radiation missiles and used to suppress enemy air defenses by destroying their radar sites and SAM installations.
**50**. Dunham and Quinlan, *Bitter End*, 188-189; Johnson AAR, 47-58.
**51**. Lavalle, et al., Monograph 6, Tobin et al., *Last Flight*, 36; Dunham and Quinlan, *Bitter End*, 192. For the best information on Air America, see Joe F. Leeker, *Air America in South Vietnam – III: The Collapse*, (Dallas: University of Texas, Dallas, 2009), 20-30, [hereafter *Air America*].
**52**. Leeker, *Air America*, 27-30.
**53**. Lavalle, et al., Monograph 6, Tobin et al., *Last Flight*, 91-97; Dunham and Quinlan, *Bitter End*, 186-189.
**54**. Lavalle, ed., Monograph 6, Tobin et al., *Last Flight*, 103-104; Dunham and Quinlan, *Bitter End*, 191-197.
**55**. After-Action-Report, by Major James H. Kean, U.S. Marine Corps, "Vietnam 17 April–7 May 1975, 3, [hereafter Kean AAR].
**56**. Pilger, *The Last Day*, 27-28.
**57**. Kean AAR, 5-6; Dunham and Quinlan, *Bitter End*, 194-198.
**58**. Kean AAR, 7; Dunham and Quinlan, *Bitter End*, 198-200.
**59**. Kean AAR, 7-8.
**60**. Ibid., 8; Dunham and Quinlan, *Bitter End*, 200.
**61**. Leeker, *Air America*, 20-25.
**62**. Lavalle, ed., Monograph 6, Tobin, et al., *Last Flight*, 110-121; Johnson AAR, 54-58.
**63**. Lavalle, ed., Monograph 6, Tobin et al., *Last Flight*, 121. The most detailed account of this brave action can be found in Paul X. Rutz, "The South Vietnamese Pilot Who Performed a Daring Feat to Save His Family," *Vietnam Magazine / History Net*, April 30 2019, [hereafter Daring Feat].
**64**. Rutz, Daring Feat.
**65**. Ibid.
**66**. Ibid.
**67**. Ibid.
**68**. Ibid.
**69**. Ibid. See also Newsletter, by staff, "OE-1 Bird Dog," Display—National Museum of Naval Aviation, October 19, 2013; Troy Moon, "South Vietnamese pilot and family escape Saigon with daring flight and help of the USS *Midway*," *Pensacola News Journal,* 2 May 2025.
**70**. Lavalle, ed., Monograph 6, Tobin, et al., *Last Flight*, 122-124.
**71**. Willbanks, "55 Days," 38; Isaacs, *Without Honor*, 467.
**72**. Dougan and Fulgham, *The Fall of the South*, 172-175.
**73**. Francis Terry McNamara with Adrian Hill, *Escape with Honor: My Last Hours in Vietnam*, (Dulles, Virginia: Brassey's Inc., 1997), 129-149.
**74**. Marolda, Chapter 5; Johnson AAR, 59-83.
**75**. Lavalle, ed., Monograph 6, Tobin et al., *Last Flight*, 122; Dunham and Quinlan, *Bitter End*, 197-201; Johnson AAR, 75-83.
**76**. Isaacs, *Without Honor*, 470-475; Alistair Horne, *Kissinger Year, 1973,* (Phoenix, Arizona: Phoenix Press, 2010), 370-371; Interview 1982, by Alexander Street, WGBH, with President Gerald R. Ford, (for PBS' *Vietnam: A Television History*, 1983), in Media Library and Archives, Boston, Massachusetts, [hereafter Ford Interview].
**77**. Ford Interview; Isaacs, *Without Honor*.
**78**. Pilger, *The Last Day*, 56-59; Johnson AAR, 1-6, 56-58, 77-83.
**79**. Dunham and Quinlan, *Bitter End*, 201-202; Johnson AAR, 47-58.
**80**. Haulman, "Vietnam Evacuation," 90.
**81**. Ibid., 90-92. Lavalle ed., Monograph 6, Tobin, et al., *Last Flight* 47-73.
**82**. Head, *Storms Over the Mekong*, 345-357. One recently published article that provides reflection on this moment of calamity to which hundreds of Americans stood up to and retrieved at least a modicum of respect and honor, is David Vergun, "A Look Back at Operation Frequent Wind 50 Years Later," *DoD News*, April 24, 2025.

# Gallant in the Air: Canada's Operation GALLANT and Air America in 1973 South Vietnam

Jayson A. Altieri




ICCS Aircraft over Saigon *(Photo courtesy of Canadian Department of National Defence)*

The Vietnam War, 1955 to 1975, was a seminal armed conflict of the later 20th century that, after the French Indochina War, served as a proxy war between the Soviet Union and United States (US) during the Cold War period. Direct US military involvement escalated from 1965 until its withdrawal in 1973 and soon thereafter the South Vietnamese government collapsed following a full invasion of the country by North Vietnam in 1975. While iconic images of the US air war in Vietnam of UH–1 Iroquois helicopters, B–52 Stratofortress bombers, and F–4 Phantom fighter-bombers supporting American and South Vietnamese soldiers remain fixed in the mind of the public, what is less well known is the role that the US Central Intelligence Agency's Air America aircrews and their diverse collection of fixed and rotary winged aircraft played in supporting Canadian Peacekeepers during a little over six-month period in the final years of the war following the 1973 Paris Peace Accords signed by the US and North Vietnam.[1]

Unknown even today, even among many Canadians, the deployment of 240 Canadian military personnel (comprised of officers and NCOs from the then-unified Canadian Air Defense, Land Forces, and Maritime Commands) and 50 civilian Department of External Affairs (DEA) personnel to South Vietnam in support of the 1973 Paris Peace Accords was Canada's significant, but failed, attempt to bring peace to the embattled region.[2] Nonetheless, the deployment of these peacekeepers was in keeping with Canada's post-World War Two policy of serving as a "Middle Power." The end of the Second World War and the beginning of the Cold War triggered a radical change in the geopolitical position of Canada.[3] Previously remaining far from global conflicts, Canada—because of its specific geographical location, between two major belligerents, the US and the Soviet Union—suddenly found itself in the center of the Cold War rivalry.[4] While it had always been obvious for Canadian political leaders that their country was a part of the Western world order, that did not mean that Canada was going to be an uncritical supporter of the United States and her allies.[5] Participating actively in the creation of the postwar world order, Canadian politicians starting in 1947, under the leadership of Secretary of State and later Prime Minister Louis St. Laurent, Canada began to build a unique brand of international affairs with an emphasis on multilateralism, internationalism, and middlepowership.[6] This resulted in Canada's simultaneous support to both the anti-Soviet North Atlantic Treaty Organization and the globalist United Nations (UN), the latter resulting in Canada's participation in over 50 peacekeeping missions since the UN's inception.[7] It was this globalist view that the Canadian government, under the leadership of Prime Minister Pierre Trudeau, found itself in 1973 supporting the Paris Peace Accords.[8]

**1973 Paris Peace Accords**

Following the French Union Forces defeat at the Battle of Dien Bien Phu in French Indochina, the Geneva Accords of July 1954 had foreseen the creation of a single, united Vietnamese state, but disagreements over the election process that year resulted in the de facto creation of two separate Vietnams: the Republic of Vietnam (South Vietnam) backed by the United States, and the Democratic Republic of Vietnam (North Vietnam) backed by the Soviet Union and China. Almost immediately, Communist and populist groups in the south supported by the northern regime began a guerrilla campaign aimed at the forcible reunification of the country under Hanoi's authority.[9] That insurgency grew in scope until open war broke out in 1965, when both the United States, along with other allies like Australia and South Korea, and North Vietnam entered the conflict in a major, and public, way. By 1972, large tracts of South Vietnam were controlled by the Provisional Revolutionary Government of South Vietnam (Viet Cong) or the North Vietnamese army, the South's ability to retain control of the rest was clearly diminishing, and the United States was anxious to negotiate a peace agreement that would allow it to withdraw its forces from Southeast Asia "with honor."[10] As a result, on January 27, 1973, after years of on and-off discussions, the "Agreement on Ending the War and Restoring Peace in Vietnam" was signed in Paris by the United States, North Vietnam, South Vietnam and the Viet Cong.[11] This agreement created a Four Party Joint Military Commission (JMC), composed of the four signatories to the peace agreement, to supervise the implementation of the agreement and to resolve disputes arising from it.[12] The agreement also created the International Commission of Control and Supervision (ICCS) to act as a neutral party in investigating disputes and in supervising some aspects of the agreement.[13]

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A second international conference was held in Paris between February 26 and March 2, 1973, establishing the reporting mechanisms for the ICCS and establishing its rules of conduct. Canada, Hungary, Indonesia, and Poland, the four nations that would form the ICCS, were party to the negotiations and signed the agreement at the end of the conference.[14] The ICCS, with its 1,160 personnel, had its headquarters in Saigon, in fact taking over the headquarters of the former International Commission for Supervision and Control (ICSC), a predecessor organization established in 1954 that consisted of three member nations—Canada, India, and Poland—of which Canada provided a small contingent of between 20 to 80 personnel over the commission's existence.[15] The leadership of the ICCS would rotate periodically, to give each of the four signatory members an opportunity to serve as Chairman of the four member ICCS Military Committee. Seven teams were set up to supervise prisoner of war and civilian detainee exchanges, three teams for regional operations, and five teams to carry out such other duties as were required.[16] Additionally, seven regional headquarters in South Vietnam would oversee the operations of forty field teams, each of which comprised representatives of all four ICCS nations.[17] The seven regional headquarters were divided as follows, going north to south: Region I: Hue; Region II: Da Nang; Region III: Pleiku; Region IV: Phan Thiet; Region V: Bien Hoa; Region VI: My Tho; and Region VII: Can Tho.[18] In each region, there were two types of team sites: Observer Team Sites and Point of Entry Team Sites.[19] In all there were some 47 ICCS team sites across South Vietnam.[20] These teams were to have freedom of movement in order to carry out their tasks and would have diplomatic status to ensure they could focus on the roles they were assigned.[21] According to Canadian Ambassador Michel Gauvin, head of the Canadian Delegation to the ICCS in Saigon:[22]

> The [International] Commission [for Control and Supervision] should concentrate on the role assigned to it, that is, "blowing the whistle" on those who violate the Paris Agreements and it Protocols. The Parties to Vietnam's conflict, and only they, can close the deep and bitter divisions that have been both the cause and the effect of this long and bloody conflict.

Twelve of these teams (manned by the signatory nations) were to inspect designated points of entry in South Vietnam for restricted war materials, while two more were available for inspections at a point of entry to be designated by South Vietnam. Each ICCS team worked with a local Joint Military Team (JMT), part of the JMC and the teams were expected to provide impartial reports on incidents to these JMT.[23]

The ICCS would also monitor and investigate all violations of the cease-fire brought to their attention by any party to the agreement, by the JMT, or through its

own efforts.[24] During the initial employment of the ICCS, seven teams responsible for prisoner of war oversight traveled throughout North and South Vietnam, overseeing the release of more than 32,000 POWs.[25] However, the release of civilian detainees proved to be more challenging, as both North and South Vietnam sought to leverage these releases for maximum political and propaganda gain. Consequently, only a limited number of civilians were ultimately released. In terms of monitoring, while the South Vietnamese authorities were cooperative, the Viet Cong's lack of cooperation hindered the ICCS's ability to perform its duties fairly and impartially. This issue extended to its role in cease-fire monitoring, where at least 18,000 violations were reported in the first six months, resulting in 76,000 casualties—just 4,000 short of the total casualties recorded during the last six months of active conflict.[26]

The ICCS examined a total of 1,081 complaints while Canada was a member and ninety-five percent of these complaints originated from South Vietnam; however, very few were thoroughly investigated due to the requirement for unanimous agreement, which had previously hindered the ICSC.[27] Consequently, the JMC also proved to be ineffective, as political maneuvering by both sides obstructed their ability to make decisions regarding the interpretations of the Paris Agreement when issues arose.

1973 Paris Peace Accords Ceasefire Lines *(Wikimedia Commons)*

**Operation Gallant**

Having participated in the previously unsuccessful ICSC-Vietnam from 1954 to 1973, the Canadian government was dubious of the success for the ICCS providing any lasting peace and stability in South Vietnam.[28] Accordingly, while the Trudeau government agreed to participate in the ICCS for an initial period of sixty days, Canada insisted upon having the right to withdraw if it found that the ICCS was ineffective.[29] As Canadian leaders had been kept abreast of the negotiations in Paris, the Ottawa government was ready when the agreement was signed on January 27, 1973.[30] Firm planning for the mission, designated as Operation GALLANT (Op GALLANT) began in December 1972, and a two-man advance party arrived in Saigon only days before the formal Canadian contingent itself on January 29 led by Ambassador Gauvin and Major-General Duncan McAlpine, the Canadian Forces commander.[31]

The Military Component of the Canadian Delegation (MCCD) for Op GALLANT opened its offices in Saigon on Monday January 29 to begin work with the ICCS. The first flight had left Canada on January 28, with Prime Minister Trudeau and Chief of the Defense Staff General Jacques Dextraze on hand to wish them well.[32] On the flight, Ambassador Gauvin and General McAlpine read what had been a "closely guarded secret" agreement and protocols for the first time. [33] Announced on the 24th, to take effect on the 27th, the final deal was littered with unsettled details, big and small, that remained to be determined.[34] The chances that the treaty would lead to a lasting military armistice looked good only when compared to the chances that it would lead to a lasting political settlement.[35] One of the few certainties as Canadians arrived, accepting the invitation of the warring factions to help them implement their treaty, was that no one believed this document meant peace.[36]

Interestingly, although Canada had participated in a number of Peacekeeping operations since the end of the Second World War, the general mood in the country about becoming involved in the Vietnam War, especially in the government, was less than enthusiastic and was reflected in a statement by Canadian Minister of External Affairs Mitchell Sharp, who on January 27, 1973 announced that Canadian participation would be limited to just 60 days, although Canada would later agree to a 60-day extension, which happened to be the date set for the last exchange of prisoners of war and the proposed date for final withdrawal of US forces.[37] Nonetheless General McAlpine's team pressed forward with executing the mission, although many of the Canadian military personnel were not entirely prepared for the environment they were entering, having just departed from a brisk Canadian winter. Years later Major (Retired) Norm Altenholf, Air Command, recalled: [38]

> I arrived in Vietnam as a part of the second wave of the Canadian contingent at about 0630 hours on February 12, 1973. When we

left Montreal on February 10, it was minus 15 Celsius [or 5 degrees Fahrenheit] and our [27 hour] route took us to Alaska, and then Tokyo, and finally Saigon. When I stepped out of the aircraft in Saigon wearing my full [Canadian Forces Green, polyester/wool] uniform, it was like walking into a blast furnace! It was very hot and humid.

**General McAlpine and ICCS staff officers debark an ICCS Pilatus Porter** ***(Photo courtesy of the Canadian War Museum)***

Individual preparations and acclimatization were not the only challenges faced by the Op GALLANT personnel: logistical challenges like facilities, communications, transportation, and personal field equipment would prove daunting.[39] Air and ground transportation presented some of the most difficult logistical obstacles during the MCCD/ICCS deployment. Given the fact that most of South Vietnam was still a war zone with mine fields, bureaucratic challenges, and combat operations between the North and South Vietnamese forces still ongoing, the ability for the ICCS members to move around the countryside by ground transportation was hindered to say the least. While ICCS personnel used mostly former U.S. Army ground vehicles like commercial sedans and M57A1 jeeps with ICCS markings and occasionally boats in the Mekong delta, the ability to visit the assigned region's team sites by ground was difficult.[40] As Lieutenant Colonel (Retired) Max Alvarado, Canadian Land Forces Command recalled, the challenges of mobility in country were many: [41]

> The CHIP [ or Canadian, Hungarian, Indonesian, and Polish] delegations were supposed to have freedom of movement within their regions. This was not always the case. For example, we could not visit two sites north of the Tach Han River, Gio Linh, and Loa Boa, without first getting permission from the People's Revolutionary Government of South Vietnam (PRG) approval and having them supply us with transportation or agreeing to give passage to our ICCS transportation…the first attempt to visit Quang Tri by road was stopped about 12 kilometers short of Quang Tri by artillery fire.

Given the dangers of traveling by ground transportation, the ICCS looked for more reliable and safer forms of transportation to move quickly. In early February 1973, the ICCS initially turned to the U.S. Army to provide air transport, who could offer helicopters until February 25th. As noted by Colonel D. C. Looms, then Deputy Commander, MCCD/ICCS, in his July 26, 1973, report, "The ICCS aircraft [were] required for investigations, resupply, personnel deployment, couriers, mail, casualty evacuation and withdrawal."[42] According to Colonel (Retired) J. A. "Tex" Mitchell, Canadian Air Command, then the ICCS Senior Staff Officer (Air):[43]

> The ICCS's understanding was that: The U.S. Army would provide air support to the ICCS until February, then the US would turn over to the ICCS 30 UH–1H as well as three U-21 fixed wing aircraft and that the ICCS would have to arrange for a private contractor to operate and maintain these aircraft effective 26 February.

The U.S. Army helicopters supporting the initial ICCS contingent were flown by crews from F Troop, 3rd Squadron, 4th Cavalry Regiment and D Troop, 17th Cavalry Regiment prior to the units' scheduled departure from South Vietnam on February 26, 1973.[44] The U.S. Army ICCS helicopters were marked with white crosses on the UH–1H tail booms in order to separate the ICCS supporting aircraft from the JMC or Republic of South Vietnam military helicopters.[45] The JMC aircraft, which were painted with four colored stripes on the UH–1 tail boom and fuselage, were to fly U.S., South Vietnamese, North Vietnamese Army, and Viet Cong military representatives around the country to facilitate the upcoming exchange of all POWs and later to watch the activities at the release points.[46] Regardless of the intent, the ICCS markings did not entirely deter hostile fire from Viet Cong units against ICCS aircraft. According to an ICCS Daily Summary, Army Chief Warrant Officer Two David Broadnax, F Troop, 3rd Squadron, 4th Cavalry Regiment, was wounded in the leg due to ground fire while piloting a ICCS flight out of Hoi An after the February 28, 1973, transfer date which was delayed.[47]

Due to the quick withdrawal of the US military from South Vietnam, including aircraft support to the ICCS, and the Viet Cong's refusal to clarify air regulations over territory it controlled, some sites initially occupied by the ICCS were not resupplied for several weeks or more. ICCS team members at An Loc, for example, had to fend for themselves for seventy-five days until the Air America contract and South Vietnamese and Viet Cong coordination for safe passage of the peacekeepers was fully established. Even with the coordination of agreements with the warring factions, there was still a need for

heightened awareness as seen in an MCCD TELEX dated February 23, 1973:[48]

> US JMC ADVISES ALL ICCS [HELICOPTERS] ENTRING [REGION] VI MUST CONTACT DUTCHESS OSCAR ON [FREQUENCY] EG 66.70 [FM] FOR INFO REGARDING GROUND FIRE.

Operationally, conditions were harsh for the Op GALLANT personnel, as well as their ICCS partners, as unexploded ordnance and booby traps left over from the actual fighting was an ever-present danger.[49] For their part, although guilty of obstructing much of the ICCS's work, the Viet Cong generally tried to make living conditions on sites as comfortable as possible and some, particularly those near former American bases, were very well-equipped.[50] As a result, a rotation policy was devised to move ICCS teams between them and more difficult locations, usually involved the use of Air America aircraft.

**Air America's ICCS Contract**

The use of Air America aircraft to support the ICCS was based on the fact that after the withdrawal of US military forces from South Vietnam, few US government organizations remained in country. Established in 1946 by businessman Whiting Willauerby and famed commander of the Flying Tigers, General Claire Lee Chennault, Air America was initially known as the Chinese National Relief and Rehabilitation Administration Air Transport and was based in mainland China. Willauerby and Chennault intended the new airline to provide aid to the war-ravaged Republic of China and eventually would conduct airlift support to the Kuomintang Chinese forces in their fight against Mao Zedong's Communist armies. The company faced financial difficulties when in December 1949 the Kuomintang government was defeated by Mao's forces. In August of 1950, the CIA purchased the airline and renamed the company Civil Air Transport, until 1959, when it changed its name to Air America. The CIA owning its own airline allowed the newly formed intelligence agency to operate over vast distances while protecting American interests from Korea to Taiwan to Indochina.

Air America's involvement in the Vietnam War began in 1959 with the arrival of two Air America transport aircraft in Vientiane, Laos. From 1959 to 1962, Air America supported a number of US Special Forces operations in support of the Royal Laotian military. After 1962, Air America was living up to its motto of "Anything, Anywhere, Anytime, Professionally" by expanding its operations to include Cambodia, South Vietnam, and Thailand, providing both combat and humanitarian support to anti-communist forces in the region until the fall of the South Vietnamese government in 1975, after which the company was dissolved in 1976.

On March 19, 1973, then Lieutenant Colonel Mitchell signed with Air America a 14 million CAD contract ICCS-73-008 for the company to operate as ICCS Air Services.[51] According to the contract, the seven ICCS regions were to be initially served by 26 (later 27) Air America aircraft: 1 Curtis C–46 Commando (Tail number N67984) and 3 Volpars (Turboprop Beech 18s) (Tail numbers N7695C, N91295, and N9838Z), and 23 Bell UH–1H Iroquois (Tail numbers 66-16162, 66-17006, 68-15322, 68-15570, 69-15016, 69-15450, 69-15951, 69-16715, 70-15709, 70-15714, 70-15738, 70-15797, 70-15836, 70-15843, 70-15856, 70-15866, 70-15916, 71-20061, 71-20093, 71-20115, 71-20139, 71-20186, and 71-20187.[52] Five more Air America aircraft were on call to support the ICCS teams: 1 DHC–4 Caribou (Tail number N539Y), 1 Volpar (Tail number N9157Z), and 3 PC-6 Porters (N194X, N153L, and N285L).[53] But due to a lack of qualified aircrews, only 4 UH–1Hs (Tail numbers 66-17006, 69-15540, 71-20186, and 71-20187) could be made available to the ICCS teams in March 1973, the first three helicopters being based at Da Nang (V-03), Nha Trang (V-07), and Can Tho (V-17) on 27 March, followed by the forth on 31 March.[54]


**Air America ICCS Cap Badge** ***(Photo courtesy of the University of Texas–Dallas)***

The Air America aircraft selected to support the ICCS mission all had reputations for reliability in the diverse terrain and weather of South Vietnam. The oldest of the Air America fleet supporting the ICCS was the Curtis C–46 Commando which was developed from the new and unproven commercial aircraft design, the CW-20, which first flew in March 1940.[55] Deliveries of the U.S. Army Air Forces (USAAF) C–46s began in July 1942 for the Air Transport Command and Troop Carrier Command, with the Army eventually accepting 3,144 C–46s for hauling cargo and personnel and for towing gliders.[56] The C–46 would continue to serve in Korea with the U.S. Air Force, and later with Air America in the Vietnam War.

