

It was the most dangerous of the "Route Packages," taking airmen into the deadly defenses around Hanoi.

Route Pack 6

By Walter J. Boyne

Two F-105Ds from Takhli RTAB, Thailand, pass a KC-135 tanker on their way north to Route Pack 6.

In every war, there is a place that comes to symbolize its most ferocious moments. For airmen in the Vietnam War, it was Route Pack 6, taking the battle to the heart of Hanoi—"going downtown." A relatively small band of US pilots fought a long and valiant war under conditions that rarely made sense to them. Handicapped by onerous—foolish might be the better term—rules of engagement, they nonetheless flew into battle every day, delivering bombs on the most well-defended targets in history. Many brave men died in the process, and more suffered the fate of imprisonment by a cruel enemy.

With its dogleg outline, North Vietnam had a long border with China in the north, Laos in the west, and the Gulf of Tonkin to the east. The long narrow extension to the south—the Republic of Vietnam, or South Vietnam—was separated from the Democratic Republic of Vietnam, or North Vietnam, by a narrow demilitarized zone, a buffer about four miles deep and 47 miles wide. As a result of its geography, North Vietnam was subject to air attack by Navy Carrier Task Force 77 from the east and by the US Air Force from bases in South Vietnam and Thailand.

Rolling Thunder

In February 1965, USAF and the Navy were given approval to begin Rolling Thunder, an operation with goals established by President Lyndon B. Johnson and his Secretary of Defense, Robert S. McNamara. Rolling Thunder had many conceptual flaws, but the most egregious was that of "graduated escalation." The planners called for Rolling Thunder attacks to begin at a relatively low level in southern North Vietnam. If the enemy did not react "properly"—that is, with the realization that the United States was so strong that the idea of conquering South Vietnam had to be given up—the program was to be moved northward and increased incrementally in intensity.

The stated goals of Rolling Thunder were as follows:

- Create a viable state in South Vietnam.
- Prevent an armed conflict with either the Soviet Union or China.
- Allay the concerns of the US public about the air campaign.
- Raise morale in South Vietnam.



As part of Rolling Thunder, F-105s (shown here in protective revetments at Takhli RTAB) and F-4s flew strategic missions into North Vietnam, battling air defense systems and highly maneuverable MiGs.

- Stop the infiltration of men and materiel from North Vietnam to the Viet Cong forces in South Vietnam.

It is worth noting that none of these goals called for the physical destruction of the enemy's capability to wage war.

The Air Force and the Navy found it difficult to conduct joint operations and instead competed for resources and targets. As a result, an Air Force–Navy coordinating team in December 1965 divided North Vietnam into six sectors. The zones were given the name "Route Packages" and were designated as 1, 2, 3, 4, 5, and 6. (See map, p. 58.) The term Route Package was quickly shortened to "RP," "Pack," or "Pak."

In April 1966, Adm. Ulysses S. Grant Sharp, commander in chief of US Pacific Command, added a seventh area by dividing RP 6 into two sections, 6A and 6B. The Navy's Carrier Task Force 77 was assigned RPs 2, 3, 4, and 6B, as these bordered on the Gulf of Tonkin. The Air Force was given responsibility for air operations in RP 1, RP 5, and 6A.

The lines, drawn so precisely at CINCPAC, served reasonably well for planning purposes. However, during actual operations, both USAF and Navy crews crossed them at will in pursuit of their missions. Because RPs 6A and 6B contained targets in Hanoi and Haiphong, respectively, they were the most heavily defended at all times. The other Route Packages were dangerous and consumed

many aircraft and aircrews, but there was no question that Pack 6 was the toughest of all.

Going downtown required the utmost planning, skill, and courage from the American aircrews, and it required it again and again. A combat tour was considered completed when 100 "counters"—missions to North Vietnam—had been flown. By 1966, F-105 pilots commented, "By your 66th mission you'll have been shot down twice and picked up once." For most of the war, the odds against completing a tour of 100 missions ranged from impossible to very high.

