The U.S. Army Air Forces in World War II

Conquering the Night Army Air Forces Night Fighters at War

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The author traces the AAF's development of aerial night fighting, including technology, training, and tactical operations in the North African, European, Pacific, and Asian theaters of war. In this effort the United States never wanted for recruits in what was, from start to finish, an all-volunteer night fighting force.

[1] Editor: This history of AAF Nightfighters was obtained as a .pdf file on February 25, 2001, from the site: www.airforcehistory.hq.af.mil/online/mfarland.pdf
The original is a 48 page book, unfortunately the online version does not include the photos. The text is repeated in this treatise on the 417th NFS to provide the reader with answers to many of the broader questions about the how and why of night fighting as practiced by the AAF in WWII. Many of the families of the men in the 417th will find many interesting facts about the experiences of their loved one, such as the fact that night-fighting was an all-volunteer program.

Cut short the night; use some of it for the day's business.
—Seneca

For combatants, a constant in warfare through the ages has been the sanctuary of night, a refuge from the terror of the day's armed struggle.

On the other hand, darkness has offered protection for operations made too dangerous by daylight. Combat has also extended into the twilight as day has seemed to provide too little time for the destruction demanded in modern mass warfare.

In World War II the United States Army Air Forces (AAF) flew nighttime missions to counter enemy activities under cover of darkness. Allied air forces had established air superiority over the battlefield and behind their own lines, and so Axis air forces had to exploit the night's protection for their attacks on Allied installations. AAF night fighters sought to deny the enemy use of the night for these attacks. Also, by 1944 Allied daylight air superiority made Axis forces maneuver and resupply at night, by air, land, and sea. U.S. night fighters sought to disrupt these activities as an extension of daylight interdiction and harassment efforts. The AAF would seek to deny the enemy the night, while capitalizing on the night in support of daylight operations.

Airmen Claim the Night Skies

Airmen did not wait long to exploit what writer George Sterling called the "star-usurping battlements of night." Aviation pioneers flew their fragile aircraft into the gloom, in search of the camouflage of darkness and in pursuit of enemy aircraft seeking the same edge. In 1909, Wilbur Wright and Army 2d Lt. Frederick E. Humphreys became the first Americans to fly at night, orbiting College Park, Maryland, in Signal Corps Airplane No.1 for forty-two minutes and drawing a large crowd from Baltimore and Washington. The genesis of aerial night fighting, however, came in World War I from a Germany desperate to break through the morass of trench warfare on the Western Front. The Germans sent bombers to England to carry the war to the home front—behind the armies in the field.

The first true night fighter aircraft were British, struggling to hunt down German Zeppelins lurking in the night skies over England in 1915.

These slow behemoths were sitting ducks in daylight, so they were used primarily after dark. For six months British airmen struggled to find the Zeppelins and shoot them down. This effort exposed several problems: once notified, how to ascend and reach the enemy's altitude before he flew out of range; how to find the enemy in a darkened sky; and, finally, how to knock him down. Technology soon provided answers, allowing R. A. J. Warneford to use aerial bombs to claim the first Zeppelin in June 1915.

British night defenses exacted an increasing toll, claiming 79 of the 123 airships Germany built for the war.

The enemy then switched from Zeppelins to a bomber airplane offensive against England. At first striking by day, German Gothas and Giants soon sought the night's protection from British defenses. What airmen lost in bombing accuracy by flying at night they more than made up in safety against enemy defenses. The night assault caught the public's imagination, but caused no serious damage. British planes performed well against German bombers protected by machine guns and the dark; in fact, the night

itself proved the greater danger. In nineteen night raids, the defense, guided by radio intercepts, ground observers, searchlights, and blind luck, claimed twenty-four invading bombers, while thirty-six others were destroyed in unrelated crashes. Together, German bombers and airships claimed about 1,400 dead on the ground and nearly 3,400 injured, enough to threaten the British sense of pride and breach the insular protection previously afforded by the English Channel. Though the German aerial offensive hardly threatened the British war effort, it did force a diversion of eight hundred British fighters from the Western Front, where they were sorely needed. Though primitive, this first "Battle of Britain" set the stage for the aerial night fighting in the next war.

Conquering the Night through Research Because of inadequate funding and official disinterest, night fighting became the responsibility of regular U.S. tactical squadrons during the interwar years. These units had enough problems preparing for day war, much less confronting the obstacles of darkness. Yet, despite minimal budgets, pioneering airmen still strove to conquer the night by developing blind-flying techniques, primarily at the Army Air Service's Engineering Division at McCook Field, and later at the Army Air Corps' Materiel Division at Wright Field, both near Dayton, Ohio. The research of 1st Lts. Muir S. Fairchild and Clayton Bissell in the 1920s showed that night operations required a specifically designed aircraft with great speed and maneuverability and an unobstructed view for the pilot. Test flights revealed that pilots became disoriented when they lost sight of the ground and the horizon. Human senses contradicted aircraft instruments, while vertigo magnified a pilot's confusion. The biggest problems were how to land and navigate at night. U.S. airmen tested electric landing lights and flares without success, though the tests did reveal the need for illuminated instruments and flame dampers for engine exhausts.

In 1928 Edwin Link's ground trainer made practicing for night missions safer and less expensive, but did not solve the basic problem of flying into inky blackness. Intrepid airmen such as 1st Lts. James Doolittle and Albert Hegenberger attacked the problem of blind takeoffs and landings in what the New York Times called the "greatest single step forward in [aerial] safety." Newly invented illuminated instruments—a specially designed artificial horizon, directional gyroscope, turn indicator, radio beacon, and barometric altimeter (developed by the Pioneer, Kollsman, and Taylor Instrument Companies, the Sperry Gyroscope Company, and Bell and Radio Frequencies Laboratories)—allowed Doolittle and Hegenberger to make blind flights from 1929 to 1932 that opened the night skies to military operations. At the end of this critical period, 1st Lt. Carl Crane published the first U.S. treatise on night flying, Blind Flying in Theory and Practice (1932). Soon the homing beacon indicator and radio compass made possible night navigation, and flying the air mail across the country during the 1930s gave Army airmen practical experience in flying at night. Late in the decade, U.S. bomber squadrons were practicing occasional night missions, including mock interceptions in which fighter (pursuit) aircraft were guided by searchlights on the ground.

Obvious to aviators was the seemingly insurmountable obstacle of finding another airplane in the vast emptiness of the night sky. If the opposing crew took basic precautions to "black-out" their aircraft, the optimal range of an intercepting pilot's vision declined to 750 feet or less, though on especially clear nights with strong moonlight three-mile visibility was possible. Night fighters needed assistance from the ground to bring them within visual range of their targets. Until 1938 this help came from searchlight crews lucky enough to illuminate an intruding aircraft and from acoustical locators using conical horns to focus incoming sound. There were also vain attempts to detect radio

waves emitted by the spark plugs of aircraft engines or infrared radiation from engine exhaust gases. Tests at Fort MacArthur, California, in 1937 and in Hawaii in 1940 proved the futility of such efforts.

All this development seemed to make no difference. A new generation of bombers such as the Martin B–10 could fly higher, faster, and farther than any fighter in the world, convincing a whole generation of Americans to agree with erstwhile British prime minister Stanley Baldwin that "the bomber will always get through," whether day or night. On its test flight the Boeing B–17 Flying Fortress set a world record, flying 2,270 nonstop miles at 252 miles per hour. Many airmen believed fighter aircraft could never intercept and shoot down such bombers in broad daylight, let alone at night. Since bombers could strike by day without peril, there would be no need for night missions and no need for a night-fighting capability.

Only when the Second World War revealed these new bombers to be vulnerable to attack during the day and unable to "always get through" did the need for night fighters again become clear.

In the United States, air doctrine reinforced a disregard for night operations.

At the Air Corps Tactical School, first at Langley Field, Virginia, and then at Maxwell Field, Alabama, the faculty developed daylight high-altitude precision strategic bombing and advocated this concept as the offensive doctrine of the U.S. Army Air Corps. Large fleets of fast, well-armed bombers would attack key chokepoints in an enemy's industrial fabric by day—the most rapid, efficient, and least bloody means for defeating the enemies of the United States. The revolution in bomber technology represented by the four-engine B–17 made axiomatic the belief that no defenses could stop such an attack. Brig. Gen. Oscar Westover expressed the conviction of most U.S. airmen when he declared that "no known agency can frustrate the accomplishment of a bombardment mission." Norden and Sperry optical bombsights could locate precise industrial targets from four or five miles up under the proper conditions, but only during the day and in the absence of high winds and excessive cloud cover.

This strategic bombing doctrine and its advocates overwhelmed any airmen still concerned with defense and fighter operations, and encouraged the building of an air force committed to daylight bombing operations.

Thus, the Materiel Division redirected its research in blind and night flying to the problems of aiming bombs through overcast. Defensive strategies reflected this emphasis on daylight precision bombing, and more defensive minded airmen began to focus on the problems of daylight interception.

Even the conflicts of the interwar period, including the Spanish Civil War, gave U.S. airmen no persuasive reasons to alter their thinking.

Night Fighters in the European War

The Battle of Britain in 1940 was a rude awakening. At first, German aircraft struck at England by day and night, the few night missions scheduled only because Luftwaffe Commander Hermann Göring wanted an all-out, around-the-clock, effort. After losing nearly 1,700 aircraft in three months to British defenses by day, however, Göring switched his bombing attacks to the night in October 1940. This change in strategy also

coincided with his decision to target British morale, better attacked in the uncertainty of night, with lighter losses.

Unfortunately, the British were woefully unprepared, with only eight squadrons of obsolescent night fighters (Defiants and Blenheims). Royal Air Force (RAF) pilots had to rely on newly developed long-range ground radar for warning and assistance with interception. This radar system, however, had been built with day missions in mind. Ground controllers could get day fighters to within five or ten miles of the bomber formations, where the pilots' eyes took over. At night, directions to within five or ten miles of the target meant that the pilots might as well have stayed on the ground. The results were devastating: over Coventry on the night of 14/15 November 1940, 165 RAF sorties failed to bring down any of the 437 attacking Nazi bombers.

By 1941 the British had discovered how to use German navigation radio beams to determine where enemy bombers would attack. When this technology was combined with radars mounted in the intercepting aircraft, nighttime defenders began to claim an increasing number of enemy bombers. Still, in the last mass raid of the Blitz, hundreds of night fighter sorties resulted in only seven of the 507 attacking bombers shot down. In May 1941 Hitler began shifting Luftwaffe units to the east preparatory to the assault on the Soviet Union. The British had won the Night Blitz, not because of the success of their night fighters, but because of the Führer's capriciousness. German losses to British night defenses and to all other causes during the Night Blitz never exceeded four percent.

U.S. officers sent to England to observe the Battle of Britain experienced the terror of night bombing and learned the lessons of night fighting firsthand. Col. Carl A. Spaatz, future head of the U.S. bombing campaign against Germany, reported the need for a night fighter aircraft high on the list of requirements for building a U.S. combat air force. In later talks, British and U.S. officials agreed that the United Kingdom would assume primary responsibility for night defense, with the RAF to produce 4,380 night fighters and the United States 1,687.

Spaatz and other U.S. observers returned to the States with lessons learned by the British: crews needed special qualifications; night fighting required special training; muzzle flashes and tracers could blind the night pilot; and ground control of intercepting aircraft by radar and radio was essential to success. But the most important lesson was that groping around in darkness looking for a moving airplane would most likely end in failure.

