

B-52 Arc Light Operations

Of all the Air Force weapons employed during the war in southeast Asia, none had a more devastating effect on the enemy than the B-52 Stratofortress. Originally built in the 1950's as the nation's long range, deep penetration nuclear bomber, the B-52 demonstrated awesome conventional power against Communist forces and military facilities in the two Vietnams, Laos, and Cambodia. In the early 1960's, as U.S. involvement in Southeast Asia grew, the Air Force modified some of the big bombers for conventional warfare by installing external racks capable of carrying 24 bombs and increasing the internal load from 9 to 27 bombs. Thus, *in toto*, the modified B-52 could carry 51 of the 500-pound or 750-pound bombs. As a final touch, the bomber's white and highly visible nuclear blast reflective underside was repainted black to make it undetectable by the naked eye at high altitude.

The Air Force flew its first B-52 strike against the Communists on 18 June 1965. The aircraft participating in this initial Arc Light strike—elements of the 2d and 320th Bombardment Wings—had deployed to Andersen AFB, Guam, from the United States on 17 February. The target was a suspected Viet Cong base north of Saigon in Binh Duong province containing sizable forces spread out over a large area. Earlier strikes at this type of target using tactical aircraft in saturation pattern bombing had proved unproductive. Thus the reason for the switch to the B-52.

There were several unfortunate aspects to this first B-52 mission. Two

of the huge bombers collided during the course of aerial refueling and both plunged in flames into the Pacific. Eight of 12 crewmen died. The results of this mission proved difficult to come by and were fragmentary at best. Three Special Forces teams sent into the jungle area could find little target damage before enemy snipers drove them out of the area. Shortly after the strike, numerous newspaper editorials severely criticized government officials for the operation's insignificant results and the apparent incongruity of "...swatting flies with sledgehammers." General Westmoreland, however, was well-satisfied, pointing out that the bombs had been on target and the strike "very disruptive" to the Viet Cong.

Secretary of Defense McNamara, speaking before a Senate subcommittee on the subject, provided the rationale behind the decision to use B-52's over area targets:

We are faced with very, very heavy jungle in certain portions of South Vietnam, jungle so heavy that it is impossible to find an aiming point in it. We know some of these jungles are used by the Vietcong for base camps and for storage areas. . . . You can imagine that without an ability to find an aiming point there, there is only one way of bombing it and that is with a random pattern. . . . With the force we had (B-52's) trained as it was in pattern bombing. . . the military commanders felt—and I believe this was a proper use of the weapons—that these strikes would destroy certain of the Viet Cong base areas, and, as a matter of fact, they did. . . . There is no other feasible way of doing it. We propose to continue.

During the first few months of

A flight of B-52 bombers as seen from the cockpit of another Stratofortress.

operations, SAC responded to strike requests received from MACV, which had to be approved by CINCPAC and the JCS. Once the MACV staff learned how to use the big bomber effectively and results of the first few missions revealed extremely accurate bombing, Westmoreland became convinced of the B-52's worth and noted that it was "here to stay." Washington authorities still had reservations and placed severe controls on B-52 employment. One such control called for approval in Washington, sometimes at the White House level, of all proposed targets. In time, as Arc Light operations expanded, approval authority was delegated below the Washington level, but the White House, Office of the Secretary of Defense, and the JCS continued to receive information copies of all requests. There were other Arc Light restrictions which remained in effect throughout the war. These were primarily measures to safeguard noncombatants and religious shrines in target areas.

Supporting the Ground Forces

In November 1965, the B-52's directly supported American ground forces for the first time. The 1st Air Cavalry Division—after repelling an attack in the area of the Special Forces camp at Plei Me in the Central Highlands—pursued the retreating Viet Cong in a mop-up operation near Pleiku. On the 14th the division drove the harried enemy into the Ia Drang Valley. There, near the Cambodian border along the foothills of the Chu Phong mountains, the American troops uncovered a secret base area containing two regular NVA regiments and additional Viet Cong units. The enemy attempted to overwhelm their pursuers with repeated counterattacks. As fierce ground fighting continued, on 16 November a hurriedly dispatched force of 18 B-52's poured 344 tons of bombs on enemy positions along the

southeast slopes of the mountains. Successive Arc Light strikes, together with tactical aircraft sorties (almost 400 sorties combined) and artillery fire helped turn the enemy back. In all, the B-52's flew 96 sorties and dropped 1,795 tons of bombs in support of the 1st Cavalry.

In December, the B-52's were called in again, on this occasion in support of Third Marine Amphibious Force (III MAF) operations (Harvest Moon) in the northern portion of South Vietnam. The Marines had joined ARVN troops about 20 miles south of Da Nang to repel an advancing enemy force. When Lt. Gen. Lewis W. Walt, III MAF commander, asked for air support, Westmoreland noted the availability of B-52's. Walt then proposed their use against a large scale enemy build-up of supplies and reinforcements in a rear area. On 12 December the Marine general observed the first B-52 strike from a helicopter 1,000 feet aloft in the vicinity of the target area. Walt subsequently wired SAC's commander: "We are more than impressed with the results; we are delighted. The timing was precise, the bombing accurate, and the overall effort awesome to behold."

On 13 and 14 December the B-52's delivered additional strikes which were just as impressive. General Walt subsequently remarked that the big bombers had provided "not quite close air support but just next to it." Marine reconnaissance patrols combed the area after the first strike and discovered between 50 and 60 enemy dead. The bombing also uncovered a storage area consisting of a series of caves and bunkers.

In October 1965 the Air Force began further modification of the B-52—to increase internal loading from 27 to 84 of the 500- or 750-pound bombs. The modified Stratoforts went operational in March 1966 and were involved in the first Arc Light mission across the DMZ into North Vietnam. On 11 April

and again on the 26th, they struck the Mu Gia pass, the mountainous funnel through which NVA men and materiel passed on the way to the northern reaches of the Ho Chi Minh trail. During the first strike, the largest single Arc Light attack to date and the largest bombing operation since World War II, the B-52's dropped some 600 tons of bombs.

Concurrently with deployment of the modified B-52, the Air Force installed Combat Skyspot, a ground-directed bombing system, in South Vietnam. The system employed existing SAC mobile ground radar guidance units and permitted MACV's targeting section considerably more latitude because selection of targets would no longer depend on a nearby, prominent geographical feature; they had only to be within range of Combat Skyspot equipment. Using the radar, a controller would direct the bombers along a designated route to a bomb drop point, providing enroute corrected headings and speed as needed. Then, at the proper moment, the pilot received a signal to release his bombs. Combat Skyspot not only provided flexibility in targeting, but its accuracy soon surpassed that of the previously used radar synchronous bombing. In time, practically all combat areas of Southeast Asia were within range of one or more of the growing number of Combat Skyspot facilities in the countryside. Six SAC personnel—members of the 1st Combat Evaluation Group—lost their lives during the construction phase, when they were ambushed and killed near Dong Ha Air Base while conducting a site location survey.

In April 1966, Operation Birmingham, a combined U.S. 1st Infantry and 25th ARVN Division search and destroy effort into War Zone C in Tay Ninh province near the Cambodian border, got under way, the first anti-Communist operation there since 1962. However, for months before the operation, B-52's repeatedly bombed

the area and were directly responsible for increasing numbers of Viet Cong troops defecting. In support of Birmingham, the B-52's flew 162 sorties and dropped 3,118 tons of ordnance, including 220 tons of anti-personnel munitions. The first two strikes alone destroyed 14 Viet Cong base camps, 435 buildings and huts, 1,267 tons of rice, and other materiel. The following 10 strikes between 30 April and 9 May constituted the heaviest B-52 support to a ground operation to that time.

Some 6 months later, War Zone C again became the scene of another major search and destroy operation (Attleboro) which drew B-52 support. Beginning 8 November, the B-52's in 200 sorties dropped more than 4,000 tons of ordnance during the next 17 days. Evaluation of the bombing results proved difficult, although MACV reported numerous hits on the Communist headquarters and the death of at least one top leader.

Ammunition stores and deeply dug enemy trenches and tunnels were primary B-52 targets in support of Operation Cedar Falls, conducted during 8-26 January 1967. Cedar Falls involved a concentrated ground assault upon an enemy stronghold covering 25 square miles of the Iron Triangle, 20 miles northwest of Saigon. Fifteen B-52 strikes hit a tunnel system that, at places, was 12 to 20 feet beneath the earth's surface. Many of the tunnels were destroyed and there were numerous secondary explosions of enemy ammunition stores. Cedar Falls resulted in 720 enemy killed, the majority of them by Seventh Air Force and B-52 air strikes. In this operation, the heavy bombers demonstrated that the enemy could no longer regard any fortified area as a sanctuary safe from attack.

In February the Army launched Operation Junction City against the 9th Viet Cong Division ensconced in a War Zone C base area held since the war with France. Lasting from 22 Feb-

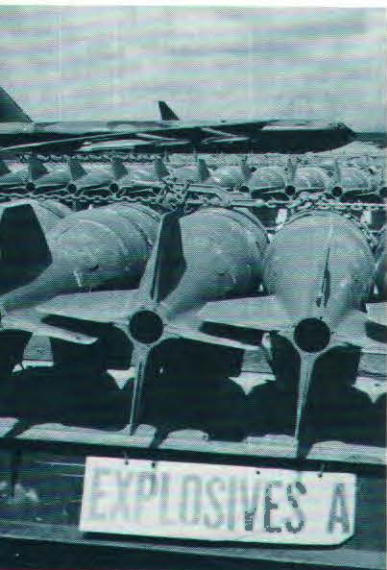


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(1) A maintenance man checks out a B-52 tail gun prior to a mission. (2) Preparing a B-52 for a mission. (3) B-52's dropped various bombs, including 750- and 1,000-pounders. (4) SAC maintenance men worked around the clock to get B-52's back into the air during the December 1972 "Linebacker" strikes of Hanoi. (5) B-52's in revetments at the U-Tapao Royal Thai Airfield. (6) Three B-52's taxi out preparatory to taking off on a mission. (7) A B-52 lifts off at U-Tapao. (8) Camouflaged B-52D.



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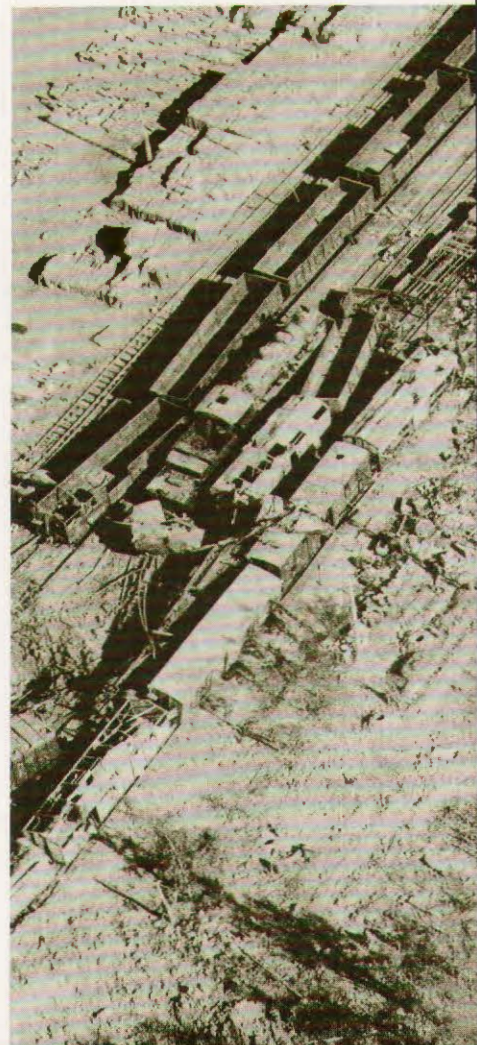


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(1) Loading bombs on a B-52 wing. (2) Loading bombs on B-52 internal racks. (3) Liftoff from a SAC base. (4) Fisheye lens view of a B-52. (5) B-52 target area in Vietnam. (6) Refueling enroute to the target. (7) B-52's destroyed rail yard 7 miles north of Hanoi, December 1972.



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ruary through 14 May 1967, the operation employed together for the first time all different types of combat forces—some 35,000 men under the control of the U.S. Army's II Field Force. Arc Light support totalled 126 sorties and 4,723 tons of bombs dropped. When the operation was over, 2,700 enemy dead were found and numerous defensive positions uncovered.

In April 1967 the Air Force obtained a second B-52 base at U-Tapao, Thailand, from which to conduct operations. There were two important reasons for striking from U-Tapao. The Thai base was only 2 to 5 hours distant from the targets, whereas the Guam-based bombers required 12 hours flying time and at least one aerial refueling from KC-135A tankers. The other factor was the ever-increasing rate of flights, which made concomitant demands on base facilities for parking, maintenance, supply, and other such requirements.

That summer, for the second time since the start of Arc Light operations, a mid-air collision caused fatalities. In this instance, on 7 July Maj. Gen. William J. Crumm, commander of all B-52 forces in the Pacific, was among the six crewmen who were lost.

On 1 September 1967, the enemy opened an intensive bombardment of Con Thien, a Marine base located just south of the DMZ. It appeared at first that the steady barrage of rocket, mortar, and artillery fire was preparatory to a major ground offensive across the DMZ. Later, Westmoreland characterized the attack as an enemy effort to repeat its spectacular 1954 win at Dien Bien Phu. It was thwarted, however, by Operation Neutralize, which integrated B-52 and tactical aircraft, field artillery, and naval firepower on the North Vietnamese positions. Fully 90 percent of B-52 sorties during September were against the enemy in the Con Thien area. A prime B-52 target

was enemy gun positions 6 miles north of Con Thien which were bombed around the clock for days at a time. On 4 October, Westmoreland reported that U.S. forces had inflicted "a Dien Bien Phu in reverse." The enemy lost an estimated 3,000 men killed or wounded, about 10 percent of NVA forces in the DMZ, before breaking off the battle.

During November 1967 a major fight occurred in and around the Special Forces camp at Dak To, when elements of the 4th U.S. Infantry Division clashed with the 1st NVA Division. The Air Force directed 228 B-52 sorties against 32 targets in the area. During the same month, 36 sorties were flown in close support of U.S. Army and ARVN troops engaged in repelling a Viet Cong attack near Loc Ninh in III Corps.