The De Havilland Canada (DHC)–4 Caribou was another twin-engine cargo aircraft operated by Air America and used to support the ICCS team. Designated the C–7 by the U.S. Air Force, the Caribou first flew in 1958 and was originally designed as bush plane with short takeoff and landing (STOL) capabilities.[57] The U.S. Army originally deployed 159 Caribous to South Vietnam as


ICCS Bell 205


ICCS C–46 N67984 at Ton Son Nhut


ICCS Pilatus Porter N153L at Ton Son Nhut


ICCS Volpar N91572 at Ton Son Nhut


ICCS US Army UH–1H *(Photo courtesy of the Canadian War Museum)*

larger U.S. Air Force aircraft like the Fairchild C–123 Provider and Lockheed C–130 Hercules could not land on many Forward Operating Bases' shorter landing fields. Eventually these aircraft were turned over to the U.S. Air Force as part of the 1966 Johnson-McConnell Agreement, and eventually some of these aircraft were transferred to Air America.

In 1973, Air America was probably one of the world's largest operators of Twin Beech 18 aircraft. One particular model was the Beech VTB–18 Volpar, whose two Garrett TPE-331-47 turbo-prop engines gave it a useful load of 3,886 pounds or 10 passengers, a true air speed of 245 miles per hour, and a range of 1,040 nautical miles.[58] This aircraft was particularly useful in speedily transporting ICCS personnel between the seven regional headquarters.

By far, the most versatile and rugged fixed wing STOL aircraft used by Air America in support of the ICCS teams was the Pilatus PC–6 Porter. Designed in Switzerland in 1959 and built by US aircraft manufacturer Fairchild Hiller, the PC–6's stall speed of 60 miles per hour and ability to carry up to 2,500 pounds, earned the aircraft the nickname "The flying Swiss Army Knife" for its ability to operate in the most remote of locations in Southeast Asia.[59]

Finally, the most numerous of the ICCS Air Services aircraft was the ubiquitous fleet of 23 Bell UH–1H Iroquois (or the civilian designation Bell 205/205) helicopters. The Iroquois evolved from a 1955 U.S. Army competition for a new turbine engine utility helicopter.[60] The UH–1 served in various roles, including that of an armed escort or attack gunship in Vietnam. Bell's initial production designation was the Army HU–1, which led to the common unofficial nickname of "Huey."[61] All US armed services adopted the model as did several other countries, and it was redesignated in 1962 as the UH–1 under a tri-service agreement.[62] Many Iroquois variants served in Vietnam including the UH–1A, B, C, D, E, F, H, and N models, and a number of which were transferred to Air America during the war. The ICCS Air Services' UH–1Hs were particularly valuable as of the 47 ICCS sites, 15 could only be reached by helicopter.[63]

Air America management, to increase the number of aircrews supporting the ICCS, hired several former South Vietnamese Air Force helicopter pilots as first officers who were sent to Southland Helicopters, Long Beach, California, to obtain a US Federal Aviation Administration Commercial Pilot's License with Rotorcraft Rating, a course of instruction of about eight to ten weeks.[64] Due to manning problems with qualified flight mechanics, the ICCS helicopter availability could be increased to only 10 UH–1Hs in April 1973, then to 15 on May 15 and 22 on June 1 that year.[65] Additionally, because the pool of pilots exceeded the mission demands, Air America pilots would pull double duty flying for both Air America and ICCS Air Services aircraft, simply changing their uniform insignia to meet the mission requirements. As Wayne Wright, former Air America pilot from 1972 to 1973, recalled in a telephone interview:[66]

> We flew both Air America and ICCS Air Service [contract] aircraft during 1973. Changing hats, wings, and epaulets on our grey shirts as needed. Aircrews assigned to ICCS sorties wore baseball hats and wings with ICCS logos, while Air America crew flying U.S. Government contact missions wore the Air America pilot cap and wings with Air America logos.

In addition to finding trained aircrews to perform the ICCS Air Services missions, the company was just adjusting from the fall-out of a threatened pilot strike by the Far East Pilots Association (FEPA), the union representing the Air America pilots, that was to occur on January 23, 1973.[67] The proposed strike was in aid of negotiating for better terms related to Pilot Seniority and Special Project Flying (Hazard Pay). But due to a lack of support by many FEPA chapters following the issuance of an Air America company memorandum threatening to terminate any pilot who stood down, the proposed work strike never occurred and the majority of the pilots remained on job.[68] Though the threat of a pilot's strike did not result in significant changes to the Air America pilots contract, an updated *Compensation and Rules of Employment for U.S. Citizen Pilots of Air America, Inc.* book, colloquially known as the "Blue Book", was issued on January 29, 1973.[69] The updated compensation package specifically addressed flight pay per hour in both hostile conditions and geography. For example, an Air America pilot flying a PC-6 based out of Saigon would receive, in addition to their regular Average Daily Flight Pay, an extra $3.87 an hour for Area Pay and $6.22 an hour for Hostilities Pay.[70]

Although finding and keeping trained aircrews to support the ICCS teams was a challenge, Air America also had to ensure the company's mixed fleet of civilian and military aircraft were seen by all sides in the war as non-combatants. The fleet of Caribou, Commando, Porter, and Volpar fixed-winged and Iroquois rotary-winged aircraft, now painted with standardized black ICCS block letters on a white background and three yellow (sometimes referred to as Day-Glo Green) stripes on the fuselage and wings, in an attempt to reduce the combat risks to the Air America aircrews and ICCS observers.[71]


**ICCS US Army helicopter at Quang Tri (note the three vertical yellow stripes)** ***(Photo courtesy of the Canadian War Museum)***

The dedication, professionalism, and versatility of the ICCS Air Services team made quite an impression on the Op GALLANT leadership and personnel as noted by Colonel Mitchell in 2006:[72]

> I did a lot of flying all over the country in every type of aircraft to which we had access. I found Air America managers, pilots, and groundcrew to be consummate professionals with a never-failing "can do" attitude and still feel privileged to have worked with those people even though it was only for a matter of months.

**January to July 1973**

As the MCCD and their ICCS partners were beginning to become operational in late January and February 1973, U.S. Army helicopters were supporting the ICCS teams in country conducting the agreed upon investigations of cease fire violations and prisoner of war exchanges. The dangers to the ICCS teams and aircrews who were assuming the mission were apparent, as seen in an ICCS DAILY SUMMARY dated February 28, 1973:[73]

> OPERATIONS
> 4. Three helicopter incidents have occurred since yesterday:
> a. ICCS [Helicopter] was hit yesterday by one round of small arms fire at QL 14 north of KNTUM ZB 1513. Minor damage only.
> b. ICCS [helicopter] was fired on but not hit, by small arms fire enroute to BIEN HOA – PHAN THIET YS 7919 on daily courier run at 0940 hrs. today.
> c. ICCS [helicopter] fired on at 1620 hrs. today enroute to HOI AN to DA NANG. Indonesian LCOL and SGT STORE [MCCD] on board. Pilot hit in the leg, co-pilot safely landed DA NANG.
> 5. Commander suspended helicopter flying by ICCS at 281800H Feb 73 until further notice except when personally authorized by himself.

By March 28, 1973, the ICCS Air Services were fully supporting the ICCS missions to the 47 site locations like Da Nang, Hue Phu Bia, and Pleiku.[74] For the most part, the Air America aircrews flew using Visual Flight Rules to move the ICCS personnel throughout the assigned regions. The criteria for selecting the flight plans were based on local security situations especially in areas still contested and weather conditions. These factors dictated how high, what routes, and when the ICCS aircraft could move throughout South Vietnam. It was also on this date, that General McAlpine made his first of many visits to the various team sites throughout South Vietnam.[75] General McAlpine would make these trips via ICCS Air Services aircraft like the *Volpars* during the MCCD deployment to visit both the team sites and to meet with JMC representatives.[76]

ICCS Air Services helicopters, despite the ICCS markings, traveling to and from the team sites and regional headquarters during this period were constantly being fired upon by small arms fire, presumably from the Viet Cong, thus the ICCS headquarters issued the following guidance:[77]

> As of this date [March 20, 1973], all helicopter flights will be at a minimum altitude of 3000 ft except during ascent and decent. Low level flying will not be undertaken unless evasive action for rockets must be effected [*sic*].

Major Altenholf described a March 16, 1973, ICCS Air Services flight near the Cambodian border, typical of sorties flown by the Air America aircrews:[78]

> Captain Phil Lacy and I departed via [a] doorless chopper at 0730 hours for a place called Thein Nagon to the northwest of Saigon up near the Cambodian border [for an exchange of POWs]…It is clear blue skies and going to be a hot one for the next few days…We first landed at Tay Ninh which is another airfield in the middle of nowhere. It is nothing but a runway full of [bomb] holes with a few thatched huts around.

At the time, in South Vietnam, the assumption of most of the ICCS Operations Staff and ICCS Air Services aircrews (many who were former US military pilots) was that small arms fire was the biggest threat to the site visit flights and the aircrews operated accordingly.[79] This assumption would change on April 7, 1973, when the first teletype messages began arriving from the ICCS Communications Control Center to the Air America leadership at 0440Z with a message that read:[80]

> RECEIVED INITIAL REPORT FROM ICCS COMMUNICATIONS CONTROL CENTER AND CONFIRMATION FROM SCR DAD THAT UH–1H 71-20115 HAS BEEN STRUCK BY AN UNKNOW TYPE OF MISSILE THREE MINUTES OUT (EAST) OF V71 (LAO BAO) ESTIMATED COORDINATES XD7936. ICCS WAS IN RADIO CONTACT WITH UH–1H 66-17006 AT THE TIME THAT 71-20115 WAS HIT: HOWEVER, CONTACT HAS BEEN LOST AND THE STATUS OF BOTH AIRCRAFT IS UNKNOWN AT THIS WRITING.

After secondary confirmation, it became clear that the Viet Cong had attacked the clearly marked ICCS Air Services Iroquois helicopters. The aircraft were following a Viet Cong approved scheduled and flight path at ap-

proximately 3000 feet and 85 knots along National Route 9 near Lao Bao, Quang Tri Province, when they were attacked with SA-7 Grail man-portable surface-to-air missiles and small arms fire.[81] The attack resulted in the complete destruction of aircraft 66-17006 killing all on board including Air America employees Pilot-in-Command Charles L. Osterman, Flight Officer Terry D. Clark, and Flight Mechanic Valeriano P. Rosales.[82] Additionally, one MCCD Officer, Captain Charles E. Laviolette; two Hungarian observers, Major Aurél Dylski and Captain Csaba Cziboly; one Indonesian observer, Lieutenant Colonel Gunawan Salam Faiman; and two unnamed Viet Cong liaison officers were also killed.[83] The second ICCS UH–1H, 71-020115, damaged by small arms fire and consisting of three Air America aircrew members, two MCCD observers, three Polish observers, two Indonesian observers and a Viet Cong liaison landed without further incident, although the aircrew and ICCS members were held as "guests" by the Viet Cong for about 36 hours.[84] Wayne Wright spent 3-days on the ground near the two crash sites and remembers the recovery efforts:[85]

> Mike Finnegan [another ICCS Air Services pilot] and I stayed in a tent near the crash sites assisting in the recovery efforts. I spoke with one of the surviving Canadian observers who told me after their UH–1H was shot down, the Viet Cong (VC) continued to fire on the survivors. The Canadian officer finally forced their VC liaison to standup in order to force his VC counterparts to cease fire.

The shoot down and killing of the eleven crew and passengers would have far reaching implications for both the ICCS and Air America aircrews. First, Colonel Mitchell grounded all ICCS helicopter flights on April 9th, a decision that caused some internal consternation with the then Hungarian ICCS Military Committee Chairman, who "became almost apoplectic launching a tirade against me for presuming to [have] such authority."[86] Although MCCD Major General McAlpine quickly resolved this matter with his Hungarian counterpart, the shoot down of the ICCS helicopter had even greater implications back in Canada. Second, also on April 9th, a debate occurred in the Canadian House of Commons regarding the future of Op GALLANT with the Trudeau government advocating a continued presence and the opposition for a withdrawal of the Canadian contingent, the latter best advocated by David Réal Caouette, Member of Parliament for Témiscamingue, Quebec Province, who stated:[87]

> I still think that we should have stayed home, because the situation over there [in South Vietnam] was not clear, and it is not any clearer now. The Minister has just said that we will not be taking any more risks…let us hope that there are no more incidents in Viet Nam and that, as Canadian members of Parliament, we will do all we can to prevent them.

Third, while the Canadian government debated the future of MCCD in the ICCS, once the helicopter flights were resumed, ICCS Air Services changed their flight profiles so that aircrews flew at 10,000 feet (occasionally flying nap-of-the-earth when warranted due to local threat assessments), which was above the effective altitude range of the SA-7; it was not to minimize the UH–1Hs heat signatures as all the ICCS Air Services Iroquois were outfitted with heat signature reduction modifications.[88] Additionally, by March 17th, in order to ensure the safety of the ICCS flights, each Regional headquarters had to request from the MCCD Operations authorization for flights prior to 1300 daily; this approval required the submission of the flight schedule, purpose, and assurance that the [proposed flight] route is safe and that JMC assurance received.[89] Finally, after the April 7th shoot down, one ICCS Air Services pilot quit the same day and for others it appears an almost morbid sense of humor began to manifest itself among the remaining ICCS Air Services aircrews.[90] Pilots publicly made statements like "riding in aircraft, particularly helicopters, is inherently dangerous" and "getting shot at while so involved [in flying] is part of the game"; comments which they shared with their ICCS

Air America Pilot Fred Anderson with an ICCS Volpar *(Photo courtesy University of Texas–Dallas)*


Fred Anderson's ICCS officers' mess card, 1973 *(Photo courtesy University of Texas–Dallas)*

customers and prompted an April 11th memorandum from Captain Harry J. Hudson, Air America Chief Pilot to all ICCS Air Services aircrews reminding them to "build their confidence in our professional services."[91]

The Canadian's use of ICCS Air Services, both fixed and rotary wing, would continue till July 1973, when the Ottawa government decided on May 29th that Canada would withdraw from the ICCS, saying that the trial period of 60-days and the later 60-day extension had resulted in no significant change to the conflict in South Vietnam, with all parties seemingly not fully complying with the Paris Peace Agreement protocols.[92] Canada's decision to withdraw was potentially further reinforced when on June 28, 1973, two MCCD officers, Captains Ian Patten and Fletcher Thomson, were kidnapped by the Viet Cong just east of Saigon, but careful negotiations finally resulted in their release after seventeen days.[93] The Ottawa government finally indicated it would withdraw effective 31 July 1973 and on that date, two Canadian Forces 437th Squadron Boeing 707s evacuated the entire Canadian ICCS contingent from Saigon back to Canada, thus bringing to a close the short lived Op GALLANT.[94] The entire Canadian contribution to the ICCS was best summarized by External Affairs Minister Sharpe, when he said of the peace deal observer mission, "Canadians should not take part in a charade."[95]

**Conclusion**

Iranian forces replaced the Canadians until the work of the ICCS came to an end with the fall of the South Vietnamese government on April 30, 1975.[96] ICCS Air Services continued to support the ICCS missions despite the continued violation of the cease fire agreements, attacks on ICCS personnel, and challenges with the ICCS meeting its contractual monthly payment obligations to Air America; at one point in October 1973 owing approximately $500,000, due to the ICCS being nearly $8 million dollars in debt.[97]

Despite the best efforts of the ICCS and the Air America aircrews to help enforce the Paris Peace Accords, the dramatic inevitable end of the Republic of South Vietnam, along with the ICCS and ICCS Air Services, came on April 30, 1975, when North Vietnamese forces captured the South Vietnamese capital of Saigon. Ironically, as U.S. Army, Air Force, Marine, and Navy aircraft supporting the massive evacuation of South Vietnamese refugees to awaiting U.S. Navy ships in the South China Sea or to US airbases in Guam and the Philippines, it was a lone Air America UH–1H atop the CIA Station in the Pittman Apartments, Saigon, that came to symbolize the role US airpower played during the final defeat of the South Vietnamese cause. ■

NOTES

**1**. U.S. Congress. Senate. Foreign and Military Intelligence Committee. *Book 1, Final Report of the Select Committee to Study Government Operations with Respect to Intelligence Activities, United States Senate together with Additional Supplement, and Separate Views, April 26, 1976*. 94th Cong., 2d sess., Report No. 94-755.https://www.cia.gov/readingroom/docs/AIR%20AMERICA%2C%20INC.%5B16217885%5D.pdf. (Accessed May 1, 2025), 219-220.
**2**. John MacFarlane and Charles Rheaume, *Cold War Theater: The Official History of the Canadian Military Observers in Vietnam, Laos, and Cambodia, 1954–1973,* (Ottawa, CN: n.p.), 416, Canadian War Museum Archives.
**3**. Marcin Gabrys and Tomasz Soroka*, Canada as a Selective Power: Canada's Role and International Position after 1989*, (Krakow, PL: Ksiegarnia Akademicka, 2017), 40.
**4**. Gabrys and Soroka, *Canada as a Selective Power,* 40.
**5**. Ibid., 40.
**6**. Ibid.
**7**. M. A. Rudderham, "Canada and United Nations Peace Operations: Challenges, Opportunities, and Canada's Response," *International Journal*. (London: Sage Publications, Ltd., 2008), 63.
**8**. Father of future Canadian Prime Minister Justin Trudeau.
**9**. "Operation GALLANT," *Canada.Ca*, June 10, 2019, https://www.canada.ca/en/department-national-defence/services/military-history/history-heritage/past-operations/asia-pacific/gallant.html (accessed April 27, 2025).
**10**. "Operation GALLANT," *Canada.Ca*.
**11**. "Article 18," *No. 13295, (a) UNITED STATES OF AMERICA, DEMOCRATIC REPUBLIC OF VIET-NAM, PROVISIONAL REVOLUTIONARY GOVERNMENT OF THE REPUBLIC OF SOUTH VIET-NAM and REPUBLIC OF VIET-NAM, Agreement on ending the war and restoring peace in Viet-Nam. Signed at Paris on 27 January 1973*. (New York: United Nations, 1974), 13.
**12**. Ibid., 14.
**13**. Ibid.
**14**. Ibid.; Some Eastern Bloc ICCS representatives may have been KGB intelligence operatives. According to Wayne Wright, Air America Pilot Rad Olinsky, a former U.S. Marine Corps CH-46 aviator born in Poland who spoke fluent Polish, attempted to speak to a "Polish" ICCS observer in their native language, only to discover the observer only spoke Russian. Wayne recalls, the "Polish" representative was quickly taken off the ICCS team. Wayne Wright, former Air America pilot, telephone interview by author, July 2, 2025.
**15**. The ICSC existed from 1954 to 1973 and was initially considered by the Canadian government to be successful. However, with the onset of open warfare in 1965 between and North and South Vietnam, the ICSC lost all effectiveness. The North Vietnamese indicated in March 1965 that the ICSC was no longer welcome in Hanoi, forcing it to move and also resulting in the departure of the seven fixed international peacekeeping teams in that country. The rationale was that the North Vietnamese could not protect the ICSC from American attacks. "Operation GALLANT," *Canada.Ca.*
**16**. Ibid.
**17**. Ibid.
**18**. Joe F. Leeker, *Air America in South Vietnam II From Vietnamization to the End: 969–75*, August 24, 2015, https://utdallas.app.box.com/v/history-Vietnam2 (Accessed May 17, 2025), 47.
**19**. Ibid.
**20**. Ibid.
**21**. "Operation GALLANT," *Canada.Ca*.
**22**. John MacFarlane and Charles Rheaume, Editors, *The MCCD/ICCS Remembers Op Gallant (Vietnam, 1973)*. (Ot-