Radar Illuminates the Night

Key to opening the black sanctuary that shielded night bombers was the development of radar, both ground-based and units carried aloft in aircraft. The sixteenth-century English dramatist John Lyly could write that the "night hath a thousand eyes," but until radar, aircrews knew that night interception was the product of luck rather than any number of eyes.

Though the properties of radio waves had been known and understood since the late nineteenth century, not until 1922 did the United States Navy begin active research into radio detecting and ranging. (Radar—a Navy term—was adopted officially in 1940.) Successful experiments with aircraft soon attracted Army interest. The key development for World War II night fighters was the accidental discovery by Lawrance A. Hyland in 1930 that radio waves reflecting off an aircraft in flight, previously believed too small to

measure, actually could be collected and gauged. By 1936 Americans were testing pulse radars, allowing a transmitter to receive its own signals bounced off an airplane in flight, for measuring distances.

The U.S. Army began deploying ground radars in 1940, but the large amounts of electrical power needed to generate the radio waves (in wavelengths of one to three meters) and the size of the antennas precluded their use in aircraft. The technology also suffered from antennas being fixed in a stationary position. Aircraft flying through the resulting directional radio beam created a temporary blip on a cathode ray scope that disappeared once the aircraft had overflown the beam. The sweeping hand of a rotating radar beam was unknown at the time.

Under the threat of aerial attack from the continent, Britain made a considerable investment in the new technology. Robert Watson-Watt of the National Physical Laboratory and Hugh Dowding of the RAF constructed a belt of fixed warning radars able to detect incoming aircraft at over one hundred miles. Like U.S. radars, they required enormous towers (up to three hundred feet) and power consumption equal to that of a small town. These early warning radars provided range, altitude, and bearing data, allowing the Ground Control of Interception (GCI) radar controller to vector a night fighter by radio to within several miles of a target. At that point another means of detection had to be used. Meanwhile, under the codename MAGIC MIRRORS, British researchers strove to develop a radar set small enough to fit into an aircraft but with minimal power demands.

By August 1937 a handmade, experimental model was ready. The Mark I Airborne Interception Radar entered combat in September 1939, searching the North Sea for minelaying seaplanes at night. It had restricted range and suffered from excessive interference on the radar scope from ground returns. The Mark II and III versions showed little improvement.

Then in November 1940, after three years of development, the new Mark IV airborne radar, mounted in twin-engine Beaufighters and Douglas Bostons, was ready to operate in Britain's night skies. Unfortunately, ground returns on the Mark IV, which used 1.5 meter wavelengths, created target-obscuring clutter on the radar scope to the distance the aircraft was above the ground. Also, returns were too vague to make accurate determinations. At this point, radar was still more art than science. Nevertheless, Mark IV-directed night fighters achieved their first victory in November 1940 and went on to claim 102 victories out of 200 airborne radar contacts during the Night Blitz over England from March to June 1941. Despite this success, the Mark IV's limitations underscored the importance that luck still claimed in night fighting.

The technological solution to these problems involved centimetric or microwave radar (wavelengths below 10 centimeters). These narrow beams were inherently more accurate and also minimized ground interference without requiring huge antennas. The answer to the problem of the large electrical demands of microwave radar came from the British team of John T. Randall and Henry A. H. Boot, who developed a resonance cavity magnetron to produce the necessary power. In September 1940, more than a year before the United States entered the war, the British Tizard Mission shared its radar achievements with the U.S. National Defense Research Committee (NDRC)—an unselfish display of good faith. Though Americans had made great progress in many areas of radar, they lacked the magnetron breakthrough necessary to power microwave

airborne radar. The NDRC established Division 14 in October 1940 to produce a U.S. 10-centimeter radar, under the direction of the newly established Radiation Laboratory at the Massachusetts Institute of Technology (MIT) in Boston.

The U.S. commitment of resources to this project soon surpassed the small British development program. By March 1941 an MIT microwave airborne radar was flying in an Air Corps bomber and detecting aircraft at slant ranges up to eight miles. At first, wartime demands forced the Western Electric Company to produce the SCR–540 as a 1.5-meter radar set (equivalent to the British Mark IV), but soon the contractor converted to the 10-centimeter SCR–520 (British Mark VII), powered by one hundred kilowatts from Randall and Boot's magnetron. Though heavier than the 540 by six hundred pounds, the SCR–520 provided a more refined target and suffered less from ground reflections. Meanwhile, the serious U–boat threat in the North Atlantic diverted most initial production of the airborne radar from aerial night fighting to antisubmarine operations. By late 1942, technology advanced even further, as MIT, Western Electric, and Bell Telephone Laboratories introduced the 10- centimeter SCR–720 (British designation Mark VIII and X), a system with a 6.5 mile range and generally invulnerable to enemy jamming.

Armed with airborne radar and assisted by ground-based systems, U.S. night fighters could now penetrate the darkness that offered sanctuary to enemy night bombers. The next requirement was an aircraft with sufficient speed and firepower to catch Axis enemy planes and knock them from the sky.

Developing a True Night Fighter

The United States, comfortable in the knowledge that British airmen would carry the brunt of night combat for the time being, could afford to develop its night fighters slowly, under peacetime priorities. Wartime priorities, on the other hand, forced the British to take a fast, off-the-shelf U.S. attack bomber, the Douglas A–20 Boston, and convert it to a night fighter equipped with the Mark IV airborne radar.

For the long-term, the Air Corps wanted a specially designed night fighter, built according to Muir Fairchild's guidance from the early 1920s.

The original request for proposals called for a "Night Interceptor Pursuit Airplane." In response to a proposal from Northrop, the Army Air Corps ordered two XP–61 prototypes in January 1941 for $1,367,000. Hungry for its first night fighter, the Air Corps ordered thirteen YP–61s two months later for service testing. The prototype was an all-metal, twin-engine, three-place monoplane with twin tail booms and a fully retractable tricycle landing gear. Its revolutionary slotted flaps and perforated spoilers allowed it to close on a target very quickly—up to 362 miles per hour (P–61A version)—and then to decelerate rapidly to only 70 miles per hour so as not to overshoot the target. Nicknamed the Black Widow, the P–61 had many teething problems, which prevented the first prototype from flying until May 1942, a service test model until February 1943, and a production model until October 1943. The Black Widow made its public debut in January 1944 during a mysterious night flyover of the Los Angeles Coliseum, rapidly appearing out of the dark like some gigantic bat, and then just as strangely disappearing, with only the roar of its engines testifying that it had flown over the surprised crowd at a halftime celebration.

The P–61's long-delayed development forced the AAF to seek an interim solution. Since the British had been converting Douglas Boston attack bombers to night fighters since 1940, it seemed logical to fill the gap left by the "Night Interceptor Pursuit Airplane" project with the night version of the Boston, known as the Havoc. The RAF had also fitted some Havocs with a powerful searchlight to illuminate enemy aircraft and allow accompanying Hurricane day fighters to attack. Renamed the Turbinlite, these aircraft proved ineffective because the searchlight blinded everyone in the area, friend and foe alike.

In October 1941 U.S. airmen installed in Douglas Boston attack bombers their version of the Mark IV airborne radar, initially the handmade AI–10 and later the manufactured SCR–540. Thus modified and redesignated the P–70, sixty of these aircraft became available at Douglas's Santa Monica plant when supercharged engines needed for the bomber version could not be allocated. Armed with four 20-mm cannons and airborne radar, the P–70 could carry up to two thousand pounds of bombs on night bomber missions. However, the absence of superchargers and therefore a diminished high-altitude capability guaranteed their failure as night fighters. The desperate need for anything that would fly at night none-the-less warranted orders for 65 more combat versions and 105 trainers. By September 1942, 59 P–70s were ready for combat, with about half going to training schools at Orlando, Florida, and the other half to operational units defending the Panama Canal (24th Fighter Squadron) and Hawaii (6th Fighter Squadron).

Meanwhile, the P–61 Black Widow faced mounting technical problems: aerodynamically-induced tail-buffeting, a move of the cannons from the wings to the belly, a requirement for additional fuel capacity, Plexiglas nose cones that melted in the sun, and delays in receiving remotely controlled gun turrets (in demand for the B–29) slowed production even more. Labor problems and material shortages also contributed to delays at Northrop's Hawthorne, California, plant, which built only 34 in 1943, 449 in 1944, and 199 in 1945. Only 100 Black Widows were overseas by D–Day, June 6, 1944.

But what a technical marvel! Two 2,000 horsepower Pratt & Whitney Double Wasp engines powered the P–61, two-speed General Electric turbosuperchargers[2] boosted performance at altitude, and four 20-mm cannons and four .50-caliber machine guns provided killing power. Though the Black Widow was designed for a crew of three (pilot, radar operator [R/O], and gunner), the gunner sometimes did not fly in combat because the remote-controlled gun turret was either deleted or fired by the pilot.

Armor plates protected the crew from machine gun fire. The pilot could use 5.8 power night binoculars mounted in the cockpit and connected to the optical gunsight. Four illuminated dots on the gunsight allowed the pilot to determine the enemy's range. The R/O sat backwards, unable to see what lay ahead, his eyes trained on the radar scope between his knees.

The P–61 was perhaps the first "stealth" technology to fly for the United States. Following tests at the National Defense Research Committee, Northrop painted the night fighter glossy black to help it hide in darkened skies by reflecting light away rather than down to the ground. Baptized the Black Widow, certainly one of the most apropos

[2] Production P-61s were not equipped with turbosuperchargers, rather these models of the P&W R-2800 had two-speed gear driven superchargers built by P&W--Editor.

nicknames ever, the P–61 (including the version with water injection) could fly up to 370 miles per hour in level flight at 30,000 feet, reach an altitude of 41,000 feet, and climb to 20,000 feet in 8.5 minutes. Fully loaded, it weighed only as much as an empty B–17 Flying Fortress. The seven hundred Black Widows built were, by any terms, the most sophisticated and advanced piston engine-powered, propeller-driven aircraft of the war.

All this performance came with a high price tag. With Northrop's assembly line in full gear, a completely equipped P–61 cost $180,000 in 1943 dollars, three times the cost of a P–38 fighter and twice the price of a C–47 transport. But, unconcerned with cost, the men who flew the Widow loved it. According to one, it was "fun to fly" and especially suited for its role of flying by instruments because of its stability. The P–61 pilot manual said: "When the Black Widow takes to the night sky, sticking her long nose into whatever trouble lies there, she is hard to see, hard to hit, and hard to beat." Its full-span landing flaps and retractable ailerons afforded great maneuverability. Some pilots believed the plane needed more speed, but what fighter pilot has not asked for greater speed? Others criticized the multiple ribs in its canopy that obstructed vision. Still, any aircraft that could bring down an Me 410 flying 375 miles per hour at 24,000 feet and a Ju 52 flying 90 miles per hour at 1,000 feet in the darkness of midnight was obviously a successful fighter.

The Germans soon learned what the Black Widow could do and endeavored to collect one. Pilot 1st Lt. Paul A. Smith and R/O 1st Lt. Robert E. Tierney followed a bogey (enemy aircraft) to the ground, the German plane playing a game of tag, always staying safely ahead of the P–61, but never attempting to lose it either. After nearly thirty minutes of chase, Smith and Tierney found themselves at low altitude flying through a "killing field" of light German antiaircraft guns supported by searchlights.