The RPs Grow Tougher

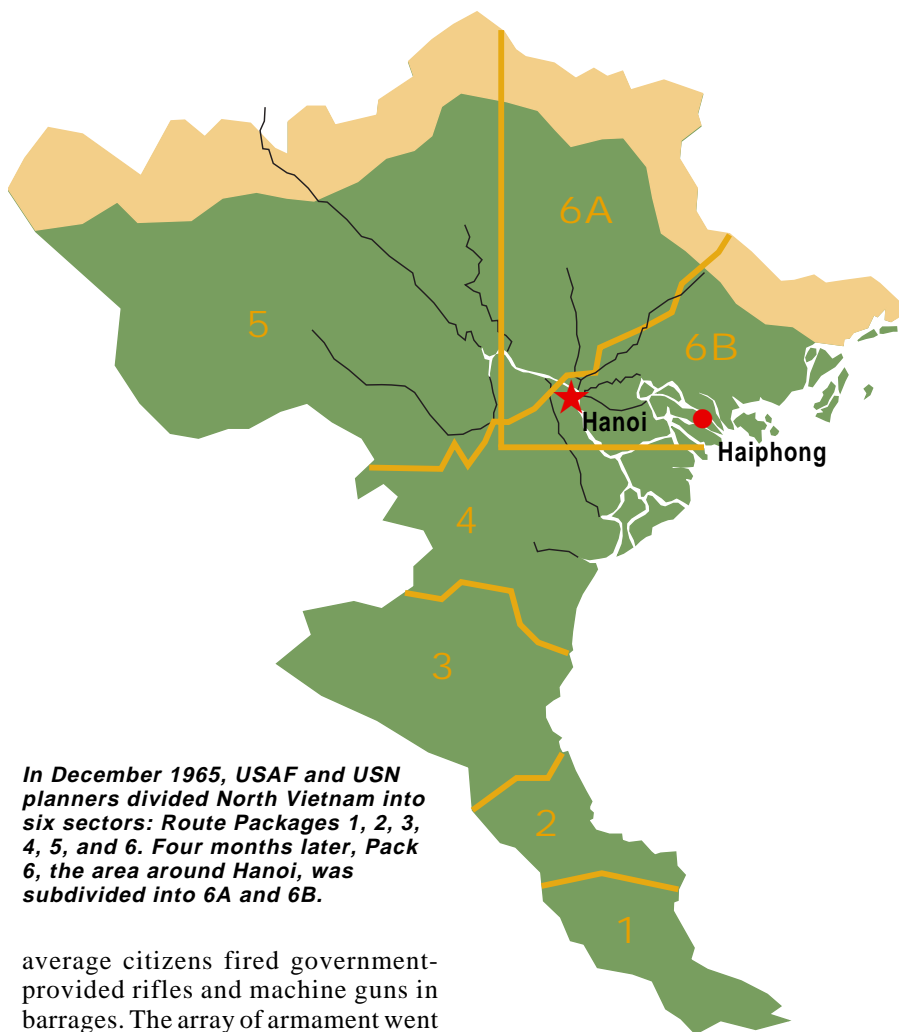
The North Vietnamese were far too serious about their war and far too good as soldiers to be taken in by the unrealistic goals of Rolling Thunder or the policy of graduated escalation. Their reaction was to redouble their efforts and to obtain from both Red China and the USSR much more assistance in the form of advisors and materiel.

In 1964, the aerial defenses of North Vietnam were relatively primitive, consisting of 22 early warning radars, four fire-control radars, and 700 anti-aircraft guns. By the time President Johnson called a bombing halt on Nov. 1, 1968, this had grown into an integrated air defense system comprising 400 radar systems, 8,050 anti-aircraft guns, 150 fighters (including reserves based in China), and 40 SA-2 Guideline missile sites.

The bombing halt would be used to further increase the defenses so that the area around Hanoi and Haiphong became the most heavily defended in the world. In addition, the halt allowed North Vietnam to deploy heavier anti-aircraft guns and Surface-to-Air Missiles much further to the south, particularly along the Ho Chi Minh Trail. At its peak strength, North Vietnam would deploy more than 200 SA-2 launchers, supplemented by much smaller numbers of the more sophisticated SA-3, which was intended for use against fighters.

The growth in numbers and sophistication of the North Vietnamese weapons was more than matched by American technology. Unfortunately the advances in US technology were somewhat offset by the relatively static USAF tactics. This made sorties into North Vietnam far more dangerous than they should have been.