tawa, CN: National Defense Headquarters, 2009), iv.
**23**. "Operation GALLANT," *Canada.Ca.*
**24**. Ibid.
**25**. Ibid.
**26**. Ibid.
**27**. Ibid.
**28**. Canadians' desire to bring peace and order guided its last days in Vietnam. In January 1973, the Paris Peace Accords were signed, effectively ending American combat operations in Vietnam. The accords established the ICCS to supervise the ceasefire, withdrawal of troops, and dismantlement of military bases; Canada was asked to join. After nearly two decades of frustration in the ICC, Canadians were hesitant to get engaged. Rachel Zack, "'Complipendence': Canadian Public Opinion and its Complex Impact on Canada's Indochina Policy, 1954-1973," *Sigma Iota Rho: Journal of International Relations,* October 19, 2020, http://www.sirjournal.org/research/2020/10/19/complipendence-canadian-public-opinion-and-its-complex-impact-on-canadas-indochina-policy-1954-1973 (Accessed April 25, 2025).
**29**. "Operation GALLANT*," Canada.Ca.*
**30**. Ibid.
**31**. Ibid.
**32**. MacFarlane and Rheaume, *Cold War Theater*, 416.
**33**. Ibid., 340.
**34**. Ibid.
**35**. Ibid.
**36**. Ibid.
**37**. While the Canadian government was reluctant to become involved in the conflict, it is believed that between 12,000 and 30,000 Canadian citizens volunteered to serve in the U.S. Armed Forces during the conflict, many in South Vietnam, with approximately 134 killed during the war. "Lost to history: the Canadians who fought in Vietnam," *CBC*, November 10, 2015, https://www.cbc.ca/news/canada/british-columbia/lost-to-history-the-canadians-who-fought-in-vietnam-1.3304440 (Accessed, May 11, 2025); Ibid., 301.
**38**. John MacFarlane and Charles Rheaume, eds, *The MCCD/ICCS Remembers Op Gallant* (Vietnam, 1973), 9.
**39**. Lieutenant Colonel (Retired) J. P. "Pat" McManus recalled that the combat clothing issued to the MCCD teams was unsuitable for tropical wear. The issue military short pants and green knee socks worn by the Canadians made them "a laughingstock" among their fellow international soldiers. MacFarlane and Rheaume, *The MCCD/ICCS Remembers*, 65.
**40**. "International Commission of Control and Supervision," *Canadiansoliders.com*, 1999, https://www.canadiansoldiers.com/history/internationalmissions/iccs.htm (accessed May 11, 2025).
**41**. MacFarlane and Rheaume, *The MCCD/ICCS Remembers*, 121.
**42**. D. G. Loomis, memorandum, "An Outline of Canadian Operations within the ICCS", Canadian Delegation, International Commission of Control and Supervision, 3350-1, July 26, 1973, 8. Research Centre, Canadian War Museum Archives, Ottawa, CN.
**43**. MacFarlane and Rheaume, *The MCCD/ICCS Remembers*, 38.
**44**. Brian Harrison, Wayne Moose and Dennis Hogan, "The Joint Military Commission (JMC)–1973," *Centaurs in Vietnam*, n.d., https://www.centaursinvietnam.org/WarStories/WarDiscussions/D_JointMilitaryCommission.html (Accessed May 11, 2025).
**45**. "U.S. Army Aircraft with ICCS White Crosses, Pleiker Region, South Vietnam" Artifact Number: 53-17-23, Call No. 01 CWMMCG ARCH PHOTOS 52A 6 28.18-56, 1973, Military History Research Centre, Canadian War Museum Archives, Ottawa, CN.
**46**. Initially, the JMC aircraft were painted with three white stripes on the fuselage and tail boom similar to the Allied paint scheme of the World War Two D-Day invasion. According to Wayne Moose, "the white stripes were deemed inappropriate - too much like surrender - and different colors had been chosen, one for each of the four Military Regions. JMC Region 4, as an example, was marked with orange stripes to correspond with the arm bands worn by the JMC personnel assigned to that region." Brian Harrison, Wayne Moose, and Dennis Hogan, "The Joint Military Commission JMC – 1973," *Centaurs in Vietnam*.
**47**. Ibid.
**48**. Teletype message, FROM CANGP MY THO, TO CANMILCOM SAIGON, 3350-1/R6, February 25, 1973. Military History Research Centre, Canadian War Museum Archives, Ottawa, CN.
**49**. "Operation GALLANT," *Canada.Ca*.
**50**. Ibid.
**51**. Leeker, *Air America in South Vietnam II*, 39.
**52**. "Air America's UH–1Hs," Letter dated March 28 1973 written by James Cheng, Air America's Insurance Manager, to Millers' Ltd. (in: UTD/Bisson/B5 microfilm reel no. 26)", Leeker, *Air America in South Vietnam II*, 48.
**53**. Leeker, *Air America in South Vietnam II*, 48.
**54**. The "Victor-number" designators (i.e., V-03 designated Da Nang) were used in the Air America's *Air Facilities Data: South Vietnam and Cambodia* directory to identify the various airstrips and landing zones around South Vietnam. *Air Facilities Data: South Vietnam and Cambodia*. (n.p.: Air America, Inc., April 1, 1973), 178. CA-8096, Leslie W. Bays Collection, Eugene McDermott Library, University of Texas at Dallas, Dallas, TX; Ibid.
**55**. "Curtis C–46D Commando," *National Museum of the United States Air Force*, https://www.nationalmuseum.af.mil/Visit/Museum-Exhibits/Fact-Sheets/Display/Article/196258/curtiss-c-46d-commando/ (Accessed May 17, 2025).
**56**. "Curtis C–46D Commando."
**57**." Airpower Classics: C–7 Caribou," *Air Force Magazine, February 2011,* https://www.airandspaceforces.com/PDF/MagazineArchive/Magazine%20Documents/2011/February%202011/0211classics.pdf (Accessed May 17, 2025), 104.
**58**. Joe F. Leeker, *Air America: Beech/Volpar Turbo Beech 18*, August 24, 2015, https://somwritinglab.utdallas.edu/library/specialcollections/hac/cataam/Leeker/aircraft/vtb.pdf (Accessed May 17, 2025), 1.
**59**. "A Flying Swiss Army Knife: The Many Faces of the Pilatus PC-6 Porter," *AOPA*, July 1, 2019. https://www.aopa.org/news-and-media/all-news/2019/july/pilot/a-flying-swiss-army-knife. (Accessed May 18, 2025.
**60**. "Bell UH–1P Iroquois," *National Museum of the United States Air Force,* https://www.nationalmuseum.af.mil/Visit/Museum-Exhibits/Fact-Sheets/Display/Article/195972/AFmuseum/bell-UH–1p-iroquois/ (Accessed May 18, 2025).
**61**. John Guilmartin, Jr. and Michael O'Leary, *The Illustrated History of Helicopters: The Vietnam War.* (New York: Bantam Books, 1988), 154.
**62**. "Bell UH–1P Iroquois," *National Museum of the United States Air Force.*
**63**. D.G. Loomis, memorandum, "An Outline of Canadian Operations within the ICCS", Canadian Delegation, International Commission of Control and Supervision, 3350-1, July 26, 1973*,* 8. Canadian War Museum Archives.
**64**. *Air America Log, vol. VII, no. 7, 1973*. (Bangkok, TH: Air America, Inc., 1973), 1. Box 1, CA-74-87, Fred Walters Collection, Eugene McDermott Library, University of Texas at Dallas, Dallas, TX.
**65**. Leeker, *Air America in South Vietnam II*, 48.
**66**. Wayne Walker, former Air America Pilot, telephone interview by author, July 2, 2025.
**67**. Managing Director and Chief Executive Officer for Air America, *Notice, January 22, 1973*. FEPA 1971-73, Folder 4/9, Box 4, CA-74-87, Fred Walters Papers, Eugene McDermott Library, University of Texas at Dallas, Dallas, TX.
**68**. Jesse B. Walton, Memorandum, TO: FEPA Board of Directors, FROM: Jesse B. Walton, Chairman, FEPA Negotiating Committee, SUBJECT: Status of Negotiations – Third Installment, February 9, 1973. FEPA 1971-73, Folder 4/9, Box 4, CA-74-87, Fred Walters Collection, Eugene McDermott Library,

University of Texas at Dallas, Dallas, TX.
**69**. *COMPENSATION AND RULES OF EMPLOYMENT FOR U.S. CITIZEN PILOTS OF AIR AMERICA, INC., January 29, 1973.* (Bangkok, TH: Air America, Inc., January 29, 1973). Compensation Packages, Folder 7/13, Box 7, CA-054-03, Dave Hickler Papers, Eugene McDermott Library, University of Texas at Dallas, Dallas, TX.
**70**. *COMPENSATION AND RULES OF EMPLOYMENT*, 13-14.
**71**. Leeker, *Air America in South Vietnam II*, 47-49.
**72**. MacFarlane and Rheaume, *The MCCD/ICCS Remembers* , 38.
**73**. This was the incident where U.S. Army Chief Warrant Officer-Two David Broadnax, F Troop, 3rd Squadron, 4th Cavalry Regiment, was wounded in the leg due to ground fire. ICCS DAILY SUMMARY 21/73, MILITARY SITUATION, 3350-1, 28 Feb 73. Military History Research Centre, Canadian War Museum Archives, Ottawa, CN.
**74**. D. G. Loomis, memorandum, Annex C, "An Outline of Canadian Operations within the ICCS", 8.
**75**. Ibid.
**76**. F. E. Anderson, *Flight Crew Log*, March 2, 1973. (n.p.: Air America, Inc., 1973.), n.p. Folder 1, Box 2, CA128-86, Fred Anderson Papers, Eugene McDermott Library, University of Texas at Dallas, Dallas, TX.
**77**. D. G. Loomis, "DAILY SUMMARY 41/73", Canadian Delegation, International Commission for Control and Supervision, 3350-1, March 20, 1973, 1. Military History Research Centre, Canadian War Museum Archives, Ottawa, CN.
**78**. MacFarlane and Rheaume, *The MCCD/ICCS Remembers*, 15.
**79**. U.S. Army helicopter aircrews considered altitudes of 3000 to 4000 feet over South Vietnam generally safe to avoid small arms fire. Guilmartin and Michael O'Leary, 23.
**80**. Teletype message, Subject: Operational Alert – XOXO Pending, to Air America Operations and Chief Executive Officer. 070440Z, April 7, 1973. Folder 8/9, Box 8, CA-054-03, Dave Hickler Papers, Eugene McDermott Library, University of Texas at Dallas, Dallas, TX.
**81**. George McArthur, "U.S. Pilots Contradict Hanio Claim Truce", *The Miami Herald*, April 16, 1973, 10.; Marc Montgomery, "Canada History: April 7, 1973 – Death in Vietnam, Peace Accord Farce", *RCI: Radio Canada International, April 7, 2020.* https://www.rcinet.ca/en/2020/04/07/on-this-day-today-in-history-canada-history-apr-7-1973-death-in-vietnam-peace-keeping-farce/ (Accessed May 31, 2025).
**82**. Teletype message, Subject: Operational Alert – XOXO Pending, to Air America Operations and Chief Executive Officer. April 7, 1973.
**83**. "Operation GALLANT," *Canada.Ca*.
**84**. Teletype message, Subject: UH–1H 71-20015 and 66-17006 XOXO, to Chief Executive Officer WAS. 091230Z, April 9, 1973. Folder 8/9, Box 8, CA-054-03, Dave Hickler Papers, Eugene McDermott Library, University of Texas at Dallas, Dallas, TX.; Annex B to 3350-1, Dated July 26, 1973, SUMMARY OF ACTIVTIES ICCS Region NO I, 10. Military History Research Centre, Canadian War Museum Archives, Ottawa, CN.
**85**. Wayne Walker, former Air America Pilot, telephone interview by author, July 2, 2025.
**86.** MacFarlane and Rheaume, *The MCCD/ICCS Remembers*, 38.
**87**. Canada, Parliament. *House of Commons, Debates, 29th Parliament, 1st Session, 1973, vol. III, 1973*. (Ottawa, CN: Government Publishing, 1997), 3076. Military History Research Centre, Canadian War Museum Archives, Ottawa, CN.
**88**. Wayne Walker, former Air America Pilot, telephone interview by author, July 2, 2025.
**89**. D. G. Loomis, "DAILY SUMMARY 38/73", Canadian Delegation, International Commission for Control and Supervision, 3350-1, March 17, 1973, 1. Military History Research Centre, Canadian War Museum Archives, Ottawa, CN.
**90**. Wayne Walker, former Air America Pilot, telephone interview by author, July 2, 2025.
**91**. H. J. Hudson, memorandum, To: All Pilots, F/W and R/W, Saigon, From: MFC/CP-SVND, Subject: Attitudes and Associations with ICCS, Date: 11 April 1973, REF #: MFC/CP-V-73-097. Folder 1, Box 1, CA-80-96, L. W. Bays Collection, Eugene McDermott Library, University of Texas at Dallas, Dallas, TX.
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**94**. Ibid.
**95**. Marc Montgomery, "Canada History: April 7, 1973 – Death in Vietnam, Peace Accord Farce", *RCI: Radio Canada International*, April 7, 2020.(Accessed June 1, 2025).
**96**. "Operation GALLANT," *Canada.Ca.*
**97**. "ICCS Faces Loss of its Air Services", *Associated Press*, n.d. Folder 20, Box 5, CA-88-04, J. A. Lopes Collection, Eugene McDermott Library, University of Texas at Dallas, Dallas, TX.


**ICCS Region 5 Map** ***(Photo courtesy of the Canadian War Museum***

# 80's Ladies at the Air Force Academy: The Doors Open

The author in formation for the march to Jack's Valley, July 1976

Karen S. Wilhelm

Fifty years ago, on June 28th, 1976, the first women took the oath of office as cadets at the USAF Academy. While there was extensive media coverage at the time, subsequent journal articles analyzing various aspects of integration, a book-length study of the institutional process of integration by Judith Hicks Stiehm, and more recently two published memoirs, a history of the women of the class of 1980—80's Ladies—has yet to be published. This article is a first step in recording that history, to include an overview of the necessary cultural, social, and legal changes, as well as the committed advocates who pushed to make them happen, a summary of the planning and preparations of Academy leaders, and a description of the first women cadets' experiences during Basic Cadet Training and their fourth class (freshman) year.

While admitting women to the service academies was a significant leap forward in the history of women in the US military, the process of accepting women as full-fledged members of the armed forces began with passage of the Women's Armed Services Integration Act of 1948. It codified permanent roles and positions for women in the regular organizations of all four services for the first time, but also strictly limited the numbers of and promotion opportunities for women, especially officers.[1] These constraints remained until the early 1970s, when two factors combined to finally expand opportunities for women, especially in the Air Force. First, all USAF career fields were opened to women except flying positions and a small number of others considered to be direct combat assignments. Second, the transition to the all-volunteer force beginning in 1973 as the Vietnam War ended led to significant increases in the recruitment of women to meet end-strength goals since there were not enough qualified male volunteers. As part of this expansion, women were allowed regular enrollment in the Reserve Officer Training Corps.[2]

These changes in opportunities for women in the Air Force were also a result of larger social and cultural pressures. Beginning in the 1960s, the women's movement highlighted inequities, raised questions about exclusions and the reasoning behind them, and pushed for expanded opportunities for women in all walks of life. These changing attitudes and women's activism led to a series of legal changes. The Equal Pay Act was passed in 1963. Title VII of the Civil Rights Act of 1964 prohibited employment discrimination based on race, color, religion, sex, or national origin. And 1972 saw passage of the Equal Employment Opportunity Act, Title IX of the Education Amendments, and the Equal Rights Amendment (ERA).[3]

The public debates and hearings regarding the ERA raised questions of drafting women, women serving in combat, and inequities in career opportunities. These issues, plus the question of equitable access to education highlighted by Title IX, became part of a growing debate about admitting women to the service academies. Resolutions

to do so were introduced in Congress and generally accepted by the Senate. But all were blocked in the House by the chair of the Armed Services Committee, F. Edward Hébert, who adamantly opposed the idea. Eventually after much debate, Hébert agreed to at least hold hearings on the topic.[4]

The primary argument offered by opponents such as Hébert was that the mission of the academies was to train combat officers, with the military taking the lead in arguing against the legislation on these grounds.[5] Other reasons to deny women's admission were added to this basic premise. It was said that admitting women would lead to lower standards. Other objections focused on how women would undermine the culture and "Spartan character" of the institutions. Still others asserted such a change would require too much money for modifications to facilities.[6]

Advocates for women's admission pointed out the various laws establishing the academies did not require graduates to serve as "combat officers" and that, in fact, significant percentages of graduates did not serve in combat specialties. They, therefore, asserted the relevant question was that of granting women equal opportunity for education and career advancement. Members of Congress were particularly supportive of this argument. Congressman Donald Fraser pointed out the incongruity of the Defense Department's stated goal to quadruple the number of women in the military by 1977 while "denying them access to the best educational program of their profession." Congresswoman Patricia Schroeder emphasized they were simply asking "that sex would not be considered as a disqualifier before you got to any of the other qualifications." She argued further that women wanted to attend the academies for the same reasons as men: they wanted a "superior academy education that will give them superior job and career advancement opportunities within the military."[7]

Congressional advocates for admitting women ultimately prevailed because the opponents' primary argument—that the academies were intended to produce combat leaders, and only combat leaders—was fundamentally flawed. The relevant sections of Title 10 direct that cadets will be instructed and prepared for military service, not combat leadership.[8] The USAF Academy was on particularly thin ice in this regard since, by policy, a given percentage of individuals accepted for admission were not qualified to become pilots or navigators, the primary combat-related career fields in the Air Force. Further, a significant percentage of graduates served in non-combat jobs, regardless of their career specialties.[9]

Because the "combat leaders" argument was, essentially, unsupportable, proponents of the legislation were able to disconnect the issue of women in combat from the question of admitting women to the academies, a necessary strategy since they recognized they would likely lose a vote to allow women in combat. Subsequently, P.L. 94-106 passed the House 303-96 and the Senate by a voice vote and was signed into law by President Gerald Ford on October 7, 1975. It directed the service secretaries to take all necessary actions to admit women to the USAF Academy, US Military Academy, and US Naval Academy beginning with the classes entering in 1976.[10]

The academies had to follow the law, of course, but admitting women was also a matter of process and attitudes. Air Force Academy leaders had anticipated the decision. The Superintendent, Lieutenant General Albert P. Clark, despite his passionate opposition to admitting women, had ordered preparations to begin in 1972. Committees were established to study a plethora of questions and identify issues requiring decisions. The first plan, USAF Academy Contingency Plan 36-72, "Integration of Females into the Cadet Wing," dated 15 September 1972, was submitted to General Clark that month. The process continued until the first female cadets reported in June 1976.[11]

From the beginning, a key element of the plan was the assignment of women lieutenants as Air Training Officers (ATOs) to serve as "surrogate" upper class women by participating in training the new women cadets and serving as female role models. Naturally, none of these women were academy graduates. To address their lack of experience, the 15 lieutenants selected to be ATOs reported to the Academy in January 1976 to undergo six months of familiarization with the culture, organization, and procedures of the Academy, including an abbreviated training program to test female performance in all the activities that would be required of women cadets. The ATO program provided decision makers with another important insight by highlighting the extent of opposition among male cadets to the mere idea of admitting women. A graphic illustration of which occurred when the men "oinked" and "mooed" at the ATOs as they marched to the dining hall.[12]

Academy leaders did their best to overcome opposition and prepare both cadets and staff to accept women as cadets. But there was no way to change the institutional culture in such a short time, nor could they "order" cadets and staff to change the negative attitudes they might hold. On the other hand, they could issue orders regarding the assimilation of women that had to be

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**Swearing-in ceremony for the Class of 1980 following Evening Meal Formation, June 28, 1980** ***(Photo courtesy of USAFA Clark Special Collections)***

obeyed, at least on the surface. All told, their efforts bought the women time to try to show they belonged, while inevitably driving the opposition underground. In essence, the women cadets became guinea pigs in a grand experiment with a predetermined outcome. The decision to admit women would not be reversed. It was on their shoulders to prove it was not a mistake.

While the Academy was preparing for the arrival of female cadets, young women across the country were learning of this unique opportunity and deciding whether to apply. Reactions from family, friends, teachers, mentors, and advisors ranged from unqualified support, to puzzlement regarding why a woman would want to go to a military school, to warnings about how hard it would be and that they wouldn't be accepted, to outright opposition to women being admitted. One female student's guidance counselor and a math teacher refused to write letters of recommendation because they thought women should not attend the academies.[13] Marianne Owens attended an orientation meeting at which cadets expressed their skepticism regarding the admission of women, claiming that most officers and cadets were opposed to the idea and that women could not meet the physical requirements.[14]

When the class of 1980 reported to be begin Basic Cadet Training (BCT, or "Beast") on June 28, 1976, they stepped into a foreign environment. Basic cadet training, like all military induction processes, was focused on turning civilians into military novices. Extensive media attention during the first days and weeks added a layer of unreality to this process, as the 1,436 men were virtually ignored and the 157 women found cameras pointed in their faces at almost every turn. The women also quickly realized they were being watched, their performance measured, and their every action judged by the upper class cadet cadre, officer leaders, and their male classmates. The media attention eventually subsided, but the institutional attention remained unrelenting. They were living in a fishbowl, and they understood that if one of them screwed up or failed, it would reflect on all of them.

The first day brought a fire hose of information and orders, in the midst of which, if anyone had any doubts, it became clear there were people who were not happy about the inclusion of women. One of the women was directed by basic training cadre members to "go to her dorm," pointing at Sijan Hall where male cadets who were attending various summer training programs were housed, rather than Vandenberg Hall where basic cadets were housed. When she entered she was quickly surrounded by a mob of the men, screaming obscenities and shouting that she should get out of "their" academy. Pressing around her, they knocked her to the floor. She was able to regain her feet and leave the building as they gradually spent their ire and started to drift away, eventually making it back to Vandenberg Hall.[15] While not all opponents were this brazen, they found ways small and large to add personal enmity to the usual miseries of BCT and, subsequently, the fourth class year. More generally, the mere presence of the women was used by some upperclassmen to denigrate the entire class. Both men and women were told their class was "weak" because the women were undermining standards and ruining the institution.

In addition to considerable emphasis on physical conditioning, many hours during the first half of BCT ("First Beast") were devoted to learning the basics of military life: identifying both cadet and regular Air Force insignia, saluting and the proper way to address a superior in rank, marching drill, preparing for both personal and room inspections, and most importantly, instant obedience to orders. Basics also spent many hours memorizing the cadet chain of command and other required knowledge, to be recited on demand from the upper class cadre. There were also uniform fittings, medical screening, academic placement tests, and a host of other administrative details to be accomplished.

After about three weeks, the First BCT training cadre was replaced by an entire new set of first and second class cadets, and the class of basics marched about five and a half miles to Jack's Valley, there to assemble tents and cots, stow their belongings in regulation foot-

**Packing out for Second BCT in Jack's Valley** ***(Photo courtesy of USAFA Clark Special Collections)***

lockers, and proceed with Second BCT. The physical training continued at even greater intensity, punctuated by running the confidence course, the obstacle course, and the assault course, the latter two ultimately in timed competition between squadrons. Some of the men viewed the women as a detriment because their times were typically slower than that of their male classmates. But by this time, the bonds between the men and women had begun to gel, and the majority cheered each other on and helped each other succeed.

When the intense training of the summer finally ended the women of 1980 had survived with remarkably small attrition—2.5 percent—with the men's only slightly higher.[16] The formal "promotion" of the class from basic cadet status took place with the cadet wing assembled for the Acceptance Parade on August 14, 1976.[17] They were now officially fourthclass cadets—still the lowest of the low, but no longer "basics."

While the entire class would have to adapt to yet another cadet chain of command, new upperclassmen, and the academic, military, and athletic demands of the school year, the women faced another round of proving themselves, this time to the large majority of the three upper classes of men who had yet to have contact with them. That process was significantly hindered by two key decisions made prior to their arrival.

The first was to house the women separately in their own "women's area" on the sixth floor of the Vandenburg Hall dormitory. This segregated living arrangement was established at the beginning of BCT, but its effects were muted by the nature of the training activities. Academy leaders felt the women would benefit from living together in a situation of mutual support rather than being scattered in small numbers in their squadron dormitory areas, and there was considerable validity to this consideration.

At the same time, the arrangement had significant negative consequences. The first was the isolation of the women from their male classmates and the upperclassmen in their squadrons. There were only limited times when the men and women could interact, getting to know each other, helping each other complete required fourth class tasks and supporting each other through the stresses of freshman year, thus building camaraderie with their classmates. The second was that the segregation led to rumors about the living arrangements, some more plausible than others. It was said that female cadets were allowed to roam the corridors at rest, rather than marching at attention next to the wall with eyes locked forward as was required of fourth class cadets. Other rumors, such as the installation of bathtubs in women's latrines and a kitchen in the women's area, were apparently believed by at least some people notwithstanding their total implausibility. Despite being untrue, they added to a sense that the women received special treatment.

**Basic cadet in the classic USAFA "Front Leaning Rest Position"** ***(Photo courtesy of USAFA Clark Special Collections)***

The second key decision was to assign women to only half the cadet wing. Squadrons 1 through 20, who resided in Vandenburg Hall, had women cadets, while squadrons 21 through 40, who except for three squadrons lived across the terrazzo in Sijan Hall, had none. The decision was made for the same reason: to ensure women were assigned in numbers adequate for mutual support. Again, despite the best intentions, the lack of women in squadrons 21 through 40 significantly slowed the women's integration because none of the men, even their own classmates, had routine contact with them. Further, a vocal portion of the men in third and fourth groups were proud of their lack of female cadets. They could behave as if nothing had changed.

The problems created by these decisions were clear to Academy leaders, and they quickly decided to assign women to all the squadrons. Just before finals at the end of first semester, half the women were notified they would be reassigned to a squadron in third or fourth group when they returned from holiday leave to start the second semester. Regardless of how necessary, the change was profoundly disheartening to the women selected to change squadrons in the middle of their fourth class year. After working so hard to build relationships with their male classmates and to show the upperclassmen in their squadrons they belonged, they would have to start over again in facing another group of skeptical men. However, as Kathleen Kornahrens observes, "It really was so crucial for our assimilation and a huge plus that the administration pivoted and moved us half way through, difficult as it was."[18]

Beyond these events, day-to-day life had settled into a busy routine. Fourth class academics were filled with required core classes and a standard course load of 19.5 semester hours. Fourth class cadets also continued to be subject to rigid military training requirements: walking at attention any time they were out of their rooms, restricting their movements between buildings to the marble strips on the periphery, eating while sitting at attention, and the continued memorization and recitation of their required "knowledge."