The first quarter of 1968 saw Arc Light missions directed primarily on targets around the Marine base of Khe Sanh in the northwest corner of South Vietnam. Here for nearly 3 months three Marine regiments and their Vietnamese Ranger allies were surrounded by two or more NVA divisions with some 20,000 to 30,000 men and became the focal point of worldwide interest. When it became clear that the enemy was about to move in force against the Marine base, General Westmoreland on 14 January put Operation Niagara into effect—a joint air campaign dedicated to maintaining the American position at Khe Sanh. As part of Niagara, B-52's flew 461 missions, 2,707 sorties, and dropped 75,631 tons of ordnance between 14 January and 31 March.

The B-52 targets initially consisted of enemy staging, assembly, and storage areas and gun positions around the outpost. Bombs were released to fall no closer than 3,300 yards of friendly positions. When air observers detected extensive enemy bunker complexes within the buffer zone, however, B-52's were ordered to

bomb within one-sixth of a mile of the base perimeter. The first such strike occurred on 26 February under the anxious eyes of the Marine commander at Khe Sanh, concerned about the effects of close-in bombing on his own bunkers and trenches. The accuracy of the first ground radar-directed strikes dispelled those anxieties. Only enemy fortifications and positions were destroyed.

Succeeding close-in strikes devastated enemy positions along the camp perimeter, resulted in numerous secondary explosions, and lifted the spirits of the Marines. Altogether, over a period of a little more than a month, B-52's flew 101 close-in missions totalling 589 sorties. Accurate and complete bomb damage assessment was difficult—initially because of adverse weather including low-lying fog, but later because the ground became so thoroughly pockmarked with overlapping B-52 bomb craters that it was impossible to determine which strikes were responsible for a specific crater.

A major contribution to Arc Light's success at Khe Sanh was adoption of the Bugle Note scheduling technique devised by SAC's 3d Air Division, director of B-52 operations in Southeast Asia. By fully utilizing the ground radar bombing system and obtaining maximum performance from aircrews, bomb loaders, and maintenance crews, the division was able to keep aloft an unbroken stream of six aircraft that struck Khe Sanh targets every 3 hours. Bugle Note also allowed MACV to change targets as late as 2 hours prior to target time. The system proved so successful that it was soon used on a regular daily basis.

The additional sorties that General Westmoreland required not only for Khe Sanh but elsewhere during the simultaneous Tet offensive were provided by B-52's newly deployed to the western Pacific in response to North Korea's seizure of the USS *Pueblo* in January. That B-52 force, stationed at

Kadena AB, Okinawa, subsequently joined in the combat operations over Vietnam.

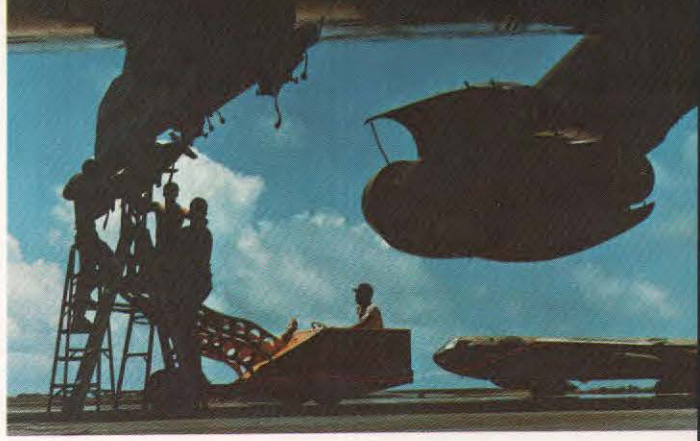
From a rate of approximately 300 sorties each month late in 1965, the B-52 effort had gradually increased to a rate of 800 sorties during 1967, and for the first 2 weeks in February 1968 had risen to the 1,200-sortie level. On 15 February, at Westmoreland's request, Washington officials authorized an increase to 1,800 sorties monthly and the use of the Kadena-based B-52 force. Although viewed at first as temporary, this new sortie rate remained in effect until 1969 when Defense Department economies forced a cutback to 1,600.

In early April 1968, during Operation Pegasus, the 1st Cavalry Division (Mobile) spearheaded a breakthrough of enemy positions on Route 9 and relieved the Marine base. The siege of Khe Sanh was over. Several months after the battle, General Westmoreland observed:

The thing that broke their back basically was the fire of the B-52's. Now yes, we did have additional fire power. We were putting in around 100 TAC air sorties a day. We had sixteen 175-mm guns of the U.S. Army that were moved within range of Khe Sanh base and they fired a number of rounds each day and they did an excellent job but the big gun, the heavy-weight of fire power, was the tremendous tonnage of bombs dropped by our B-52's. Without question the amount of fire power put on that piece of real estate exceeded anything that had ever been seen before in history by any foe and the enemy was hurt, his back was broken by air power.

MACV's analysis of the battle credited the B-52 with preventing any large massing of enemy troops required to overrun the base. In one instance, a prisoner of war reported, 75 percent of an 1,800-man regiment had been killed by a single Arc Light strike. The bombers also succeeded in tearing up the enemy's logistic lines to the battlefield and causing immense materiel losses.





Later in April the U.S. Army launched an offensive—Operation Delaware—against enemy bases in the A Shau valley near the Laotian border, directly west of Da Nang. Arc Light aircraft struck 123 targets with 726 sorties. During the remainder of 1968, B-52's supported a variety of troop operations and interdiction efforts. Highlights of the summer bombing period were strikes against NVA troop and supply targets 15 miles north of the DMZ on 14 July (the deepest B-52 penetration north to date) and, 4 days later, the first B-52 strike against North Vietnamese surface-to-air missile sites.

In March 1969, as Operation Menu, B-52's were directed against Communist sanctuaries in Cambodia (see Chapter VII). Between 18 March, when the first B-52 strike was launched against the sanctuaries, and 15 August 1973, when all bombing was halted, B-52 crews flew 16,527 sorties and dropped 383,851 tons of munitions on Viet Cong/NVA and Khmer Rouge targets. Similarly unannounced bombings (Operation Good Look) against enemy targets occurred in northern Laos in 1970, after NVA forces massed for a major attack against government outposts in and around the Plain of Jars. Between February and May, 149 sorties were flown against enemy troops, preventing a major defeat of Laotian government forces. During 1970-1973 more than 2,500 sorties struck enemy targets in northern Laos. The Strategic Air Command flew its last Good Look sortie on 17 April 1973.

In South Vietnam, the remote Special Forces camp at Ben Het in the western sector of II Corps, came under enemy siege in May 1969 and was the scene of heavy fighting for the next 2 months. Before the siege was lifted, B-52's had flown 804 sorties against 140 targets in that area. The bombers struck almost daily, with many of the targets being changed at the last

moment because of the enemy's frequent moves. A SAC officer with the advanced echelon reported: "From 21 to 27 June, we had 98 sorties around Ben Het. Every target box, except one, was changed. Some were changed, two, three, and four times. . . . Most were in close support." By 2 July Ben Het defenders felt certain the enemy had departed. Air power, with its big gun, the B-52, was credited with keeping the enemy force at bay and preventing a major assault.

On 1 May 1970, shortly before American and ARVN forces invaded the Parrot's Beak and Fishhook areas of Cambodia, B-52's flew six "softening-up" missions in front of the advancing troops. During the 2-month period that the ground forces remained in Cambodia, Arc Light sorties totalled 763, of which 653 supported six ground operations. Authorities had not restricted the B-52's to the 18-mile penetration limit set for U.S. ground forces, and the bombers often ranged beyond the line, hitting target areas suspected of containing the long sought Communist headquarters of the Central Office of South Vietnam (COSVN).

The Laotian Incursion

The Cambodian incursion was followed in early 1971 by a second cross-border operation into the Laotian panhandle. Initiated in February, it was undertaken by South Vietnamese forces only (see Chapter V). Designated Lam Son 719, the operation was aimed at disrupting the southward movement of troops and materiel on the Ho Chi Minh trail. From 8 February, when ARVN forces crossed into Laos, until 24 March, the final day of the operation, B-52's flew 1,358 sorties and dropped more than 32,000 tons of bombs. Many of the strikes were used to carve out landing zones for helicopters supporting the ground advance toward Tchepone. The Laotian incursion also marked a

return to close-in bombing, sometimes less than 1,000 feet from friendly positions. On 21 February, in one of the most productive strikes of the war, Arc Light crews were credited with killing 698 enemy troops. The North Vietnamese that day had unwisely massed for an assault on an ARVN-held hill, presenting a perfect target for the B-52's.

Earlier, on 12 February, the ARVN command reported B-52 strikes had hit the headquarters of the NVA 308th Division, killing 35. Arc Light damage reports throughout the operation were meager, but two strike areas searched on 25 February uncovered 142 dead, plus 4 tons of mortars and ammunition destroyed. At times, units of the ARVN 1st Infantry Division employed a daring tactic calculated to keep enemy troops in a designated B-52 target area. After locating the enemy and forwarding the target coordinates, ARVN units would engage the enemy in a firefight, then break off and withdraw just before the planned Arc Light strike. On 27 February, for example, the 1st Battalion, 3d Infantry Regiment counted 29 enemy soldiers killed during such an action. Speaking of the B-52's, Brig. Gen. Phan Van Phu, commander of the 1st Infantry Division, said:

The enemy tries to get very close to us, hoping we will get hit by one of our own bombs. We let them come close, then pull back just before the air strikes, closing again when the bombers are finished. If you want to kill people you must use maximum air. During the heavy fighting around Fire Support Base Lo Lo early in the week, I called for B-52 strikes within 300 yards of my unit. Many of the nearly 1,700 enemy soldiers reported killed in that fighting died in those strikes.

Early in 1972, MACV intelligence sources obtained strong indications of a forthcoming NVA offensive. Unusually large southbound troop and logistic movements were detected along the Ho Chi Minh trail. Part of

MACV's strategy to counter the build-up was to hit the new targets with B-52's "as hard as possible" before the enemy initiated the assault phase of operations. The Secretary of Defense authorized the Air Force to increase the monthly sortie rate, set at 1,000 since July 1971, to 1,200 as of 8 February. On the same day, 29 B-52's deployed from the United States to Guam to permit sortie expansion to 1,500 per month. In April and May, three other deployments brought the number of B-52's available for SEA duty to 200 and some 3,150 sorties each month (as compared to the pre-1972 force of 42 bombers and 1,000 sorties). The last augmentation marked the first entry of the B-52G into Arc Light operations. The newer G's were not modified to carry the larger payload, but their longer flying range reduced aerial refueling requirements.

When Hanoi finally unleashed its 1972 offensive late in March, it consisted of a three-prong NVA thrust toward Quang Tri City, Kontum, and An Loc (see Chapter III). On 30 March, three enemy divisions moved across the DMZ and in the first week scored a series of stunning victories, dislodging ARVN troops from 14 positions before they regrouped on the outskirts of Quang Tri City.

During that hectic week, the B-52's flew 132 sorties in an attempt to stem the onslaught. B-52 support strikes against enemy units and materiel moving through the DMZ continued through all of April. One B-52 was hit by a SAM on 9 April but managed to land at Da Nang. A counteroffensive launched by the ARVN in mid-April was unsuccessful and Quang Tri City fell on 1 May. In bombing enemy positions east of the city, three Arc Light strikes were credited with 300 enemy killed. After capturing the city, the NVA regrouped and moved southward toward Hue where ARVN forces had hastily erected a defense line. An ARVN operation, launched on the



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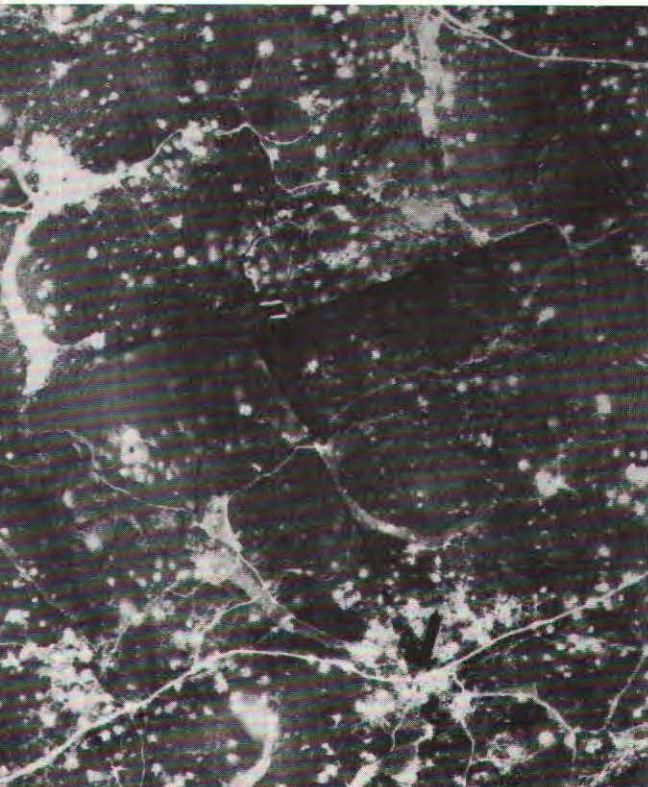
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(1-2) Preparing to load bombs prior to a mission. (3) Carpet bombing in support of Operation Junction City, March 1967. (4-5) Before and after. The photo on the left shows an area of the DMZ prior to intense air strikes. The second photo shows extensive cratering caused from B-52 bomber and tactical airstrikes. (6) Bombs away. (7) Highlands surrounding the A Shau Valley of South Vietnam show craters produced by B-52 strikes. Truck parks on either side of the road were destroyed. (8) Carpet bombing in support of Operation Junction City in March 1967.