Having lost their port engine, the 422d Night Fighter Squadron (NFS) crew nursed the damaged Black Widow back to their home base. Though the P–61 bore eighty-seven holes, the Germans were unable to claim their prize.

AAF Col. Phineas K. Morrill laid the groundwork for a major controversy in September 1943, when he requested that all of the night fighter squadrons trained by his 481st Night Fighter Operational Training Group be equipped with twin-engine British Mosquitoes rather than American P–70s or P–61s. The proposal received little attention until June 1944, when Maj. Gen. Hoyt S. Vandenberg, Deputy Commander in Chief of Allied Expeditionary Air Force in Europe, added his weight to Morrill's request.

Considering that "neither the P–61 nor the P–70 type aircraft are suitable night fighters ... and that little success can be expected," Vandenberg wanted U.S. night fighter squadrons to switch to British-provided Mosquitoes.

To resolve the controversy, Lt. Gen. Carl A. Spaatz, Commander of United States Strategic Air Forces in Europe, ordered a July 5, 1944, fly-off at Hurn, England, pitting the P–61 directly against Vandenberg's choice, the British Mosquito. Lt. Col. Winston W. Kratz, director of night fighter training in the United States, bet $500 that the Mosquito could outperform the Widow. According to the 422d NFS historian, the competing P–61, "tweaked" to get maximum performance, proved faster at all altitudes, "outturned the Mossie at every altitude and by a big margin and far surpassed the Mossie in rate of climb." All in all, the historian noted, "a most enjoyable afternoon—Kratz paid off." The official report concluded that the "P–61 can out-climb the Mosquito due to the ability of

the P–61 to operate indefinitely at military power without overheating," critical to closing on a bogey.

Despite this impressive performance, the Black Widow lacked the speed advantage necessary to intercept some high-flying enemy bombers.

At Leyte in the Pacific, chagrined Army pilots had to ask for help from single-engine Marine F6F–3N Hellcats to stop nightly Japanese high-altitude intruders. The AAF had tested its own single-engine and single-crew night fighters in 1944 over France, sending two P–51s and two P–38s on twenty-one sorties with a RAF night squadron. Their lack of success, at a cost of one P–38, prematurely ended the AAF's experiment with single-engine or single-crew night fighters. U.S. airmen were convinced that such aircraft should be twin-engined and carry more than a single crewman—the P–61 Black Widow would have to do the job.

Training for War

To fly these night fighters, the United States needed a different breed of aviator. So difficult and dangerous was the assignment that the AAF relied on volunteers only. Yet the mission was so exciting that there were always plenty of volunteers. One wartime ace, Robert F. "Shorty" Graham, described night flying as "an indescribable experience, with its stars, moon, and cloud valleys," that helped offset the dangers. In addition to having the basic flying skills, the night pilot had to master twin-engine flying, night formation flying, night gunnery, night recognition, night navigation, ground control radar, and blind landings. The enormity of this task, compounded by a shortage of training aircraft and instructor pilots, delayed the formation of the first specifically planned U.S. night fighter squadron, the 414th, until January 1943. Priorities were never high because the same British squadrons that had helped to defeat the German Night Blitz over England were still available to fight for night air superiority in support of the Allied cause.

Back in the United States, the AAF assigned the V Interceptor Command initial responsibility for night training. En route to the Philippines in 1941 when the Japanese launched their invasion, Col. Willis R. Taylor's command was ordered back to Orlando, Florida, to train personnel for defense wings. Taylor put Maj. Donald B. Brummel in charge of the 81st Fighter Squadron. With no trained instructor pilots or R/Os, no aircraft, no radar, and no communications equipment, the 81st in July 1942 faced the monumental challenge of training sufficient crews to man seventeen night fighter squadrons within twelve months.

Night training began in July 1942 at the Fighter Command School, Night Fighter Division, AAF School of Applied Tactics in Orlando.

Brummel had a core of U.S. veterans who had served with the British in the Battle of Britain and soon dispatched five more of his original officers to train in the United Kingdom. Equipped with three B–17s, one B–18, and twenty-two P–70s, the school did not get Beechcraft AT–11s for airborne radar training and P–61s for combat training until March and November 1943, respectively. Three squadrons directed night training: the 348th at Orlando (initial training and instrument flying), the 349th at Kissimmee Field (transitional training), and the 420th at Dunnellon Field (operational training). As more training aircraft became available, the 424th Flying Training Squadron also assumed responsibility for operational training.

Aircraft shortages kept flying training, in one graduate's opinion, "very rudimentary." Though a squadron commander, Maj. Oris B. Johnson got only six flights in a P–61 before being sent overseas. The School of Applied Tactics ordered the 348th Squadron to fly 5,925 training hours in February 1943, but with only eleven operational aircraft, each aircraft had to fly twelve hours out of every twenty-four—an impossible task. To make matters worse, one of the eleven P–70s was being used to test a new radar, and two were flyable but unusable because of radar failure.

To recruit students, Brummel searched the various flying schools in the United States, looking for pilots with twin-engine training and especially for those with experience in night takeoffs and landings. In 1942 the requirements included a minimum of six months' service as a rated pilot, moderate night vision, skill in instrument flying, "extreme stability of temperament," knowledge of squadron administration, and ability to command.

Maj. Gen. William Kepner, commanding all fighters supporting strategic bomber operations from England in 1943 and 1944, wrote the commander of IV Fighter Command, in charge of the night fighter training fields: Night fighter pilots must be picked for their ability to operate at night and that means able to use a lot of instruments, and of course they must be fed and prepared physically to have good eyesight at night. You must have a willingness to fly alone long distances at high altitude with low temperatures.

In other words they should combine all the aggressive and dogged fighting characteristics with a somewhat phlegmatic disposition that bores in like a bulldog without any other idea than getting the job done. Their courage and resourcefulness will have to exceed, if possible, all that any pilot has ever had before. This is some guy and you have to produce him.

Twenty-seven volunteers from the 50th Fighter Group were the first to answer the call, heading to Williams Field in Arizona for transition training before departing for Florida in August 1942. Simultaneously, two dozen volunteer R/Os entered Airborne Radar School at Boca Raton, Florida. Once this original cadre filled the training program, the Florida schools began accepting volunteers at the end of basic flying training.

Trainees had to complete twin-engine flying training and Training Command's B–25 transition school before beginning night fighter training.

Training consisted of two phases; night flying and night fighting. First came 78 daylight flying hours and 137 hours of ground school, followed by 76 flying hours and 30 hours of ground school in night fighting.

Subjects included instruments, airborne radar, night navigation, meteorology, aircraft recognition, searchlight coordination, and airborne radar-ground control radar coordination. Lacking real nighttime combat experience, the AAF created a training program that was ad hoc from the beginning. In all, the night fighter crew would receive 93 hours of instrument flying, 90 hours in a Link trainer, 15 hours of night interceptions, and 10 ground control radar intercepts. Remarkably, no provision was made in the curriculum for night intruder attack tactics until late July 1943, when an RAF pilot with sixteen night victories introduced the tactics to the U.S. training program.

Having established four training squadrons and activated ten night fighter squadrons in Florida, the AAF ordered the entire night fighter training program to California in January 1944, to be headquartered at Hammer Field near Fresno. The Air Staff had decided that the School of Applied Tactics should not be in the training business, though the ground control radar training program would remain at Orlando. Under the overall supervision of Fourth Air Force and the 481st Night Fighter Operational Training Group, commanded by Lt. Col. William R. Yancey, night crews were organized into Overseas Training Units and entered three phases of training. Phase One consisted of familiarization training at Bakersfield Municipal Airport. Phase Two, designed to weld pilots and R/Os into teams, along with instruction in day and night interception, was conducted at Hammer Field. Phase Three advanced training, including intensive night flying practice, took place at Salinas Field. Each phase lasted approximately one month. Finally, after two more months of organizational training at Santa Ana Field, the night fighter squadrons were ready for transfer overseas.

The 481st graduated three units shortly before D–Day—the 423d NFS in March and the 425th NFS and 426th NFS in May 1944. Then the AAF made another change in the training program. In May the 319th Wing under Col. Ralph A. Snavely replaced the 481st, with the 450th and 451st AAF Base Units supplanting the training squadrons. The director of operations, responsible for day-to-day training, was Lt. Col. Winston W. Kratz. Under Snavely, the 319th Wing completed training for five new Night Fighter Squadrons: the 427th, 547th, 548th, 549th, and 550th.

Training itself was intense and hazardous. The AAF claimed the accident rate “never reached alarming proportions,” but admitted “it was serious enough to demand the constant attention it received.” One R/O, 2d Lt. Robert F. Graham of the 422d NFS, said he flew six to eight hours each night in a strenuous program that he believed prepared him for the rigors of combat. And preparing for combat meant flying under combat conditions, which meant young men were going to die. Missing from the program was any training in night intruder interdiction flying, not added until March 1945 and then only two hours’ worth.

In April 1943, the 414th, 415th, 416th, and 417th Night Fighter Squadrons, the first units to complete the training, received their orders to deploy overseas. The squadron commanders complained that the men had not received enough flying time and had no experience in the Beaufighter, which they were told they would be flying in combat. The war, however, would not wait.

Forth to Battle

The first U.S. night fighter unit was the 1st Pursuit Squadron (Night), formed from the 15th Bombardment Group (Light) in March 1942 after AAF Commanding General Henry H. (Hap) Arnold’s representative in England asked for a fighter unit, to be equipped with British-provided Turbinlite aircraft. Having arrived in England in May 1942, the 1st Squadron soon reverted to the 15th Bomb Group (Light) because of the failure of British Turbinlite operations. The 15th went on to launch the United States’ first bombing strike against German targets on July 4, 1942, flying borrowed British Boston IIIs—by day.

Meanwhile, the 414th and 415th NFS became the first graduates of the hastily organized training program at Orlando, having flown P–70s and Link trainers. After their transfer to England in late March 1943, the squadrons gained additional training from experienced British units.

While there, they practiced night flying in Blenheims left over from the Battle of Britain before converting to Beaufighters and giving up the P–70s in which they had trained in the States. The P–70 proved too slow in climbing to operational altitudes (45 minutes to 22,000 feet) and performed poorly at high altitudes. Several veteran U.S. pilots already flying with the RAF joined the 414th and 415th before they moved to North Africa for combat in July 1943. Two new squadrons from Orlando, the 416th and 417th, then replaced the 414th and 415th in England.

Plans for Operation TORCH, the invasion of North Africa, gave shipping priority to offensive aircraft, delaying the arrival of night fighter units. After Lt. Gen. Dwight D. Eisenhower reported that he was “gravely concerned” about the lack of night protection, veteran British units were rushed in to fill the void. Only two days after arriving on the scene, British Beaufighters made their nighttime presence felt, downing eleven out of thirteen attacking Luftwaffe bombers. In part, British success could be attributed to the advanced microwave Mark VIII airborne radar, which did not suffer from the range limitations of the Mark IV/SCR–540 airborne radars that equipped U.S. Beaufighters. Over the next few months, more British night squadrons were deployed to North Africa before the first U.S. squadron, the 414th, arrived in June 1943. The 415th NFS joined these American pioneers during the summer.

Temperatures of 130 degrees in the shade and a constant shortage of replacement parts were only two of the obstacles ground crews faced in keeping the Beaufighters flying. Friendly fire from jittery Allied ground gunners increased the dangers of night flying. Yet, relying primarily on British ground control radar, U.S. crews soon began to score aerial victories, with the first one credited to Pilot Capt. Nathaniel H. Lindsay and R/O Flight Officer Austin G. Petry of the 415th NFS on July 24, 1943.