The women endured the same routine harassment of the fourth class training system as their male classmates. But there was an added layer of much more personal antagonism from those upperclassmen who wanted to make clear their opposition to and disdain for

having women in the wing, and who were determined to drive as many as possible to quit. Disparaging comments and name calling were almost routine. Kornahrens recounts that women were often stopped on the terrazzo by upperclassmen shouting "You, bitch, drive out here." ("Drive out here" meant you were to stop, make an appropriate facing movement, and step off the marble strip to be berated by the upper class cadet for some offense.) There were even uglier incidents. One of the few Black women was sitting at attention in the dining hall when a male cadet approached her from behind and whispered that no one wanted n—-s or women at the Academy.[19]

Admittedly, not every woman endured the same degree of enmity. From that perspective, each one had a singular experience of being one of the first. Yet, because they were judged as a group in so many ways, the experience was also profoundly collective. The abuse of one was felt, on some level, by all. From that perspective, the universal reaction of the women was twofold. First, "they" would never see them cry. Second, "you can say or do whatever you want, *we* aren't leaving." Their determination to succeed was reinforced by the support of many of the men—classmates, upperclassmen, faculty, and staff. Much of it was under the radar: a quiet word of encouragement here or there, or simply treating the women as cadets instead of "female" cadets. The Academy's integration was mandated by Congress and the signature of the president. But true integration came with these small steps. With classmates who willingly worked with female teammates to complete squadron details. With the BCT element leader who left a Coke and a candy bar on the bookshelf of the female winner of his element drill competition. With participation in coed extracurricular activities such as the Drum & Bugle Corps or athletics. By way of these and many other small steps the class of 1980 became a *class*—that just happened to have the first women cadets as members.

**Female cadet on the Confidence Course "Slide for Life"** ***(Photo courtesy of USAFA Clark Special Collections)***

After exams at the end of spring semester, the class of '80 had one last obstacle to overcome. Hell Week—a final, concentrated dose of "training" that culminated in a Recognition Ceremony where the third class trainers awarded their fourth class cadets the prop and wings insignia signifying upper class status. For both the men and women, it was a great relief to have made it through a demanding year, and they shared the pride in what they had accomplished.

For the women, the doors had been opened, and they had stepped through to claim a place in the institution and the cadet wing. Yet, despite significant progress, the process of integration was far from complete. Life in the fish bowl would continue. They now understood everything they did would be a "first," and the pressure to prove they belonged would continue. They also understood there were many classmates (male and female), upperclassmen, and staff members who would help them along the way. Finally, they understood that no matter how hard they tried to fit in and be inconspicuous, they could never escape their unique status as one of the first, a status they eventually would learn to embrace. ■

NOTES

**1**. See Jeanne Holm, *Women in the Military: An Unfinished Revolution* (Novato CA: Presidio Press, 1982), 119-20 for a summary of the law's provisions and STATUTE-62-Pg356a.pdf for the complete text.
**2**. Holm, 267-70.
**3**. Judith Hicks Stiehm, *Bring Me Men and Women: Mandated Change at the U.S. Air Force Academy* (Berkeley CA: University of CA Press, 1981), 44.
**4**. Holm, 305-6; Stiehm, 11.
**5**. Holm, 307.
**6**. For examples, see testimony of Martin R. Hoffman, DOD General Counsel, 5 June 1974; Lt Gen A.P. Clark, USAFA Superintendent, 18 June 1974; Jacqueline Cochran, WW II leader of Women Airforce Service Pilots, 18 July 1974, "Hearings before Subcommittee No. 2 of HASC, 93rd Congress, Second Session on H.R. 9832," *Report HASC-94-9* (Washington DC: US Government Printing Office, 1975), 76, 135-37, 254-55.
**7**. See "Hearings before Subcommittee No. 2 of HASC," Schroeder, 29 May 1974, 21, 22, 22-23; Fraser, 18 July 1974, 243-44; also Holm, 308.
**8**. U.S. Code: Title 10–Armed Forces, Chapters 753, 853, 953.
**9**. "Hearings before Subcommittee No. 2 of HASC," Schroeder, 29 May 1974, 22, 29.
**10**. The US Coast Guard Academy was not covered by the law, but also admitted women in 1976. The US Merchant Marine Academy had opened to women in 1974.
**11**. See Stiehm, 89-117, for analysis of the planning.
**12**. Irene Graf and Terry T. Walter, interview by Robert Bartonowicz and Joe Dixon, 1 September 1977, transcript p. 15, oral history file #85, Academy Oral History Collection, Clark Special Collections, McDermott Library, United States Air Force Academy.
**13**. Anonymous, personal communication with the author, 31 August 2022.
**14**. Steven A. Simon, "50 Years of Service," *Checkpoints* USAFA Graduate Magazine, March 2026, 46.
**15**. Anonymous, phone interview by author, 9 March 2026.
**16**. Stiehm, 129.
**17**. The Academy student body of about 4,400 people is referred to as the cadet wing; the wing is divided into four groups; each group is further divided into 10 squadrons of about 110 cadets each.
**18**. Kathleen Utley Kornahrens, email message to author, 10 March 2026.
**19**. Kathleen Utley Kornahrens, *"Bring Me Men …" Brought Women: Marching with the First Female Cadets at the U.S. Air Force Academy* (Jefferson NC: McFarland & Co., 2023), pp. 94-5.

**F–35 Joint Strike Fighter: A Great and Terrible Program.** By Abraham Abrams. Warwick UK: Helion, 2025. Photographs. Notes. Pp.192. $45.00. ISBN: 978-1-804519-40-0

This book is an excellent compendium of F–35 program information. It is well referenced and documented delineating costs, schedules, people, places and events that fully document the F–35's history from the beginning of the program in the early 1990s through 2025. It is likely the only unclassified F–35 book to do so.

Abrams begins with a history of the development and application of stealth technologies during the Cold War, including the SR–71 and the F–117. He describes the evolution of Soviet defensive threats and how, as they became more sophisticated, it became imperative to pursue further use of stealth technologies in future combat-aircraft development.

Both the Navy and Air Force proposed stealth designs for what later become known as the fifth-generation fighter. But, as budgets were cut as the Cold War ended, these were merged in 1993 into the Joint Advanced Strike Technology Program. In 1994, the Marine Corps and Royal Navy requirements were added, and the Joint Strike Fighter Program resulted.

Abrams then takes the reader on a 30-year journey in development and operational use of the F–35 and multi-national participation in the JSF program by what is now about 20 current and planned users. He delves into some of the aspects of the agreements struck with participants, such as component manufacturing, training, logistics, and support contracts.

Many other interesting facets of the program are examined. Several of the issues and challenges presented are:

*The Alternative Engine Program*. The General Electric/Rolls Royce F136 was intended to create competition for Pratt & Whitney's F135. Despite apparent F136 advantages, Abrams contends that political pressure ultimately killed the F136.

*F–35 performance data compared to those of China's J–20* (Abrams has written a book on this aircraft). He examines how the aircraft would match up in combat. After discussing the impact of F–35 operations from Japan, Korea and other areas of the Pacific theater, he opines that the F–35 is too short on range and weapons load and requires too much support (air refueling, stand-off jamming, etc.) to be truly effective.

*Concurrent development* (where production and testing occur at the same time). The intent is to get the aircraft in the field sooner; but, in reality, as problems are discovered, more field retrofits are required, thus affecting operational readiness.

*Development time*. The J–20 took a little over six years to go from first flight to operations. The F–35, in contrast, took 15 years. Now the Chinese have already flown their prototype 6th-generation aircraft. The Air Force's and Navy's 6th-generation aircraft (F–47 and F/A–XX respectively) won't fly until the mid-2030s. Funding uncertainties mean that date is likely to slip. This puts pressure on the F–35 and the 4-plus-generation F–15EX to meet the Chinese challenge for the next several tears.

These are just samples of the depth and breadth of topics Abrams addresses. He covers many more in this excellent piece of work. The book's large size (12 x 8.5 in) and small print allow inclusion of an immense trove of documented data, facts, and figures. One can easily get lost in the text because of its size; but, if you are going to purchase one book to study the F–35, this is the one.

*Col Ralph G. Koontz, USAF (Ret), NASM docent*

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**American Fly Girl.** By Susan Tate Ankeny. New York: Citadel Press, 2024. Index. Notes. Pp. 264. $18.95 paperback. ISBN: 978-0-8065-4283-6

In the early 1980s, I found myself attending a parent-teacher conference for my oldest son, who was beginning first grade. Mrs. Weros, his long-serving and long-suffering teacher, began by explaining her classroom rules. "Life isn't fair," she intoned. "We would like it to be, but it isn't. What is important is learning how to respond when life is unfair to you, because that is what will determine whether you have a happy or unhappy life." It was obvious that Mrs. Weros was sending a message to the parents as well as her students.

*American Fly Girl* is, in many ways, a story about how one American woman responded to an unfair life when institutionalized barriers stood in the way of achieving her dream of flight. Hazel Ying Lee appears in most histories of the WASPs, but her personal story remains remarkable. As an American woman born to Chinese immigrant parents, the legal, social, and cultural barriers she overcame are almost unimaginable to people living in today's world. The story of her struggles and eventual success does not have a happy ending, but it remains timelessly important and is well told here.

Ankeny is a solid, if somewhat bland, writer. Her narrative flows smoothly and conversationally, making the book approachable and easy to read. She also devotes considerable attention to the social barriers and gender discrimination faced by women aviators during the period. At times, however, the interpretive balance feels uneven, with nearly every institutional failure or questionable decision viewed primarily through the lens of misogyny.

A mid-air collision that figures prominently in Lee's story illustrates this tendency. The accident involved three apparent causal factors: a technical issue, a poor decision by a male aviator, and a poor decision by a fe-

male aviator. Ankeny strongly implies that the male pilot escaped disciplinary consequences largely because he was a man. Yet wartime aviation was chaotic and desperately short of experienced pilots. That was the primary impetus behind the formation of the WASPs. My own family history includes a male USAAF ferry pilot who, over two years, lost four aircraft through causes ranging from fuel exhaustion to becoming lost after forgetting a map. He was never formally disciplined. Was that due to gender, or simply the realities of wartime pilot shortages and operational necessity? The question is worth considering, especially when evaluating whether female ferry pilots were uniquely and unfairly treated.

I enjoyed the book, despite the sadness surrounding Lee's life and death. It is an accessible and relatively quick read, taking roughly ten hours to cover from beginning to end. Readers seeking detailed operational aviation history may find less "boom and zoom" than expected. The book spends more time examining the social world of Ms. Lee and the WASPs (including the Cochran-Love rivalry and the personal and sex lives of the aviators) than it does on technical flying subjects. Still, Ankeny had no shortage of genuine examples of unfair treatment directed toward the women pilots and their families. Hazel Lee's story remains an important and deeply human one, and Ankeny succeeds in ensuring that it will not be forgotten.

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**Airpower and the Normandy Campaign.** By Mike Bechthold, Ed. Annapolis MD: Naval Institute Press., 2025. Photographs. Maps. Illustrations. Tables. Notes. Index. Pp. 354. $39.95. ISBN: 978-1-68247827-1

This book is a thoughtful and well-researched contribution to the scholarship surrounding Allied air operations in support of Operation *Overlord* and the subsequent fighting in Normandy. The collection brings together a diverse group of historians who examine not only the familiar operational narrative of Allied air superiority but also the complex planning debates, organizational structures, and technical innovations that shaped the use of airpower in 1944.

One of the book's most useful contributions is a clear discussion of the so-called "Transportation Plan." Frequently referenced in studies of the Normandy campaign, the term describes the Allied strategy of systematically attacking rail lines, bridges, marshaling yards, and transportation hubs across northern France in the months leading up to the invasion. The objective was not merely destruction for its own sake but the paralysis of German operational mobility, thereby preventing rapid reinforcement of the invasion front once the landings began. Several contributors demonstrate convincingly that this campaign of interdiction played a decisive role in isolating the battlefield and shaping the operational conditions that followed the Normandy landings.

Also revealed is the astonishing complexity of Allied aviation leadership structures. Command arrangements across British and American air organizations were often Byzantine, and many senior figures occupying key posts were hindered by uncooperative personalities, institutional rivalries, and narrow doctrinal perspectives. At times, the planning environment appears so fragmented that it is remarkable any coherent strategy emerged at all, let alone one that proved successful in practice. Fortunately, the Allied command system possessed a clear final authority in Dwight D. Eisenhower, whose role as the ultimate "decider" brought clarity and direction when interservice disputes threatened to derail the planning process.

Yet the leadership shortcomings highlighted also illuminate issues that are often overlooked in conventional accounts of the campaign. Several essays draw attention to the devastating civilian consequences of Allied bombing in "the martyred towns of lower Normandy," where the scale of French civilian casualties was far greater than many operational histories acknowledge.

Bechthold deserves credit for assembling contributors who examine lesser-known, but critically important, subjects. Especially engaging is the discussion of the innovations developed to provide effective command and control of tactical airpower during the invasion. Among these were highly modified Landing Ship Tanks (LSTs) equipped with extensive VHF and HF communications equipment and radar and staffed by over 200 trained airmen and controllers tasked with coordinating air operations over the battlefield. These chapters stand among the most illuminating in the volume.

The research presented also raises provocative questions. Why were the lessons of the disastrous Dieppe Raid not more fully incorporated into pre-invasion planning? And how did controversial RAF commander Leigh-Mallory continue to rise despite earlier miscalculations regarding German air capabilities and strained relations with Allied counterparts such as Carl Spaatz? The reader may conclude that Leigh-Mallory's survival owed as much to political connections and institutional circumstances as to operational brilliance.

Overall, *Airpower and the Normandy Campaign* is a balanced, clearly written, and deeply researched volume. While the early chapters occasionally become dense with organizational detail, the later sections more than compensate with engaging analyses and fresh insights. The book succeeds in both revisiting the familiar narrative of *Overlord* and illuminating the lesser-known operational niches that shaped the campaign. For its

breadth of information, analytical clarity, and exemplary citation structure, I strongly recommend this volume.

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**Bloody Dangerous: Fifty Missions over Germany: The Last First-Hand Account from WW2.** By Colin Bell. London UK. Abacus, Little Brown Book Group, 2026. Photographs. Pp. 272. $30.00. ISBN: 978-0-349-14899-1

Bell's memoir of his service in the Royal Air Force (RAF) during World War II may possibly be one of the last personal memoirs to be written by a member of that generation of wartime pilots. The former flight lieutenant began working on his memoir at the age of 98, following his final retirement from a career as a chartered surveyor. The result is an engaging account of his experiences that ranged from the amusing to the terrifying.

Bell enlisted in the RAF in 1941 as one of several thousand RAF-pilot candidates selected to train in the United States under the Arnold Scheme prior to America's entry into the war. He began his basic training at Lakeland in Florida flying the Stearman PT–17, then moved to Cochran Field near Macon, Georgia, for primary training on the Vultee BT–13 Valiant. Advanced training was on North American Harvards at Napier Field, Dothan, Alabama. After receiving a commission as a pilot officer, Bell was astonished to be assigned as an instructor of American students at Napier Field. He later realized this assignment may have saved his life. Had he returned to England in early 1942, he may well have been assigned to Bomber Command at a time of high losses.

Bell arrived back in England in the spring of 1943 and volunteered to train as a night fighter pilot on Bristol Beaufighters. This led him to multi-engine training. He was then stuck in limbo for several months waiting for an assignment. When the path to night fighters closed, Bell volunteered to fly Mosquito bombers with the Light Night Striking Force (LNSF), flying bombing missions and spoof raids to cities in Germany.

The major portion of his book covers his time flying 50 missions with No. 608 Squadron in the LNSF. One of the most interesting aspects of the book is his detailed description of a mission over Germany: the preparations for the mission, the mission itself, and the return, with relief at having once again survived. Bell writes frankly about the many dangers he and his fellow pilots faced not only from enemy action but also from bad weather and mechanical failures. Flying into a barrage of flak at night somewhere on the way to his target was bad enough, but no one had warned him or his navigator of the sheer terror of getting coned by searchlights, which happened to him on several missions. By his own admission his most terrifying mission, and one of his last, was a harrowing ten minutes over Berlin where he was relentlessly pursued by what he believed was an Me 262 jet night fighter. Bell credits his survival to the excellent training he received in the United States, his outstanding Canadian navigator, and the superb flying qualities of the Mosquito.

A very readable book describing the lesser-known missions of the LNSF. Highly recommended.

*Edward Young, PhD, volunteer, Museum of Flight, Seattle*

**Visual Friendlies, Tally Target: How Close Air Support in the War on Terror Changed the Way America Made War, Volume II: Surges**. By Ethan Brown. Havertown PA: Casemate, 2026. Notes. Bibliography. Index. Photographs. Pp. 263. $34.95. ISBN: 978-1-63624-467-9

Ethan Brown is a senior fellow for defense studies at the Center for the Study of the Presidency and Congress. He served 11 years as a USAF special-operations Tactical Air Control Party (TACP) specialist with multiple combat deployments and writes extensively for a variety of national security publications.

In this second of a three-volume series on the transformation of American air-ground warfare following the invasions of Afghanistan and Iraq, he examines the evolution of joint fires and close air support during the second phase of the War on Terror. Brown draws on extensive interviews and firsthand accounts to provide an insider's view of how US forces adapted airpower to the demands of counterinsurgency in the mid-2000s.

The story centers on the men and women responsible for integrating airpower with ground operations, focusing on Joint Terminal Attack Controllers (JTACs) and other close air support specialists from the Air Force, Army, Marine Corps, and coalition partners. These served as the critical link between overhead aircraft and troops in contact, translating complex tactical situations into precise, often time-sensitive strikes. Through their experiences, Brown illustrates how airpower evolved in response to insurgent tactics, decentralized battlefields, and increasingly restrictive rules of engagement.

The title reflects two familiar radio calls: *visual friendlies* confirmed identification of friendly forces, and *tally target* indicated visual acquisition of the enemy. Together, they capture the central pressure of close air support, the requirement to deliver lethal force with precision while operating near friendly troops and civilians. Brown explains procedures and highlights the psychological burdens carried by those directing air strikes.

Early operations relied on conventional airpower concepts suited to large-scale combat. As the conflict

shifted to counterinsurgency, airpower adapted to new realities. Precision-guided munitions, persistent surveillance, and improved communications enabled aircraft to remain on station and support dispersed ground units in both urban and rural environments. Brown demonstrates how the integration of intelligence, surveillance, and reconnaissance assets with strike platforms created a more responsive and flexible support system.

The book's first part examines the historical and geopolitical environment and operational conditions that drove the development of integrated air-ground systems. The second part turns inward, exploring the mindset, resilience, and decision-making required of those executing close air support in some of the most demanding combat environments of modern warfare. This is Brown's primary focus. His interviews convey the emotional weight of these responsibilities and their lasting impact.

While the book is rich in detail, its heavy use of acronyms and operational jargon may challenge general readers and would benefit from a more comprehensive glossary. Nevertheless, it remains an informative and engaging account. By focusing on the tactical edge of air-ground integration, Brown provides valuable insight into the evolution of joint fires during America's longest war.

*Frank Willingham, NASM docent*

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**Bloody Skies: XV Fighter Command Against all Odds.** By Thomas McKelvey Cleaver. Oxford UK: Osprey, 2026. Maps. Index. Glossary. Bibliography. Pp. 320. $32.00. ISBN: 978-1-47286562-5

This book occupies an ambiguous position within the historiography of the Mediterranean air war. Neither a synthetic operational study nor a focused unit history, it offers a curated sequence of engagements linked by minimal contextual framing. The result privileges narrative momentum over analytical coherence, aligning the work more closely with popular aviation literature than with recent scholarship emphasizing coalition warfare and operational systems.

Cleaver's principal strength remains narrative execution. His compressed, kinetic prose captures the tempo of aerial combat with considerable immediacy. Yet this "zoom-and-boom" style, while effective in discrete episodes, becomes structurally repetitive and analytically thin. Tactical description accumulates without being consistently leveraged into broader claims about effectiveness, doctrine, or command performance.

Where the book gestures toward analysis, it does so suggestively but incompletely. The treatment of Fifteenth Air Force operations against Ploesti is illustrative. Cleaver observes that persistent poor weather constrained sortie generation and disrupted operational regularity. More significantly, he implies that this intermittency masked underlying personnel and readiness deficiencies. This is a potentially important insight into the relationship between environmental constraint and perceived effectiveness, but it remains underdeveloped. More rigorous treatment might have explored how weather-mediated tempo shaped both operational outcomes and postwar evaluation.

More consequential is the book's limited engagement with the coalition context in which the Fifteenth operated. The Mediterranean theater was a fundamentally multinational system incorporating the RAF, Free French Air Forces, and Italian Co-Belligerent Air Force following the Armistice of Cassibile. These forces performed differentiated but complementary roles: American emphasis on high-altitude strategic bombing alongside British and Commonwealth tactical air operations, with French and Italian units integrated into the broader operational framework. Aside from fleeting references (and the familiar IAR 80/Fw 190 misidentification), Cleaver omits this multinational dimension on both the Allied and Axis sides of the coin. The omission is not merely descriptive but analytical: it obscures the division of labor, coordination challenges, and uneven capability that defined all air operations in the theater.

The material and human dimensions are similarly underexamined. Conditions at Foggia—comparable to Pacific expeditionary airfields—are noted but not integrated into an assessment of morale, efficiency, or sustainability. Cleaver's discussion of Lt Col (later General) William Momyer raises important institutional questions regarding normalized racial attitudes within the Army Air Forces yet stops short of sustained analysis.

The Tuskegee Airmen chapter is more balanced than is often the case, particularly in its inclusion of the P–47 period. Their combat record is presented in the same operational register as other units, implicitly reinforcing parity of performance even as later narratives have elevated their symbolic prominence.

The photographic section falls below Osprey's usual standard, and the absence of a conclusion is striking, because it is such a departure from the typical Osprey product. The narrative ends without synthesis or comparative assessment leaving readers to draw their own conclusions.

In sum, *Bloody Skies* offers a competent, fast-paced operational sketch but contributes little to ongoing historiographical debates. It is cautiously recommended as a narrative survey, though readers seeking analytical depth will find the review more interpretive than the work itself.

*Gary Connor, docent, National Packard Museum, Cortland OH*

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**Coalition Aircraft vs Iraqi SAMs: Operation *Desert Storm* 1991.** By Peter E. Davies. Oxford UK: Osprey, 2026. Photographs. Maps, Illustrations. Diagrams. Index. Pp. 80. $23.00. ISBN: 978-1-4728-6601-1

Davies is a prolific military aviation historian specializing in detailed examinations of US aircraft and combat operations during the Vietnam War and Cold War eras. He analyzes tactics, background politics and technologies in combat situations. His books are respected for their use of first-hand interviews, operational analysis, and unpublished illustrative material.

Operation *Desert Storm* took place in January and February 1991, when coalition forces expelled Iraqi troops from Kuwait through one of the shortest and most devastating air campaigns in history. In this concise but highly informative study, Davies focuses on one critical aspect of the war: the battle between coalition airpower and Iraq's extensive surface-to-air missile (SAM) and anti-aircraft-artillery (AAA) network. The book effectively demonstrates how modern air warfare evolved as precision strike, stealth, electronic warfare, and integrated suppression tactics came together on a large scale.