The first leg of the North Vietnamese defense triad was composed of Anti-Aircraft Artillery systems, which grew much more numerous over time. This was especially true of the larger caliber, radar-guided guns. The 37 mm and 57 mm guns were always very good at medium altitudes, sometimes erupting so furiously that they seemed to lay a sudden overcast in the sky. The North Vietnamese anti-aircraft fire was comprehensive. It started with the "People's Air Defense" in which



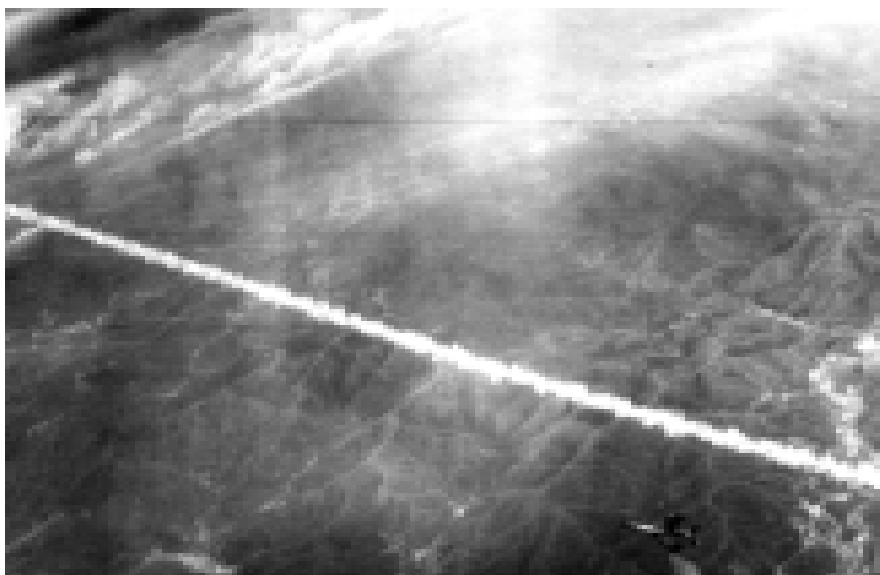
In December 1965, USAF and USN planners divided North Vietnam into six sectors: Route Packages 1, 2, 3, 4, 5, and 6. Four months later, Pack 6, the area around Hanoi, was subdivided into 6A and 6B.

average citizens fired government-provided rifles and machine guns in barrages. The array of armament went on to include heavy machine guns and 20, 23, 37, 40, 57, 80, and 100 mm cannons, covering an altitude range from 1,500 to 45,000 feet. By 1967, North Vietnam was firing

25,000 tons of anti-aircraft ammunition a month, almost all of which was brought either by land transport from China or sea transport from the Soviet Union. Accuracy increased when radar-controlled tracking became common in 1968.

Flying Telephone Poles

The second leg of the triad was the SA-2 Guideline (NATO designation), known to the Soviet Union as the V75 Dvina. In the course of the war the North Vietnamese would fire more than 9,000 SA-2s and shoot down approximately 150 US aircraft with them. Looking like a rocket-powered telephone pole in flight, the SA-2 was 35 feet long but only 20 inches in diameter. It had a top speed of Mach 3.5 and a ceiling of more than 90,000 feet. It could be defeated in flight by a "SAM break" if the aircrew was warned of its approach or happened to see the dust signature of its launch. They would turn into it and maneuver so that the SA-2 was unable to fol-



An F-105 strike camera captured the contrail of a Surface-to-Air Missile as it passes close to another Thunderchief over North Vietnam. During the war, the North Vietnamese fired more than 9,000 SA-2s, taking down about 150 US aircraft.

low, stalling to fall out of control or break up in flight. The SA-2's high-flying capabilities forced the US aircraft to fly at lower altitudes where the anti-aircraft fire was heavier. Introduction of better Electronic Countermeasures and the use of "Wild Weasel" air defense suppression teams kept the SAM kill rate down. The SAM's kill rate fell from its initial 20 percent level to about 1.8 percent by 1968.

The third leg of the enemy triad comprised the MiG fighters—old but effective MiG-17s and -19s and the modern delta-wing MiG-21s. The MiGs operated under strict guidance from a central ground control. They were all equipped with cannons, and the MiG-21 had Atoll heat-seeking missiles as well.