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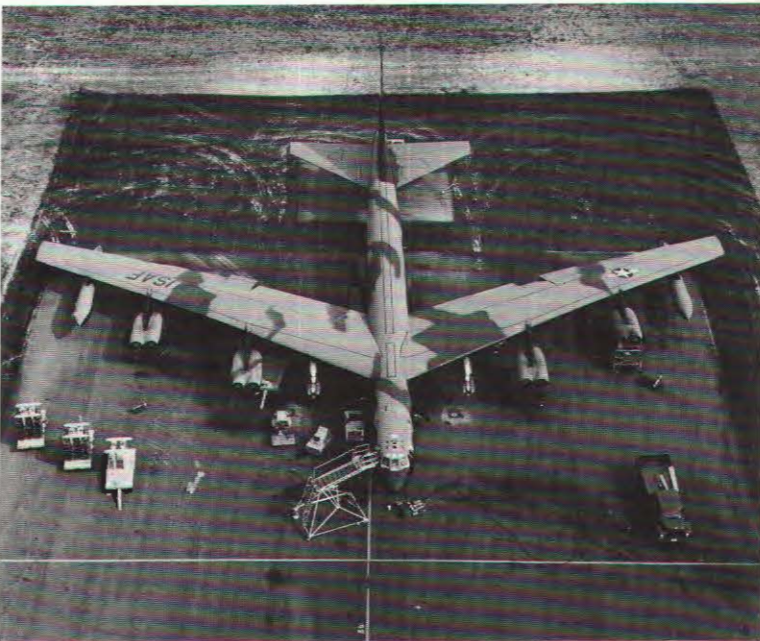
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heels of a B-52 strike, led to a continuing engagement with the 29th NVA Regiment and the recapture of Fire Support Base Bastogne on 15 May. In later action around the fire support base, a B-52 was credited with 60 enemy fatalities and permitted the capture of large quantities of weapons and ammunition. By 28 June, the enemy in Quang Tri province had been forced onto the defensive and B-52's continued to batter the retreating enemy.

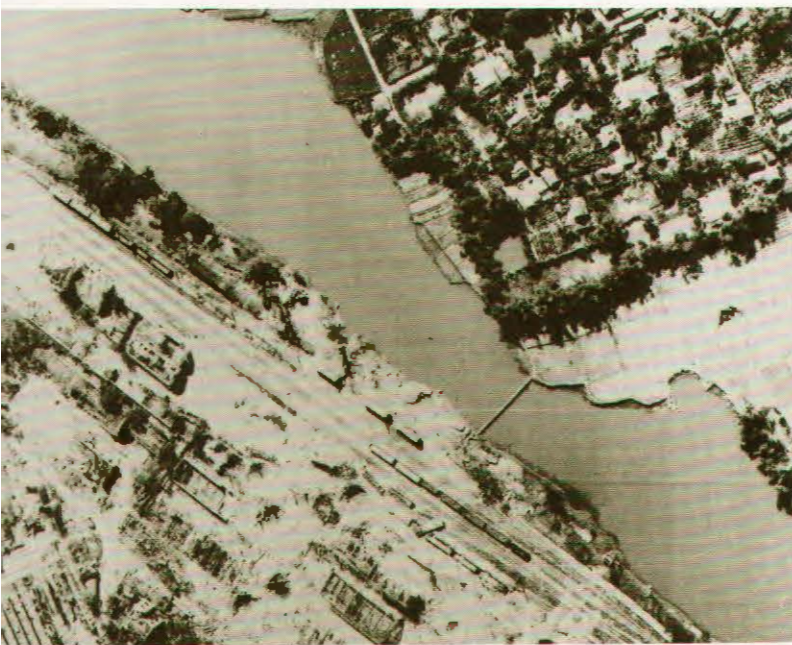
Elsewhere, at Kontum, the NVA achieved an early success. The invaders overran Rocket Ridge, a strategic high point south of Dak To, and cut Route 14, Kontum's lifeline to the south. Throughout this period, B-52's hit suspected enemy troop positions and logistic lines. By 16 May the NVA had gathered in force before Kontum and begun assaults on the ARVN defensive positions. Close-in B-52 strikes were used to counter the advance. One Arc Light strike on 18 May decimated the 48th Regiment, 320th NVA Division, killing 180 (their bodies were later found in a single mass grave). The heaviest fighting, on 23-24 May, had full Arc Light support. On 25 May the enemy was thrown back from Kontum, and by 6 June he was in full retreat. Between 30 March and 30 June, there were 2,262 sorties against 795 targets in Military Region II, virtually all of them in direct support of the ARVN's successful defense of Kontum.

The third prong of the enemy offensive, in Military Region III, first concentrated on Loc Ninh. Troops crossed over from Cambodia on 5 April and took the city the next day. The enemy then moved toward An Loc, the provincial capital, some 12 miles to the south and succeeded in cutting its main supply route. Arc Light struck repeatedly at enemy positions near Loc Ninh and along the road to An Loc. Between 6-28 April, 117 targets—most near the fighting at An Loc—received B-52 treatment.

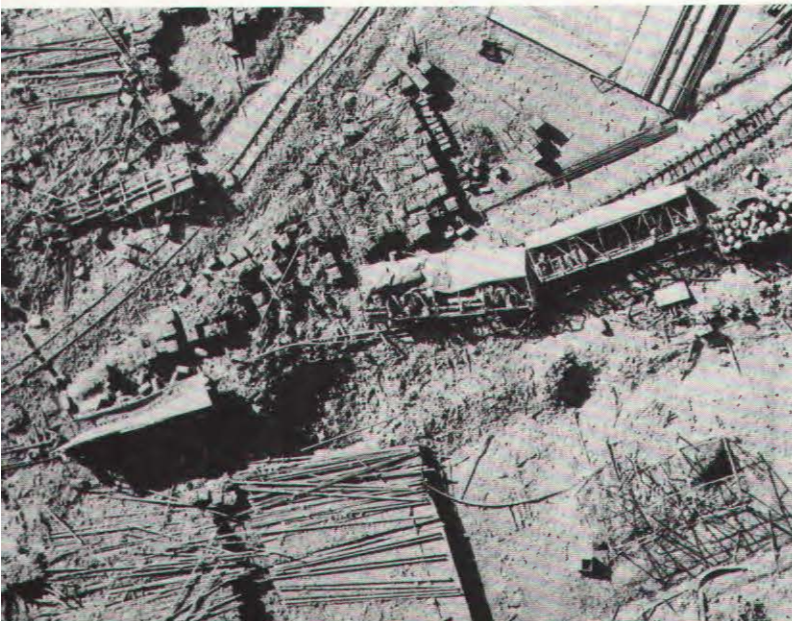




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Thirty percent of the sorties were of the close-in type. On one occasion, the B-52's hit an enemy force moving through the target area, destroying 3 or 4 tanks and killing approximately 100 soldiers.

Between 29 April and 16 May, the period of the heaviest fighting, a stalemate ensued with intense artillery exchanges. On the night of 12-13 May, the enemy took advantage of bad flying weather to launch a major tank-supported attack. It soon stalled, however, after B-52's destroyed the tanks and blew up an ammunition dump. The bombers also aided ARVN relief units making their way toward the beleaguered troops in An Loc, but their progress was slow. Heavy fighting continued until 23 June, when the relief column finally broke through. The B-52 again played a major role, as two raids spaced 15 minutes apart caught the NVA blocking force by surprise, destroyed it, and opened the way into the city. By 26 June, major enemy forces had withdrawn from An Loc and only small pockets of resistance remained.

B-52's Over Hanoi

While the fighting raged in South Vietnam, the B-52's also struck deep into North Vietnam. In the first strike on 9 April 1972, 12 B-52's bombed underground POL storage tanks and a railroad yard at Vinh. Although many buildings in the POL area were destroyed, none of the underground tanks were visibly damaged. The railroad yard, however, was cut in 4 places, and 1 locomotive and 10 cars destroyed. Three days later, 18 B-52's hit the Bai Thuong airfield, peppering the runway and taxiways with craters and destroying one MIG-17 along with one occupied and three unoccupied AAA sites. On 15 April, 17 B-52's struck Haiphong's POL storage area; the North Vietnamese fired 35 SAM's but all missed the bombers. Strike results were good, with 15 surface and two

(1) 750-pound bombs awaiting loading on a B-52. (2) B-52 on a hard stand. (3) A portion of the Kihn No rail yards damaged by B-52 strike. (4) Each B-52 carried a variety of bombs including 750 pounders. (5) Enemy rail siding was put out of service. (6) Rail cars carrying petroleum supplies destroyed by B-52's.

underground tanks destroyed—or about one-third of the facility's capacity. The B-52's also cut rail lines in the area and smashed 30 pieces of rolling stock and 66 structures.

Two strikes, each involving 18 B-52's, were made against targets in the Thanh Hoa area on 21 and 23 April. About 25 SAM's were fired at the attackers on each day and one missile hit its mark. The stricken bomber reached Da Nang safely with no crew losses. Cumulative damage included 16 buildings destroyed at the Hamm Rong transshipment point, and 3 large structures completely or partially destroyed in a warehouse area. Rail lines on the western approach to the Thanh Hoa railroad-highway bridge were cut and the thermal power plant damaged.

In October 1972 peace negotiations resumed in Paris, but optimism for an agreement proved short-lived. On 13 December, the North Vietnamese broke off the discussions. In the hope of forcing a settlement, President Nixon ordered heavy air strikes against military targets in the Hanoi and Haiphong area which had not been previously attacked. These Linebacker II operations spanned an 11-day period between 18 and 29 December (with a 24-hour pause in bombing on Christmas day) and included more than 700 B-52 sorties against rail and ship yards, command and control facilities, warehouses and transshipment points, power plants, railway bridges, rolling stock, MIG bases, and air defense sites. The B-52's bombed relentlessly around the clock in the rainy monsoon weather.

The damage inflicted by the Stratoforts was awesome. At the Gia Lam railroad yard and repair facility, four buildings were destroyed and two damaged, railroad tracks received numerous cuts, and direct hits were made on military supplies. Bombing the barracks at Bac Mai airfield resulted in 31 being destroyed, as were large portions of an adjoining military



storage complex. Nine warehouses at the Yen Vien warehouse center were destroyed and 10 damaged. A B-52 strike against the Yen Vien railroad yard uprooted tracks, switches, and rolling stock, destroyed 2 locomotives and 9 warehouses, and damaged 10 buildings of an adjoining warehouse center. At the Van Dien Army supply depot, 12 warehouses were destroyed and 11 damaged.

The B-52's, along with F-4's and F-111's also hit hard at electrical power production and POL supplies during the "Eleven Day War." Subsequent assessment revealed that 80 percent of North Vietnam's electrical power production and 25 percent of its POL were destroyed. The bombing of a major petroleum storage area in Hanoi caused 30 large secondary explosions and destruction of two buildings. The Haiphong petroleum storage area was hit repeatedly. Secondary fires and explosions destroyed or damaged twenty 50,000-gallon POL tanks and countless 55-gallon drums. Other facilities destroyed and damaged included buildings at the Than Am and Bac Giang petroleum storage areas and four support buildings at the Thai Nguyen thermal power plant.

The results of the short but intense

Start of the Paris peace talks between the United States and the Democratic Republic of Vietnam. Secretary Kissinger is 2d from the right. Directly across the table is the senior North Vietnamese negotiator, Le Duc Tho (2d from left).



In the spring of 1969 President Nixon conferred with South Vietnamese President Nguyen Van Thieu at Midway Island. During this meeting Mr. Nixon announced plans to begin the withdrawal of U. S. forces in Southeast Asia.

B-52 campaign were impressive, but not without substantial cost. The air defenses of Hanoi and Haiphong were extensive, highly sophisticated, and were years in the making. The cities were two of the most heavily defended areas in the world. Because all portions of Linebacker II got under way more or less concurrently, the Air Force had no opportunity to send tactical aircraft to wipe out the enemy's air defenses, particularly the greatest threat to the high-flying B-52—the numerous SAM-2 missile sites that encircled both cities. There were about 1,000 SAM's fired during the first few days of the bombing campaign, but their number slackened off noticeably after B-52 and tactical aircraft eliminated many launching sites and the supply of missiles was depleted.

In all, the North Vietnamese shot down 15 B-52's. Of the 92 air crewmen aboard, 33 bailed out and were taken prisoner. Air Force rescue teams recovered another 26. Four crewmen died in a crash landing and 29 were reported missing. In exacting that toll in men and machinery, the North Vietnamese had mounted a defense unparalleled in its ferocity. Finding their normal tracking procedures inade-

quate, they had resorted to salvoing large numbers of missiles in a shotgun pattern into the calculated path of the on-coming aircraft.

By 28 December, American airmen had swept away virtually all of the enemy's defenses, and the B-52's were free to roam the skies of North Vietnam. Most of the SAM sites and their tracking radars had been neutralized and most MIG-21 interceptors were immobilized on their battered airfields. B-52D tail gunners marked up a kill against a MIG-21 on 18 December and again on 24 December. These were the first recorded by B-52's during the 7-1/2 years of Arc Light operations. On 30 December Hanoi agreed to resume the peace talks, which culminated in the 27 January agreement.

It was not until 15 January that the Air Force stopped B-52 missions over North Vietnam, although restricting them to below the 20th parallel. During those 15 days, in 532 sorties, they bombed such logistic targets as truck parks, storage areas, and transshipment points. The final B-52 sortie in South Vietnam occurred on 27 January, the day of the peace agreement. B-52's continued to fly missions over Laos until 17 April and over Cambodia until 15 August 1973, when more than 8 years of Arc Light operations came to an end.

Between June 1965 and August 1973, the Strategic Air Command scheduled 126,663 Stratofortress combat sorties, of which 126,615 were actually launched. The number of aircraft reaching the target area was 125,479 with 124,532 successfully releasing their bombs on the targets. Geographically, 55 percent of the sorties were flown against targets in South Vietnam, 27 percent in Laos, 12 percent in Cambodia, and 6 percent in North Vietnam. Altogether, the Air Force lost 31 B-52's—18 from hostile fire (all over North Vietnam) and 13 from other operational causes.



Tactical Airlift

Major roles of air transport in support of U.S. ground operations were demonstrated during the Second World War. In western Europe and in Burma thousands of twin-engine C-47's—originally procured to parachute assault troops into combat—were far more often used as conventional carriers of men and supplies theaterwide. During the Korean War, the 315th Air Division operated more than 200 Far East Air Forces transports under a centralized theater system. After the Korean armistice, USAF airlift concepts were broadened to encompass another primary role—supporting short-notice transoceanic deployments of U.S.-based tactical air forces. Later, the Kennedy administration's interest in limited war gave impetus to concepts of airmobile tactics in ground warfare. This led the Air Force again to focus its tactical airlift fleet toward the ground battle, meshing its capabilities with the airlift forces of the U.S. Army.