Unfortunately, excessive ground clutter displayed on the Mark IV airborne radars held the 414th and 415th’s Beaufighters to four kills by the end of the North African campaign. The 416th and 417th squadrons eventually joined Twelfth Air Force, but flew unproductive convoy and harbor patrols. The 417th’s opportunity came on October 22, 1943, when ground control radar vectored the newest U.S. night fighter squadron to twenty German aircraft, but the Beaufighters’ Mark IV airborne radars proved unable to maintain contact.

Critical to a successful intercept were two factors: speed and ground control radar. 2d Lt. Daniel L. McGuire, a veteran of seventy-five combat missions, explained that ground control radar was useful up to only about sixty miles from the transmitter site. Because the antiaircraft artillery zone defending the site had a radius of fifteen miles, night fighters had only the forty-five miles outside the ground fire zone to the limit of ground control radar range to locate, track, and down an intruder. At speeds of 250 miles per hour, the pursuers had only ten minutes to do their deadly job. It took nearly that long to reach operational altitudes, so there could be no scrambling of fighters once an enemy appeared on the ground control radar screen. Night pursuit aircraft would have to be at altitude, orbiting and waiting, when a bogey appeared.

The ground control radar station used a cathode ray tube designated a Plan Position Indicator to plot the paths of aircraft within radar range. Aircraft appeared on the tube as little blips of light, with identification friend or foe (IFF) radio transmissions identifying the night fighter that the ground control radar operator, or fighter controller, was trying to

vector to an interception point. Using VHF radio, the controller directed the night fighter to a point several miles to the rear of the intruder. (A serious limitation of the system was that each ground control radar could control only one night fighter at a time.) Once the airborne R/O made contact with the enemy on his radar set, he directed the pilot to a location where visual contact could be made, at which point the pilot took over. Visual contact was needed to aim the guns and to insure visual recognition of the target, as required by the rules of engagement. Until then, it was a matter of blind faith, with the pilot relying on the R/O behind him to direct an intercept.

Though the pilot usually had a radar screen in the cockpit, he dared not look at it for fear of ruining his night vision. Surprise was essential. An enemy using evasive maneuvers was difficult to shoot down. Surprise an enemy at two or three hundred feet "and open fire with four 20-mm cannons," according to 2d Lt. Robert F. Graham, "and that was it." Obviously, teamwork was critical. The ground control radar fighter controller could see things the airborne crew could not. The rule in most squadrons was "no night fighter unit is any better than its control." Pilot and R/O combined two pairs of eyes, each having a separate responsibility.

The pilot had to make smooth consistent turns, whether hard or gentle, or the R/O, with his eyes focused on a small scope, would become confused.

According to the wartime commander of the 422d NFS, Maj. Gen. Oris B. Johnson (Ret.), there was no fear of collision, no use of intuition, and no flying by the seat of your pants. Johnson and his R/O, Capt. James "Pop" Montgomery, flew together from August 1942 until the end of the war. They became so much a team that Johnson could always tell when Montgomery had made airborne radar contact because "he began to breathe hard." Proof of the importance of teamwork was a mission in which Montgomery kept Johnson on the tail of a bogey for fifteen minutes, though the pilot never made visual contact. Johnson's oxygen mask had pulled loose, blurring his vision. The team as a whole was greater than the mere sum of its two parts.

Ground control radar technology alone could not provide accurate altitude directions, so the night fighter had to check out various altitudes, making speed essential for intercepting an intruder before he reached the antiaircraft artillery fire zone. On the other hand, airborne radar was dependable at a distance of several miles. If the night fighter approached too fast, it would probably overshoot the target, requiring the use of speed brakes at about four thousand feet from the target. Too slow an approach and the target might enter the ground fire zone or move beyond airborne radar range. Stateside training taught that the proper technique was for the pursuer to synchronize his speed with the target's speed and close slowly, but pilots in combat soon discovered that such a tactic took too long and too often allowed the target to escape.

Another stateside lesson involved using exhaust flame patterns to identify the targeted aircraft. One pilot who received such "extensive training" in flame pattern recognition techniques reported that after eighteen months of combat operations in Europe, he had never seen the exhaust of a German plane that was not entirely blacked out by flame dampeners.

This training technique was not a total waste, however, because if a suspect aircraft did show exhaust flames, it was usually American. The best method for identifying the target, according to combat returnees, was to silhouette it against the sky from below

and identify it by shape and size. A bonus of this technique was invisibility, because if the enemy was using radar, he would be blind to an approach from below.

A night fighter pilot followed his R/O's directions to get within visual distance, usually 750 feet or less. Some veterans learned that if they could not make visual contact, a trick of the trade was to fire the aircraft's cannons blindly, hoping the bogey would open fire, revealing his presence.

As one pilot reported, "the practice is admittedly risky but at times has proven effective." The riskiest practice, however, was following an intercept into the antiaircraft artillery zones—enemy or Allied. To a man, night fighter combat veterans agreed that the biggest threat they faced was Allied ground fire. Having the ground control radar fighter controller also in charge of antiaircraft artillery fire helped, but friction between the ground artillery and airmen usually prevented any effective cooperation.

During the invasion of Italy in September 1943, the four U.S. night fighter squadrons began to reequip with the SCR–720 airborne microwave radar, though security concerns restricted it from use over enemy-held territory, and it was not released for general use until May 1944. The new radars raised morale but did not bring better hunting.

417th NFS crews did not get their first SCR–720 kill, a Ju 88 downed while on convoy duty, until early February 1944. The continuing lack of opportunities encouraged the 417th's historian to write "at last" when the squadron racked up its next aerial victory in late March. Victories were hard to come by, especially because the RAF did most of the night flying.

Over Anzio the 415th claimed only two confirmed kills in three months of operations. Its crews reported they were "fired on by friendly flak more than by enemy flak." In April 1944 the 416th NFS replaced the 415th because their Beaufighter Mark VIII airborne radar sets proved less susceptible to the window/chaff German pilots had begun using in large quantities.

The 416th NFS did little better than the 415th, despite the advanced radar, because of a lack of aerial targets. In 542 missions from January 28 to May 25, 1944, including two months over Anzio, the 416th achieved only thirty-three airborne radar contacts, resulting in two kills.

All four U.S. night fighter squadrons found poor hunting in the Mediterranean theater. Night after night the Beaufighter-equipped 417th NFS, newly arrived at Corsica, rose and found the skies empty, except for one unlucky German off Spain in March. On the night of May 12/13, 1944, however, the Luftwaffe launched a heavy strike against Allied bases at Alesan and Poretta, Corsica, damaging or destroying over one hundred B–25s on the ground and killing or seriously wounding ninety-one personnel.

The attacking He 177s proved too fast for the 417th's Beaufighters, which claimed only one probable kill. The 414th, 415th, and 417th flew night cover for the invasion of southern France, but again the major threat they faced was trigger-happy Allied gunners on the ground. With Allied troops ashore, the 414th and 417th returned to intruder work in Italy, while the 415th flew night cover for the American Seventh Army's drive north through France.

Even when the night fighters found targets and hit them, the results were not always guaranteed. On May 14, 1944, the 416th NFS ordered Capt. Harris B. Cargill and R/O Flight Officer Freddie C. Kight into the air at 0335 hours to intercept a German intruder. Kight needed twenty-five minutes of ground control radar guidance before locating the bogey on his airborne radar. Identification friend or foe transmissions identified the target as an enemy aircraft, which then initiated evasive maneuvers and dropped window/chaff. Still, the rules of engagement required visual identification. Fifteen minutes of maneuvering brought Cargill into visual contact four hundred feet from the target. Two hundred rounds of 20-mm and 1,260 of .50-caliber fire forced the Ju 88 into a violent dive toward the ground. In night combat, however, especially with clouds, verification of a kill was tough. The bogey disappeared from ground control radar and airborne radar screens, and ground troops reported seeing a German aircraft flying very low before it "disappeared towards water." The Victory Credit Board refused to grant Cargill and Kight a victory.

Posterity will never know exactly how many aircraft were shot down by U.S. night fighters. Theirs was a lonely war. Claims had to be substantiated, which was usually not possible at night. A ground control radar operator could help, confirming that a bogey disappeared from his screen at the time claimed by the night fighter crews. R/O 1st Lt. Robert E. Tierney of the 422d NFS remembered his pilot, 1st Lt. Paul A. Smith, radioing "Murder! Murder! Murder! Give me a fix!" to his ground control radar fighter controller after a kill. Smith then climbed to a higher altitude, orbiting the spot of the victory, so the controller could plot the location. The next day a reconnaissance aircraft would fly to the plotted position, if one were available, and attempt to photograph the downed enemy plane. But Tierney, Smith, and the rest of the night fighter crews were in a war that could not be stopped to tally victory credits.

Britain's decision to stop building Beaufighters after January 1, 1944, condemned many U.S. night fighter pilots in the Mediterranean theater to flying war-weary aircraft that were already three years old by 1944. The 414th got P–61s and the 416th Mosquitoes in late 1944, while the 415th and 417th soldiered on with the venerable Beaufighter (some of which had fought in the Battle of Britain), though the latter had the highest accident rates in the theater. Nevertheless, with RAF units, U.S. night fighters forced the Luftwaffe into single aircraft "nuisance" raids during the Italian campaign. Flying at low altitudes to hide their presence from airborne or ground radars and using radar jamming and window/chaff to confuse Allied ground control radars, the occasional German reconnaissance flight offered no aerial threat to Allied operations.

By mid-1944 Allied daylight air superiority had so weakened the Luftwaffe that it was forced into mostly night operations. U.S. night fighter squadrons flew missions to stop these nocturnal ventures, yet the vast majority of radar contacts proved to be Allied aircraft. In the words of the men searching for German bogeys, "none seemed anxious to press the attack." Anxious to contribute to victory, the night fighters had to find a new way to wage war. The British had initiated just such a new mission for night fighters back in June 1940.

Night intruder missions were the brainchild of Flight Lt. Karel M. Kuttelwascher, a Czech pilot who had escaped to France in 1939. Committed to attacking Nazis, he found defensive patrols too passive. Initially he proposed using night fighters in a counterair role, striking against enemy night air power at its source—German airfields. On an early mission, Kuttelwascher shot down three German bombers in five minutes. Then, on

another sortie, he claimed eight bombers that crashed because his presence prevented them from landing and refueling. Emulating their Czech comrade, RAF night crews, flying U.S.-built Bostons, endeavored to shoot down German bombers returning to their bases after missions against England, just as the crews turned on their landing lights. British intruders also began strafing trains on their return flights to England.

Pouncing on the unsuspecting victim so close to home, where the enemy felt most secure, had a dramatic effect on Luftwaffe morale. Many of these British nighttime missions also supported Bomber Command operations, attempting to suppress German night fighters as they rose to intercept the bomber streams.

In 1944 U.S. units expanded on this role of night intrusion. If the enemy would not come up and expose himself to aerial combat, AAF night fighters would follow the British lead and attack him at his airfields.

Moreover, when German ground forces used the cover of darkness for maneuvering and resupplying to avoid the overwhelming Allied air superiority in the day, the night fighters attempted to harass them in the starlit skies. These operations often differed from British intruder missions in that the U.S. night fighters performed armed reconnaissance, flying over enemy territory during darkness with no preplanned targets, in search of targets of opportunity: troop movements, motor transport, shipping, and railroads. These missions were flown in conjunction with day interdiction efforts in order to isolate enemy forces on the battlefield twenty-four hours a day.