USAF fought the war under severe handicaps. Political constraints had brought about an inversion of tactics in which the B-52 strategic bomber was dedicated to tactical operations in South Vietnam, while the two tactical fighters, the F-4 Phantom and the F-105 Thunderchief, were tasked with strategic bombing in North Vietnam. Neither fighter had been designed for this mission, the Phantom being originally designed as a Navy fleet defense fighter and the "Thud" as a USAF tactical nuclear bomber.

The fighters were handicapped by the limitations of their radar-guided AIM-7 Sparrow and heat-seeking AIM-9 Sidewinder missile armament, neither of which had been designed for fighter vs. fighter combat. The great advantage conferred by the Sparrow, its ability to engage the enemy from any angle at up to 12 miles, was nullified by a rule of engagement which called for visual identification of the enemy before firing. The Sidewinder could be fired from up to one mile, but only from the rear, in a 30-degree cone that led to the engine's heat. Both missiles were limited by their reaction to g forces, and both required a set up time that was difficult to effect in air combat.

The F-105 had a 20 mm multibarrel cannon that could be used for close-in fighting. The Phantom did not get a cannon until SUU-16/A cannon pods were fitted as external stores in 1967. The cannon pods were not as accurate as the internal gun of the F-105, and some felt that it was a net



An airman measures the tail of a missile that protrudes from the aft end of an F-105 that its pilot managed to bring back from a Rolling Thunder mission. This Thunderchief received a new tail section and returned to action.

disadvantage, as it induced drag and displaced other stores. Some also thought it might induce the Phantom pilot to attempt to dogfight with the more maneuverable MiGs—not good practice. Later, the F-4E arrived, modified to carry an M-61A1 rotary 20 mm cannon internally.

The F-105 was the fastest aircraft in the theater at the low altitudes at which its missions were flown, but it was not maneuverable. The F-4 had to use its speed and energy to offset the MiG's greater maneuverability by fighting in the vertical plane.

Measures, Countermeasures

The air war over North Vietnam saw the advantage swing from one side to another. Washington permitted this because of its fixation on limiting the war and sending signals to North Vietnam. If they had had the political will to do so, they could have had sufficient airstrikes to crush North Vietnam from 1965 on—a fact demonstrated in the December 1972 Linebacker II attacks.

For their part, the North Vietnamese worked as hard and as effectively as they could to use the ever-growing assistance of China and the Soviet Union. China was particularly pleased with a war that placed two of its enemies in conflict, for it had no love for North Vietnam, either.

Aerial combat started inauspiciously for the United States when MiG-17s attacked and shot down one

F-105 and damaged another on April 3, 1965. The demands of flying safety had greatly degraded fighter pilot training in the pre-Vietnam War years. Many F-105 pilots lacked realistic air combat maneuver training. It seemed incredible that an obsolete 700 mph derivative of the Korean War-vintage MiG-15 could defeat modern Mach 2.1 cannon armed fighters, yet such was the case. The smaller MiGs had an advantage at low speeds and higher altitudes, while the F-105s and F-4s were superior at higher speeds and lower altitudes. The MiG-17's two 23 mm and one 37 mm cannon were slow firing and had ammunition for only about five seconds of action, but each heavy shell constituted a potential "golden BB" for any aircraft it hit. Fortunately for the US, the MiG sighting system was inferior and it was a poor gun platform. Offsetting this was its dazzling maneuverability and its ability to turn in an amazingly short radius.

Maximum performance of US aircraft was found in the energy maneuverability concept, in which their powerful engines were used to obtain advantages in altitude, airspeed, or both. This enabled the US fighter to fight in a vertical plane, using excess energy to climb, turn, or accelerate as required. It was a demanding tactic, however, requiring experience on the part of the US pilot and, in addition, good vision, for at the speeds and altitudes at

which they were operating, the MiGs could disappear in an instant.

The task of the US force was to get bombs or missiles on designated targets; shooting down MiGs was a secondary goal. F-4s would fly missions equipped with both bombs and missiles. If no combat ensued, bombs were put on target. If the MiGs warranted an attack, the bombs were jettisoned and the MiGs engaged.