Forces and Organization

The first USAF transports sent to Vietnam were four C-47's, which arrived at Bien Hoa AB on 16 November 1961 as part of the Farm Gate detachment. The C-47 airlifters performed diverse missions—support flights for Farm Gate, airdrops of Vietnamese paratroops, and night flashship operations. Their most demanding task, however, was to resupply U.S. Army Special Forces detachments at remote locations throughout South Vietnam. Such deliveries were often by airdrop, either by parachute or free-fall, the C-47's escorted by fire-suppressing Farm Gate or VNAF strike aircraft. In 1963 the number of C-47's increased to six, but airlift tasks gradually yielded to gunship roles.

The Vietnamese Air Force also used C-47's, organized in a two-squadron group commanded in 1962 by Lt. Col. Nguyen Cao Ky, future VNAF commander who later served as Prime Minister and Vice President of his country. A shortage of VNAF pilots in early 1962 led the Air Force to assign USAF pilots to the two squadrons. Thus, in April, 30 American officers arrived in Saigon to serve as co-pilots with otherwise all-Vietnamese C-47 crews. The "Dirty Thirty" Americans soon appreciated the flying skills of their VNAF counterparts and acquiesced to their own co-pilot roles. Some at first criticized the informality of Vietnamese flying methods, but all came to agree that these were often the surest, given the difficult flying environment. Ky's tactful leadership preserved good relations between the two groups. A second contingent replaced the original Dirty Thirty officers in the spring of 1963. The project ended in December 1963, although the idea was temporarily revived in modified form in 1965. The VNAF airlift squadrons remained healthy, frequently transporting the Vietnamese airborne battalions in their nationwide reserve role.

The larger, twin-engine C-123 Providers gradually took over the role of USAF C-47's in South Vietnam. The Provider had been tagged as "obsolescent" as early as 1956 and in 1961 was scheduled for retirement from the active inventory. Instead, in December 1961 a squadron of 16 C-123's began deploying to Vietnam (Project Mule Train) to provide "tactical airlift support of South Vietnamese armed forces." The first four ships reached Tan Son Nhut on 2 January 1962. A second C-123 squadron entered Vietnam in the spring of 1962, a third in 1963, and a fourth in 1964. All eventually were assigned to the 315th Air

Supplies dropped from Air Force C-130's drift toward troops in the drop zone in the A Chau valley, April 1968

Commando Wing. The C-123's thus became until 1965 the principal airlift element in South Vietnam. Their ability to land on short and rough fields proved most valuable, and the four squadrons remained in South Vietnam until 1970. During 1967-1968 the aircraft underwent major modifications—a supplementary jet engine was installed under each nacelle, and improved brakes, flaps, and landing gear were provided—all of which enhanced C-123 payload, climb, and short-field performance.

Dominating airlift operations in Vietnam after early 1965 was the C-130 Hercules. Equipped with four turbo-prop engines and first flown in 1954, the C-130 was far superior in performance to earlier tactical transports. Its 15-ton payload, for example, was three times that of the C-123. In 1961 three squadrons of C-130A's were stationed in the western Pacific under the 315th Air Division in Japan; a fourth squadron deployed in the spring of 1962. These units assisted in deploying a U.S. ground and air task force to Thailand in May 1962 and regularly airlifted personnel and cargo into South Vietnam from offshore locations before 1965. They occasionally made deliveries between points in South Vietnam, making extra stops while transiting from offshore or deploying to an in-country base for short periods. When President Johnson ordered U.S. ground units into South Vietnam, the C-130's during 8-12 March 1965 deployed a Marine battalion landing team from Okinawa to Da Nang. On 4-7 May 1965 the C-130 fleet carried the Army's 173rd Airborne Brigade from Okinawa to South Vietnam in 140 flights.

C-130 in-country missions from South Vietnamese bases became routine in April 1965. Thereafter, aircraft and crews rotated into South Vietnam on 1- or 2-week cycles from home bases in the Philippines, Taiwan, Okinawa, and Japan. By the end of 1965 the

in-country force had grown to 32 ships, positioned at four bases. Airlift requirements expanded with the scope of ground combat, the C-130 force in South Vietnam reaching 96 ships in February 1968. The rotational scheme was retained—offshore basing exploited existing maintenance facilities, reduced in-country construction and manpower requirements, and reduced exposure to enemy shelling. In an emergency, the in-country force could be quickly augmented.

In the spring of 1965 the offshore C-130 force increased to eight squadrons, including four on temporary duty from TAC. The force grew to 12 permanently assigned squadrons by mid-1966 and reached a peak of 15 (including 3 temporarily deployed TAC) in early 1968. The 315th Air Division also controlled a C-124 squadron based at Tachikawa, employing these four-engine craft for overwater transport and occasional hauls of outsized items within Southeast Asia.

Within Vietnam, the C-123's and C-130's were centrally controlled through the Common Service Airlift System (CSAS) and its Airlift Control Center (ALCC) at Tan Son Nhut. In the spring of 1966 MACV established the Joint Movements Transportation Board and the Traffic Management Agency for theater-level management. The Board reviewed monthly forecasts of airlift requirements and capabilities and made allocations as necessary, while the Agency gave daily attention to priorities and controlled the flow of cargo to aerial ports. For emergency moves, the MACV Command Operations Center could levy special flights, bypassing the transportation agencies. The ALCC scheduled the aircraft flights and controlled the daily missions.

The ALCC functioned countrywide through local airlift control elements, liaison officers, field mission commanders, and mobile combat control

teams—all linked by often troublesome radio and land-line communications. The whole apparatus was placed under the 834th Air Division upon its activation on 15 October 1966. Also assigned to the 834th were the 315th Wing and its C-123 squadrons, along with three in-country aerial port squadrons and numerous subordinate aerial port detachments. Expansion of the aerial port system tended to lag behind workload requirements, a condition intensified by shortages and breakdowns in cargo handling equipment.

Also assigned to the 834th Air Division—but employed outside the centralized scheduling system—were six squadrons of C-7A Caribou transports. These twin-engine reciprocating aircraft had been purchased by the U.S. Army in the early 1960's to support its airmobile forces. An Army Caribou company deployed to South Vietnam in the spring of 1962. By 1966 the force had expanded to six companies and operated under the scheduling and mission control of specified Army corps and divisions. In April 1966 the Army and Air Force chiefs of staff agreed to transfer the Caribous to the Air Force. Later that year, USAF air and ground crewmen entered the Army companies as trainees and replacements. On 1 January 1967 the six companies officially became Air Force squadrons, based at three locations and assigned to the 483d Tactical Airlift Wing at Cam Ranh Bay. For the most part, the squadrons continued to operate under Army scheduling. The Air Force acquiesced in this "dedicated user" procedure, although it was a departure from its doctrine of centralized control.

Airlift in the Ground War

Basic to Allied strategy were search-and-destroy operations, penetrating remote regions used by the enemy. Pivotal in these ventures were the fixed-wing transports, which lifted

multi-battalion task forces to forward airheads and resupplied them with POL and ammunition. The Army helicopters, which performed local assaults and short-haul distribution of supplies, often refueled and rearmed at the C-130 airhead. Highway lines of communication supplemented air delivery when feasible, but airlift avoided the problem of enemy road ambushes, enabling the Allies to operate—like Communist forces—in a "war without fronts."

Before 1965, during the period of Mule Train C-123 operations, such combat applications of tactical airlift were only glimpsed. Each day several C-123's and VNAF C-47's formed an alert element ready to move Vietnamese paratroops on instant notice. Although the airlift force was rarely exercised in this fashion, it did conduct a series of paratroop assaults, some preplanned and others in response to enemy ground attacks. These operations were uniformly disappointing, due to poor coordination, inaccurate drops, or the troopers' inability to close with the enemy.

By contrast, the C-123's won praise in airlanded troop deployments, hauling multi-battalion Vietnamese forces for reinforcement or offensive purposes. Efforts to mesh the best of C-123 and helicopter assault qualities had gratifying results, as exemplified during Allied operations in the Mekong delta in March 1964, when the Providers delivered fuel and ordnance for Army helicopters at forward dirt strips. More significant than the assault roles, however, was the C-123's vital service in assisting Farm Gate C-47's in resupplying Special Forces camps.

Demands for airlift increased substantially in 1965, after the arrival in South Vietnam of large U.S. Army contingents. Among the first were two paratroop brigades, seen by General Westmoreland as a central reserve force quickly available for offensive or reaction operations. In August 1965



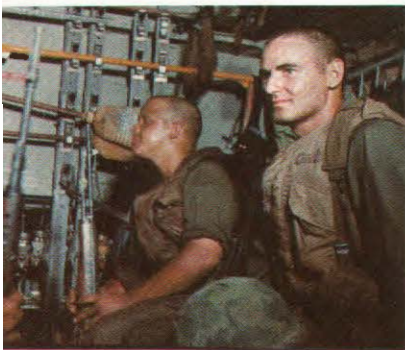
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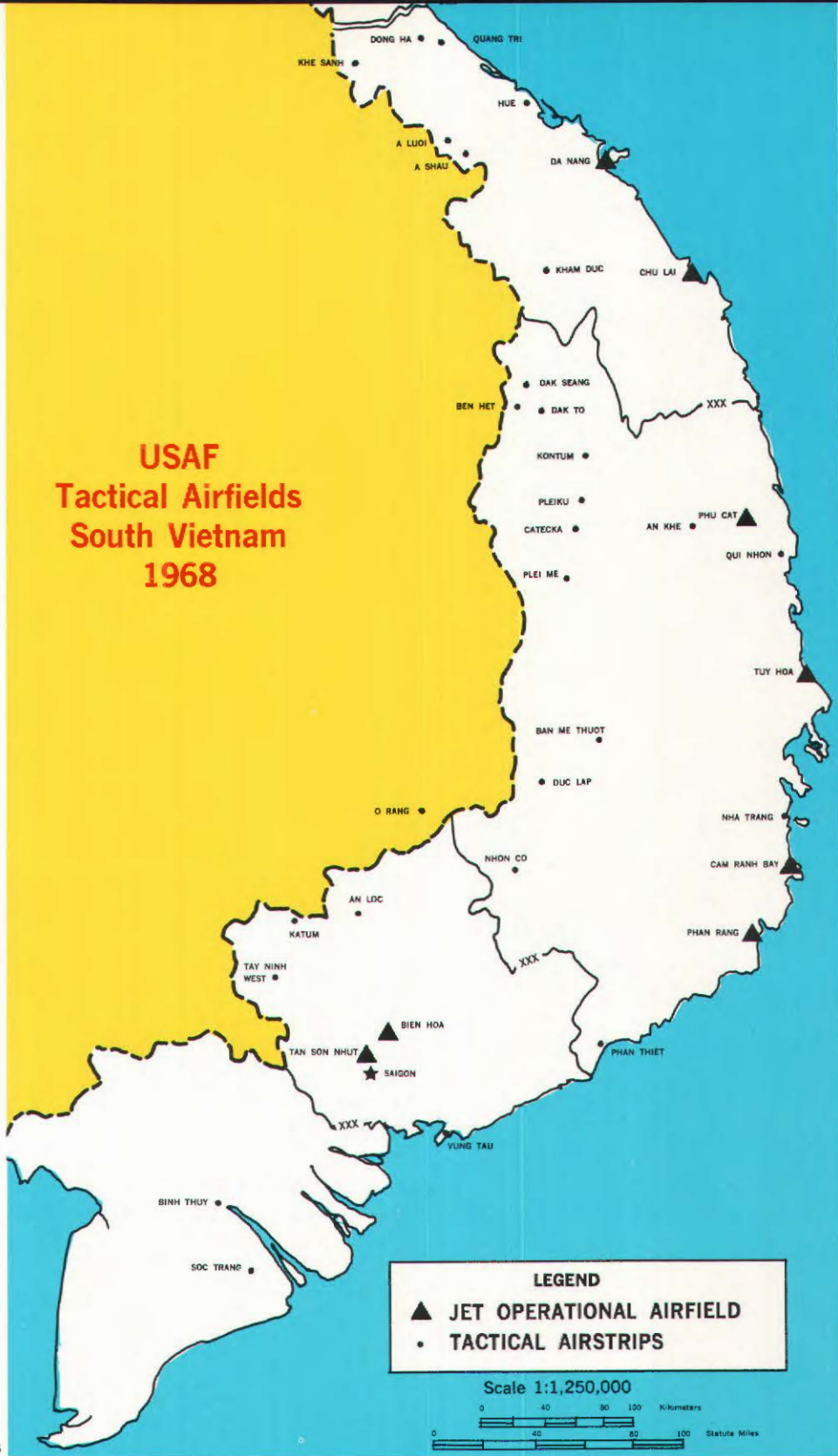


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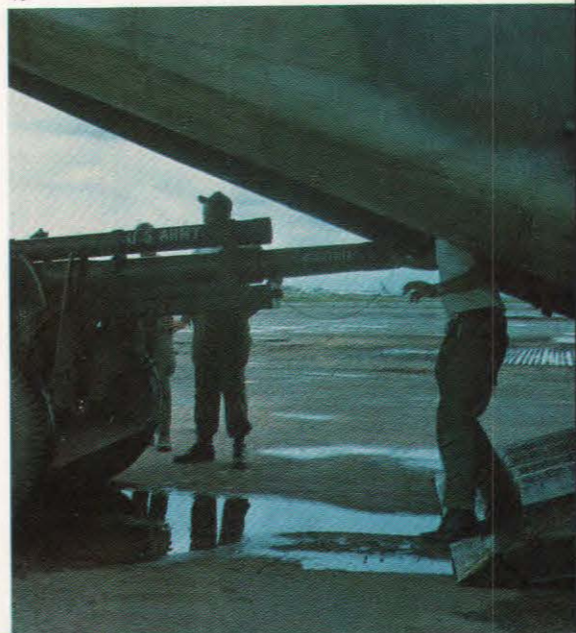
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(1) 105 Howitzer being loaded on a USAF C-123. (2) Unloading jeep and cargo. (3) Unloading a howitzer. (4) Troops airborne on a mission over South Vietnam. (5) Air Force C-123 lands at the Khe Sanh air strip. (6) USAF Tactical Airfields in South Vietnam. (7) Delivering supplies to an airstrip in South Vietnam. (8-9) Paratroops jump from Air Force C-123 Providers. (10) Unloading Army ordnance.