Meanwhile, Operation STRANGLE called for interdicting the flow of supplies to Nazi forces in Italy. Its success during the day forced the enemy to travel at night. Night fighters were thrown into the breach, according to a squadron historian, to bridge “the gap so that the destruction of the enemy air force, the isolation of the battle field, and support of the ground forces, might be put on a 24 hour basis.” Air leaders divided northern Italy into fifty-mile squares, with an aircraft orbiting each square, to be relieved by other aircraft throughout the night. At its peak, this night effort included four A–20 squadrons from the 47th Bombardment Group and the three night fighter squadrons in Italy, the 414th, 416th, and 417th, flying the venerable British Beaufighters. Unfortunately, the operation’s success was difficult to measure. Except for crew reports, these forces lacked the ability to evaluate their effectiveness. Since Germany continued to resupply its troops in Italy by night, despite the most extensive use of interdiction of the entire war, apparently the effort failed, whatever price the night intruders exacted.

Artillery spotting was another job performed by night fighter crews. Flying over enemy lines, they looked for muzzle flashes. After dropping flares on a suspected position, the airmen would descend and attempt to identify the target. When a crew spotted an artillery position, they would radio a gun-laying radar behind American lines, which would mark the aircraft’s position at that moment before directing an artillery barrage to the suspected enemy position.

In eighteen months of operations, using the ground and airborne radar-visual recognition technique of night interception, the four U.S. night fighter squadrons in the Mediterranean flew 4,937 sorties, received credit for downing thirty-five enemy aircraft, and in the process lost forty-eight of their own from all causes. These night fighters helped harry enemy aircraft, broke up raids, and lessened German night bombing accuracy. Their successes boosted Allied morale at the expense of Nazi morale. The

official AAF history of the squadrons' activities reported that "their contributions, both toward the outcome of the actual battle and in the experience gained and lessons learned, were invaluable and greatly aided the ultimate Allied victory." U.S. night fighter squadrons set the tone and provided lessons for future U.S. night aerial activities: avoid bright lights, keep the windscreen spotless and unscratched, turn cockpit lights off, use oxygen from the ground up (combat experience showed an increase in night vision of 40 percent at 16,000 feet with the continuous use of oxygen), and use the corners of the eyes for the best night vision. The Mediterranean Allied Coastal Air Force believed "it does not suffice simply to practice them [these rules] spasmodically: one must live them constantly if one is to live constantly." The official history of U.S. night fighter operations in the Mediterranean Theater concluded that "in terms of destruction alone they [the night fighters] had hardly justified their existence. On the other hand, their existence was one of the reasons they had few opportunities to destroy enemy planes." D-Day and Beyond The first U.S. night fighter squadron sent to England to prepare for the cross-channel invasion was the 422d, which arrived in February 1944.

The 422d was also the first to be equipped with the Northrop P–61 Black Widow. Led by Oris B. Johnson, the squadron grew out of the cadre of the 348th Training Squadron at Orlando. At twenty-three, Johnson was "the old man"—the oldest officer in the squadron at the time—and its first commanding officer. Given the priority of the European theater throughout the war, the 422d operated with the best available radars: the SCR–720 airborne radar, microwave ground control radar, and the first ground control approach radar in Europe. Eventually, the 423d NFS joined the 422d in England, only to be converted to night reconnaissance (and redesignated the 155th Night Photographic Reconnaissance Squadron).

Training first with the 425th NFS, and later the 415th NFS, which came up through southern France, the 422d night fighters flew against subsonic German V–1 cruise missiles in flight, the 422d claiming five and the 425th four of the German "buzz bombs." Over the Normandy beaches and hedgerows, these U.S. squadrons, joined by six RAF night fighter squadrons, provided night protection for Allied armies in their drive into France. Moving to the continent in July, the 422d NFS was assigned to the IX Tactical Air Command (First Army), the 425th NFS to the XIX Tactical Air Command (Third Army), and the 415th NFS to the Seventh Army. Because the 425th helped protect the flank of Patton's Third Army on its end run blitz across France, it flew primarily intruder missions. In September and October, for example, it claimed no aerial victories. The 422d, meanwhile, racked up an enviable record, starting its record of night kills on August 7, 1944, when Pilot 1st Lt. Raymond A. Anderson and R/O 2d Lt. John U. Morris, Jr., collected the first night credit of the European Theater of Operations. Proving how deadly the Black Widow could be, from October to December 1944 the 422d claimed to have shot down twenty-four of the fifty-one bogeys it identified as enemy aircraft. In December alone, primarily during the Battle of the Bulge, Johnson's crews claimed sixteen kills on thirty-eight visual contacts. The 425th joined in with eight aerial victories.

On the continent, U.S. night fighter squadrons worked with the most advanced ground control radar system available. The AN/CPS–1 microwave early warning radar had a range limited only by the horizon. Operating at 10-centimeters, it provided accurate range and azimuth information to the fighter controller who directed P–61s to their targets.

Aerial victories were nonetheless hard to come by. The 422d NFS experienced the best hunting. From September to November 1944, its crews undertook 461 ground control radar chases, resulting in 282 airborne radar contacts and 174 visual sightings. But of these sightings, only 20 were identified as enemy aircraft and 7 were shot down. Seven out of 20 in three months' combat was a prodigious nighttime accomplishment, but it did not represent a major contribution to the war effort.

With few interceptions, U.S. night fighters in northern Europe, like their counterparts in Italy, turned to night intruder missions. In the last three months of 1944, the 422d strafed 8 locomotives and 318 railroad cars. Patton's Third Army was making a breakthrough at Metz in mid-November, forcing the Germans into retreat and jamming the roads behind enemy lines. Accurate accounts of the destruction were impossible, but the 425th's Black Widows created havoc and intensified the rout. During the Battle of the Bulge, the night fighters of the 422d and 425th Squadrons were the only U.S. aircraft able to fly at night and in bad weather in support of the beleaguered 101st Airborne Division defending Bastogne—thus demonstrating the potential of all-weather aircraft. The 422d and 425th claimed 115 trucks, 3 locomotives, and 16 railroad cars.

Night fighter pilots did not need moonlight to strike, only a cloud ceiling of at least 1,500 feet. A 422d ace, 2nd Lt. Robert F. Graham, remembered that they "had little trouble in going most any place at any time" because of their instruments and the quality of their instrument training. Only a shortage of aircraft and parts for the radar equipment prevented the night fighters from adding to their successes in the Ardennes.

Aerial hunting also improved for the 422d NFS during December's Battle of the Bulge, when crews found forty-one enemy aircraft and downed sixteen. The pilot-R/O team of 1st Lt. Robert G. Bolinder and 2d Lt. Robert F. Graham shot down three planes—an FW 190, Me 110, and He 111—during one mission on December 16—enemy aircraft Graham remembered as "staying up past their bedtime." 1st Lts. Paul A. Smith and Robert E. Tierney became the first U.S. night aces the day after Christmas, shooting down two Ju 188s. That night also saw other squadron members shoot down three more German aircraft. In January and February 1945, the hunting again turned sour, as the 422d claimed one of only four enemy aircraft identified. Then, during the Battle of the Ruhr Pocket in March and April, the Luftwaffe attempted to airlift supplies to the surrounded troops at night, and Allied night fighters were called on again to clear the skies of enemy aircraft. With the U.S. microwave ground control radar covering the entire area, the P–61s scored fourteen kills, mostly Ju 52 transports. Pilot 1st Lt. Eugene D. Axtell got his fourth and fifth victories on April 11, becoming an ace during this campaign. Axtell's credits were just two of the seven the 422d racked up that night—the best night for U.S. night fighters of the war.

A favorite tactic for night intrusion beginning in 1945 was to drop fuel tanks filled with napalm. The liquid bombs did not have to hit the target directly, and the resulting blaze illuminated the area for follow-up strafing. The P–61s also carried high-velocity aircraft rockets (HVARs), high-explosive bombs, and incendiary bombs. Such varied armament was necessary because the few night fighters involved in night interdiction had to magnify their capabilities.

Many pilots, to be sure, avoided night flying because of the inherent danger associated with minimum visibility. Surprisingly, however, the intruder missions by night fighter squadrons proved remarkably safer than day fighter-bomber attacks. The 425th NFS

flew 1,162 intruder missions from October 1944 to May 1945, losing six aircraft—a loss rate of only 0.5 percent. The protection darkness provided more than compensated for the dangers of night flying. Nevertheless, as 422d NFS Commander Oris B. Johnson said, “intruding was a real adventure.” One of his R/Os, Robert F. Graham, judged such missions “hairy” because of the many “immovable objects” such as radio antenna masts lurking in the dark.

Altogether, the 422d NFS flew 1,576 sorties in France and Germany, with official credit for 48 German aircraft destroyed (including 5 V–1s), 5 probably destroyed, and 5 damaged. Its crews also claimed to have damaged or destroyed 448 trucks, 50 locomotives, and 476 railroad cars. Six of the nine American night aces of the war came from the 422d: Pilots Paul A. Smith, Herman E. Ernst, and Eugene D. Axtell and R/Os Robert E. Tierney, Edward H. Kopsel, and Robert F. Graham, each with five kills. A distinguished unit citation testified to the squadron’s success. The 425th NFS tallied 14 more kills (including 4 V–1s), with 1 probable and 2 damaged.

These 62 claimed kills pale in comparison before the more than 20,000 aerial victories Americans claimed in the daylight against Germany, but the two night fighter squadrons claimed that 55 percent of their airborne radar contacts resulted in visual contacts and 68 percent of these were shot down. The Black Widows were not always successful, but they could be as deadly as their namesakes.

A serious constraint on night fighter action in the European war was the shortage of replacement aircraft and parts. Ground or airborne radars required frequent repair and were only as good as the supplies of replacement parts allowed. More successful units, according to the 422d NFS historian, learned to make deals for their spare parts “outside any supply procurement channels.” Scroungers were worth their weight in gold. The 422d received only one replacement P–61 in five months of combat operations, leaving only four of its sixteen aircraft operational during the Battle of the Bulge, when weather prohibited all but night fighters from flying. The 422d’s commander felt fortunate to have a supply sergeant with a penchant for “stumbling on” caches of spare parts, especially radar tubes, and a maintenance chief with a degree in electrical engineering from Texas A&M University. Crews were plentiful, but they had to share and fly the same aircraft up to four separate missions each night. As they contributed to victory in northwest Europe, U.S. night fighters fought the enemy, Allied antiaircraft artillery, and even their own supply organizations.

Against the Rising Sun

American forces in the Pacific and Asia did not have the advantage of an ally like the British with extensive experience and advanced equipment to carry the night defense load until U.S. units were trained and equipped for battle. The Japanese army and navy air forces dominated the day skies in 1941 and 1942, however, and had no need to seek the night’s protection.

Only when the United States seized daylight air superiority after January 1943 did Japanese night missions become the rule. To cope with this growing problem, until the specially trained night fighter squadrons were ready, the AAF redesignated the Hawaii-based 6th Pursuit Squadron a night fighter unit. While the core of the unit remained in Hawaii to defend U.S. installations, in February 1943 one detachment deployed to Port Moresby, New Guinea, and another to Guadalcanal with six P–70s each to help ground

forces struggling to defend those areas against enemy attacks. The crew members of these units had no formal night training.