In a similar way, the MiGs were not primarily interested in gaining aerial victories; they could achieve their objective by simply making the fighter-bombers jettison their bombs, and for this the threat of an attack was sometimes enough.

The North Vietnamese advantage in radar grew as the war progressed and was not matched by the United States until 1972, when sufficient airborne warning and control aircraft became available at last. Curious, but typical of the war, was the fact that one of the duties of the EC-121s was to report US violations of the Chinese buffer zones. Pilots sometimes turned off their identification, friend or foe system to have a better chance of not being identified and reported by their own people.

Rivals Among Thuds

To offset the inherent advantages of the North Vietnamese defenses, USAF began to operate in far more complex formations. The F-105s operated out of Thailand, with the 355th Tactical Fighter Wing based

at Takhli RTAB and the 388th at Korat RTAB. Oddly enough, the two F-105 wings evolved different tactics and styles of fighting. The 388th generally flew at higher altitudes while the 355th typically came in low. The two units were true rivals, and each one claimed that its method was the best.

Two-seat F-105Fs served as Wild Weasel aircraft out of both Takhli and Korat, using the AGM-45 Shrike anti-radar missile. The Shrike carried a receiver tuned to known enemy radar frequencies; when it picked up a transmission, the missile could be fired and would track on the enemy radar.

The fighter-bombers were supported primarily by F-4s from the 8th TFW operating out of Ubon RTAB and to a lesser degree by F-4s based in South Vietnam. Combat operations were further augmented by EB-66 aircraft also based at Takhli. The EB-66s would gather real-time intelligence and do standoff jamming. They usually operated in orbits that were outside of SAM range and protected by a MiG combat air patrol of F-4s. One EB-66, piloted by Capt. John Fer, was shot down by MiGs; he became a prisoner of war.

KC-135 tankers were absolutely essential to all operations, and a series of tanker orbits were established along the Thai-Laos border and in the Gulf of Tonkin. Both valuable and vulnerable, the KC-135 aircrews had strict orders not to venture close

to North Vietnam, but, as the war progressed, they often went in to meet returning fighters that were critically short on fuel. Doing so laid their careers on the line, for they were controlled by Strategic Air Command, and a violation of orders, no matter how worthy the result, could get a crew fired on the spot.

The large and complex formations of many different kinds of aircraft required detailed planning, immense logistic effort, and sometimes no little subterfuge, as in Operation Bolo on Jan. 2, 1967. In Bolo, the 8th TFW tailored its F-4s electronically to fly as a simulated F-105 strike, then flew the routes and altitudes used by the Thuds. The ruse successfully provoked a response by MiG-21s, and seven of the enemy were shot down in the most successful single action of its type in the war.

The technological developments of the war often caused some surprising results. Electronic reconnaissance pods had been introduced as early as 1966, but when the SAM threat seemed to be at a peak and rising, an additional effort was put into Electronic Countermeasures. Although they were in short supply initially, the QRC-160 ECM pod became more readily available. When flown in the specified formation (four aircraft flying with a 1,500-foot lateral separation and vertical separation of 500 to 1,000 feet) the QRC-160 pods' jamming patterns overlapped and were very effective against the SA-2's Fan Song radar and AAA radars.

North Vietnam responded to the success of the QRC-160 pods by introducing more MiG-21 fighters, equipped with the Atoll heat-seeking missile, a knockoff of the AIM-9. The Atoll was effective when used with new tactics. In these, the MiGs would approach low and from behind a US formation, pop up and fire an Atoll, then break off for the sanctuary of their home base. The home bases, incidentally, were for most of the war off-limits to US attack.

Going Downtown

The geography of North Vietnam and the establishment of sanctuary and off-limits areas combined to limit the number of approaches to the targets available to US aircraft. This was compounded by the tendency of US high-level planners to repeat the use of the same times, routes, and

Photo by Bave Brog



Use of two-seat F-105Fs in the "Wild Weasel" air defense suppression role kept the SAM kill rate down. These two still have AGM-45 Shrike anti-radar missiles on board.

altitudes for the attacks. As a result, North Vietnam was able to concentrate its formidable defenses in the most effective manner, including the installation of anti-aircraft and SAM sites in areas known to be off-limits to the Americans.