10



the 173rd Airborne Brigade was airlifted from Bien Hoa to Pleiku in 150 C-130 flights for just this purpose. Then, after returning to its home base, the 173d began a series of sweeps over the Saigon plain, relying on a mix of truck, helicopter, and air transport support. During Operation New Life-65, which began on 21 November 1965, the 173d made a helicopter assault into a dirt airstrip 40 miles east of Bien Hoa. The first C-130 landed within 1 hour, and another 70 C-130 sorties followed during the next 36 hours to deliver both troops and cargo. Overland communications established by the third day enabled the C-130's to reduce their effort to 10 sorties daily.

The key role played by air transport also was seen in the operations of the 1st Brigade, 101st Airborne Division, during the spring and summer of 1966. The brigade made five successive moves, each requiring some 200 C-130 lifts and each operation largely sustained by air resupply. The C-130's first airlifted the brigade from Tuy Hoa to Phan Thiet early in April, next to the highlands airstrip at Nhon Co later that month, then north to Cheo Reo in May, then to Dak To soon after, and finally back to Tuy Hoa in July.

In the fall of 1965, soon after its arrival at An Khe, the 1st Cavalry Division undertook operations requiring a major airlift effort by the Air Force. When strong NVA forces attacked Plei Me camp south of Pleiku, General Westmoreland committed the division. Its assault helicopters consumed large amounts of fuel in the battle area and almost depleted available stocks, despite the efforts of the Army's Caribous and Chinook helicopters to sustain an air line of communications. Faced with this emergency, MACV called for USAF airlift forces. On the morning of 29 October, the C-130's began an extended stream from Saigon, hauling POL and munitions to the main Pleiku field for redistribution by helicopter to the battle area. After

several days, the C-130's landed closer to the battleground on a dirt strip at Catecka Tea Plantation, where the division's helicopters refueled. Over a period of 29 days, the Air Force delivered to the 1st Cavalry Division an average of 186 tons per day, most of it POL. These operations indicated that in the future airmobile forces would require substantial logistical airlift support from the Air Force, probably greater than that required by conventional ground forces.

Airlift support for the conventional units in search-and-destroy operations was exemplified during Operation Birmingham, a 4-week air deployment into Tay Ninh province beginning 24 April 1966. The C-130's flew 56 D-Day sorties into the 4,600-foot dirt strip at Tay Ninh. C-123's lifted other forces to smaller, nearby strips. An around-the-clock resupply airlift into Tay Ninh followed to sustain the two-brigade force. The Air Force averaged 424 tons daily the first week, close to the forecast requirements. A land line of communications, opened on 1 May, reduced the burden on the C-130's which were also supporting the airborne brigade at Nhon Co. Army helicopters carried supplies from Tay Ninh to field units, while Caribous provided courier service between Saigon base camps and the battle scene. During the second week of Birmingham, the runway at Tay Ninh deteriorated from heavy rains, which also halted ground movement. By the time the operation ended on 17 May, the C-130's and C-123's had flown nearly 1,000 sorties and delivered nearly 10,000 tons of cargo for the division.

C-130 parachute capabilities were exercised during Operation Junction City early in 1967. The operation got under way on 22 February with airmobile assaults using all available helicopters. Executed simultaneously was the war's only battalion-sized parachute assault by American troops. Thirteen C-130's

departed from Bien Hoa on schedule; the troopers of the 173rd Brigade jumped as planned at 0900. All landed in the drop zone at Katum near the Cambodian border. There was negligible opposition, although one C-130 received a single hit. At 0927, 10 C-130's dropped the brigade's equipment, returning at 1300 to make additional cargo drops. Some of these loads landed in swamp areas, complicating retrieval. Five cargo-carrying Hercules sustained hits, none seriously.

On the second day, the Air Force launched 38 C-130 resupply sorties, but bad weather reduced drop accuracy. During the next 5 days, coordination and accuracy improved with daily drops averaging 100 tons. During the final stages of the operation in late March, the C-130's made airdrops to a "floating brigade," using drop zone locations which the ground unit provided by radio. The drops in support of Junction City totalled 1,700 tons. The sustained effort strained the Army's parachute rigging capability, but also eased the workload of the Army's resupply helicopters and provided USAF crews with invaluable experience.

Airlanded operations in support of subsequent Army offensives followed the pattern of the earlier ones. In November 1967, C-130's in some 250 sorties flew the 173d to Dak To. In the 3 weeks of heavy fighting that followed, daily streams of C-130's delivered more than 5,000 tons, landing on a much-patched and busy 4,200-foot asphalt strip. Enemy shelling on the 15th destroyed a 1,300-ton ammunition dump and two parked C-130's. Crewmen courageously taxied a third Hercules from the inferno and received Silver Stars for their deed. Although land deliveries supplemented the air resupply, General Westmoreland later remarked that "along with the gallantry and tenacity of our forces, our tremendously successful air logistic operations was the key to the victory."

Combat operations in the northern portion of South Vietnam created special transportation problems for Allied forces. In 1966 highway communications north of Da Nang were in disrepair and highly insecure, while port facilities and airfields near the DMZ were primitive. In July the Marines deployed their forces immediately below the DMZ, using more than 250 trips by Marine KC-130's—with some aid from USAF aircraft—into the red dirt airstrip at Dong Ha. The allies later surfaced the strip and also opened a second all-weather field at Quang Tri. These projects required large quantities of scarce airstrip matting, as did the Khe Sanh strip improvement to the west. A prolonged C-130 airdrop supported operations and airstrip construction at Khe Sanh during the fall of 1967. The effort required cooperation among Navy suppliers at Da Nang, Army parachute riggers, Air Force crews, and the Marines at Khe Sanh.

The air supply of Khe Sanh during the first 4 months of 1968 represented a remarkable achievement, enabling 6,000 Allied defenders to survive under heavy NVA pressure until reopening of land communications in April. Favored by absolute air supremacy and the proximity of Khe Sanh to Da Nang (30 minutes), the Khe Sanh airlift nevertheless faced major problems stemming from difficult weather and the enemy's imaginative use of firepower. For much of the period, Communist fire forced a halt to C-130 landings and limited severely those by C-123's, thus necessitating reliance on airdrops. The Air Force overcame its hitherto chronic weakness in dropping supplies during poor visibility, by using ground radar to guide the C-130's to precise points over the Khe Sanh runway. The foul weather helped screen the transports from enemy gunners, although it also hindered fire suppression efforts by allied fighters. On most days the ability of Marine re-

trieval parties to clear loads from the rough drop zone limited the volume of supplies. Late in the siege C-130's began bulk deliveries within the Khe Sanh main perimeter using low-level extraction techniques.

Between 21 January and 8 April, the Air Force delivered 12,400 tons to Khe Sanh. The C-130's accounted for more than 90 percent of the total in 496 drops, 67 extractions, and 273 landings. C-123's made 105 drops and 179 landings; C-7 Caribous made 8 landings. During the early weeks, Marine KC-130's also delivered cargo. Throughout the siege, Marine helicopters resupplied hill positions outside the perimeter. During February alone, they hauled well over 1,000 tons. Supply levels never became dangerously low. Three C-123's and one Marine C-130 were destroyed during the battle.

The 1968 Communist Tet offensive severely challenged the airlift crews. The early attacks at Tan Son Nhut and many of the up-country airstrips temporarily dislocated the airlift system. However, transport crews managed to fly numerous emergency troop and supply missions on behalf of hard-pressed garrisons. By 3 February, the fourth day of the offensive, countrywide airlift sorties regained former levels. Sortie totals increased thereafter as crews flew to the limit of their capacity and as additional planes and crews arrived from offshore. With surface lines of communication disrupted throughout the month, demands for airlift remained high. The most critical area was the northern provinces, where winter monsoon weather and airspace congestion hampered resupply of expanded allied forces. But in all regions, the recovery from the enemy offensive depended upon the air transport system. Missions into Khe Sanh were unaffected by the Tet attacks.

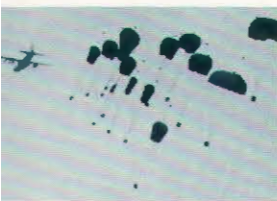
Efforts of airlift crews were extraor-

dinary in two other 1968 operations. The first was Operation Delaware, the air invasion of the A Shau valley in April. Once more the C-130's faced a gauntlet of enemy fire and bad weather, this time without the assistance of ground radar. In daily supply drops to the 1st Cavalry Division at A Luoi, the C-130 crews used their radar and doppler equipment to navigate up the cloud-filled valley, breaking out just before visual release of cargo. During the 9-day period starting 26 April, the C-130's in 165 flights dropped 2,300 tons, nearly all of it ammunition. Drops continued even during one period when the weather was so bad that helicopters could not operate. One C-130 and its crew was lost to enemy fire; four others received major battle damage. The cavalry division commander termed the C-130 effort "one of the most magnificent displays of courage and airmanship that I have ever seen." A rebuilt A Luoi airstrip received its first Caribou on 2 May and its first C-123 and C-130 2 days later. Before rain closed the airstrip on the 11th, USAF transports made 113 landings, more than half by C-130's.

The air evacuation of the allied garrison at the Kham Duc mountain post on 12 May 1968 was equally spectacular. Intermittently through much of the day, Army and Marine helicopters lifted out survivors, while allied air strikes held off the enemy on all sides. During the morning a C-130 landed but received heavy damage, then departed with only three passengers, fuel steaming from shrapnel holes and tires stripped away. A C-123 made a successful morning pickup. In early afternoon, three C-130's attempted pickups. Enemy fire destroyed one after it took off with more than 100 civilian passengers; another, crippled in landing, was abandoned. Only the third made a successful landing and evacuation. Then, late in the afternoon, three C-130's succeeded in bringing out the last of the garrison. Of 1,500 survivors

A C-7 aircraft offloads cargo at isolated camp





Supplies delivered by parachute

of Kham Duc, the Air Force flew out more than 500, nearly all in the final crucial minutes before the outpost fell.

One final act of valor ensued. Under orders to bring in a three-man USAF control team and unaware that the evacuation was already completed, a final C-130 landed at the now-hostile Kham Duc strip. Radio conversations soon after the Hercules took off made known the blunder. A C-123 made a touch-and-go landing and spotted the three men. A second C-123, piloted by Lt. Col. Joe M. Jackson and Maj. Jesse W. Campbell, landed under heavy fire and successfully removed the team. For his role in the rescue effort Jackson received the Medal of Honor, the only airlifter of the war so honored. Jackson wore the award with dignity in the years that followed, representing the thousands of USAF airmen who shared pride in his recognition.

The small payload capacity of the C-7 Caribou normally discouraged its use in major tactical operations. On the other hand, excellent maneuverability at low altitude and slow airspeed enabled the Caribou to make accurate drops into small places. Furthermore, its small payloads were appropriate for garrisons lacking heavy recovery equipment; finally, simplicity of construction minimized the C-7's vulnerability to ground fire. Thus, the Caribou was used frequently for emergency drops, of which three were particularly noteworthy—the resupply of Duc Lap in August 1968, Ben Het in the spring of 1969, and Dak Seang a year later. The garrisons at all three survived heavy enemy pressure with the help of air-delivered supplies; hostile fire was severe in each instance, necessitating special tactics. At Duc Lap, the Caribous flew in at tree-top level, popping up to 300 feet at the last moment for the release. At Ben Het, the C-7's made run-ins at intervals of about 20 seconds, in coordination with pre-

planned fire suppression from covering fighter aircraft. Similar tactics were less successful at Dak Seang, where three aircraft were lost in the first week of operations. The force then went over to night drops, the drop zone marked by signal fires and airborne flareships. During the battle, the C-7's made 125 drops over Dak Seang, releasing 250 tons; the garrison recovered 94 percent of these supplies.

Airlift efforts during 1969-1971 included massive support of the allied incursions into Cambodia and southern Laos. During 9 weeks commencing on 28 April 1970, aircraft of the 834th Air Division delivered 60,000 tons to more than 20 airfields in South Vietnam immediately adjacent to Cambodia. Ammunition lifts from Bien Hoa for a short period approached 1,000 tons daily. Missions into Cambodia were less extensive, but included more than 150 C-7 flights into the border strip at O Rang and several C-130 ammunition drops to U.S. forces near O Rang. Lam Son 719 was preceded by 250 C-130 flights, hauling a Vietnamese airborne division and other ARVN forces from Saigon to Dong Ha and Quang Tri. Over a 7-week period during the Laotian operation, the C-130's delivered more than 14,000 tons to a reconstructed logistics base at Khe Sanh. During the same period, C-141's of the Military Airlift Command flew some in-country movements to reduce aerial port backlogs.

The major North Vietnamese spring offensive in 1972 led to frequent Air Force supply flights in support of the defenders of Kontum and An Loc, two primary objectives of the enemy. Sustained air resupply into isolated Kontum began in April, with day landings halting on 17 May after enemy shells damaged several C-130's, burned two VNAF C-123's, and destroyed a C-130E. C-130 landings resumed exclusively at night on 18-19



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(1) ARVN paratroopers board a C-130 prior to dropping into a Viet Cong area. (2) Parachute touchdown. (3) An Air Force combat control team watches Vietnamese paratroopers drop as ammunition pallet loads go out a C-123 rear door. (4) A load master notifies pilot of completion of drop as ammunition pallet loads go out a C-123 rear door. (5) General McConnell (l.) congratulates Sgt Joseph F. Mack after presenting him and Capt. Joseph K. Glenn (center) the Silver Star and Distinguished Flying Cross. The two airmen were cited for heroic action in saving their damaged C-130 in 1967 during the battle of Dak To. (6) A C-123 taxis at an Army Special Forces camp. (7) Parachute drop from a C-123 transport to Marines at Khe Sanh. (8) A C-7 lands at Khe Sanh. (9) An Air Force combat controller team directs C-130 aerial delivery of equipment to troops in Tay Ninh province.