Equipped with SCR–540 airborne radar (equivalent to the British Mark IV) and lacking superchargers, these first U.S. night fighters performed poorly. Most Japanese bombers flew above twenty thousand feet, while P–70s struggled to reach that altitude and operated best under ten thousand feet. Initially, the Americans lacked ground control radar, relying only on vague reports of penetrating aircraft from coastwatchers.

Crews had to develop the techniques of ground controllers and antiaircraft artillery coordination in combat. Against these obstacles, Pilot Capt. Earl C. Bennett and R/O TSgt. Raymond P. Mooney of Detachment B on Guadalcanal claimed the first U.S. radar-directed (using the SCR–540, Mark IV airborne radar) night kill on April 19, 1943, though searchlights illuminated the enemy aircraft until radar contact had been made. Pilot 1st Lt. Burnell W. Adams and R/O Flight Officer Paul DiLabbio claimed the only kill for Detachment A at New Guinea in May. Although three squadrons eventually flew P–70s in the Pacific theater, they claimed only two victims. Eventually, the P–70s were withdrawn from night combat altogether and used for attacks on shipping.

To make up for the technical shortcomings of the P–70, the 6th NFS acquired a few P–38 day fighters with the speed and altitude to intercept enemy aircraft. Loitering at thirty thousand feet over Guadalcanal, the P–38s had to wait for ground-based searchlights to illuminate enemy bombers. This reliance on searchlights limited them to one night kill in May 1943. Later attempts to free the P–38s from this dependence by equipping them with Navy AN/APS–4 airborne radars ultimately failed because of the excessive workload imposed on the lone pilot.

The initial experience of the United States with night fighters in the Pacific was not stellar. On March 20/21, 1943, Detachment B's P–70s failed to stop Japanese night bombers from damaging fifteen of the 307th Bomb Group's B–24s and five of the 5th Bomb Group's B–17s on the ground at Guadalcanal. Eight months later, in November, enemy night bombers sank one and damaged three Allied ships at Bougainville. The AAF concluded from this initial experiment in night fighting that "it proved impossible to prevent the Japanese from inflicting some damage" on U.S. ground and surface forces. In November 1943, the AAF ordered the newly formed 419th NFS to Guadalcanal to rectify the situation.

Equipped with ground control radar, but lacking aircraft, the 419th absorbed Detachment B of the 6th NFS. Demoralized by flying worn-out aircraft, the new squadron flew only three night patrols, six scrambles, four intruder missions, and four daylight sorties by the end of the year, claiming no enemy aircraft at a cost of five aircraft and four dead crewmen. It was hardly an auspicious beginning for Pacific-based U.S. night fighters.

The 419th NFS, like all U.S. night fighter units sent to the Pacific, suffered from the low priorities of the Pacific war. The ten night fighter squadrons that fought there had to make do with obsolescent ground radars, including the 3-meter SCR–270 and 1.5-meter SCR–527, as the Microwave Early Warning radar did not appear in the Pacific theater until late in the war. Even this vintage equipment was too few in number, as priority went to European operations. Spare parts, difficult to find in Europe, proved impossible to secure in the Pacific. Also, the terrain of Pacific battlefields sometimes interfered with

night fighter operations, allowing Japanese intruders to sneak in, shielded by mountains and hills.

Ground radars were both susceptible to severe echoing from ground returns and easily jammed. Optimally, they had to be located in a flat area at least one-half mile in diameter—difficult to find on the Pacific islands. Erecting radars near the shore provided some relief.

Inexperienced radar operators only made matters worse. In January 1944, for example, the 418th NFS's fighter controller scrambled a P–70 to intercept a bogey, which was in fact another P–70 already on patrol against Japanese intruders. Ground control then vectored the patrolling P–70 to intercept the one just launched. While orchestrating a merry chase, the inexperienced controller directed both P–70s into a U.S. antiaircraft artillery zone, where they received heavy ground fire. Fortunately no one was hurt, though important lessons were learned about proper air-ground control and communication.

Many of the enemy sorties U.S. night fighters had to defend against most often were not coordinated raids, but individual attacks by "Bed-Check Charlie"—a nickname given to all such single flights, which seemed to come at the same time each night. More nuisance than threat, the attacks nevertheless affected morale and had to be stopped. Many chroniclers of combat in World War II write with near reverence for these solitary visitors, even recording remorse when night defenses downed a "Bed-Check Charlie." The 418th NFS joined the 419th at Guadalcanal late in 1943, and its experience was typical of all the early squadrons in the Pacific. Its P–70s, unsuccessful in intercepting Japanese bombers over Guadalcanal, were ordered to switch to night intruder work. From Guadalcanal, the 418th accompanied MacArthur's drive toward the Philippines and Japan, moving to Dobodura, then to Cape Croisilles, Karkar, Finschhafen, and to Hollandia, New Guinea. In May 1944 the squadron converted to B–25s, allowing it to carry more ordnance on night intruder missions and have a better range for sea sweeps.

In August 1944 P–61s became available in the Pacific theater, and the 418th, equipped with them, converted back to defensive patrols, scoring four kills on Morotai and five from Mindoro during the Luzon campaign.

In the thirteen nights following December 27, 1944, the 418th gained twelve of its eighteen victories of the war. Piloting a Black Widow, Maj. Carroll C. Smith became the highest scoring night ace of the war, achieving four kills on two missions on the night of December 29/30. Altogether, Smith racked up eight kills, though three of them came during the day. His R/O for the five night victories was 1st Lt. Philip B. Porter.

Meanwhile, the failure of B–24 night intruder missions over Luzon forced the 418th NFS to postpone its night fighter operations and return to night harassment and interdiction missions in support of MacArthur's forces. From the Philippines the unit went to Okinawa in July 1945, starting intruder missions against Japanese airfields on the home island of Kyushu. Pilot 2d Lt. Curtis R. Griffitts and R/O 2d Lt. Myron G. Bigler claimed the last night fighter kill of the war during these operations.

At Wakde, the 421st NFS got its first kill on July 7, 1944, after seven months of fruitless night patrols with P–70s and P–38s, and then scored five more kills on Owi Island, four of them on the night of November 28 alone. It was on Owi that the "Mad Rabbiteers" of

the 421st claimed the most unusual night kill of the war. Pilot Lt. David T. Corts, hard on the tail of a Japanese bomber, put his P–61 into a sharp turn when R/O Lt.

Alexander Berg and gunner SSgt. Millard Braxton warned him of an enemy fighter on their own tail. Just as Corts pulled away, the fighter opened fire and shot down the enemy bomber; Corts and his crew did not receive official credit for the kill. Against aircraft that could reach their altitude, Japanese attackers resorted to the heavy use of window/chaff, which proved generally ineffective against the P–61's SCR–720 radar. On some missions the enemy used fighters at low altitudes to draw Black Widow patrols away from high-flying bombers.

According to the AAF, the "defense of Morotai [an island half way between New Guinea and the Philippines] was probably the most difficult task undertaken by American night fighters during World War II." Because of MacArthur's island-hopping strategy, Japanese air bases at Mindanao, Borneo, Halmaheras, and the Palaus and Celebes Islands surrounded Morotai. Mountainous terrain caused permanent echoes on early warning and ground control radars, creating blind spots through which Japanese bombers could penetrate without being detected. Sixty-three separate raids took place between October 8, 1944, and January 11, 1945.

The defenders had P–38s orbit over their airfields at 25,000 feet, while antiaircraft artillery with its shells fused at 20,000 feet fired at the intruders.

If searchlights illuminated a target, the ground fire stopped while the P–38s pounced on the now-visible enemy. Meanwhile, the P–61s of the 418th and 419th Squadrons orbited outside the ring of antiaircraft artillery fire, waiting for orders from the ground control radar fighter controller to vector them to a target. The defenders made sixty-one interceptions with their airborne radar, claiming five kills.

At Leyte in the Philippines, U.S. daylight air power proved so deadly that enemy forces converted to nighttime attacks almost immediately after the invasion. The arrival of the 421st NFS on October 31, 1944, promised to parry these blows, but the P–61 Black Widow lacked the speed advantage to intercept fast high-altitude Japanese aircraft that used water-injection to increase engine power. Crewmen of the 421st nevertheless proved what efficient coordination between ground control radar and the P–61 could accomplish, downing seven intruders before being relieved by Marine single-engine night fighters. These seven kills included four on the night of November 28. Joined by the 547th, the 421st spent the remainder of the war flying night convoy cover, PT boat escort, and long-range intruder missions against the Japanese home island of Kyushu. The thirteen kills of the 421st NFS and six of the 547th stood in stark contrast to the last U.S. night fighter squadron to arrive in the Pacific, the 550th. It flew in combat for eight months with P–38s by day and P–61s by night, without aerial success.

In 1944 Japanese night bombers launched a major effort to disrupt the construction of U.S. airfields on Saipan needed for the B–29 campaign against the home islands. Flying P–61s, the 6th NFS began defensive operations nine days after the Marines' June 15 landing. Enemy attackers held the initiative until new Microwave Early Warning radars linked to SCR–615 and AN/TPS–10 "Li'l Abner" height-finder radars made three Japanese sorties one-way trips. In thirty-seven attempts at interception from June 24 to July 21, the defense made twenty-seven airborne radar contacts and claimed three kills.

It was on Saipan that a Pacific-based P–61 Black Widow snared its first victim on June 30, 1944.

A typical Japanese aerial assault force consisted of a dozen Mitsubishi G4M Betty bombers flying twenty miles apart. P–61 crews discovered that if they could shoot down the lead bomber, the others would jettison their bombs and flee. Black Widows from the 6th NFS and the 548th NFS downed five additional enemy intruders before the attacks stopped in January 1945. Thereafter, boredom set in for the crews of the 6th defending Saipan.

Occasionally success alleviated the boredom. Ground control radar vectored the 6th Squadron's "Bluegrass 56" over Saipan for five minutes, until R/O Flight Officer Raymond P. Mooney picked up the bogey on his airborne radar. He reported that the Bogey was traveling very slowly and after closing to 400 feet our craft held position for 3 minutes and finally got visual contact. Bogey was a Japanese single-engine divebomber (Kate). 90 rounds of 20-mm was fired point blank into the enemy plane. The fire was plainly seen to enter the right wing and fuselage. By accident cockpit lights flashed on in our craft blinding pilot and preventing further observation.

The fighter controller notified Pilot 2d Lt. Jerome M. Hansen that the bogey had disappeared from the ground control radar scope just as Hansen had reported opening fire. The kill had to be listed as a probable, though Hansen and Mooney received the Air Medal for their efforts. Mooney was the 6th's lone ace, with five kills to his credit.

Sometimes the crews also met with embarrassing failure. Vectored to an unidentified bogey flying without its identification friend or foe transmitter turned on, one of the 6th's Black Widow pilots interrogated the suspected target twice without result. In a running battle that spoke poorly of the Widow pilot's aim, the night fighter fired 235 rounds of 20-mm cannon shells and 720 rounds of .50-caliber ammunition. As the pilot made his second pass, the ground controller reported the bogey was friendly.

The overeager P–61 crew from Saipan had already put six large holes in the U.S. Navy PBM patrol aircraft, a near tragedy. The PBM had to be beached after landing to prevent it from sinking. Though uttering a few choice, but not repeatable phrases, the Navy reported no injuries. The rules of visual engagement were perfectly clear; unfortunately, the humans who executed them were not perfect.