Davies places the reader directly into the operational realities faced by coalition pilots during the opening nights of the campaign. Iraq possessed one of the densest integrated air defense systems outside the Soviet Union. On paper, their Integrated Air Defense System (IADS) appeared formidable and was the principal obstacle to achieving coalition air superiority.

Beginning with a chronology tracing the development of suppression of enemy air defenses (SEAD) doctrine from Vietnam through the early 1990s, Davies explains how multiple aircraft types, electronic countermeasures systems, offensive ordnance, advanced training, and evolving tactics combined to dismantle Iraqi defenses. Success did not result from a single "wonder weapon" but from layered cooperation among coalition planners and aircrews. A wide variety of coalition aircraft were involved in SEAD operations. Integration of these confused and fragmentated the Iraqi IADS. Success depended on planning, route selection, electronic warfare support, and exploitation of Iraqi operational weaknesses as much as on technology itself.

Davies discusses the many air-to-air, air-to-ground, and ground-to-air weapons employed by both sides and clearly explains the dangerous cat-and-mouse nature of SEAD operations, He captures both the technical sophistication and psychological pressure involved in these missions.

Importantly, Davies avoids portraying the campaign as effortless. While the IADS ultimately failed to stop coalition air operations, coalition pilots still faced genuine danger. Aircraft losses and near misses are discussed realistically, giving the work balance and credibility rather than reducing it to a simplistic celebration of Western technology.

Osprey's typical illustrations and maps add substantial value. They help readers visualize aircraft loadouts, strike profiles, and engagement zones without overwhelming the narrative with excessive technical jargon.

An important theme is that *Desert Storm* demonstrated that stealth, electronic warfare, precision weapons, and networked operations could systematically dismantle even dense Soviet-style air defenses. Many concepts later embodied in aircraft such as the F–35 and F–22 originated during this campaign.

Within the format's limitations, Davies combines operational clarity, technical explanation, and human experience into an engaging study of one of the defining modern air campaigns. The book is an excellent introduction to *Desert Storm* SEAD operations and a valuable case study in the emergence of modern networked air warfare.

*Frank Willingham, NASM Docent*

**The Emergence of Soaring in America: Warren E. Eaton and Aviation in the Interwar Era.** By Edward J. Erickson and Elise B. Eaton. New York: Bloomsbury Publishing, 2025. Tables. Photographs. Notes. Appendices. Bibliography. Index. Pp. 218. $108.00. ISBN: 978-1-6669-8186-5

Erickson, a retired Army officer who served in the 1991 and 2003 US military operations in Iraq, most recently taught military history at the Marine Corps University before stepping down from his position of professor in 2017. He has written extensively about the Turkish military in World War I (several scholars have criticized his perspective on the Turkish treatment of Armenians). Eaton, the granddaughter of Warren Eaton, partnered with Erickson and provided the opportunity to explore family documents that otherwise might have been unavailable.

In the introduction, Erickson identifies why a serious biography on Eaton is long overdue. Eaton probably promoted the pastime of soaring more than any other individual until his untimely death in December 1934.

After the United States entered World War I in the spring of 1917, Eaton enlisted in the Army and qualified for pilot training. Flying a Curtiss JN–4 Jenny, he earned his wings and then shipped out for France in December. After he completed advanced flight training in various French aircraft, the Army Air Service assigned Eaton to the 102nd Pursuit Squadron. His combat record includes credit for downing one German aircraft. Based on Eaton's logbooks and letters, Erickson provides a day-by-day look at Eaton's days as an Army pilot.

Over the years, the Eaton family had developed a prosperous pharmaceuticals business in Norwich, New York in which Warren played a prominent role. The com-

munity greeted him as a war hero on his return. A few years later, Eaton and some associates founded a small airline, which relied primarily on charter business.

In the late1920s, Eaton took an interest in gliding. While vacationing on Cape Cod, he discovered a gliding school. By the fall of 1929, Eaton owned two gliders. Back in his hometown, he organized a local glider club. The leaders of the National Glider Association (NGA), with assistance from Eaton, selected a hill near Elmira, New York, about 75 miles southwest of Norwich, for the site of its 1930 national championship. At the fifth annual championship there in 1934, officials dedicated the site in honor of the late Hank Harris, an early enthusiast. A few years earlier the Soaring Society of America had succeeded the NGA as the foremost proponent of gliding and soaring in America.

After offering a summary of Nazi Germany's use of gliding to train pilots after World War I, Erickson concludes by examining in detail the December 1934 accident in which Eaton died. The incident occurred in Miami, where Eaton hoped to start a school for prospective glider pilots.

This book is exceptionally well researched with considerable reliance on primary sources. It is best suited for soaring enthusiasts, especially when considering the hefty price tag.

*Steven D. Ellis, Lt Col, USAFR (Ret); docent, Museum of Flight, Seattle*

**Defeating the Japanese Zeroes: Lieutenant Commander John S. "Jimmie" Thach: One U.S. Navy Pilot and His Part in the Victory in the Pacific.** By R.J. Gorman. Havertown PA: Air World, 2025. Photographs. Appendices. Notes. Index. Pp. 224. $34.95. ISBN: 978-1-03613-759-5

R.J. Gorman, a former Arizona State University professor, became interested in the Pacific War many years ago. As a teenager, he took flying lessons from a former Navy pilot who had participated in the Battle of Midway.

In this work, Gorman parallels Thach's life and career with the Navy's efforts to gain air and naval supremacy against Japan. He begins by reviewing Thach's initiation into naval life at the US Naval Academy. From the start of his aviation career in the 1930s, Thach mostly flew fighters. After his first assignment, however, he spent several years as a test pilot and two more in patrol aircraft. He then took command of Fighting Squadron 3 (Fighting Three), where he emphasized gunnery.

At this point, Gorman switches gears and discusses the development of the Mitsubishi A6M Zero, backbone of the Imperial Japanese Navy's fighter forces in the early 1940s. Gorman notes how Japanese pilots overwhelmed the Chinese pilots they met. But they faced a far more capable opponent in the American Volunteer Group (better known as the Flying Tigers) in the first half of 1942.

In the spring of 1941, Thach noted an intelligence report describing a very capable Japanese naval fighter. A US naval attaché in Japan had the opportunity to observe and examine the aircraft in detail. Through trial and error, Thach devised a tactic that became known as the Thach Weave. Flying in pairs, Thach demonstrated how two inferior American fighters could bring more firepower to bear on the enemy while maneuvering in level flight. Besides exceptionally accurate gunnery, this approach would allow the American fighters to hold their own against the Japanese.

Gorman briefly covers the Japanese attack on Pearl Harbor and carrier operations preceding the Battle of Midway. He devotes four chapters to that turning point in the Pacific War. The first deals with the Japanese plan and the American efforts to thwart it. The remaining three cover the battle and Thach's role in the fighting.

Fellow fighter pilot and Medal of Honor recipient Edward "Butch" O'Hare prominently figures in the narrative. A chapter also covers the discovery of a Japanese Zero in the Aleutian Islands. The Navy recovered the aircraft and extensively evaluated its strengths and weaknesses.

As the months passed, the Navy promoted Thach. He returned to the war in 1944 as operations officer of Task Force 58 and, in the war's final year, participated in the Battle of the Philippine Sea. Perhaps his greatest contribution involved devising tactics to counter the Japanese suicide attacks.

This book is best suited for readers unfamiliar with the Pacific War who seek a casual overview. While Gorman frequently turns to Thach's autobiography, he does reference numerous primary documents. Among the appendices, he includes Thach's after-action report from Midway.

*Steven D. Ellis, Lt Col, USAFR (Ret), docent, Museum of Flight, Seattle*

**The Skyhawk Years: The A–4 Skyhawk in Australian Service 1968-1984**. By Peter Greenfield and David Prest. Kent Town, South Australia: Avonmore Books, 2023. Photographs. Annexes. Index. Pp. 216. $24.95. ISBN: 978-0-6457004-1-1

The title of this book is clear and accurate: it is a chronicle of the 16 years the Royal Australian Navy (RAN) flew the Douglas A–4 Skyhawk. A–4 pilot Greenfield and A–4 maintainer Prest provide the basic facts of Skyhawk history and call on their professional colleagues to flesh out the history with accounts of their personal experiences.

Those accounts are the heart of the book. For example, after telling readers that Australia's first A–4 personnel were trained in US Navy units in California, the authors turn the narrative over to the men who underwent that training. From them we learn about how warmly they were welcomed by their USN counterparts, how effective the training was, and how the training curriculum was modified to meet Australia's unique needs. This approach—basic history followed by personal accounts—gives us the facts we need to understand the overarching history of A–4 use in Australia and, at the same time, gives us a human perspective that enriches the story. The chronology covers initial training, growth of the Skyhawk fleet, numerous cruises and exercises, losses of aircraft and an A–4 pilot, and the ultimate inactivation of A–4 units.

In reading this history, most readers will be struck by a major difference between naval aviation in the US and in Australia. Most of us think of naval aviation in the context of the US Navy. In shifting from that perspective to the RAN, the obvious difference is a matter of scale. While the US has a force of nearly a dozen carrier battle groups carrying hundreds of aircraft, Australia had a single carrier (HMAS *Melbourne*), one operational squadron, and one shore-based training squadron. The RAN eventually acquired 20 A–4s; aircraft, pilots, and maintainers transferred frequently between the squadrons.

The book concludes with a chapter presenting the case for retaining carrier-based fighters in the RAN, and this discussion does a good job of explaining how these aircraft could be employed. This is fine as far as it goes, but it doesn't go far enough. This chapter could have (and probably should have) begun with a discussion of the questions facing Australia's defense decision-makers in the early 1980s: What were the threats to Australia's security interests? What were their defense priorities? What military forces did they consider using to meet the threats and protect their national security interests? What resource constraints did they have to deal with? Why, in the final analysis, did they decide to eliminate the Skyhawk squadrons and other naval fixed-wing aviation? If the authors disagreed with the decision—as they clearly did—they then could have explained why they disagree. But the one-sided presentation, addressing only the argument supporting the rejected alternative, amounts to an incomplete analysis and does a disservice to the reader.

That being said, the book is, nonetheless, worthy of your attention. The stories of relatively modern military aviation are interesting and are made more so by virtue of the fact that they were written by the men who lived the history. *The Skyhawk Years* is an excellent way to commemorate the history of the Royal Australian Navy's Skyhawk fleet.

*LTC Joseph Romito, USA (Ret), docent, NASM*

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**Lightning: From Inception to Preservation.** By Richard Hall. Havertown PA: Fonthill, 2025. Tables. Photographs. Notes. Glossary. Appendices. Bibliography. Pp. 224. $39.95. ISBN: 978-1-78155-950-5

Over the years, aviation writers have produced more than a dozen books about the English Electric Lightning. In 2012, Hall and a partner purchased a Lightning. Eventually Hall became the sole owner of XS420, a T.5 two-seat version first used in the 1960s. Inspired by his decades-long attachment to the Lightning and now possessing one, Hall chose to document the aircraft's development, operational use, and preservation.

For years during the Cold War, the British government reduced its defense budget. The Lightning became its final indigenous, high-performance interceptor. To this day, British enthusiasts argue that the Lighting exceeded the Cold War capabilities of its American contemporaries. the Lockheed F-104 and Convair F-106. Britain replaced the Lightning with the McDonnell Douglas F-4 in the 1980s.

Hall begins by discussing the origins of English Electric. Formed from several industrial concerns, English Electric emerged after Worl War I. Through World War II, the firm remained a subcontractor, all the time gaining considerable aeronautical engineering expertise. Beginning in the early 1950s, English Electric introduced the highly successful, twin-engine Canberra medium bomber. The Lightning followed.

British military authorities, alarmed by the threat of nuclear attack posed by Soviet bombers, desperately needed a highly capable interceptor. Hall shows how the Lightning more than filled the bill.

After discussing the prototypes, Hall examines each of the variants that emerged over the years. The early models lacked sufficient range, so subsequent versions featured an inflight refueling capability. The Lightning relied primarily on the de Havilland Firestreak and Hawker Siddeley Red Top infrared, air-to-air missiles to deter the many Soviet bombers intercepted over the years. Lightning pilots most frequently encountered Tupelov Tu–95s over the North Sea as the Soviets probed Britain's air-defense network.

As in the United States, British leaders chose to focus on missiles and, in some variants, removed the two 30-mm guns. Without guns, the pilot lost the option of easily firing a warning shot.

Hall describes how each Lightning squadron used the aircraft. He includes a brief history of the unit before discussing a particular model role, including alert status, exercise participation, and overseas deployments. Accidents, and whether the causes resulted in future modifications, are also examined. In numerous instances, the aircraft crashed into the waters surrounding

Britain. Review boards could only speculate on the cause based on pilot interviews. By far, engine fires posed the biggest problem.

Wrapping up the book, Hall remembers the Lightning's final flights before moving on to preservation efforts. In Britain, some enthusiasts focus on saving cockpits as opposed to the entire, and much more cumbersome, airframes. He lists all the airframes and cockpits known to him as of 2023.

This book is best suited for readers unfamiliar with the Lightning's legacy and how this excellent aircraft became a major factor in Britain's defense during the Cold War.

*Steven D. Ellis, Lt Col, USAFR (Ret), docent, Museum of Flight, Seattle*

**Douglas DC–3: 90 Glorious Years.** By Geoff Jones. Havertown PA: Fonthill, 2025 (reprint of the 2015 hardcover edition). Appendices. Tables. Photographs. Pp. 176. $28.95 paperback. ISBN: 978-1-80420-060-5

Geoff Jones was a pilot and freelance aviation journalist and photographer. His articles appeared in *Airways*, *Airliner World, Flight*, and *Pilot*. He also wrote numerous books including *The Big Six US Airlines*, *American Classics of the Air*, and *Vintage Aircraft over America*. A private pilot, he died in 2017.

This paperback release remains a well-illustrated tribute to one of the most influential aircraft in aviation history. Jones has traced the story of the DC–3's origins in Southern California during the 1930s through its remarkable military service, global commercial success, and continued utility into the twenty-first century. The result is a broad photographic narrative that highlights both the aircraft's technical significance and its enduring cultural legacy.

Jones begins by placing the DC–3 in the context of early commercial aviation, examining the progression of airliners in the 1930s. The Curtiss Condor, Boeing 247, and Douglas's own DC–1 and DC–2 were steppingstones that revealed both the promise and the limitations of early passenger transport. The emergence of the DC–3 marked a turning point, making reliable, comfortable, and profitable passenger air travel a reality. Jones shows how the DC–3 reshaped airline economics and accelerated the growth of commercial aviation in the US and the world.

The scope broadens to examine the DC–3's rapid global adoption. Airlines in the UK and across Europe embraced the aircraft, while also noting how the USSR and Japan produced their own versions during the Second World War. The wartime story is a component of the narrative with particular attention given to the aircraft's role in Allied operations. Here, the DC–3's ruggedness, range, and versatility proved indispensable in troop transport, cargo delivery, and airborne operations.

Jones also explores the aircraft's postwar career, where its adaptability ensured a long and varied service life. He discusses operations across Latin America, where the DC–3 opened remote regions to regular air service. The aircraft's ability to operate from short and unimproved airstrips made it ideally suited to frontier conditions, a theme that continues in discussions of its use in Africa and Australia. Jones highlights how the DC–3 became a lifeline in isolated communities, supporting both commercial ventures and humanitarian missions.

The book describes the many modifications and conversions that have kept the DC–3 relevant for decades: upgrades ranging from improved load carrying capabilities to higher performance reengining programs, including turboprop conversions that extend the aircraft's operational viability. These developments underscore the fundamental soundness of the original design and its capacity to evolve with changing technological and operational requirements.

Over 200 photographs provide a vivid record of the DC–3 in its many roles and liveries across different eras, users, and regions. Their short captions effectively complement the main text. These, combined with good narrative, illustrate how the DC–3 transformed air transport and continued to serve long after most of its contemporaries had disappeared. For aviation enthusiasts and general readers alike, it is an easy read and offers an informative and enjoyable account of an influential aircraft.

*Frank Willingham, NASM docent*

**Most Honorable Son: A Forgotten Hero's Fight Against Fascism and Hate During World War II.** By Gregg Jones. New York: Citadel Press Books, 2024. Index. Notes. Bibliography. Photographs. Pp. 350. $28.00. ISBN: 978-0-8065-4293-5

Gregg Jones' *Most Honorable Son* restores Sgt Ben Kuroki to his rightful place in the history of the Second World War. A Japanese-American airman who flew on 58 combat missions as a gunner on US Army Air Forces B-24 and B-29 bombers in both Europe and the Pacific, Kuroki overcame both institutional barriers and public suspicion to become one of the conflict's most distinguished enlisted combat aviators.

Jones proves an accomplished storyteller. His prose is clear and engaging, while his use of short chapters sustains momentum throughout. The volume is thoroughly researched and well documented, making it accessible to general readers without sacrificing scholarly credibility.

The book's principal strength—and weakness—lies in its extensive treatment of Kuroki's units and fellow airmen. Jones effectively situates his subject within the broader operational history of the air war and demonstrates how comradeship helped Kuroki navigate the prejudices directed toward Americans of Japanese ancestry. Yet the emphasis on crews, missions, and unit operations often overshadows the central figure. At times, the work reads more as a unit history anchored by Kuroki than as a fully realized biography.

Jones persuasively argues that anti-Japanese prejudice shaped Kuroki's wartime experience and fueled his determination to prove his loyalty through service. To Jones' credit, he presents these themes with nuance rather than reductionism. Episodes involving aircraft names such as *Most Honorable Son* and *Sad Saki*, as well as a drunken altercation with a Native American crewman that left Kuroki seriously wounded and hospitalized, reveal the complexities of wartime military culture, where ethnic stereotypes, camaraderie, and mutual respect frequently coexisted.

The book's most significant limitation stems from its source base. Although Jones's research is extensive, relatively little primary material from Kuroki survives. Jones sharply criticizes Ralph G. Martin's 1947 biography for factual inaccuracies, yet Martin reportedly had access to Kuroki's wartime diary. Consequently, readers are left with a detailed account of Kuroki's world but only an intermittent view of Kuroki himself.

Despite these reservations, *Most Honorable Son* is a valuable contribution to both military and Japanese-American history. While source limitations prevent it from becoming the definitive biography of its subject, Jones has produced an informative and compelling study of a remarkable American.

*Gary Connor, docent, National Packard Museum, Cortland OH*

**Okinawa 1945: The Royal Navy's Biggest Carrier Campaign.** By Angus Konstam. New York: Osprey Publishing, 2026. Maps. Table. Diagrams. Illustrations. Photographs. Bibliography. Index. Pp. 96. $25.00 paperback. ISBN: 978-1-4728-6674-5

Konstam has written more than 100 books, mostly about maritime history. A Fellow of the Royal Historical Society, he is a former Royal Navy officer, marine archeologist, and museum curator. He has been associated with the Royal Armouries, Tower of London, and Mel Fisher Maritime Museum.

Osprey consistently delivers high-quality summaries of different aerial battles in its air-campaign series, and this book is another (No. 59). While older eyes may find Osprey's small font challenging, the publisher has found a winning formula with its consistent format: introduction, chronology, attacker's capabilities, defender's capabilities, the campaign, and aftermath and analysis.

By the second half of 1944, the Allies had established control of the Mediterranean Sea. In the Atlantic, they had combined the convoy system; land-based aircraft; and small, but effective, antisubmarine task groups dominated by escort carriers to diminish the threat posed by German submarines. These successes allowed the British Admiralty to dispatch its fleet aircraft carriers to, first, the Indian Ocean and, later, the western Pacific.

At this point in the war, the Fleet Air Arm (FAA) relied primarily on highly capable, American-built aircraft. The FAA had introduced the Vought F4U Corsair to carrier operations. It also employed Supermarine Seafires, though their limited range restricted them to combat air patrols defending the fleet. The FAA possessed fewer Grumman F6F Hellcats. Grumman TBF Avengers made up the strike force.

After gaining valuable operational experience in the Indian Ocean, the fleet proceeded east into the Pacific. There, the American Pacific commander, ADM Chester Nimitz, overcame the opposition of his boss, ADM Ernest King, to incorporating British assets into American plans for the invasion of Okinawa.

US forces assaulted Okinawa beginning April 1, 1945. Meanwhile, for almost two months the FAA repeatedly struck Japanese airbases in the Sakashima Islands southwest of Okinawa and northeast of Formosa (Taiwan). Their missions normally followed the same routine: weather and tactical reconnaissance sorties followed by Corsairs and Hellcats trying to suppress antiaircraft sites and catch Japanese aircraft on the ground. Finally, Avengers attacked the airfields. Unfortunately, the 500-pound armor-piercing bombs dropped on the airfields inflicted minimal damage, frustrating the British aircrews.

US planners considered this mission essential to the invasion's success. *Kamikaze* suicide aircraft posed the greatest threat to Allied naval assets. Despite efforts to deny the Japanese easy targeting opportunities, the British carriers inevitably came under attack. However, they fared better than their American counterparts thanks to their armored decks that limited damage and allowed on-station repairs. Despite logistical challenges, the British contributed significantly to efforts to reduce the impact of the *Kamikazes.*

The numerous maps and diagrams help explain the tactics employed and make the read highly worthwhile. This book is recommended for anyone with an interest in the battle for Okinawa and the British role in bringing the Pacific war to an end.

*Steven D. Ellis, Lt Col, USAFR (Ret) docent, Museum of Flight, Seattle*

**Flashes in the Dark Volume 1: USAF Covert Operations and Nuclear Intelligence in Argentina, 1946-1957**. By Gustavo Maron. Warwick, UK: Helion & Company, 2026. Maps. Illustrations. Photographs. Notes. Pp. 92, $29.95 paperback. ISBN: 978-1-180451935-9

Maron, an Argentinian, graduated from law school and is a professor of aeronautical law at four Argentine universities. In this book, he explores a captivating, yet underreported, facet of contemporary military history: clandestine USAF operations in Argentina during the Cold War.

The title stems from the initial "flashes" of information Maron uncovered over more than two decades of extensive research involving a vast array of documents, photographs, and testimonies. These secret operations were executed without the knowledge of most Argentine political and military authorities. Maron aims to unveil the long-hidden details of US military activities in Latin America (particularly in Argentina), enriching public understanding of this critical history.

Shortly after the establishment of the USAF, the Air Force Office of Atomic Energy (AFOAT–1) was established in August 1948. It oversaw the Atomic Energy Detection System (AEDS), a top-secret entity to monitor foreign atomic tests and related nuclear activities. AEDS specifically targeted the Soviet Union, France, and China.

Significantly, AFOAT–1's first success came with the detection of the Soviet Union's inaugural atomic test on August 29, 1949. Radioactive debris from this test was identified by a modified WB-29 Superfortress, which was ostensibly flying for meteorological research. This triggered a pivotal disclosure by President Truman, marking a turning point in international perceptions of Soviet nuclear capabilities and eroding Soviet secrecy.

Throughout the Cold War, this intelligence-gathering strategy was executed repeatedly, garnering vital information for US leaders. The utilization of "meteorological" aircraft for espionage highlights the levels of secrecy surrounding these operations; they were publicly justified under the premise of conducting atmospheric research. Notably, AFOAT–1 operations remained classified until 1975, a full year after the USAF left its permanent bases in Argentina.