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(1) A C-130 airdrops 105mm howitzers, prepared for the drop by ARVN troops, 1967. (2) C-123's airlifted U.S. Marines into Calu, South Vietnam, along with 6 tons of equipment. (3) C-130's delivered troops and supplies to a Tay Ninh airstrip during Operation Birmingham, April 1966. (4) A C-130 drops supplies to Marines at Khe Sanh, April 1968.



4

May, with 17 aircraft overcoming extreme hazards to make successful deliveries. Resupply continued nightly under cover of allied gunships, although in one instance a C-130 delayed its departure past dawn and was destroyed by ground fire. On 25 May the enemy seized a part of the runway, closing the field to landings. The supply burden momentarily fell upon VNAF and U.S. Army helicopters, but on the 28th C-130's began drops into one corner of the airfield. Although bundle recovery was difficult and slow, more than 2,000 tons were dropped in 130 sorties before C-130 night landings could be resumed on 8 June.

Aerial resupply to the 20,000 defenders and refugees at An Loc began in April, with deliveries by VNAF and U.S. helicopters and VNAF C-123's approximating 20 tons daily. Loss of a VNAF helicopter and a C-123 to enemy fire caused successive suspensions of these efforts. Air Force C-130's began daylight drops on 18 April. The first four aircraft successfully parachuted supplies but each received battle damage; a fifth ship went down west of the city. To reduce exposure, altitudes were raised above 6,000 feet, dropping with ground radar guidance. "High-altitude, low-opening" parachute techniques proved unsuccessful, however, as numerous chutes failed, in part because of inexperienced Vietnamese packers. The C-130's resumed low-level conventional drops even though all ships continued to receive hits.

On 26 April, after another C-130 was lost, the Air Force switched to night drops. Conducted visually with light signals, these too proved unsatisfactory, as many bundles missed the mark and some fell into enemy hands. The low point occurred the night of 2-3 May, when the C-130's failed to make a single successful delivery. Loss of a third C-130 on the following evening caused the cancellation of further



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(1-3) C-130's delivering supplies to allied troops by airdrop and arresting cable.



night missions. High altitude, daylight drops were resumed on 5 May but now with the assistance of American parachute riggers brought in from Okinawa. Half of the parachutes opened properly and only one of the 24 bundles dropped that date fell into enemy hands. On 8 May the An Loc defenders recovered 68 of the 88 tons dropped. The drops became increasingly successful thereafter, the airlifters exclusively resupplying the defenders until the end of the siege on 18 June. In all, C-130's dropped 7,600 tons into the beleaguered city in more than 600 sorties, a dramatic and fitting climax to the 10-year history of the USAF tactical airlift arm in Vietnam.

Other Applications of Tactical Airlift

Air Force transports performed numerous noncombat transportation roles during the war. Passengers, mail, perishable foods, and high value equipment were moved between aerial ports throughout South Vietnam. Such loads frequently originated at airfields served by Military Airlift Command and the principal seaports—Saigon, Da Nang, and the Qui Nhon-Nha Trang-Cam Ranh Bay complex. For routine bulk hauling within Vietnam, air transport remained secondary to the surface modes. An exception was the Army Special Forces logistic system, which depended primarily on airlift for the routine supply of its camps. The C-130 force also made overwater hauls between offshore points and fields in Vietnam, averaging 7,000 tons monthly in the peak year, 1966.

The war in Laos required substantial air transport, of which USAF helicopters based in north Thailand provided a part. Civilian contract firms were primarily responsible for fixed-wing transport in Laos. The 315th Air Division operated a passenger and air logistic service within Thailand, linking the principal Air Force bases

there. In September 1965, a rotational C-130 detachment at Bangkok took on this role, replacing C-123's previously rotated from South Vietnam.

Casualty evacuations in South Vietnam were almost entirely by air. Army helicopters performed most battlefield evacuations, while USAF transports hauled between the 18 in-country hospitals, mostly located at C-130 airfields. Transports carried unrigged litters at all times for emergency evacuations. The 903d Aeromedical Evacuation Squadron, organized in 1966, provided flight medical personnel and operated a control center at Tan Son Nhut to monitor patient movements. Mobile casualty staging teams entered South Vietnam in early 1967, thereafter performing patient care at certain forward airheads. 315th Air Division C-130's and C-118's performed patient evacuations from Vietnam to offshore points. Specifically configured for patient evacuations, the C-118's were assigned to the 6485th Operations Squadron, based originally in Japan and later at Clark in the Philippines. In 1968 a C-118 detachment began operating at Cam Ranh Bay to support in-country patient movements. All-jet C-9's finally replaced the C-118's in 1972 as the PACAF specialized aeromedical evacuation force.

Late in 1965, the Air Force deployed a squadron of CH-3 helicopters to South Vietnam, each able to carry a 3-ton payload about 200 miles. The squadron performed a variety of tasks, including delivery of supplies to USAF radar and communication sites in South Vietnam, and occasionally joined Army and Marine units in air supply operations. Both the CH-3's and the Air Force UH-1's later deployed played major roles in special warfare operations in Laos, Cambodia, and remote areas of South Vietnam. Management remained outside the Common Service Airlift System (CSAS). Because of interservice agreements, Air Force operation of



transport helicopters was quite limited.

Techniques of air delivery were advanced. Introduced in 1966 was the container delivery system, which permitted supply drops from 600 rather than 1,000 feet. Thereafter, C-130's employed the system in all drops except for the heaviest items. Low-level extraction systems developed in the early 1960's proved useful for pinpoint aerial deliveries. One of these, the ground proximity extraction system (GPES), used a hook-and-cable arrangement which required prepositioning of an arrestor gear. The other, the low altitude parachute extraction system (LAPES), required a large extraction parachute and a long cleared space on the ground (often an old airstrip). The Air Force used both systems at Khe Sanh with mixed success.

For most airlifters, flight operations in Southeast Asia were an abrupt change from the methods taught and

(1-2) A U.S. Air Force HH-43 helicopter delivers supplies to allied troops in Vietnam, July 1970.



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practiced in the United States. In peacetime flying, crews adhered to written regulations, regularly attended flying safety meetings, and practiced endlessly the mechanical techniques of instrument flight. In Southeast Asia, however, crewmen quickly learned to rely on their own wits and judgment. Prescribed criteria of ceiling and visibility were generally overlooked. Crews flew visually whenever possible, looked for breaks in overcasts, and stayed underneath low ceilings except when over hostile areas. Squadron commanders frequently had to curb the enthusiasm of their crews and caution them against unnecessary risks—a difficult message in view of the heady sense of mission accomplishment generally felt.

Special hazards existed at the forward airheads, where the fixed-wing transports shared crowded ground and air space with seemingly uncontrolled helicopters, trucks, pedes-

trians, and assorted hazards. Landings required the concentration of the entire crew to avoid other traffic, friendly artillery, and high terrain—all while maneuvering clear of clouds and setting up precision final approaches. Joint working groups set up in late 1968 belatedly addressed the hazardous conditions.

Beginning in 1970 the Air Force substantially reduced its airlift forces in the Pacific. Remaining by the end of 1971 were only five C-130, three C-7, and one C-123 squadrons; the 834th was inactivated in November. In 1972 the Caribou and C-123 wings went out of existence, leaving only four squadrons of C-130E's based in Taiwan and Thailand. On the other hand, the VNAF airlift force expanded from two squadrons in 1970 to eight in late 1972, including three C-7 and three C-123 squadrons. Two squadrons were equipped with C-130A's just before the 1973 ceasefire, making available the C-123's for the air forces of Laos, Thailand, and Cambodia.

Over the years between 1962 and 1973, the Air Force delivered more than 7 million tons of passengers and cargo within South Vietnam. By comparison, U.S. and British transports carried slightly more than 2 million tons during the Berlin airlift and about 750,000 tons during the Korean War. The Air Force lost 53 C-130's in the Southeast Asia war, more than half of them in 1967 and 1968. C-123 losses (including 1 spray aircraft) also totaled 53 and C-7 losses numbered 20. Of these 126 aircraft, enemy action accounted for 61, including 17 destroyed by sapper or shelling attacks. The other 65 were lost from "operational" causes, mainly associated with the difficult conditions at forward airstrips. All but 10 of the losses occurred in South Vietnam. Those airlift crewmen killed or missing numbered 269. In Vietnam, the USAF tactical airlift arm lived up to its proud history, adding a new, illustrious chapter.



Strategic Airlift

When the large-scale deployment of military forces to South Vietnam got under way in 1965, the Air Force's Military Airlift Command (MAC) found itself assigned the task of providing urgent transportation of personnel and certain supplies from the United States to Southeast Asia. U.S. reliance on strategic airlift stemmed from the fact that ship movements nearly half way around the world were slow and that the Republic of Vietnam at the time lacked suitable ports, roads, and railways to remove and distribute efficiently the materiel once it had arrived. It was not uncommon during the 1965-1966 force buildup for ships to wait in harbors for days or weeks to be unloaded. The airlift into Southeast Asia was not entirely new to the Military Airlift Command. As early as 1954, under its former designation as Military Air Transport Service, it carried some 500 wounded foreign legionnaires back to France and Algeria after the fall of Dien Bien Phu. However, the airlift to Southeast Asia that began in 1965 grew to proportions unequalled in the history of strategic airlift.

In 1965, to fulfill the demands placed upon it, the command had 34 squadrons: 21 C-124 Globemasters, 3 C-133 Cargomasters, 7 C-130 Hercules, and 3 C-135 Stratolifters. Only the C-124 and C-133 had been originally designed as cargo aircraft, and both were nearing obsolescence. The aging Globemaster served admirably as an intratheater cargo transport, but its speed and range were inadequate for intertheater operations. Thus, the C-124 normally required about 95 hours of flying time to go from Travis AFB, Calif., to Saigon and return—or, at the then-current utilization rates, slightly more than 13 days. The C-133 made fewer stops and carried more, but its speed was marginal for strateg-

ic airlifts. Moreover, flight safety modifications to the C-133 during early 1965 limited its utilization.

MAC had acquired both the C-130 and C-135 as interim aircraft, pending development and production of advanced jet transports such as the C-141 Starlifter—then on the assembly line but not yet operational—and the controversial C-5 Galaxy, which was still under development. The C-130's and C-135's helped take on the expanding strategic airlift work, although neither was entirely suited for the Southeast Asia job. The C-130 lacked true strategic airlift speeds and ranges; on the other hand, these features were quite adequate on the C-135 but its load capacity was insufficient, particularly for oversized cargo.

Unable to meet the mushrooming airlift demands with its own aircraft, MAC solicited the help of the Air Force Reserve and Air National Guard. They were equipped with C-97, C-119, C-121, and C-124 aircraft which were 12 to 15 years old, difficult to maintain, and capable of transporting no more than 10 tons at a time over the Pacific. Nevertheless, through their ongoing training program, the reserves provided an available airlift resource and, between 1 August 1965 and 30 June 1966, they carried 30,000 tons of cargo and 5,790 passengers to the Pacific area. Indeed, by October 1972 Air Force Reserve crews alone had made 1,294 trips into the war zone, during which they delivered 30,434 tons of cargo and 3,600 passengers. Perhaps even more important, by employing these reservists on some MAC state-side missions, the command was able to release more of its own aircraft for operations into Southeast Asia. The Air Force Reserve and Air National Guard took over some internal and near-offshore transport aeromedical

C-141 transports at a western Pacific base. They played a key role in delivering men and supplies to Southeast Asia.



evacuation and air airlift missions starting on 1 August 1965.

But as demand for airlift to support the war outstripped capacity, the Air Force turned to the commercial airlines. The President chose not to declare a national emergency and take control of the more than 180 commercial airliners that made up the Civil Reserve Air Fleet (CRAF). Instead, MAC relied on contract leasing of

these aircraft. The arrangement worked well as there was little to fear from enemy air activity.

A milestone in the modernization of the strategic airlift fleet occurred in April 1965 when the C-141 Starlifter became operational and then began flying to SEA in August. By 1967, the C-141 fleet had grown to more than 100, and in 1968 the 284th and last C-141 was produced. The Starlifter could

A C-5 Galaxy, the world's largest aircraft, made its first deliveries to South Vietnam in August 1971.

carry 67,620 pounds of cargo 4,000 miles or 20,000 pounds non-stop from California to Japan at speeds of 440 knots. By comparison, the C-124 could carry 50,000 pounds over a range of 1,000 miles or 25,000 pounds for about 2,300 miles at speeds of only 200 knots.

Fleet modernization received another boost in 1969 when the world's largest aircraft, the C-5 Galaxy, entered service. The Air Force received its first C-5 on 17 December 1969. Possessing unique cargo capabilities, the aircraft added much to MAC's airlift posture. The C-5 could carry 164,383 pounds over 3,000 miles at a speed of 450 knots. Perhaps its best feature was the giant cargo compartment, which accommodates equipment 120 feet long, 19 feet wide, and 13½ feet high. The C-5 could transport about 98 percent of the Army's equipment, including self-propelled howitzers, personnel carriers, and tanks. Had they been available, only 17 C-5's could have done the work of the 300 or more aircraft used each day in the 1948-1949 Berlin airlift. The C-5 made its first deliveries to South Vietnam in August 1971. In the months that followed, particularly in the spring of 1972, it played a major role in SEA strategic airlift. By mid-1973, MAC had 77 Galaxies ready for duty.