Saipan was also the site of the United States' first effort at airborne warning and control. Two B–24s of the 27th Bombardment Group equipped with radar sets were to vector P–38s to intercept Japanese aircraft. Unfortunately, the system was never used in combat.

On Iwo Jima the AAF combined the SCR–527 and SCR–270 radars for early warning acquisition and the AN/TPS–10 for ground control of interception operations to stop the two or three Japanese bombers attacking Allied forces on this island each night. Early warning radar would detect the bombers' presence at around 140 miles, between seven thousand and fifteen thousand feet high. At fifty-seven miles, the "Li'l Abner" ground control would make contact and begin vectoring defending P–61s of the 548th and 549th to intercept them. Usually, the Japanese intruders would drop window/chaff at thirty miles, blocking the older metric early warning radars, but the microwave 3-centimeter AN/TPS–10 kept working.

Within ten miles of the Iwo ground radar, the night fighters would break contact, and antiaircraft artillery would take over. Eventually, after May 1945, there were few intruders to attack, and the two night fighter squadrons soon shifted focus to intruder work in the Bonin Islands.

Night intruder work to cut off Japanese garrisons on scattered islands proved critical in the Pacific war. Generally this involved attacks on enemy shipping. Because P–70s were ineffective in the night interception role, commanders pressed them into intrusion work as early as October 1943.

When P–61 night interceptors began arriving in the early summer of 1944, night intrusion work stopped until the spring of 1945. Soon, Allied victories left few Japanese bombers to attract night fighter attention, and U.S. night crews returned to intruder operations.

Preparing for the invasion of Bougainville, Detachment B of the 6th NFS from Guadalcanal began bombing Japanese airfields there in October 1943. Squadrons such as the 418th switched from P–70s to B–25s to improve the efficiency of their night intruder missions. Bigger bombers meant bigger bomb loads and longer range. For its part, the 418th NFS developed an innovative way of attacking enemy positions in cooperation with PT boats patrolling near Japanese-held islands. As guns onshore opened fire on the decoy boats, the B–25s attacked the muzzle flashes so visible at night. Commanders also used night fighters to suppress night artillery, a job reportedly much appreciated by Marine and Army units struggling against stubborn Japanese defenders.

Night flyers quickly found that skip-bombing attacks on enemy shipping, so effective by day, were also possible at night. Without radar, airmen had trouble seeing ships at night, but soon discovered their wakes were a dead giveaway. Flying at 250 feet, fighters and bombers, including B–17s and –24s, dropped their bombs about sixty to one hundred feet short of the target, allowing the bombs to skip into the side of the targeted vessel. Some four-engine SB–24 bombers were equipped with SCR–717 air-to-surface radars for finding targets at night and AN/APQ–5 low-altitude radars for bomb aiming. Called “Snoopers,” three squadrons of about forty SB–24s serving with Fifth, Thirteenth, and Fourteenth Air Forces claimed to have sunk 344 enemy ships, barges, and sampans at night, with 62 more probably destroyed and 446 damaged.

Missions in the China-Burma-India Theater

The P–61s of the 426th NFS went to China in November 1944 to protect B–29 bases from Japanese intruders. As elsewhere, the night fighters found the hunting poor, claiming only four kills by February 1945.

Though shifted to primarily night intruder work, P–61 crews also attacked enemy personnel attending signal fires that guided Japanese night bombers to U.S. bases.

Within the CBI, the greatest success in night intruder work occurred in Burma, largely because the Japanese were forced to use a single net of north-south roads, one railroad, and the Irrawaddy River. Day fighters again drove the enemy to operate mainly at night, creating attractive targets for the P–61s of the 427th NFS and the B–25 Mitchells of the 12th Bombardment Group and the 490th Bombardment Squadron. Flying at 1,500 feet, these aircraft followed preassigned roads until they spotted truck lights. Diving to 150 feet, they swept down the road with guns blazing. Standard

procedure called for a return twenty minutes later to restrafe burning vehicles and hamper the enemy's recovery efforts.

The Legacy of Night and All-Weather Flying

America's night airmen operated at the periphery of the war effort. While British and German strategic bombing transpired primarily at night, U.S. airmen were committed primarily to daylight bombardment operations, except for B–29 fire raids on Japan's cities. In the explosive expansion for war, the AAF mobilized 1,226 squadrons, including 4 night fighter training units, 1 night reconnaissance unit, and 16 combat night fighter squadrons, each authorized only twelve aircraft. Of the more than one hundred thousand fighter aircraft that the United States produced for the war, only nine hundred were night fighters. Night units were never formed into groups, wings, or commands, but operated independently as squadrons, attached to higher echelons such as the IX Tactical Air Command. Only 666 night fighter crews served overseas. They fought in Europe, North Africa, Italy, Sicily, Corsica, France, Germany, Burma, China, the Philippines, and any number of exotic locations, some well known, others not: La Senia, Elmas, Ghisonaccia, Borgo, Pontedera, La Banca, Pomigliano, Honiley, Bristol, Istres, Strassfeld, Giebelstadt, Maupertus, Chateaudun, Coulommiers, Madhaiganj, Chengtu, Hsian, Pandaveswar, Myitkyina, Lingayen, Puerto Princesa, Guadalcanal, Dobodura, Cape Croisilles, Karkar, Hollandia, Morotai, Milne Bay, Saidor, Saipan, Iwo Jima, Nadzab, Peleliu, Okinawa, Middelburg, Palawan, Mindoro, Zamboango, Tarakan, Sanga Sanga, Owi, Palawan, and Ie Shima.

Larger numbers and higher priorities probably would not have boosted their contribution. Night fighters were solitary hunters; they could not enter combat in formations. Doubling or tripling their numbers would not have brought greater success, especially with so few targets. What successes they had, 158 officially recognized night kills, can be attributed to the quality of their weapons, the commitment and quality of their crews, and luck. On the other hand, their failures were caused by the limitations of their aircraft and weapons and inadequate training. Members of the 422d NFS were convinced that if night fighters and their crews were "assisted by certain mechanical aids" and properly trained and employed, "then sortie for sortie they will prove as deadly if not more so than their day counterparts." Obviously, night work was dangerous. On intruder missions crews normally had to make two passes, the first to see and identify the target and the second to bomb or strafe it. With flak batteries alerted, second passes often meant death or a trip to a POW camp. The 419th NFS spent 639 days in combat from its arrival on Guadalcanal on November 15, 1943, to its last mission from Palawan Island on August 14, 1945. In 1,972 combat missions, the squadron claimed five Japanese aircraft destroyed at night—at a cost of twelve pilots and eight R/Os and thirty-one aircraft lost to enemy action or crashes. Night interception missions were always fought alone, though with the comforting thought that within range a ground controller watched every move on a radar screen. Retired Maj. Gen. Oris B. Johnson, wartime commander of the Europe-based 422d NFS, never felt lonely on night missions. He was "too damn busy," except the one time in December 1944 when solitude might have been preferred. His ground controller vectored him onto eight FW 190s flying in formation. Eight were too many to mess with, even though on a previous night Johnson had willingly attacked a flight of three because he knew he had radar "eyes" and the Focke-Wulf pilots did not.

Ironically, the enemy aloft was not the only source of danger. Crews in the Pacific flying at twenty thousand feet amid air temperatures of ten degrees below zero complained of a headquarters decision to withhold heated flying suits from aircrew in that "warm"

tropical theater. Instrument failures, a nuisance during the day, were deadly at night. But on August 15, 1945, the 419th's squadron historian could record that after "the peril of tropical diseases, the dearth of supplies, a monotonous diet of dehydrated and canned food, and the total lack of civilization or female companionship for twenty-three uninterrupted months ... morale received a tremendous boost when President Truman announced the surrender of Japan." "When do we go home?" replaced all thoughts of danger and the difficulties of night flying.

The downing of 158 enemy aircraft in the war seemed out of proportion to the 900 expensive P–70s and P–61s and 16 combat squadrons the United States mobilized to control the skies at night. What damage might enemy night bombers have inflicted if they had flown against Allied forces unopposed? Maj. Gen. Oris B. Johnson believed night fighters contributed mightily to Allied victory, seizing the night skies from the Axis powers, but also, and more importantly in the long run, establishing "the basic concepts of all-weather flying critical to American victory in DESERT STORM." As early as 1945 airmen began to speak of a new concept in aerial warfare—the "24-hour all-weather Air Force." Though they had only "scratched the surface" of night intruder possibilities, these night fighter pioneers, with their victories and sacrifices, laid the foundation for a new form of aerial warfare, which would be revealed in all its devastating intensity nearly five decades later in the night skies over Iraq.

TABLE 1

Official Victory Credits for Night Fighter Squadrons

(based on Air Force Aerial Victory Credits)

Squadron	Victories
6th NFS	16
414th NFS	11
415th NFS	11
416th NFS	5
417th NFS	8
418th NFS	18
419th NFS	5
421st NFS	13
422nd NFS	43
425th NFS	10
426th NFS	5
427th NFS	0
547th NFS	6
548th NFS	5
549th NFS	1
550th NFS	0
TOTAL	**158**

TABLE 2

Night Fighter Squadron Aces

422d Night Fighter Squadron		
1st Lt. Paul A. Smith (pilot) and 1st Lt. Robert E. Tierney (R/O)	5 kills as a team	European Theater of Operations
1st Lt. Herman E. Ernst(pilot) and 1st Lt. Edward H. Kopsel (R/O)	5 kills as a team	European Theater of Operations
1st Lt. Eugene D. Axtell (pilot)	5 kills	European Theater of Operations
2d Lt. Robert F. Graham (R/O)	5 kills	European Theater of Operations
418th Night Fighter Squadron		
Maj. Carroll C. Smith (pilot) and 1st Lt. Philip B. Porter (R/O)	5 kills as a team	Southwest Pacific Theater of Operations
6th Night Fighter Squadron		
2d Lt. Raymond P. Mooney (R/O)	5 kills	Southwest and Central Theater of Operations

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THE FRYING PAN

History Of 417th Night Fighter Squadron

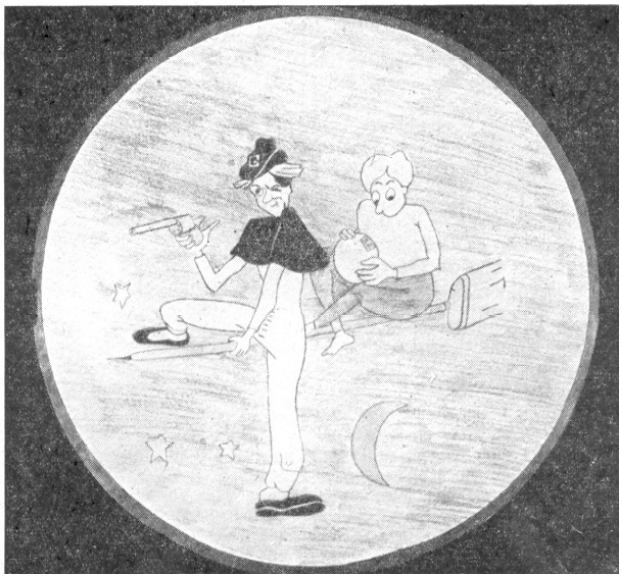
(Several months ago, some P-61s landed at Fritzlar. They are still here. Together with the men who call the Black Widow -one of the AAF's finest fighters, the men of the 417th Night Fighter Squadron. By way of introduction, the "Frying Pan", with the cooperation of Lt. Yauch, would like to present a brief narrative history of that organization.)