Maron details how nuclear espionage in Argentina commenced as early as 1946, using Douglas C–47 Skytrain and C–54 Skymaster aircraft to identify uranium deposits essential for nuclear weaponry. These missions expanded to incorporate the WB–29, surveilling Argentina's own covert atomic initiatives on Huemul Island.

Maron also discusses the High-Altitude Air Sampling Program (HASP) and how planning began in 1957. HASP was designed to achieve the highest possible sampling density over a single cross section of the planet. U–2 Dragon Lady overflights began in 1958 under Operation *Crowflight*. Utmost secrecy surrounded these operations—even key Argentine military units lacked awareness of their full scope. Airports in Ezeiza and Mendoza, critical for these missions, operated without explicit oversight from the Argentine Air Force.

In light of the sensitive nature of these revelations, Maron meticulously cites sources and documents, paving the way for future researchers to explore this unprecedented aspect of military history further. *Flashes in the Dark* is a significant contribution that sheds light on secretive US military operations in Argentina, enriching the discourse on Cold War dynamics and geopolitics in Latin America.

*Col Charles P "Chuck" Wilson, USAF (Ret), Cold War U–2 pilot and squadron commander, NASM docent*

**China's Fighter for the World: The F–7/FT–7 Family Volume 1: Origins, Evolution, and Variants** and **Volume 2: World-Wide Service**. By Holger Müller. Warwick UK: Helion and Company, 2025. Maps. Tables. Diagrams. Illustrations. Photographs. Bibliography. Pp.76 and 78 respectively. $29.95 paperback each. ISBN: 978-1-804513-74-3 and 978-1-804519-11-0

Müller brings a lifetime of aviation interest and expertise to these volumes. His childhood interest in aviation transitioned to his service as a MiG–21 technician in the German Democratic Republic Air Force from 1988-90. He has researched and written on the subject ever since, traveling to more than 20 countries where the MiG–21 and the J/F–7 fighters are in service. His writings are based on his own research and photography.

These volumes are part of Helion's Technology@War series that aims to provide an authoritative library collection of modern military technology, weaponry and innovation in the 20th and 21st centuries through exploring the technical details of air, land, sea, and electronic warfare.

Volume 1 details the origins, evolution, and variants of the F–7 / FT–7 family of aircraft and its use within China. When Mao Zedong founded modern China in 1949, the development of a national military establishment and an industry to support it was a priority. The MiG–21 fighter later became the template for air force modernization, capitalizing on the then-close alliance with the Soviet Union, which continued for several decades. The Chinese started with assembly of kits made in the USSR, progressing to local indigenous production and the manufacture of variants using Chinese

modifications and improvements. The resulting aircraft have been adapted for domestic use (J–7) and for export (the F–7 and FT–7) to strategic countries. The Chinese models have continued to be modified and improved to be relevant and useful today.

Volume 2 describes how China has marketed, and continues to deploy and market, the aircraft to strategic allies around the globe: Albania, Argentina, Brazil, Bangladesh, Egypt, Iraq, Iran, North Korea, Myanmar, Namibia, Nigeria, Pakistan, Sri Lanka, Sudan, and Zimbabwe. The United States was involved briefly in the 1980s with a number of F–7s that would be used for training purposes. Political and cultural changes in world events later ended US involvement.

The photographs in both books are spectacular: full-color photographs along with specially commissioned artwork literally jump off every page. The people, the airplanes, the weapons, and the technology are all shown. It's almost as good as being there. Both books also contain a very useful page of abbreviations and acronyms.

I found the readability of Volume 1 to be a bit challenging, as it is very heavy on the technical and scientific terminology involved in aircraft origins and development. Volume 2 is a much more enjoyable read, as it explores the interactions between China and other countries flying the F–7. The storytelling is much less technical.

Readers looking for fantastic aviation photography and a no-frills recollection of the history of the early development of the Chinese air force and its influence in the world, will find that these volumes check both boxes and deserve a place in your military-history library.

*Lt Col Timothy J. Gochnaur, USAF (Ret)*

**Iraq 2003: Precision Warfare Comes of Age. By** Michael Napier. Oxford UK: Osprey, 2026. Glossary. Index. Photographs. Maps, Illustrations. Pp. 96. $25.00. ISBN: 978-1-47286805-3

Napier is an experienced author with six published titles on modern airpower. He is a qualified RAF strike/attack pilot, flew over Iraq after the first Gulf War, and left the RAF in 1997 for a second career as an airline pilot.

The book is an excellent, concise study of the coalition air campaign conducted during Operation *Iraqi Freedom* and demonstrates how modern air warfare had evolved into a truly integrated joint operation. Napier argues that the campaign was, perhaps, the first in which air operations were completely fused with the land offensive rather than functioning as a separate supporting effort. The 41,000+ coalition sorties flown shaped the battlefield for advancing ground forces. Intelligent planning and the intelligence-led employment of advanced technology enabled coalition air power to achieve its assigned objectives with remarkable effectiveness.

Napier examines the roles of the impressive variety of coalition aircraft—F–15E, F–16, F/A–18, B–1B, B–52, A–10, Tornado, Harrier, Apache attack helicopter, and numerous reconnaissance and support aircraft—explaining how each type contributed to the overall campaign. From this, readers gain an appreciation for the complexity of coalition air operations and the degree to which specialized aircraft worked together in support of the broader land-air battle.

Napier also reviews use of modern air-to-ground ordnance. Precision-guided weapons (JDAMs, laser-guided bombs, cruise missiles, and anti-radiation missiles) receive particular attention. He clearly explains how these weapons transformed modern warfare by allowing coalition forces to strike targets accurately with minimal collateral damage while maintaining extremely high sortie rates. Readers will understand why Iraqi command-and-control systems and fielded forces collapsed so rapidly under sustained coalition attack.

There is a short, blow-by-blow description of the campaign. Napier demonstrates that success depended as much upon information dominance as upon firepower. UAVs, reconnaissance aircraft, satellites, and electronic intelligence systems provided coalition commanders with near real-time awareness of Iraqi positions and activities. This intelligence-driven approach allowed coalition planners to identify critical targets rapidly and strike ahead of effective enemy reactions.

Much of the operational success is attributable to an open and highly integrated coalition culture developed through years of prior combat experience. Lessons learned during Operation *Desert Storm*, Kosovo, and Afghanistan contributed to highly efficient mission planning and execution. Coalition aircrews and planners worked within a command environment that encouraged rapid communication, flexibility, and decentralized decision-making. This operational culture allowed coalition forces to adapt quickly to changing battlefield conditions and maintain a rapid operational tempo throughout the war.

The concluding analysis effectively ties together the entire campaign. Napier argues that the air campaign demonstrated the maturity of modern joint warfare, in which air power, intelligence systems, and land forces operated as a single integrated combat system. Despite the book's relatively short length, it provides a remarkably comprehensive overview of the campaign's operational, technological, and strategic dimensions. The result is a well written review of the 2003 Iraq air war, which was one of the most important modern coalition air campaigns.

*Frank Willingham, NASM docent*

**The Lockheed U–2: A Photographic History of the Famous Cold War Spy Plane.** By Ken Neubeck. Havertown PA: Air World, 2026. Maps. Tables. Diagrams. Illustrations. Photographs. Pp. 200. $34.95. ISBN: 978-1-03613385-6

This book is a comprehensive exploration of one of the most iconic aircraft in aviation history. The U–2, developed during the Cold War, played a crucial role in intelligence gathering and reconnaissance missions, and Neubeck's work celebrates both its technological innovation and significant historical impact.

One of the strengths of Neubeck's book is its extensive visual documentation, primarily presented in black-and-white. The profuse array of photographs captures the U–2 in various contexts: on the runway, during flight, and in action during notable missions. These images not only provide a vivid portrayal of the aircraft but also serve to illustrate the engineering prowess and design intricacies that made the U–2 a unique craft.

The narrative accompanying the photographs is well researched and engaging, offering readers insights into the aircraft's development and operational history while highlighting the challenges faced by pilots. Neubeck communicates the tense atmosphere of the Cold War, clearly showing how the U–2 became a symbol of intelligence gathering and national defense.

In addition to technical specifications, the book delves into personal anecdotes from a few U–2 pilots and personnel, thus giving a human touch to the historical account. It touches upon significant events, including the infamous U–2 incident involving Gary Powers, which escalated tensions between the US and the Soviet Union.

Critics might argue that, while the book is rich in photographs and narratives, it could benefit from a more critical analysis of the U–2's impact on both military strategy and international relations. However, the focus of this book is on the visual aspect. That makes it an appealing choice for enthusiasts and historians alike.

Overall, Neubeck's *The Lockheed U–2* is a visually impressive and informative tribute to this legendary spy plane. It offers a well-rounded perspective that appeals to both aviation enthusiasts and those interested in Cold War history.

*Col Charles P "Chuck" Wilson, USAF (Ret), Cold War U–2 pilot and squadron commander, NASM docent*

**Close Air Support: Case Studies on the Integration of Air Power on the Battlefield.** By Harry Raffal and John Alexander, eds. Warwick UK: Helion & Company, 2024. Maps. Tables. Diagrams. Illustrations. Photographs. Notes. Appendices. Bibliography. Index. Pp. 256. $65.00. ISBN: 978-1-804515-35-8

Harry Raffal, head of Collections and Research at the Royal Air Force Museum, and John Alexander, who specialized in coordinating air/land operations as a Royal Air Force officer, have drawn together eleven original case studies on close air support. Each individually authored study focuses on the development and use of close air support, starting with World War I and continuing to contemporary times. Raffal and Alexander authored three of the case studies. The volume originated from a Royal Air Force Museum and British Commission conference on close air support held at the RAF Museum, London, in March 2023.

The book is well documented. There is a list of illustrations and maps, contributors' biographies, and acronyms and abbreviations, in the front of the book. Each study includes extensive footnotes.

The case studies are presented chronologically. The first three focus on the British development of close air support during World War I. The only case study not focused on combat operations—the development of ground attack aviation in the United States from 1919–1927—follows. The next three studies present different aspects of close air support in World War II: they cover the Malayan campaign, the battle for North Africa, and the battle for central Italy. The US Army's development of Aerial Rocket Artillery helicopter squadrons as "flying artillery" from 1963–1972 is covered next, and it touches on the infringement on the USAF close air support mission. Close air support in the Falklands campaign introduces the incorporation of jet aircraft. It is followed by close air support in Afghanistan from the British RAF Tornado perspective. The final case study looks at close air support in the Global South, drawing on the Nigerian military experience from 1967–2022.

The editors conclude with a discussion of the lessons learned from the eleven case studies, covering over a century of close air support. Readers can skip to this 20 page section and get the "bottom line up front," but they will miss the rich history of the military personnel who developed close air support as we understand it today. This book is understandably British-centric, based on its conference origin, but is a valuable addition to anyone interested in the evolution and practice of close air support.

*Maj Gen Paul G. Schafer, USAF (Ret), NASM docent*

**Battle of Britain, The Movie: The Men and Machines of One of the Greatest War Films Ever Made**. By Robert J. Rudhall and Dilip Sarkar. Barnsley UK: Pen and Sword Books, 2025. Photographs. Appendices. Bibliography. Pp. 222. $28.95 paperback. ISBN: 978-1-39901-479-3

*Battle of Britain* is a movie I will always take time to watch. This book is a detailed description of the making of the film, amassing representative aircraft, and creating the elaborate special effects. The authors provide a very interesting narrative on the complex relationship between the actual Battle of Britain and how the events and personalities were represented in the movie.

The late Robert Rudhall worked in aviation his entire life, including as a founding member of the Cotswold Aircraft Restoration Group. His written contributions include aviation magazine articles and books on the P–51 and B–17. Dilip Sarkar, a former police detective, has written over 60 books regarding the Second World War. Among these are biographies of Group Captain Sir Douglas Bader and Air Vice-Marshal "Johnnie" Johnson.

The actual Battle of Britain covers the period from May through September 1940, when Germany's Luftwaffe engaged in large-scale attacks to soften up the UK for invasion. It was the first military operation fought solely by air forces. The failure to force the RAF out of action was one of the major Nazi defeats in World War II.

In the early 1960s, Benjamin Fisz, a former Hurricane pilot, approached film executives about making a film about the Battle of Britain to rekindle memories of "The Few" and the recognition that was owed them. From the early 1960s through the film's release in 1969, Fisz lived an adventure of financing disasters and recoveries, acquiring what became the 35th largest air force in the world (airworthy and taxiing/static airframes as well as camera aircraft), shooting on location from Malta to Spain to Britain, extensively choreographing air combat, generating special effects using radio-controlled models, and creating explosions galore. In an effort to portray the events and personalities accurately, the film boasted consultants of no less stature than Wing Commanders Stanford Tuck and Douglas Bader and Luftwaffe General Adolf Galland. Two aircraft in the movie were operational during the Battle of Britain: Spitfire Mk 1, AR213, now at Duxford Airfield, and Spitfire Mk 2, P7350, now at RAF Coningsby.

The 15 chapters (called Reels to reinforce the film association) provide the story of the movie's concept development, financing, logistics, and execution—all made more interesting since no one had ever proposed covering the entire Battle of Britain in a single film. Both the acquisition of aircraft (and their later dispositions) and the in-depth comparison of the movie with actual events are especially interesting. The photographs of the making of the film and period photographs from 1940 are useful for modelers. Three appendices cover topics such as filmographies of the movie's primary actors and where scenes from this movie were used in other films and television shows. The bibliography is a well-sourced list that includes unpublished sources.

This book is a great compilation of all that was involved in turning out such an epic movie in the late 1960s. The discussion of the nitty-gritty of all the facets of making this movie is a worthwhile read for anyone interested in the war-film genre.

*Tim Hosek, USG (retired)*

**Spitfire: The Iconic Fighter in Unique Photographs.** By Dilip Sarkar. Philadelphia: Air World, 2025. Photographs. Bibliography. Pp. xxvii, 128. $39.95. ISBN: 978-1-0361-4691-7

Dilip Sarkar has established himself as the foremost authority on the Battle of Britain, and aerial campaign fought primarily over southeast England in the summer and fall of 1940. He has written more than 50 books about the battle and related topics over the past 30 years. The Supermarine Spitfire played a critical role in turning the back the Germans. The photographs available here go far beyond the 1940 fighting.

In a 27-page prologue, Sarkar outlines the Supermarine Spitfire's development. This provides context for the photos to follow. For the most part, he has arranged the photos in chronological order, by theater of operations, or both. Aside from the prologue, he confines the narrative to a brief conclusion. Sarkar has included more than 230 black-and-white photos, many of which he has accumulated over the years from private collections. Unfortunately, he has neglected to include credits.

Almost every discussion of the Spitfire begins with homage to R.J. Mitchell, the aircraft's creator. Mitchell's photograph is about the only one without at least a portion of a Spitfire in it. Early images reflect both the airplane's legacy Schneider Trophy racers and the Spitfire prototype that sprang from those experiences. From there, Sarkar turns to the Mark I variants, with more than a dozen squadrons represented. Along the way, he sprinkles in ephemera reflecting advertisements and posters as well as factory shots from the primary plant at Castle Bromwich and others from Westland in Yeovil.

British citizens of all persuasions expressed their support for the Royal Air Force by directly funding specific Spitfires, an activity identified as presentation aircraft. Among the examples is the *R.J. Mitchell* sponsored by the Southampton Spitfire Fund.

Besides the Mark I and IIs, Mark V and Mark IX variants dominate the photos. He includes behind-the-scenes photos of the making of a feature film, *First of the Few.* Sarkar at various times also recognizes the contributions of foreign squadrons such as the Poles and Czechs.

As Britain's approach to the air war changed, the Air Ministry improved the low-altitude performance of some Spitfires by trimming the wings. Removing the tips left the wings with a straight edge, a feature demonstrated effectively in the photos.

Sarkar has photos of many pilots with their mounts. The more prominent include Douglas Bader and Johnny Johnson. Ground crews frequently appear, but they are very rarely identified.

Many photos reflect operations in the United Kingdom. However, Sarkar also includes shots taken in Malta, North Africa, Italy, the European continent, and Burma. He finishes with the deployment of Mark XXIVs to Hong Kong after the war.

This book is likely to be of interest only to the most serious Spitfire enthusiasts.

*Steven D. Ellis, Lt Col, USAF (Ret), docent, Museum of Flight, Seattle*

**Rise of the Machines: Drone Warfare in the Russia-Ukraine War: Tactics, Operations, Strategy.** By Illya Sekirin. Warwick UK: Helion. 2026. Maps. Drawings. Appendices. Pp. 255. $39.95. ISBN: 978-1-80451970-7

This is a timely and ambitious contribution to the growing literature on unmanned systems and the changing character of modern warfare. Sekirin is a Ukrainian-born, naturalized Canadian who volunteered for service in March 2022, so the book benefits from an unusual degree of firsthand credibility. Sekirin's trajectory from drone operator to translator for the Ukrainian General Staff and informal advisor to members of the Stavka under President Zelensky places him at a rare intersection of tactical experience and strategic exposure. This dual vantage point informs both the strengths and limitations of the work.

The book is organized into three sections, with the first standing out as its most analytically rigorous and conceptually valuable contribution. Here, Sekirin develops a doctrinal argument for the transformative role of drones, drawing explicit parallels to the early evolution of armored warfare. By invoking Heinz Guderian's interwar concept of armored "omnipresence," Sekirin equates the saturation of the modern battlefield by drones with the disruptive emergence of tanks in the 1920s and 1930s. This analogy is not merely rhetorical but is supported by a structured discussion of persistent ISR, compressed targeting cycles, and the growing accessibility of low-cost precision systems.

Section One is professionally researched, carefully cited, and maintains an appropriate academic tone. Sekirin advocates for the centrality of drones while preserving analytical balance. His concept of "dronification" (the saturation of the tactical battlespace with inexpensive, networked systems) aligns closely with observed developments in Ukraine, where small units equipped with FPV drones can generate disproportionate effects against traditional armored formations. At its best, this section situates drones within a broader continuum of military innovation rather than presenting them as an isolated revolution.

At the same time, the material presented here invites a broader interpretive framework. Evidence from Ukraine suggests that drones are best understood as *tactically transformative but not strategically decisive on their own*. Their greatest impact lies in reshaping the immediacy, transparency, and lethality of the battlefield at the small-unit level. However, at the operational and strategic levels, more traditional factors (logistics, industrial capacity, external support, and ability to sustain prolonged conflict) continue to exert decisive influence. A useful way to conceptualize this is as a layered model of warfare: strategic outcomes shaped by missiles, airpower, and industrial depth; operational success determined by sustainment and electronic warfare; and tactical engagements increasingly dominated by dense drone employment. This section provides a solid foundation for this interpretation, even if it does not fully articulate it.

The narrative's coherence begins to erode in Section Two, which shifts from doctrinal analysis to personal narrative. Sekirin recounts his experiences and rapid ascent within Ukraine's wartime military structure, offering insight into institutional dynamics and decision-making under pressure. However, the tone is markedly subjective. The narrative frequently centers on instances in which his advice was allegedly ignored, often followed by negative outcomes. While such experiences are plausible, the cumulative effect is less analytical critique than personal grievance, which diminishes the clarity and authority of the argument.

Being an advocate for transformative tactics and emerging technologies is rarely a comfortable position. To better situate Sekirin's approach, it is useful to recall earlier works that shaped the ascendancy of airpower, including *Winged Defense* by Billy Mitchell, *The Command of the Air* by Giulio Douhet, *The Permanent Organization of the RAF* by Hugh Trenchard, and *Victory Through Air Power* by Alexander de Seversky. These advanced forceful arguments for change, yet their influence rested on disciplined reasoning, evidentiary support, and a measured tone. In comparison, Sekirin's reliance on Guderian is understandable, but alternative models from the airpower tradition might have provided a more balanced framework and avoided the occasionally strident tone that emerges in this section.

Section Two is further weakened by its narrow analytical scope. Sekirin gives limited attention to the political, economic, and geopolitical dimensions that have

shaped Ukraine's war effort. In particular, the extensive military and financial support provided by Western countries receives little acknowledgment. This omission is significant, as such support has effectively substituted for Ukraine's limited industrial base, offset Russia's advantages in mass and materiel, and accelerated Ukraine's transition toward a more networked and technologically integrated force. By not incorporating these factors, the analysis risks attributing disproportionate explanatory weight to drone innovation alone.

Sekirin is also openly critical of Zelensky, offering limited recognition of his effectiveness in securing international support. While such criticism may reflect genuine internal tensions, it is presented without sufficient contextualization, reinforcing the impression that Section Two prioritizes personal perspective over balanced analysis. The result is a section that, while containing useful observations, feels uneven and at times unnecessarily polemical.

The third and concluding section is brief and forward-looking but underdeveloped. Sekirin projects a future battlefield dominated by autonomous systems, describing a landscape that closely resembles dystopian scenarios familiar from popular culture. The decision to title the book in a manner reminiscent of Terminator 3: Rise of the Machines appears deliberate, signaling an engagement with these cultural narratives. However, this framing marks a departure from the academic tone established earlier and weakens the doctrinal clarity of the argument. Unlike Guderian, who grounded his analysis in contemporary military realities, Sekirin leans more heavily here on extrapolation than on structured reasoning.

This forward-looking discussion would benefit from greater engagement with prior case studies. The Azerbaijan campaign in Nagorno-Karabakh, enabled in part by Israeli and Turkish drone technology, had already demonstrated the disruptive potential of drones in a conventional conflict. In that sense, Ukraine may be less a singular transformation than a large-scale confirmation and extension of an emerging trend. This perspective reinforces the idea that while drones significantly alter tactical engagements, their broader strategic implications remain mediated by enduring factors such as alliance structures, industrial capacity, and geopolitical context.

In summary, *Rise of the Machines* is a work of uneven execution but of considerable value. Section One offers a clear, well-argued, and analytically grounded examination of drone warfare that alone justifies attention. Section Two provides insight but is diminished by its subjective tone and limited scope. Section Three raises important questions about the future of conflict but does not fully develop them. Taken together, the book is best read not as a definitive account of the future of warfare, but as a valuable and thought-provoking insider perspective on one of its most rapidly evolving components. For readers seeking to understand how drones are reshaping the tactical battlefield—while remaining attentive to the broader structures that determine strategic outcomes—Sekirin's work is a worthwhile, if imperfect, guide.

*Gary Connor, docent, National Packard Museum, Cortland OH*

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**Convair B–36 Peacemaker: Cold War Nuclear Bomber and Largest Mass-Produced Piston-Engined Aircraft Ever Built**. By Graham M. Simons. Barnsley UK: Pen & Sword Books, 2024. Illustrations. Photographs. Bibliography. Index. Pp. 299. $54.95. ISBN: 978-1-52678731-6

The immense Convair B–36, which carried a heavier bomb load over a greater distance than any previous airplane, was the mainstay of the US nuclear deterrent for most of the 1950s. The fact that it was never deployed in combat is a testament to its effectiveness as a deterrent.