Bases and Routes

In responding to the urgent SEA requirements, the Air Force quickly found the base and route structure inadequate for the unusually heavy airlift traffic. Congestion quickly developed over routes into the theater. This was particularly true in South Vietnam, where all commercial inbound cargo and passenger flights processed through Tan Son Nhut. At this major South Vietnamese airfield, a huge cargo transshipment workload resulted and grew worse as the American military buildup increased. Soon the base had the highest air traffic

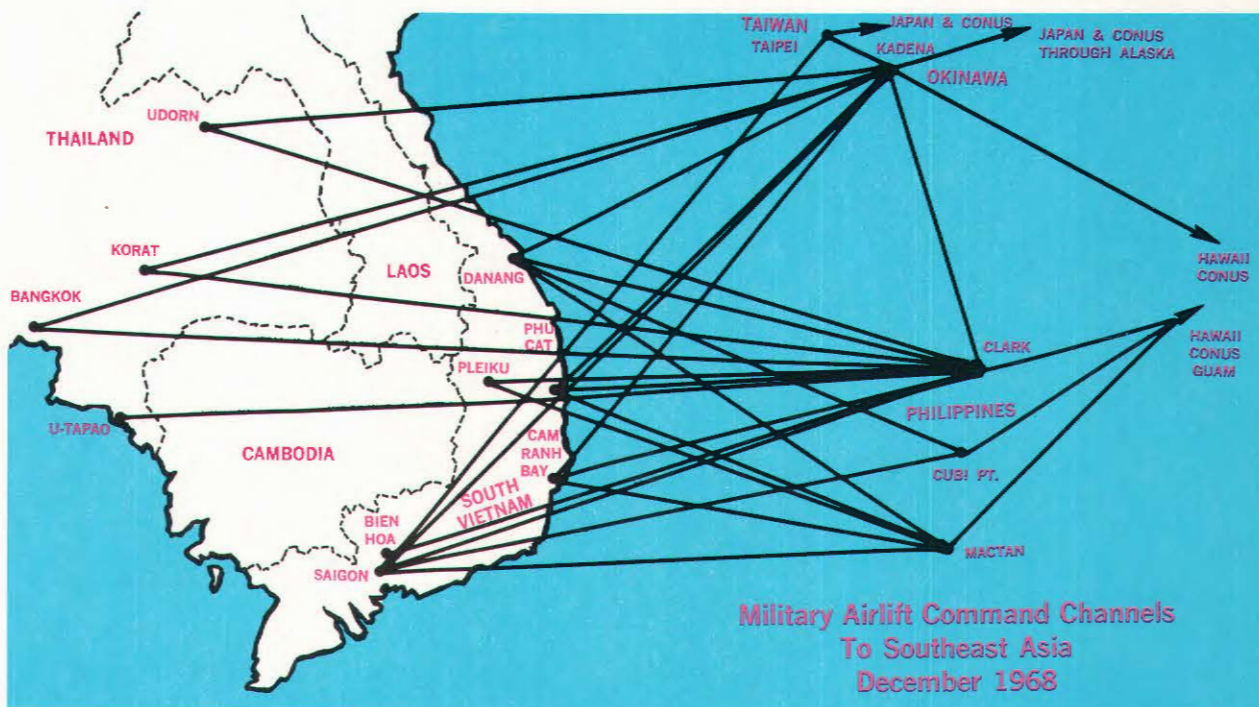
density in the world.

Similar difficulties were encountered at en route stations throughout the Pacific area because of the tremendous flight surge. Pacific operations of MAC's 21st Air Force alone rose from 2,000 flying hours during January 1965 to more than 11,000 the following June. Overall, traffic to the Pacific grew from a monthly average of 33,779 passengers and 9,123 tons of cargo in fiscal year 1965 to 65,350 passengers and 42,296 tons of cargo in fiscal year 1967. Clark Air Base, the major Philippines terminal en route to South Vietnam, was particularly saturated.

To relieve congestion and speed cargo handling in South Vietnam, the United States initiated a vast construction program in that country. Dual runways were built at several existing bases and new air facilities added. This included new passenger terminals at Kontum, Qui Nhon, Tuy Hoa, Phu Cat, Da Nang, and Cam Ranh Bay. At Yokota Air Base, Japan, a passenger terminal capable of processing 35,000 personnel monthly opened in March 1969.

Aerial port backlogs also developed in the United States. In 1965 MAC's worldwide operations centered on several coastal aerial ports of embarkation (APOE's). Each served only specific destinations in the adjacent oceanic area. All passengers and cargo destined for SEA processed initially through Travis AFB, Calif., and it soon was congested.

As improved facilities became available, MAC increased its cargo routes between the United States and South Vietnam from 1 to more than 12, and passenger routes from 1 to more than 6. Many interconnecting routes were also established between the United States and numerous Pacific stations to and from the bases in Vietnam. The expansion of airlift services to these points reduced the transshipment



workload that had contributed to the Tan Son Nhut congestion difficulties.

The Air Force removed or reduced bottlenecks at many of the en route bases by dispatching large numbers of MAC personnel to help out at the saturated or expanding stations. Other measures to ease traffic problems included securing approval to use Mactan Air Base in the Philippines, staging aircrews throughout the Pacific more efficiently, adjusting route patterns, bypassing saturated bases, and scheduling maintenance only at home bases. As examples of adjusting routes to the performance of the latest aircraft, the C-141 and C-5 did not need to land at Wake Island on their way from Hawaii to Southeast Asia, since flights on the "great circle" route between the United States and Southeast Asia operated via Elmendorf AFB, Alaska, and Japan.

On 1 April 1965, after a year of testing a concept of originating Pacific flights from the middle or eastern

United States, the Air Force opened Kelly AFB, Tex., as a port of common-user service to western Pacific installations. Shortly thereafter, on 1 July, the APOE at McChord AFB, near the Army troop processing center at Fort Lewis, expanded to include passenger service to Japan and Korea. On 1 October Norton AFB, Calif., became an aerial port to provide cargo service to Okinawa and Vietnam.

The use of eastern U.S. bases as aerial ports for Southeast Asia began in April 1966, with cargo routes between Dover AFB, Del., and Clark and Tan Son Nhut Air Bases and between Charleston AFB, S.C., and Don Muang AB, Thailand. In May, passenger service from McGuire AFB, N.J., to South Vietnam also was initiated. These flights used the North Pacific route. On 1 January 1968 another aerial port in the interior, at Tinker AFB, Okla., began serving Guam and Thai bases directly, reducing cargo transshipments.



Lt. Gen. Tran Van Minh, commander in chief, Vietnamese Air Force, salutes Vietnamese student pilots on arrival at Keesler AFB in January 1972. Maj. Gen. Frank M. Madsen, Jr., USAF escorts him.

Improving the aerial ports through mechanization also helped relieve congestion and reduce transit times. The Air Force installed automated terminals at Travis in February 1965 and at McChord in early 1966. The automated system—463L Materials Handling Support System—included special vehicles to facilitate aircraft loading and unloading. Another effective measure to reduce in-transit down time of aircraft called for pre-positioning crews at en route bases, thereby eliminating aircraft stand-downs for crew rests. With standby

crews at Hickam and Wake Island, for example, aircraft ground time decreased from 15 to 4 hours.

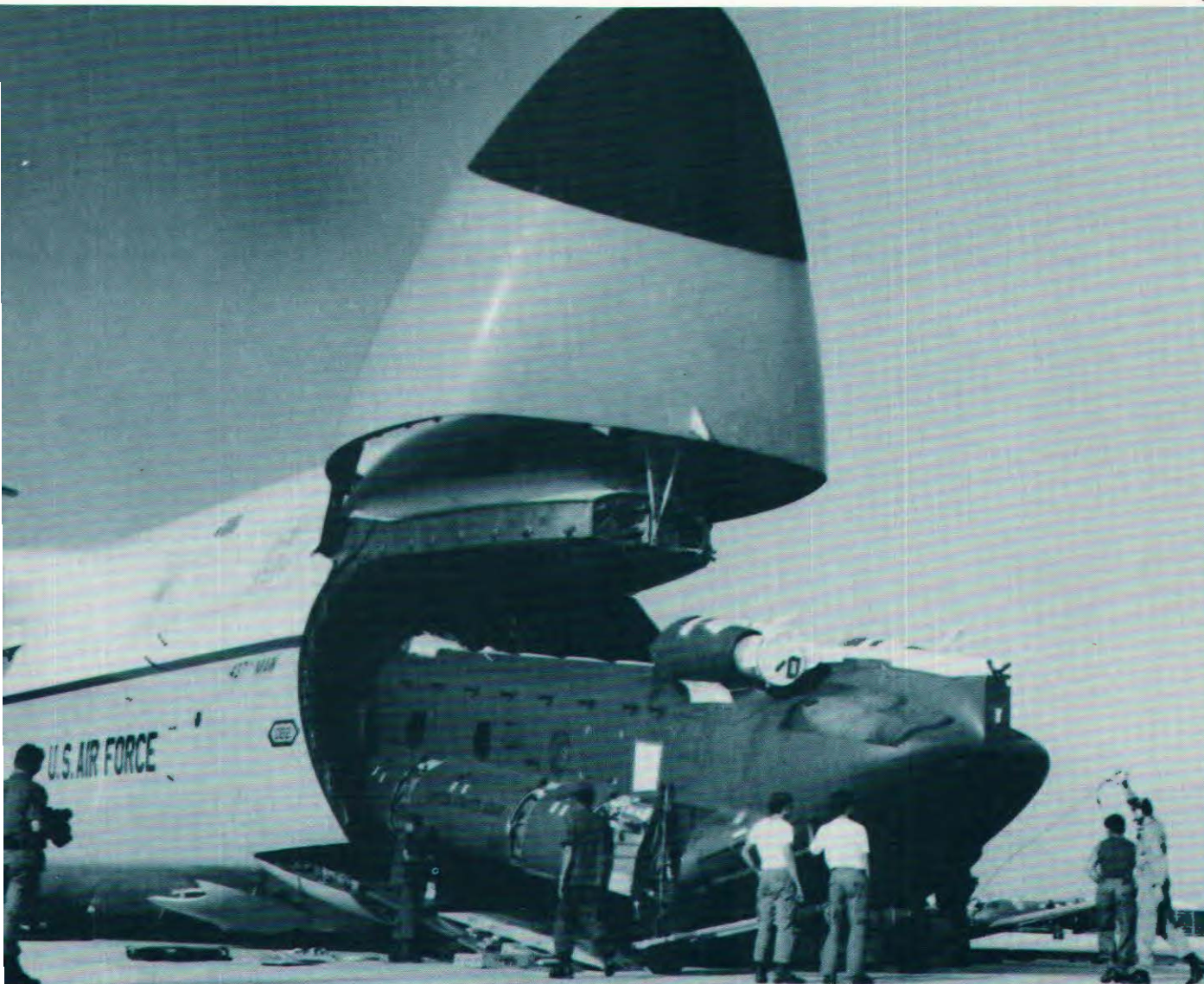
Coincident with the tremendous military expansion in Southeast Asia, the Secretary of Defense authorized the Air Force to increase the utilization rate of its aircraft incrementally. By 30 June 1966, this acceleration—appropriately named Fast Fly—saw aircraft utilization climb from a daily peacetime rate of 2.5 hours for troop carriers and 5 hours for air transports to approximately 4 and 8 hours, respectively. This had an important im-



(1) At Qui Nhon airfield the Air Force's 15th Aerial Port Squadron processed an average of 25,000 passengers per month. (2-3) Unloading U.S. Army helicopters from a C-5 Galaxy at Cam Ranh Bay. (4) Memorial service at Tan Son Nhut AB for U.S. soldiers killed in action. (5) The cavernous C-5A Galaxy cargo area after military supplies have been deposited at Cam Ranh Bay.

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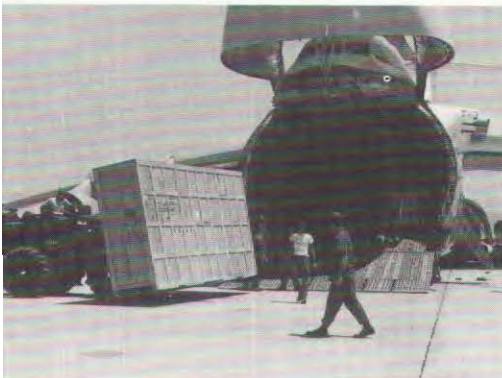
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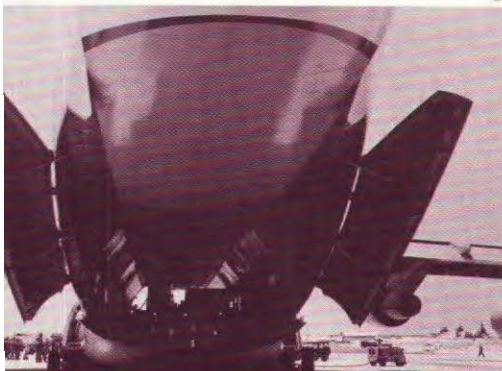
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(1) An Air Force C-141 Starlifter at Bien Hoa AB, South Vietnam. (2-8) The strategic airlift in support of the war effort included the C-5 Galaxie, the largest transport in the world, the C-141 Starlifter, and the C-133 Cargomaster.)