There was much to defend, for 80 percent of the enemy's war materiel arrived by two rail lines that ran from China to Hanoi, while a similar percentage of the materiel for North Vietnam's civilian economy came through the port of Haiphong.

Going downtown has been eloquently and vividly described by some of the pilots who did so—Jack Broughton, Mark Berent, Ken Bell, G.I. Basel, and Robin Olds, an ace from World War II and Korea who also flew fighters in Vietnam. Olds has said that none of his missions over Germany in World War II were as bad as any one of his missions over Hanoi during the Vietnam War.

As the commander of the 8th TFW, Olds selected a "first team" from his veterans to go into Route Pack 6. Less experienced pilots were given 10 or more missions in less dangerous regions, such as Pack 1, before being allowed to go to Hanoi. Over time it came to be a generally accepted practice that the first 10 missions would be given in "easy" areas, and so would be the last 10, for by the time a pilot had flown 90 missions North he was approaching his limits of stress.

The extreme difficulty of the Pack 6 mission is more obvious when one analyzes just how inherently hazardous any combat mission was. Just taking off in a heavily loaded aircraft on a typical hot Southeast Asia day was dangerous in itself, as were the multiple in-flight refuelings. Missions to the other Route Packages and to Laos became increasingly hazardous. North Vietnam continually moved Anti-Aircraft Artillery south, particularly along the Ho Chi Minh Trail, and a careless pilot could easily and quickly become a dead pilot.

Yet Pack 6 was of another order of magnitude of danger. From the long, hot flight from Thailand to Thud Ridge, the karst mountain outcrop



Photo by Ken Smith via Warren Thompson

On RP 6 missions, F-4 Phantoms would fly with both bombs and missiles, although shooting down MiGs took second place to bombs on target. In Operation Bolo, F-4s, electronically disguised as F-105s, shot down seven MiG-21s.

northwest of Hanoi, to the short, flak-filled flight into the center of Hanoi, and back out again, the Thuds and Phantoms were exposed to a constant barrage of anti-aircraft fire, SAMs, and, when their opportunity arose, MiGs.

No Good End

The flight had to be performed with cohesion, so that ECM coverage was maintained, but with sufficient flexibility to be able to detect either SAMs or MiGs. The moment of truth came with a headlong plunge into the sea of flak so that ordinary iron bombs could hit a target that was often picked in the Oval Office and which might have been of doubtful value. In the process the pilot might see a comrade hit by flak or a SAM and then watch anxiously for the parachute. Sadly, a bailout over Hanoi had no good ending. It featured one or more of the following: injury, death, captivity, torture.

There was little time to relax on the flight back if the aircraft had suffered battle damage or was running low on fuel. Even after a final refueling there was often the prospect of thunderstorms to penetrate before a final landing.

Broughton has noted that, despite

the stress and the hazards of Pack 6, it was a letdown to be "fragged" for one of the easier zones and even worse if a mission to Pack 6 was scrubbed and you were diverted to a target in the easy packs. There was not so much an addiction to danger as an addiction to the sense of pride of doing a near-impossible job well.

In Linebacker II, joint operations were conducted and the rules of engagement were relaxed to permit simultaneous attacks on airfields. There was adequate ground controlled intercept support from EC-121s and ships. New ECM were applied, including the use of the old standby, chaff. New F-4E Phantoms made their appearance. The B-52s were used in force although the initial tactics of their employment were inadequate and had to be changed. Pressure was kept on night and day, with precision guided munitions hitting many targets previously held off-limits. SAM sites were destroyed, as were SAM stockpiles.

In short, the last trip to Pack 6, Linebacker II, was a signal that North Vietnam could understand. Disarmed, defeated, and unable to resist further attacks, North Vietnam returned to the peace table in Paris and agreed to the terms that would allow the United States to at last disengage from the Vietnam War. The same net result could have been done easily and with less exposure to danger eight years and more than 47,000 lives earlier. ■

Walter J. Boyne, former director of the National Air and Space Museum in Washington, is a retired Air Force colonel and author. He has written more than 400 articles about aviation topics and 29 books, the most recent of which is Beyond the Horizons: The Lockheed Story. His most recent article for Air Force Magazine, "Reconnaissance on the Wing," appeared in the October 1999 issue.