Graham Simons has a solid engineering background and has written extensively on aviation topics, with in-depth books on aircraft such as the North American XB–70, the Consolidated B–24, and the Airbus A380. In this work about the B–36, he demonstrates his considerable skills as a thorough researcher; and the book is loaded with a vast number of facts and figures about not only the airplane, but also other projects that had only an indirect connection to the B–36 program. Unfortunately, his researching skills are not matched by an ability to write, organize, and edit the results of his research. I found this book to be the most poorly written, poorly edited volume I've reviewed for the *Journal of the AFHF*. Here are a few examples:

There is a lengthy discussion of the so-called "Revolt of the Admirals," the brouhaha that occurred in 1949 when senior Navy officers objected to the Secretary of Defense and the President increasing funding for Air Force strategic systems at the expense of Navy programs. This chapter is so confusing that I had to turn to external sources to refresh my memory on what actually happened. (This is not a major issue, but I found it curious that Simons didn't use the term "Revolt of the Admirals," as this incident is commonly known.)

Similarly, Simons goes into great detail about how the Air Force's senior officials, including Secretary of the Air Force Stuart Symington, treated Convair unfairly in its dealings with Northrop Aviation. This chapter clearly was not reviewed by a competent editor, as major passages are frequently repeated from page to page, making it difficult to understand the sequence in which key events took place.

And since the book is supposed to tell us the story of

the B–36, the most significant shortcoming is in Simons' discussions of how the B–36 program requirements and development evolved over time. This information begs to be presented in tables or bulleted lists arranged in chronological order, but Simons instead gives us long narrative paragraphs that are extremely difficult to follow.

On a slightly positive note, the book has a couple of chapters that are interesting, even if they are only indirectly related to the history of the B–36. One brief chapter talks about an experiment in which the B–36's jet engines were used to power a railroad train. Another describes *Strategic Air Command*, a popular 1955 movie starring Jimmy Stewart (actor and real-life B–36, B–47, and B–52 pilot), in which the B–36 played a major role.

The bottom line on this book is that Simons deserves kudos for his in-depth research into the B–36 and related topics, but less positive marks for his ability to present the results of his research in a clear, useful product. Read this book only if you are willing to take careful notes as you read. Then be prepared to reorganize your notes when you're done.

*LTC Joseph Romito, USA (Ret), docent, NASM*

**F–35 Lightning II.** By Ben Skipper. Barnsley UK: Pen & Sword Aviation, 2025. Diagrams. Illustrations. Photographs. Pp. 96. $29.95. ISBN: 978-1-03612193-8

This book is a compact, colorfully illustrated history of the F–35 from its concept in the late 1970s through its development and testing in the 1980s and 1990s to operational service in the 2000s. Especially useful are examinations of the aircraft's key technical and power systems. Many countries other than the US have bought F–35 variants. Who these countries are and how they use the jets are also topics.

Skipper, a freelance writer with over 21 years of experience, has written several other titles for Pen & Sword Books that focus on military history, transport, and aviation subjects. The basic theme of this book is to capture, in fewer than 100 pages, the first-time development—on an international scale—of a stealth weapon system that will be used until the 2070s.

Broadly speaking, the F–35, a product of Lockheed Martin, comes in three variants. The F–35A is designed primarily for traditional airfield operations (US and other land-based air forces), the F–35B for short-take-off-vertical-landing operations (US Marines, ski-jump aircraft carriers), and the F–35C for long-deck aircraft carrier operations (primarily US Navy). Each variant has unique design and equipment characteristics to perform its particular set of roles.

Skipper's writing style is a very cut-and-dried presentation of people, events, dates, times, and places that tell the F–35 story. There are no interviews from any outside sources. The narrative is very heavy in scientific and technical jargon, as one might expect given the subject matter. This presentation does challenge readability a bit.

Almost 50 pages at the end of the book are dedicated to artwork of various F–35 models and the countries where they fly, as well as to a flourishing world of F–35 model aircraft.

There is a growing library of information on the internet about the F–35. The YouTube videos contain lots of patriotic, flag-waving productions that tout the performance characteristics of the plane. The book collection is growing, characterized by varying levels of history and detail, but have very little information on operational successes. For those wanting a more extensive picture of the F–35 with all the political and human drama and international intrigue involved, *F–35: The Inside Story of the Lightning II* by Burbage, Clark, and Pitman (2026) would be a good place to start.

Whether or not this book is worth the purchase price, your reading time, and a place in your library depends on what you are looking for. The book's 150+ pictures are spectacular. The writing is crisp, highly technical, and detailed as would be expected in a work tracing the history of an aircraft from concept to active service. If your interest in the F–35 checks all these boxes, this is worth your time.

*Lt Col Timothy J. Gochnaur, USAF (Ret)*

**Fiat G.55 Centauro**. By Przemyslaw Skulski. Sandomierz, Poland: Stratus, 2025. Maps. Tables. Diagrams. Illustrations. Photographs. Pp. 128e. $29.00 paperback. ISBN: 978-83-68377-13-2

Skulski is a Polish writer who specializes in World War II aircraft and armor. His English-language skills are very good and result in highly readable narratives. Most of his work is published in his home country by Stratus.

This volume covers what was probably the overall best of Italy's Series V fighter aircraft—Macchi's C.205, Reggiane's RE 2005, and the Fiat G.55. Working with their allied German aircraft manufacturing industry, Italy was hoping to produce fighter aircraft comparable in performance to the enemy aircraft they were meeting in combat. All three used German (or Italian license-built versions) Daimler-Benz DB 605 engines and Mauser MG 151 20mm cannons. Italian industry (both airframe and propulsion) had proven itself to be inept in terms of production capacity and quality.

The *Regia Aeronautica* expected to receive about 3600 G.55 Centauro fighters. The aircraft first flew in April 1942 and reached operational status in June 1943.

You can see what's coming: the Italians switched sides in September, so its combat time was limited. And compounding the time problem was Fiat's abysmal production. Only 164 aircraft were completed by the end of the war—of a planned 3600! However, before the remaining fighters were relegated primarily to trainer status by the Luftwaffe (as they took over the role of defending Italy in the air), G.55s were involved in a number of combat actions with Allied P–38s, P–40s, B–17s, and Spitfires. Many claims were made by Italian pilots, while a few were actually true. While a very capable fighter (especially at higher altitudes), reliability issues limited its actual use. Engines and the landing gear were the aircraft's primary problems. Those, combined with limited time and numbers, relegated it to also-ran status among Second World War fighters.

However, the remaining aircraft saw further use after the war. Also, a number of new airframes were produced. These were re-engined with the British Merlin engine, and some were made as two-seat trainers. They served with the post-war Italian Air Force and also flew with the air forces of Egypt, Syria, and Argentina. They not only provided operational service to those air arms but also helped get the Italian aviation industry through its period of reconstruction and modernization after the war.

Without question, this is a book primarily written with the modelling community in mind. The profile illustrations, technical diagrams, tables, and photos (both black-and-white and color) are excellent. However, I've found that this type of book is also often the best source of information about the history of the aircraft it covers. This one is no exception. I've never seen anything that covers Fiat's G.55 as well as this book does. For those interested in Italian military aviation, Skulski's books on the Series V fighters are the ones to read.

*Col Scott A. Willey, USAF (Ret), Book Review Editor, and former NASM docent and volunteer restorer*

**Bomber Boys: WWII Flight Jacket Art**. By John Slemp. Atlanta GA: Self Published, 2022. Maps. Illustrations. Photographs. Notes. Bibliography. Appendix. Index. Pp. ix, 371. $129.95. ISBN: 979-8-9865169-0-5

Wow! Not especially erudite, but it certainly expresses my feelings for this book.

John Slemp has been a professional photographer for over 30 years. This project started as just another photoshoot of an interesting subject. However, as he studied more and more of these A-2 jackets and talked, in many cases, with their owners (both men and women), he realized there was a great story to tell. These jackets have excited people since the end of World War II largely because of the personal stories they tell. They evoke images of brave bomber crews and swaggering fighter pilots and are both historical artifacts and fashion icons of the time. A book was in the making.

Slemp is not the first to cover this topic: Eastman's *Type A-2 Flight Jacket Identification Manual* (2012) and Maguire & Conway's *Art of the Flight Jacket* (1995) are both classics. But Slemp has successfully blended the beautiful artwork of the jackets with the stories of many of those who wore them. There is a lot of history crammed into these pages.

Why were these jackets developed? Because the higher one flew, the colder it got. In the days of open cockpits, there was no way to keep crews warm mechanically. Even with enclosed cockpits and cabins, aircraft were generally unpressurized and poorly heated at best. By 1931, the Army Air Corps had standardized on the A-2. Eventually, 18 different contractors produced about 750,000 of these iconic articles of clothing—at an average cost of about $8.25! Because of different sources of leather, goatskin, yarn (for the cuffs and waistband), and liner material, color hues varied widely, thus making the different A-2s even more interesting. While defacing Government property is frowned upon, in the case of A-2s (and other clothing articles), "customization" was generally overlooked. Hence, the artwork that adorned many thousands of these jackets.

The heart of the book is the superb photos of well over 100 different surviving A-2s. Merged with some period photos, Slemp's own portraits of some of the owners, aircraft illustrations, letters, mission cards, and the like, these jackets become a lot more than something you tossed on when it was chilly. "Hub" Zemke's jacket was fairly plain, but it had a red liner installed when a pilot became an ace in the 56th Fighter Group. Actor Jimmy Stewart's jacket was removed from its case in the National Museum of the USAF for only the second time so it could be shot. Lt Evelyn Ordway's flight-nurse jacket is included from her days flying into combat areas of the Pacific. *Enola Gay* tail gunner George Caron's story is told through his jacket. WASPs, Tuskegee Airmen, enlisted men and officers from all of the combat Air Forces around the world are included.

One chapter covers the A-2's influence on later fashion. There are shots of the early Beatles, Indiana Jones, Marlon Brando with a similar plaid jacket in *On the Waterfront*, and Ronald Reagan wearing them in several movies and as President. The A-2 has lived on.

This is not just another coffee-table book where you look at the pictures and put it down. The narratives and captions are superbly done. A reader will be drawn into the tales told by the artwork on these jackets—compelling stories of men and women at war. Is the book expensive? Absolutely, but it's worth every nickel.

*Col Scott A. Willey, USAF (Ret), Book Review Editor, and former NASM docent/restoration volunteer*

**Heinkel He 219 Units**. By Martin Streetly. Osprey, 2026. Photographs. Appendices. Illustrations. Bibliography. Index. Pp. 96. $25.00 paperback. ISBN: 978-1-4728-6791-9

The He 219 was a twin-engine, high-performance two-seater designed in 1940 as a fighter-bomber and reconnaissance aircraft for the Luftwaffe. As with other aircraft, such as the Bf 110 and Ju 88, it was soon adapted as a nightfighter. Persistent development delays resulted in delivery of relatively few examples, with even fewer seeing combat. The plane had an innovative ejection seat system, which functioned quite well, and a complex tricycle landing gear, which often did not. This book fits well with Streetly's previous Osprey volume, *Wilde Sau Nightfighters* (2024).

Readers familiar with weapons procurement may find this book depressingly familiar. Changing requirements, conflicting priorities, political interference, technical flaws, and testing failures hectored the program throughout its lifetime. Conversion to a nightfighter began in 1940; the plane entered combat four years later. Endless tinkering and modifications (e.g., upgraded engines and radar, heavier armament) occurred right up to war's end, with aircraft delivered in small quantities to operators as they emerged from the factory. Streetly contends the aircraft never left development. Today its status might be called Low-Rate Initial Production.

Streetly's research cites 338 as the total quantity of He 219s built, although most sources cite fewer than 300. Whatever number is true, the planes were constructed at dispersed facilities and under day and night bombardment, yet another example of the enemy's persistent recuperative abilities in the face of the Allied air offensive. The only unit equipped in strength was NJG 1, the Luftwaffe's premier nightfighter group. The He 219's best time was the summer of 1944. It downed numerous heavy bombers before RAF electronic countermeasures rendered its radar ineffective.

Streetly has plumbed previously untapped Luftwaffe and RAF archives to provide what may be the most complete combat account of the aircraft to date. The style is occasionally monotonous, with names, dates, and numbers paraded past with little further description. A table or two with some of these statistics would have been helpful. The aircraft's persistent contest with night-fighting Mosquitoes is detailed, as is post-war RAF and USAAF examination with captured examples. In a point some readers may find controversial, Streetly notes that he uncovered no official evidence of the Luftwaffe assigning the name *Uhu* (Owl) to the aircraft.

Aside from the usual color profiles, the usual Osprey artwork is absent, perhaps to include as much of the story as possible within the 96-page limit. The book features excerpts from pilot handbooks and design manuals. Photos are tied to the text and depict aircraft design details, radar and weapons installations, and nightfighter crews. The He 219's airborne intercept radar is extensively detailed, as is the continuing effort to overcome enemy countermeasures.

This book presumes a working knowledge of the nocturnal air war over Germany. Of the voluminous literature on this topic, a good basic survey is Heaton and Lewis, *Night Fighters* (2008). It also compares favorably to Ferguson (2020) and Remp (2000). The reader may look to Nowarra (2004) and Heaton and Lewis' profile of Wolfgang Falck in *German Aces Speak* (2011) for first-hand recollections.

I highly recommend the book for anyone interested in the air war over Germany.

*Steven Agoratus, Hamilton NJ*

**Immelmann: Life and Death of an Aviation Legend: Biography of Fighter Pilot Oberleutnant Max Immelmann (1890–1916) Volumes 1 and 2**. By Hannes Täger. Reno NV: Aeronaut Books, 2026. Photographs. Illustrations. Diagrams. Maps. Tables. Bibliography. Glossary. Appendices. Pp. 279 and 323. $59.99 paperback and $79.99 paperback. ISBN: 978-1-964637-33-4 and 978-1-964637-55-6

Täger's two-volume study represents one of the most ambitious examinations yet published of one of the defining figures of the First World War air war. The product of over 14 years of research, it draws upon personal correspondence, military records, family papers, contemporary newspapers, official reports, eyewitness testimony, archival collections, and an extensive body of supporting documentation to produce a study that is at once biographical, operational, technical, and historiographical. More than a biography, it is a detailed examination of the emergence of military aviation during one of the most transformative periods in modern military history.

The first volume traces Immelmann's development from his upbringing in Dresden through his education, military service, flying training, and emergence as one of Germany's earliest fighter pilots. Particularly valuable is the extensive use of personal correspondence, which provides unusual insight into his private life, ambitions, family relationships, and personal development. Rather than presenting Immelmann as an isolated historical figure, Täger places him firmly within the broader social, technological, and cultural environment of prewar Imperial Germany. The result is not only a portrait of the future aviator but also of the generation from which many of aviation's earliest practitioners emerged.

Equally important is the volume's treatment of the

formative years of aerial warfare. The progression from reconnaissance, observation, and artillery cooperation to the emergence of specialized pursuit aeroplanes, synchronized armament, and aerial combat tactics is examined in considerable detail. Through the life of Immelmann, the reader is able to observe the transformation of military aviation from a supporting arm into a distinct form of warfare.

The second volume shifts its focus to the changing conditions of the air war during 1916, the decline of the Fokker Eindecker's temporary superiority, the growing institutionalization of fighter aviation, and the controversies surrounding Immelmann's final combat and death. Here the work becomes increasingly analytical. Drawing upon German and Allied records, personal correspondence, eyewitness testimony, technical evidence, and official investigations, Täger subjects familiar episodes and their long-accepted interpretations to renewed examination. In doing so, he demonstrates the extent to which portions of the traditional Immelmann narrative have rested upon repetition rather than evidence.

One of the greatest strengths of the second volume lies in its treatment of Immelmann's death on 18 June 1916. Rather than accepting inherited explanations, Täger approaches the event as an historical problem. He assembled official inquiries, combat reports, technical evidence, witness statements, and subsequent interpretations and critically evaluated them in what is arguably one of the most comprehensive examinations of the subject presently available. Yet the study does not end with the aviator's death. He examines funeral ceremonies, public mourning, family involvement, memorialization, publications, and later interpretations in equal detail, revealing how the historical figure was transformed into an enduring aviation symbol.

Throughout both volumes, the supporting apparatus deserves special mention. Extensive appendices, documentary material, career chronologies, reports, victory lists, comparative analyses, and reference data provide the evidentiary foundation upon which the narrative rests. Likewise, the large collection of photographs, portraits, documents, maps, newspaper reproductions, artwork, and contemporary illustrations frequently serve as evidence in their own right. Combined with a highly effective English translation that successfully conveys an exceptionally detailed body of German research to an English-speaking audience, these features substantially increase the value of the work for both specialists and general readers.

Viewed as a whole, these two volumes succeed on several levels simultaneously: a biography of Immelmann; a study of the emergence of fighter aviation; an examination of aerial combat during its formative years; an investigation into one of the most debated deaths of the First World War; and an exploration of the manner in which military reputations are created, preserved, and transformed through historical memory. Most importantly, they demonstrate that even one of the most familiar figures of the early air war can still be reconsidered when the surviving evidence is gathered broadly, analyzed critically, and presented with scholarly rigor. The result is a significant contribution to not only the study of Max Immelmann but also the broader history of military aviation during the First World War.

*Carl J. Bobrow, Quondam Alfred Verville Fellow, NASM, Smithsonian Institution*

**Forgotten Souls: The Search For the Lost Tuskegee Airmen.** By Cheryl W. Thompson. New York: Kensington Books, 2026. Photographs. Notes. Index. Pp. xxiii, 211. $30.00. ISBN-978-1-4967-5077-8

In World War II, 992 Tuskegee Airmen, all African American military pilots, flew over 300 missions in the Mediterranean Theater. Twenty-seven were lost, and only one was returned home. Thompson, the daughter of a Tuskegee pilot, thinks she knows why.

In this well-constructed book, she persuasively advances her theory that their recovery was not considered a high priority. As a result, grieving families never had closure. This compelling account of the final chapter of those missing pilots, is told through their biographies and correspondence and interviews with family members and the few remaining pilots.

The remarkable story of the legendary Tuskegee Airmen is an extraordinary history of racial discrimination, perseverance, and hardship while they trained in the US and flew in Europe and Africa during the latter part of the War. But only one missing Black pilot was ever located (in 2019) and returned for a long overdue military burial. Why, didn't a purportedly grateful nation focus more on locating these men to provide closure for those grief-stricken families?

Most people know the history of racism in the US military. As far back as 1925, a study by the War Department described Black men in demeaning and insulting ways. But in 1939, President Roosevelt signed a bill which earmarked money for training Black military pilots. The men were subsequently trained in segregated Tuskegee, Alabama.

In her engaging and focused research, Thompson examines the history of the wartime pilot disappearances. Some data were unavailable due to the fire at the National Personnel Records Center in July 1973. Using her investigative skills, she tracked down and interviewed spouses, siblings, children, grandchildren, and five of the surviving airmen, including Brig Gen Charles McGee (then 101 years old and a member of her father's

squadron, the Hellions).

Over time, Thompson learned that many of the crash sites were never identified. The official explanation often was that they were located behind enemy lines and were inaccessible during the war. And many aircraft were lost in the clouds and over water where crash sites were indeterminable. At least 10 of the 27 pilots lost incurred engine or mechanical issues. An obvious supposition here was that these were older fighter aircraft that were relegated to the Black airmen. One senses that the overwhelming feeling of family members was that the Government just didn't feel it necessary to expedite recovery of the downed aircraft and pilots. One daughter, then in her 70s, observed, "I felt like they didn't want to find my dad."

The government policy at the time was, in most circumstances, to officially declare a missing pilot dead if the body was not recovered within one year and a day from the disappearance. In many cases Tuskegee family members reported that there was no response for several years. The unfortunate, and now-delusional, hope was that "one day they would be found." To Thompson, this lack of communication was prima facie evidence that the Government had little interest in pursuing recovery.

For anyone interested in the unique story of the Tuskegee Airmen, this book will provide a welcome opportunity to lean more about these intelligent, competent, and dedicated young men who earned the respect of white bomber pilots for their successful escort missions.

Will the remaining pilots ever be found? Who knows. But Thompson's inspired effort may certainly act as catalyst and continue the oft-asked question: What happened to them?

*David S. Brown, Jr., volunteer, Museum of Flight, Seattle*

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**The Aviator: A Biography of James R. McConnell, Lafayette Escadrille Fighter Pilot.** By Steve Tom. Atglen PA: Schiffer Publishing, 2025. Photographs. Maps. Notes. Bibliography. Index. Pp. 298. $29.99. ISBN: 978-0-7643-7030-4 **and Flying for France: With the American Escadrille at Verdun**. By James R. McConnell. Aeterna Press, 1917 (reprint 2026) Photographs. Pp. 67. $9.20 paperback. ISBN: 978-1-44443536-8

*The Aviator* is a superb, deeply compelling work that stands comfortably among the finest biographies of the First World War. With clarity, narrative force, and a clear mastery of source material, Tom delivers a portrait of James McConnell that is both intimate and expansive. It is not merely a story of aerial combat, but of a young American drawn into a foreign war, transformed by it, and ultimately consumed by it. The book is unrelentingly engaging and deserves a strong recommendation for both general readers and serious students of early aviation.

McConnell's early life unfolds as a familiar American story of promise and restlessness. Born into privilege and educated at the University of Virginia, he never quite settled into conventional expectations, leaving university before graduating due to his father's failing prospects. Yet that same restless energy propelled him toward France at the outbreak of war. There, he joined the American Ambulance Corps—one of many young Americans who sought purpose and adventure before the US formally entered the conflict. From this crucible emerged his path toward aviation and his role as one of the founding figures of the Lafayette Escadrille.

Service as an ambulance driver placed McConnell among remarkable company, including figures such as Ernest Hemingway and William Thaw, men similarly drawn to the war's moral and personal gravity. Looking for a more direct role in combat—and a path to flight training—McConnell transferred into the French Foreign Legion. From there, he earned his wings and entered the perilous world of early aerial combat. By the time of his death, he was physically broken, suffering from accumulated injuries and illness that left him, by contemporary accounts, an old man at 30. Yet he continued to fly, sustained by determination and a sense of duty that bordered on fatalism.

Tom effectively conveys why aviation in 1916–1917 was, in every sense, a "hard job." Aircraft were fragile, unreliable machines; living conditions were either *de luxe* or primitive; and formal doctrine was embryonic at best. Oswald Boelcke's *Dicta Boelcke* represented one of the earliest attempts to impose order on chaos, yet McConnell routinely violated its principles—most notably the warning that "foolish acts of bravery only bring death." He flew despite severe physical limitations, while many of his more skilled contemporaries had already been killed. In this context, aerial combat was not only tactically complex but existentially unforgiving.

Equally compelling is McConnell's voice as a writer. His letters, articles, and especially *Flying for France* reveal a perceptive, articulate observer of war. More a pamphlet than a book, it reads more like a quiet farewell. Written with striking intimacy, McConnell's words carry a haunting sense of inevitability, as if he understood the fragile margin between life and death in the early air war. His reflections on duty, fear, and brotherhood felt deeply personal rather than heroic. Published only weeks before he was killed in action, the book is something more than a memoir—it is a poignant, almost prophetic testament. The work is a moving, deeply human portrait of a young man who saw his own fate and rushed to embrace it.

Through McConnell's writings, Tom reconstructs not just events but interior life—fear, exhilaration, and the

quiet resignation of a man who understood the odds. McConnell's posthumous reputation only deepened: memorialized in France and America, mourned by multiple women who believed themselves engaged to him, and immortalized in sculpture by Gutzon Borglum at his alma mater.