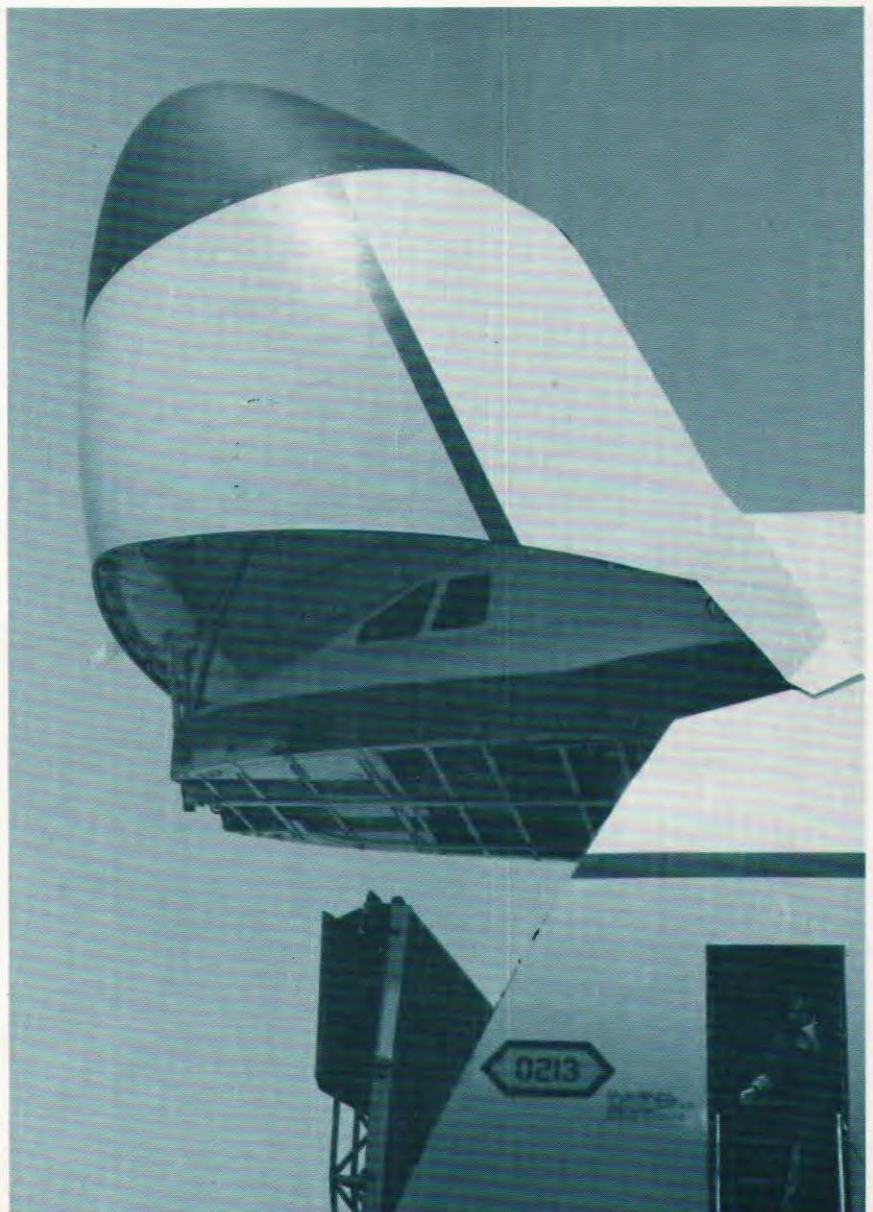
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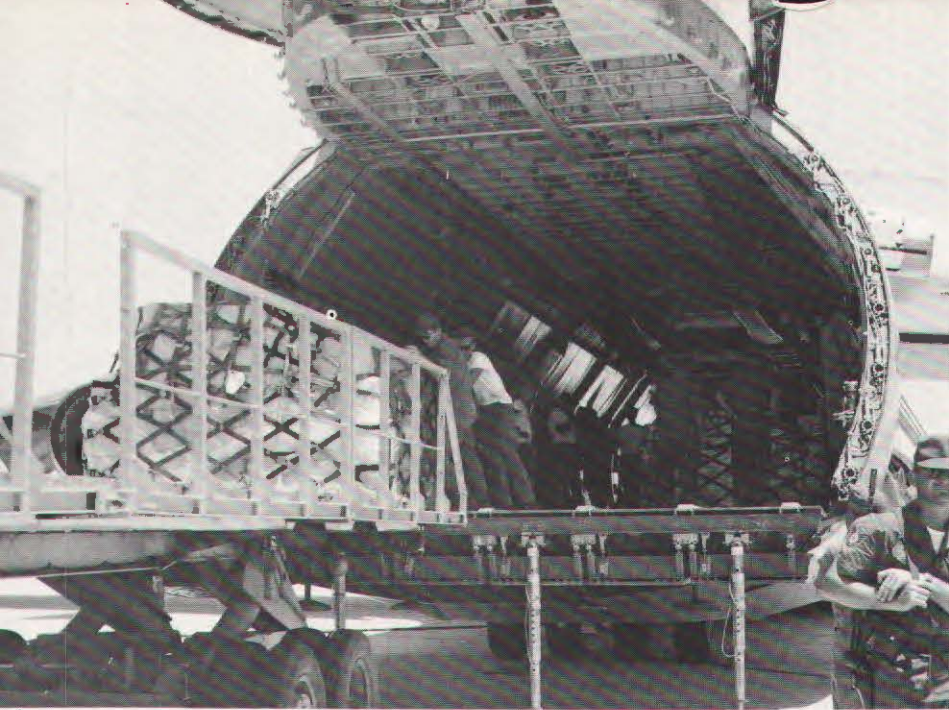
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fact on personnel, particularly on flight service and maintenance crews. Additional personnel were acquired from SAC units being discontinued and were put through a special training program.

To expedite the flow of critically required cargo from the aerial ports, the Air Force employed a series of priority designations: "999" identified the highest priority cargo; "Green Sheet" covered cargo to be moved ahead of older cargo of the same priority; and "Red Ball" (an airlift reference to the famous World War II truck express in Europe) tagged priority Army spare parts for inoperative combat equipment. The Military Airlift Command began its Red Ball Express on 8 December 1965, guaranteeing shipment within 24 hours of receipt at the APOE. The 1,000th Red Ball mission departed Travis on 1 May 1967.

MAC's primary responsibility involved the intertheater delivery of personnel and cargo, but it also performed numerous intratheater tasks. Before the Vietnam conflict, the Pacific Air Forces relied on its own tactical transports to move personnel and cargo to and from Japan, Okinawa, Taiwan, and the Philippines. The war in Southeast Asia, however, put a severe strain on PACAF's ability to operate the intratheater airlift system while also meeting tactical airlift requirements in South Vietnam. Whereupon, the Air Force decided that MAC should assume a major portion of the intratheater airlift load over routes previously supported by tactical airlift. Accordingly, Military Airlift Command established several new routes, extended others, and diverted aircraft in the theater for special assignments.

Intratheater cargo flights varied from the delivery of ammunition to Da Nang from Kadena to the movement of troops and equipment within South Vietnam. Altogether, MAC intratheater activity increased dramatically—from 53,198 tons of cargo and 175,539 pas-

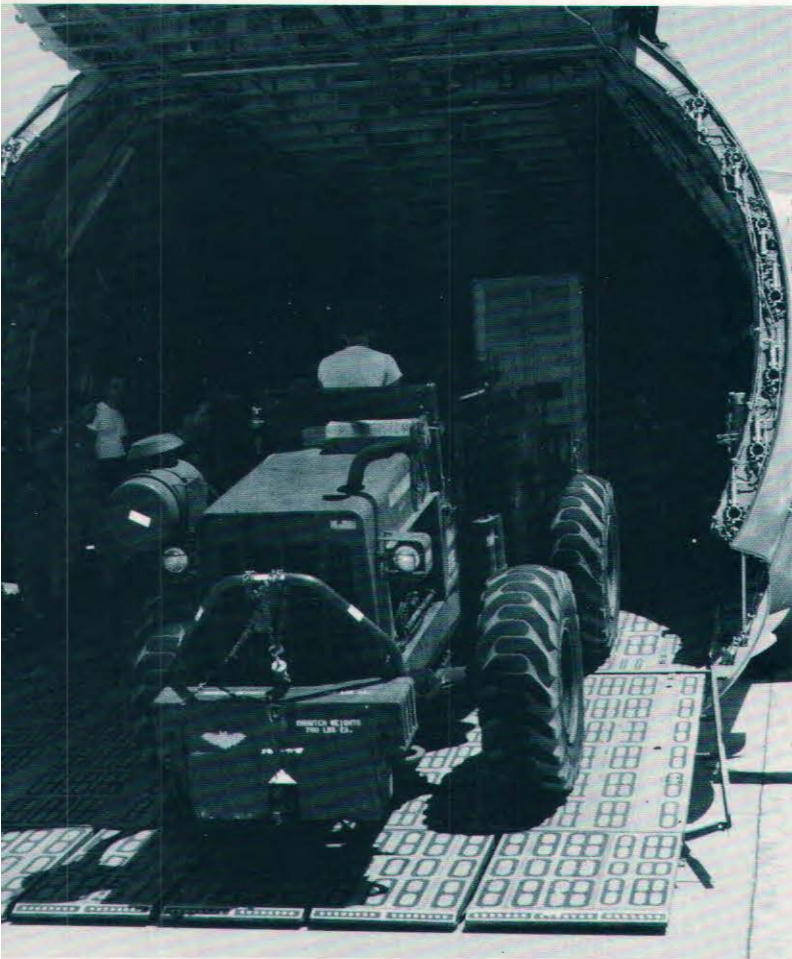


sengers in 1965 to 117,465 tons and 254,000 passengers in 1966, and to 141,113 tons and 347,027 passengers in 1967. The largest increases occurred on the routes from Japan, Okinawa, and the Philippines to Southeast Asia.

(1) Aerial view of C-5 Galaxy, with visor raised at Cam Ranh Bay.

Airlifting Troops

The task of getting essential supplies, personnel, and units to Vietnam was a staggering one. In flying about 210,000,000 miles during 1967, MAC flew the equivalent of 8,750 aircraft around the world and carried sufficient troops to fill every manpower space in 85 Army infantry divisions. Military aircraft carried most of the cargo while chartered commercial airliners carried most of the passengers.



(2) Bulky cargo is removed from the C-5 by forklift, 1972.

Not to be overlooked were the thousands of combat personnel flown by these aircraft to Honolulu and nine other cities in the Pacific area for rest and recuperation (R&R) leaves. The R&R flights began in fiscal year 1966 with 14,970 passengers. The numbers increased to 521,496 in 1967 and to 774,386 in fiscal year 1968.

On several occasions during the war, the Air Force was called on to undertake the deployment of major Army units under special conditions. The first of these, designated Operation Blue Light, came in response to the need to rush the 3d Brigade, 25th Infantry Division from Hawaii to Pleiku, Vietnam, to offset a buildup of Communist forces late in 1965 that threatened the area. The Military Airlift Command reacted quickly, flying 231

sorties over a 26-day period and moving 3,000 troops and 4,700 tons of equipment some 6,000 miles to Pleiku by 23 January 1966. For a time, a C-141 or C-133 took off from Hickam every 3 hours. At the other end, aircraft unloaded with their engines running, enabling them to depart in an average time of 17 minutes instead of the planned 1 to 2 hours. Blue Light was completed 8 days ahead of schedule.

The Army required special airlift assistance again in late 1967 to move the remainder of the 101st Airborne Division from Fort Campbell, Ky., to Bien Hoa, Vietnam. Under the designation of Operation Eagle Thrust, MAC flew 10,355 paratroopers and 5,118 tons of equipment, including 37 helicopters, via 413 C-141 and C-133 flights between 17 November and 29 December—the largest single airlift of combat troops undertaken from the United States to a war zone to that time. Engine-running offloading procedures and the performance of support personnel enabled the aircraft to unload on the average of less than 7.5 minutes.

In February 1968, while still supporting a buildup of ground and air forces in Korea following the seizure of the USS *Pueblo*, MAC undertook the emergency movement of ground troops to South Vietnam to help stem the Communist Tet offensive. Involved were a brigade of the 82d Airborne Division at Fort Bragg, N.C., and a regiment of the 5th Marine Division at Camp Pendleton, Calif. Between 14 and 26 February, MAC successfully deployed more than 6,000 troops and almost 3,500 tons of equipment in 258 C-141 and C-133 flights. Fourteen reserve C-124 groups, which had not been recalled in January, also flew 158 support missions into Saigon.

In mid-1969 emphasis shifted to the return of units to the United States in accordance with the President's policy of gradual American withdrawal from Vietnam, beginning with 25,000

troops before 31 August. The Military Airlift Command carried out the redeployments through a series of operations called Keystone. In the first of these, MAC airlifted 15,446 of the 25,000 troops plus 47.5 tons of materiel. As the President directed other incremental withdrawals over the next several years, MAC responded accordingly.

In April 1972, after North Vietnam launched its spring offensive into South Vietnam, the Air Force dispatched the 49th Tactical Fighter Wing from Holloman AFB, N.M., to Takhli, Thailand (Operation Constant Guard). In support, MAC teamed up the C-5 Galaxy with the C-141 and commercial carriers and, starting on 6 May 1972, moved the wing's 3,195 personnel and 1,600 tons of cargo in only 9 days.

When the Communist offensive swept through the provincial capital of Quang Tri and moved southward, the U.S. Army turned to the Air Force to deliver more tanks and armored vehicles to the South Vietnamese. In response, the C-5 fleet airlifted 26 tanks—weighing about 1.6 million pounds—in 10 flights directly to Da Nang, including 6 which were delivered from a repair depot in the Pacific within 24 hours. Offloading averaged 32 minutes, and the tanks were in battle in a matter of hours.

Return of the POW's

As American participation in the war phased out, MAC devoted considerable airlift capacity to equipment being delivered to South Vietnamese forces. Following the peace agreements in January 1973, MAC turned its attention to the withdrawal of the remaining American military personnel and equipment from Vietnam. This task involved several thousand tons of equipment and more than 20,000 personnel.

One of the most dramatic airlift operations of the war—which captured the attention of millions of people



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(1) An army truck is unloaded from a C-124 at a SEA base. (2) Unloading cargo from a C-5. (3) U.S. Army troops prepare to board a C-141 for the flight back to the United States. (4) A C-5 Galaxy takes off from Cam Ranh Bay.



A C-5 Galaxy takes off from Cam Ranh Bay.

around the world and brought to an end more than a decade of direct U.S. involvement in the conflict—was the return of American prisoners of war. Designated Operation Homecoming (see Chapter XXI), it consisted of three major phases: repatriating the prisoners and airlifting them to a processing center at Clark AB, continuing their homecoming journey to the United States, and then getting them to a hospital for a thorough medical examination.

Given the responsibility for airlifting the POW's from North Vietnam, the Military Airlift Command prepositioned several C-141's at Clark. Sparkling from the polishing given them and displaying red crosses on their tall tails, the Starlifters waited for the signal to take off for North Vietnam. Arrangements called for the release of the first 116 prisoners on 12 February, and three C-141's landed at Hanoi's Gia Lam airport one at a time, picked up the POW's, and returned them to Clark. North Vietnam released the remainder of the prisoners in 9 groups ranging in size from 10 to 108. In accordance with the schedules, C-141's picked up the prisoners during a 7-week period, with the last 67 leaving Hanoi on 29 March 1972.

At Clark, the repatriates underwent a medical examination and received individually tailored uniforms complete with appropriate insignia and ribbons. Boarding C-141's once again, they were whisked across the Pacific on the next and longest leg of their return to home and family. Upon their arrival in the continental United States, the returnees boarded C-9 Nightingale aeromedical aircraft and flew to 1 of 23 airfields serving 31 military hospitals nearest their homes. Completed with precision, the airlift portion of Homecoming drew praise for a flawless performance. This included a citation from the National Defense Transportation Association for undoubtedly the most popular airlift in the nation's history.