What elevates *The Aviator* to the highest rank of biography is Tom's masterful use of primary sources. The quantity is impressive and the quality exceptional. Drawing heavily from McConnell's own words, Tom achieves the biographer's essential task—rendering a subject fully, honestly, and "warts and all." In this respect, the book stands alongside Adam Claasen's *Grid* (2024), a benchmark in the field. Tom's work is not merely excellent; it is enduring.

*Gary Connor / Docent, National Packard Museum, Cortland, Ohio*

**The Illustrated History of the Jodhpur Flying Club and The Royal Air Force in Princely India**. By Peter Vacher. London: Grub Street, 2025. Photographs. Appendices. Bibliography. Index. Pp. 131. $39.95. ISBN: 978-1-911714-22-4

The story of the Jodhpur Flying Club is one of personalities and passion. This book is a family-album-style presentation of photographs and first-person accounts of daily life and operations at the club from its inception in 1931, through World War 2 and Indian independence, and its disbanding in 1952.

Vacher was born in London during the Blitz and later educated at Marlborough College. An expert in vintage auto restoration he travelled extensively in India. He later became a licensed pilot in Australia and vintage aircraft restorer after returning to the UK. He also authored *Hurricane R4118,* which details the 1982 recovery and restoration of an aircraft in northern India. It was later identified as a Hurricane Mk 1 and Battle of Britain veteran.

His Highness Maharaja Umaid Singh was ruler of Jodhpur, India. He had a passion for aviation and the means to fund its development and growth in Jodhpur. He earned his pilot's license at Royal Air Force (RAF) Cranwell and went on to establish a landing strip in Jodhpur in 1924 and then a flying club in 1931. Realizing the club needed a "proper" facility for its activities, the Maharaja built a modern airport in 1932, which included permanent hangars and a control tower. He was adamant that the club be held to professional standards and appointed Geoffrey Godwin, a former RAF instructor, to run the club, enforce safety standards, act as flight instructor, and assess aircraft for club purchase. With Godwin in place and the maharaja funding operations and maintenance, the field attracted pioneer long-distance flight personalities such as Jean Batten, Bert Hinkler, and Lores Bonney. Imperial Airways, KLM, and Air France all made regular stopovers enroute to the Far East. The club supported the first aviation flights over Mount Everest in 1933 and the MacRobertson Air Race to Australia in 1934. During the Second World War, the club and airfield morphed into RAF No. 2 Elementary Flying Training School. A major maintenance facility for Hurricanes, Spitfires, and Dakotas was added, and "Hump" supply flights to China were staged here. Umaid Singh passed in 1944 and was succeeded by his son, Hanwant Singh. Subsequent to Indian Independence in 1947 and the untimely death of Hanwant Singh in a flying accident in 1952, amateur flying ended at Jodhpur. The airfield is now a front-line Indian Air Force base.

The 12 chapters provide a chronological look at the club and associated airfield. Three appendices provide highly detailed listings of all club and RAF aircraft assigned at the airfield from 1931-1953. The sparse bibliography does have a useful list of primary sources. There is also a section on the only extant aircraft known to have been present at Jodhpur, a Stinson L-5 Sentinel (VT-COB). It was recovered from the grounds of the Umaid Bhawan Palace, sent to the United States for restoration in 2014, and is now displayed at the aviation museum in Jodhpur.

Overall, the book is a very interesting read of a flying club and airfield which, born from one man's vision, passion, and purse, meant so much to so many. It provides a fascinating look at aviation in that area of the globe and during many world-changing events and was clearly crafted with care and affection by those associated with the club and airfield.

*Tim Hosek, USG (retired)*

**Mosquito Intruders - Target Europe: The RAF's First Elite Night Raider Units**. By Jeremy Walsh. Barnsley UK: Air World, 2026. Photographs. Maps. Glossary. Notes. Bibliography. Index. Pp. vii, 298. $39.95. ISBN: 978-1-03611962-1

This is Walsh's third book on the RAF's intruder squadrons. His father had flown intruder missions during World War II. The first book was about his father's experiences over Europe and Burma. The second was more broadly based on all Mosquito intruder squadrons in the Far East. This third book focuses on the intruders operating over Europe and North Africa.

The intruder mission arose from similar activities by the Luftwaffe during the Battle of Britain, when the Germans would infiltrate night fighters into returning RAF bomber streams. The RAF assigned 23 Squadron

to the mission, becoming operational in January 1941, They initially flew Douglas Bostons (a variant of the USAAF A–20). Later that year, 418 Squadron RCAF joined 23 in intruder operations, followed by 605 (County of Warwick) Squadron in mid-1942. Initially based in southern and eastern England, the three squadrons moved through various RAF bases. In December 1942, 23 Squadron was transferred to Malta for operations against North Africa and Italy and remained there until May 1944.

Starting in July 1942, the new NF II variant of the de Havilland Mosquito (with four  each 20mm cannon and .303 machine guns) was assigned to the intruder squadrons, although Boston operations continued until all three squadrons had converted to the Mossie. Intruder operations weren't strictly limited to night attacks against enemy aircraft. The squadrons also attacked enemy transportation, especially trains and truck convoys. When the definitive Mosquito FB VI fighter version arrived (with added bomb and rocket capabilities), the squadrons stepped up *Ranger* missions (organized airfield raids) and attacks on trains and motor transport.

Walsh follows the three squadrons, in parallel, until late 1944, when 23 Squadron became part of 100 Group of Bomber Command, and the other two were transferred to 2 Tactical Air Force, where their primary role changed to more-general fighter-bomber missions than the night offensive fighter sweeps that had characterized the intruders. Many of the aircrew move back and forth through the narrative as they complete tours, move between squadrons, or are assigned to bases hosting intruder squadrons. One case is "Sammy" Hoare (eventually a group captain) who, even after assuming command of the base where his old 23 Squadron was based, continued to fly missions with them.

Although the book contains a glossary and an index, both are incomplete. Whether flipping to the index to find where an aircrew member had been mentioned previously and finding the name missing or seeing a bibliographic reference to an "ASN #" and unsuccessfully searching the glossary (and the Internet) for that acronym, I was left frustrated. Walsh's earlier *Mosquito Intruders-Target Burma* identifies general abbreviations used in the notes; it would have been good if he had done so here. Despite this, Walsh presents a good picture of operations carried out by the original intruder squadrons, as well as squadron and station life. His book is highly readable and certainly worth the attention of anyone at all interested in World War II in the European theater.

*Jon Barrett, volunteer photographer/researcher, NASM*

**Gulf War 1990-91: Saddam's Iraq Faces Operation *Desert Storm.*** By Steven J. Zaloga. New York: Osprey, 2026. Maps. Tables. Illustrations. Photographs. Bibliography. Index. Pp. 96. $25.00 paperback. ISBN: 978-1-4728-6890-9

Zaloga ranks among Osprey's most prolific contributors. Over the years, he has tended to focus on land battles, with a particular emphasis on armor warfare. Thus, this volume (No. 424 in Osprey's Campaign series) fits his extensive expertise in this aspect of military history.

Operations *Desert Shield* and *Desert Storm* concluded 35 years ago. After Iraq occupied its neighbor Kuwait in 1990, a coalition of 30 nations agreed to deploy the forces necessary to liberate that Gulf state. China was many years away from achieving the geopolitical influence it wields today. Furthermore, the Soviet Union had diminished as a military power after the recent collapse of the communist system.

Iraq battled Iran for most of 1980s without success. After the two nations reached a peace agreement in 1988, Iraqi dictator Saddam Hussein in August 1990 unleashed his forces on Kuwait. They quickly occupied the country. Once the coalition (dominated by the United States, Britain, France and Saudia Arabia) agreed to liberate Kuwait, the leaders of those nations authorized the deployment of forces known as *Desert Shield.*

In this volume, Zaloga sticks to Osprey's campaign formula: introduction, chronology, opposing commanders, opposing forces, opposing plans, the campaign (about two thirds of the book), the aftermath, and the battlefield today.

The introduction reviews the events before Iraq's invasion. Zaloga profiles Saddam Hussein before briefly mentioning the commanders of the most significant coalition partners. He follows that by outlining the orders of battle for both sides and assessing the quality of weapons and capabilities. In the plans chapter, he summarizes how the Iraqis anticipated the coalition to assault their forces in Kuwait. The Iraqi leadership expected to inflict significant losses on the coalition forces, affecting the liberators' will to proceed. They, however, totally misjudged the impact of coalition air power—one of the most successful campaigns in military history. Zaloga devotes several pages to how the coalition prepared the battlefield. For a more detailed account, he suggests Osprey's air campaign volume No. 25 about *Desert Storm.*

The land battle lasted about 100 hours before negotiations started. By then, coalition forces had liberated Kuwait and significantly degraded Iraq's military. Coalition leaders executed their plan almost to perfection. Coalition forces suffered far fewer casualties than anticipated. This occurred partly because the coalition assaulted the Iraqi western or right flank and lines of communication by sending two corps in a northeasterly arc

from the west. Here the coalition's significant reconnaissance capability provided a substantial force multiplier.

Some Monday-morning quarterbacks argued the coalition should have proceeded to Baghdad. At a minimum, they suggested coalition negotiators should have imposed greater penalties on the Iraqi military.

This book provides a foundation for readers unfamiliar with how the coalition executed *Desert Storm*.

*Steven D. Ellis, Lt Col, USAFR (Ret), docent, Museum of Flight, Seattle*

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**Sonder-Kommando Elbe: The Luftwaffe's Kamikaze Force.** By Walter Zapotoczny, Jr. Barnsley UK: Fonthill Media, 2026. Photographs. Maps. Appendices. Notes. Bibliography. Index. Pp. 224. $34.95. hardcover. ISBN: 978-1-7815-5941-3

This book attempts to examine one of the Luftwaffe's final, desperate measures; but the work struggles to balance analysis with narrative clarity.

The term *kamikaze* has entered popular usage as shorthand for any mission with little chance of survival; and Zapotoczny leans into, and embraces, this imprecision. *Kamikaze* operations—shaped by State Shinto and a modernized Bushido Code—institutionalized death as a doctrinal requirement and ideal. By contrast, Luftwaffe *Sonderkommando Elbe* accepted extreme risk but did not require death. Pilots were expected, however improbably, to survive. This distinction is central, yet Zapotoczny blurs it. Displaying this imprecise etymology in the book's title is telling.

A third of the book is devoted to background material. It is competently assembled but heavily cited to the point that paragraphs often feel like compilations of others' arguments. Occasional claims, such as attributing "precision" to RAF night bombing, undermine confidence. Ironically, the core discussion of *Sonderkommando Elbe* is less rigorously sourced.

Zapotoczny frames *Elbe* as Germany's final defensive option, overlooking concurrent developments such as the R4M rocket and Wasserfall missile. His comparison to Japanese ramming tactics is similarly underdeveloped, describing them as individual acts rather than doctrinal shifts.

The portrayal of the unit itself is uneven. Competing visions—fanatical figures advocating true sacrifice versus leaders acknowledging slim survival chances—are noted but not fully reconciled. Internal contradictions persist: pilots are described as both experienced volunteers for suicide missions and largely inexperienced; "nobody wanted to die" sits uneasily beside selection criteria implying otherwise.

The account of the 7 April 1945 operation is the book's strongest section, where Zapotoczny's narrative voice emerges with clarity. Unfortunately, the work then reverts to earlier habits, including tangential material—e.g., discussion of Pervitin (a methamphetamine known for its widespread military use)—that adds little to the central argument.

Most historians view *Sonderkommando Elbe*, like Operation *Bodenplatte* before it, as a desperate measure born of exhausted resources. Zapotoczny's study contains useful elements, but its lack of focus and uneven analysis limit its effectiveness.

*Gary Connor, docent, National Packard Museum, Cortland OH*

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**American MiG Pilot: Inside the Top Secret USAF "Red Eagles" MiG Squadron**. By Rob "Z-Man" Zettel, Lt Col, USAF (Ret). Oxford UK: Osprey, 2026. Maps. Photographs. Appendices. Glossary. Index. Pp. 366. $30.00. ISBN: 978-1-4728-0855-4

Zettel has written an absorbing and fast-paced account of the years he spent flying the MiG–21 and MiG–23 with the 4477th Test and Evaluation Squadron, the *Red Eagles*, under the top-secret *Constant Peg* program. This gave American fighter pilots the opportunity to engage in air-to-air combat maneuvers with real Soviet fighter planes using Soviet tactics.

The first part of the book documents his journey to the *Red Eagles*. Zettel placed at the top of his Undergraduate Pilot Training class and received a choice assignment to the F–4 Phantom II, joining the 18th Tactical Fighter Wing on Okinawa. A fascination with the challenges of air combat led him to an assignment with the 36th Tactical Fighter Squadron, 8th Tactical Fighter Wing, in Korea. The unit specialized in the air-to-air mission.

After two years flying the Phantom, Zettel joined the 26th Tactical Fighter Training Aggressor Squadron at Clark Field in the Philippines flying the F–5E providing adversary training to USAF fighter squadrons in the Pacific. He notes that he was in the right place at the right time and with the right experience to receive an assignment to the 4477th. He spent three years there while accumulating 338 missions in the MiG–21 and 138 missions in the MiG–23. This was the second highest total among the pilots with whom he flew during his assignment.

Understandably, the major portion of the book is devoted to his flying in the MiGs. Zettel describes his training to fly the MiG–21 and the more-challenging MiG–23. He provides an interesting chapter on how the United States acquired these MiG aircraft from various sources as well as the origins of the *Red Eagles*. As well as providing sometimes amusing anecdotes about his fellow

Air Force, Navy, and Marine Corps pilots in the squadron and some of the hijinks they engaged in, he goes into detailed descriptions of many of the air-to-air training sessions he flew against Air Force F–15s and F–16s, among other types. To a layperson, these descriptions are fascinating and would certainly mean even more to experienced pilots. The *Red Eagles* had to carefully balance flying their MiGs to their limits in order to provide realistic adversary training while, at the same time, understanding that they were flying airplanes that were irreplaceable. Zettel's descriptions of the differences in flying characteristics and tactics between the MiG–21 and the MiG–23 were particularly enlightening.

To his credit, Zettel properly acknowledges a remarkable group of Air Force maintenance personnel who had the challenging task of maintaining these aircraft with minimum information on the MiG aircraft and their systems.

The last chapter of the book describes Capt Rhory Draeger's combat during the first Gulf War when he shot down two Iraqi MiG–29s with his F-15C, having flown against the MiGs of the 4477th Squadron before the Gulf War.

*American MiG Pilot* is a well-written and enjoyable read about a unique Air Force squadron that may never be duplicated. Highly recommended.

*Edward Young, PhD, volunteer, Museum of Flight, Seattle*

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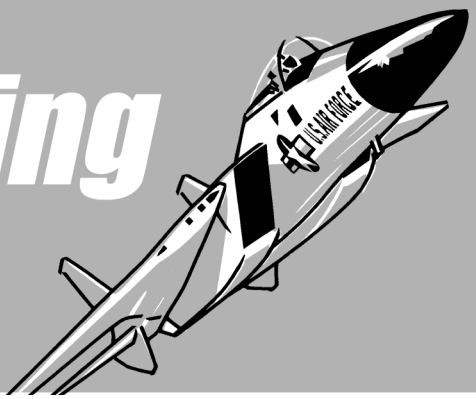
# Coming Up




Compiled by
George W. Cully

**August 20–22, 2026**
The **Tailhook Association** will present its annual premier naval aviation reunion and symposium at the Grand Sierra Resort Hote in Reno, Nevada. For more information, see the Association's website at Hook 26 | Tailhook Association.

**September 12–13, 2026**
The **Air & Space Forces Association** will offer its annual meeting at the Gaylord National Resort and Convention Center in National Harbor, Maryland. For registration and other details, see the Association's website at AFA National Convention–Air & Space Forces Association.

**September 15–16, 2026**
The **American Astronautical Society** will present its annual John Glenn Space Technology Symposium on the campus of Cleveland State University in Cleveland, Ohio. This year's theme will be "Igniting America's Future Space Exploration." For registration and more, see the Society's website at Glenn Space Technology Symposium | American Astronautical Society.

**September 16–19, 2026**
The **National Council on Public History** will cohost its annual meeting with the American Association for State and Local History at the Rhode Island Convention Center in Providence, Rhode Island. The theme of this year's meeting will be "The Work of Revolution." For more information as it becomes available, see the Council's website at 2026 Annual Meeting | National Council on Public History.

**September 23–26, 2026**
The **Society of Experimental Test Pilots** will hold its 70th annual symposium and banquet at the Grand Californian Hotel in Anaheim, California. For presentation details and other information, see the Society's website at The Society of Experimental Test Pilots.

**October 8–11, 2026**
The **International Committee for the History of Technology (ICOHTEC)** will hold its 53rd annual congress in Alexandroupolis, Greece. This year's gathering will be hosted by the Democritus University of Thrace in collaboration with the Laboratory of Technologies, Research & Applications in Education and the Ethnological Museum of Thrace. The meeting's theme will be "Engaging the History of Technology: Bridging Disciplines for Global Challenges." For more details, see the Committee's website at ICOHTEC 2026 – 53rd Annual Meeting – International Congress of the History of Technology · Alexandroupolis, Greece.

**October 14–17, 2026**
The **Oral History Association** will host its annual meeting at the Hilton Downtown Hotel in Portland, Oregon. The theme of this year's event will be "Landscapes of Memory." For registration and other information, see the Association's website at Annual Meeting - Oral History Association.

**October 26–28, 2026**
The **American Astronautical Society** will offer its 19th von Braun Space Exploration Symposium on the campus of the University of Alabama at Huntsville in Huntsville, Alabama. For more details, see the Society's website at von Braun Space Exploration Symposium | American Astronautical Society.

**November 19–21, 2026**
The **National WWII Museum** will offer its 19th Annual International Conference on WWII at the Museum's compound in New Orleans, Louisiana. For more information, including registration, see the Museum's website at Home | The National WWII Museum | New Orleans.

**January 7–10, 2027**
The **American Historical Association** will offer its annual gathering in New Orleans, Louisiana. For registration and other details, see the Association's website at American Historical Association - Everything Has a History.

**March 11–12, 2027**
The **American Astronautical Society** will host its 64th annual Goddard Space Science Symposium in Greenbelt, Maryland. For more details as they become available, see the Society's website at Goddard Space Science Symposium | American Astronautical Society.

**March 11–14, 2027**
The **Society for Military History** will hold its annual conference at the Sheraton New Orleans Hotel in New Orleans, Louisiana. To respond to the Society's call for papers or other details, see the Society's website at Welcome to the Society for Military History.

**April 1–4, 2027**
The **Organization of American Historians** will offer its annual meeting at the Hilton San Francisco Union Square in San Francisco, California. For more information, see the Organization's website at OAH | 2027 OAH Conference on American History.

Readers are invited to submit listings of upcoming events Please include the name of the organization, title of the event, dates and location of where it will be held, as well as contact information. Send listings to:

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Answer: Affectionally known as "the world's largest distributor of MiG parts," the McDonnell Douglas F–4 *Phantom II* was first developed for the United States Navy. Initially, the Air Force preferred its own F–105 and F–106 aircraft over the F–4. In an attempt to reduce costs, Secretary of Defense Robert McNamara directed the Air Force to evaluate the Navy's Phantom against its existing aircraft and in lieu of designing a new aircraft. The F–4's capability carried the day. The F–4C was the result: modified to meet Air Force requirements including Air Force Compatible communications equipment, dual flight controls, an Air Force compatible refueling system, to name a few. An internally mounted 20mm cannon would be added with the F–4E. The F–4 would become a work horse in Vietnam, serving in reconnaissance (RF–4), air-to-ground, Suppression of Enemy Air Defenses (F–4G Wild Weasel), and air-to-air roles. The F-4 Phantom would fly in Rolling Thunder, Linebacker I, Linebacker II, and Operation Bolo. Air Force Phantom crews were credited with 107½ confirmed MiG victories. This is more than any other aircraft (Air Force or Navy) during the conflict. The Air Force squadron with the most air-to-air kills during the Vietnam was the 555th Tactical Fighter Squadron. Assigned to the 8th Tactical Fighter Wing and known as the "Triple Nickel," 555th aircrew were credited with 39½ confirmed MiG victories. Air Force aces Capt Charles DeBellevue and Capt Steve Richie were assigned to the 555th Tactical Fighter Squadron.



**Use the following links to learn more.**

**F-4C Phantom II**
https://www.nationalmuseum.af.mil/Visit/Museum-Exhibits/Fact-Sheets/Display/Article/196051/mcdonnell-douglas-f-4c-phantom-ii/

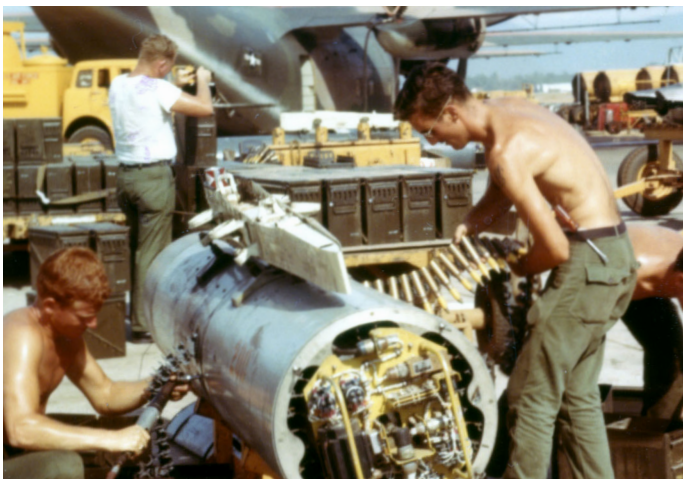
**ACES and AERIAL VICTORIES: The United States Air Force in Southeast Asia, 1965-1973**
https://www.dafhistory.af.mil/Portals/16/documents/Studies/101-150/AFD-090529-060.pdf

**Countering MiGs: Air-to-Air Combat Over North Vietnam**
https://www.nationalmuseum.af.mil/Visit/Museum-Exhibits/Fact-Sheets/Display/Article/196005/countering-migs-air-to-air-combat-over-north-vietnam/

**Operation Bolo**
https://www.nationalmuseum.af.mil/Visit/Museum-Exhibits/Fact-Sheets/Display/Article/196006/operation-bolo/

# New History Mystery

by Dan Simonsen

**This Issue's Quiz:**

This aircraft flew for the first time in 1958. What makes it unique, is that it's first flight was for another service, the Navy. The Air Force variant would not take to the skies until 1963. Over 5,000 of this aircraft would be built, with the Air Force being the largest user with over 2,600. While it would continue to serve in the Air Force until the late 1990s, this aircraft gained its primary fame during the Vietnam conflict. In an air-to-ground configuration, it was capable of carrying more bombs than the World War II B-17 Flying Fortress. In an air-to-air configuration, it could carry up to 8 air-to-air missiles and a 20 mm cannon. During the Vietnam conflict it had the most air-to-air victories. Can you name the aircraft? As an extra bonus question, can you name the Air Force Squadron that had the most air-to-air victories flying this aircraft?

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