The 417th Night Fighter Squadron was activated 20th February 1943, the fourth unit of its kind in the history of the United States Army Air Forces. This new unit was born and began training at Kissimmee Air Base, near Orlando, Florida. For four and one half months they were training in P-70s, a modified version of the Douglas A-20. Upon the completion of the period allotted for training and organization, the squadron left Kissimmee for the P. 0. E. at Camp Kilmer, New Jersy, arriving there 26 April 1943. After going through staging at Camp Kilmer, the 417th departed for overseas duty on the 5th of May 1943. They were fortunate enough to be transported on the "Queen Elizabeth", formerly one "of the world's greatest luxury liners, brought them to Scotland six days later, the 11th of May.

The squadron was then sent to England and stationed at Twinwood, a R. A. F. base. The pilots resumed their training, this time with a different airplane, the Bristol Beaufighter. Some difficulties arose because of the change in ships, but the transition was finally completed and the 417th moved to Scorton, England. It was here that they received a shipment of twelve new Beaufighters

The Night Fighters became operational during the month of August, and on the 7th, eleven Beaufighters took off for their new station in Algeria. Combat operations were started from the Algerian base as the 417th began flying convoy patrols and fighter sweeps.

In the latter part of April 1944 the squadron moved to Corsica. Operations were resumed, this time consisting of night patrols off the coasts of Corsica, Spain, and France. The first intruder missions were flown from Corsica against airdromes in Southern France and Northern Italy. During the invasion of Southern France the squadron flew cover for the invasion fleet. After the invasion was well under way, the squadron moved from Corsica to Southern France, where intruder and patrol missions were resumed. The 417th was awarded the Distinguished Unit Citation for the combat work done in this area.



Squadron Insignia

March of 1945 brought about another change of aircraft. The squadron discarded the Bristol Beaufighters in favor of the Northrup "Black Widow", the P-61. The 417th was taken off operations and they devoted three weeks to transition and further training in this new aircraft. Equipped with the latest in night-fighting ships, the squadron moved to the home soil of the Luftwaffe when they abandoned their French base for one in Germany. The 417th returned to operations and resumed the flying of intruder missions and patrols in their new P-61s, protecting the bridgeheads at Ulm, Dillingen, and Donauworth.

Intruder missions and patrols were flown until the end of the war in Europe. Shortly after V—E Day the 417th Night Fighter Squadron was assigned to occupation duly. A training program, both in the air and on the ground, was initiated, and it is still in effect today. Assigned to 64th Fighter Wing, XII Tactical Air Command, they moved to Fritzlar Air Base on the 10th of April 1946.

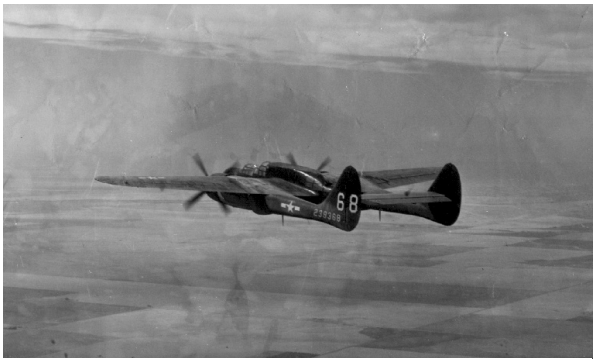
Their activities at Fritzlar have been similar to those of the Fighter Group, a continuation of the flying and ground training programs.

After three months at Fritzlar, the 417th Night Fighter Squadron is no longer referred to as "that new outfit at the end of the ramp", but instead has been accepted as one of the organizations that help keep Fritzlar Air Base operating.

HUN HUNTERS *Frying Pan*, published by Special Service 366th Fighter Group, Fritzlar, Germany, Vol. 2, No. 23, Friday, July 26, 1946, page 3.

Presidential Unit Citation Ribbon

Beaufighter over England



Black Widow 42-39368 over Fresno

Section 6

Recollections

There is no single story of the 417th NFS in WWII. Rather the Squadron's story is that of the hundreds of men, their families, and the thousands of missions and adventures befalling them all.

We are fortunate that the official Squadron History, supplemented with the Pilot's Log, were written in a style that reflected the personalities of the men, and many of the incidents they faced. But the story does not stop there, because each of the men has a story too. In this section we present a selection of those stories, in the words of the men involved. These follow the narrative presented to 12th Air Force that recommended awarding the prestigious Presidential Unit Citation to the Squadron. That narrative provides a unique and concise description of the 417th's many accomplishments, and relates the very difficult circumstances in which they operated. There were few, if any, Air Corps squadrons that spent more time under field conditions. From August 1943 until approximately August 1945 the men lived in the combat zone, in tents.

417th NFS, Oran, No. Africa 1943/44

I

417th NIGHT FIGHTER SQUADRON

A.P.O. #374

U.S. ARMY

16 MAY, 1945

C E R T I F I C A T E

I CERTIFY that I have examined the evidence contained herein and that it is true to the best of my knowledge and belief.

C. Richard McCray,
Major, Air Corps,
Commanding.

(Following are Sections I, II, and III of the application made by the 417th NFS for the Presidential Unit Citation, awarded to units that have distinguished themselves in the accomplishment of their duties. Not included in this presentation of the application are Excerpts from Aircraft Accident and Mechanical Failure Reports, Pilot's Accident statements, Medical Reports, Excerpts from Sortie Reports and lists of Decorations and Awards. The Application was successful and all personnel in the Squadron on 28 December 1944, the date when the 4-engine German bullion carrying Ju 290 was downed, were awarded the Presidential Unit Citation. The application is significant in its telling about the Squadron, its people, its spirit, and commitment to victory, all done at the time and in the words of the people who carried it out. *Editor*)

II

PROPOSED CITATION

After rendering unceasing protection by night to ships and personnel being assembled in Mediterranean Waters for the invasion of Southern France, and fighting off early enemy attempts to bomb troops and supplies at secured beach-heads, the 417th Night fighter Squadron was given the heavy responsibility of protecting the entire coast of Southern France and particularly the port of Marseilles, one of the two existing arteries through which all vital supplies and reinforcements were fed to the fighting fronts in Western Europe. In spite of extremely adverse weather conditions, including freezing temperatures, persistently low ceilings, and 70-mile-an-hour gales common to the Rhone Valley, weather which grounded all other aircraft in France, aircrews of the 417th Night Fighter Squadron, in complete defiance of all hazards involved, resolutely performed their assigned task, and turned away enemy attempts to prepare Marseilles for bombing by reconnaissance and path-finding. On the night of 13 December, 1944, the Squadron was informed that the enemy would attempt to transport a large number of high government officials, Nazi leaders, and gold bullion to a neutral country for the purpose of intensifying their war effort against the allies, and that every effort must be made to thwart such an attempt. Despite ceaseless gales, bitter-cold temperatures in which ground crews worked without shelter or hangars of tents, and burdened with the mental hazard of depressingly long list of casualties suffered from weather and the mechanical failures of the outmoded Beaufighters with which the squadron was equipped, aircrews courageously went aloft each night. Gallantly and in complete disregard of the discomforts, dangers, and discouraging weather conditions, both ground and air personnel determinedly carried on their dual mission. On the night of December 20, 1944, their persevering efforts were culminated when a Beaufighter crew, with exceeding skill and flying less than 20 feet above the water, tracked down a four-engine German transport, and after a determined pursuit, shot it down in flames off the Hyeres Islands. Through their courage, determination, technical skill, and extreme gallantry against extraordinary hazards, the personnel of the 417th Night Fighter Squadron have reflected great credit upon themselves and the Armed Forces of the United States.

III

DETAILED DESCRIPTION OF SERVICES

Possibly every air corps unit which reached the European Theater of operations could readily recite a long counting of trials and difficulties during training and later operations. For the 417th Night Fighter Squadron it could hardly be a recitation. It would be a sober toll of wounded men, lost aircrews, and wrecked planes almost incredible when placed in comparison with other squadrons.

From the time of its arrival in England during May of 1943, when ground and air crews were ordered to become proficient in the use of the British-type Beaufighter within a space of sixty days, until the somber days and nights in the Rhone Valley, the 417th was beset with endless difficulties and vicissitudes that conceivably would have shattered the morale of any unit composed of average caliber. But fortunately, during its period of activation, the squadron's initial aircrews and ground personnel were selected from applicants who had expressed enthusiastic wishes to become part of a night fighting unit. Although esprit for this dangerous type of combat was essential, personnel were selected largely on the basis of high rating in mechanical, flying, and radar proficiencies. Thus, when the unit was finally constituted at Orlando Air Base, Florida, it contained personnel highly rated for night combat in the air.

That the 417th Night Fighter Squadron was a superior unit was compellingly demonstrated during the period of the Luftwaffe's most intensive effort to prevent supplies and reinforcements reaching the Sicilian and later the Italian battlefronts through the Mediterranean. Using an elaborate system of pathfinders and previously selected assembly points, and taking advantage of poor weather, which afforded cover and concealment, the German Air Force began striking at troop and supply convoys moving towards Naples and Bari. Large forces of Heinkel 177's, Dorniers, and JU-88's, carrying radio-controlled bombs, repeatedly attacked these allied convoys at dusk or during the hours of night only. During the

entire period, planes of the 417th squadron met every enemy attack in its assigned area and either drove off the bombers, or reduced the enemy attempt to ineffectual impotence. As an example of the tenacity and determination with which aircrews of the 417th kept faith with their responsibility, an attack may be cited which took place on the night of November 11, 1943. A large force of Heinkels, Dorniers, and Junkers attacked an important eastbound convoy 20 miles northeast of Argu. Lieutenant C. Richard McCray, pilot of a Beaufighter, after a determined pursuit to head off the attacking bombers, discovered that both engines of his plane were over-heating badly. Although he realized that either or both of the engines might quit at any moment, he nevertheless maintained his pursuit and shot down one Dornier 217 into the sea. Although low gas supply and faulty engines would have justified an immediate break-off, he still refused to leave the engagement. Disregarding the flashing danger signals on his panel, he searched for other enemy bombers until he found another Dornier, giving it several long bursts. This plane was later verified as probably destroyed. Lieutenant McCray (now Major) was later awarded the Air Medal for his courageous action.

Moving to La Senia Airfield, and given the assignment of protecting this port of Oran, the squadron fulfilled every responsibility, exemplified by the courageous action of Lt. Rayford W. Jeffrey, who despite one engine shot out by enemy return fire, shot down a JU-88 at extremely low altitude; and on another occasion, in the face of intensive machine-gun fire, destroyed another JU-88.

Still later, when the enemy was making every effort to destroy the Anzio Beachhead, continuously dive-bombing troops and ships in the outlying harbor, help was requested of the 417th. Crews were immediately sent to the critical area. Partially divided, the squadron nevertheless maintained its nightly patrols, while the crews who had been loaned to another squadron at Anzio crowned their efforts with the destruction of a JU-88 and a claim of severe damage on another.

When planes were being promulgated for the invasion of Southern France, it was the 417th Night Fighter Squadron which was selected by the allied command for the "hot spot seat" - - the northern tongue of Corsica, around which convoys were ultimately to be routed. Based at Borgo Airfield, the squadron maintained an arduous schedule, flying not only routine patrols in protection of assembly points, but engaging in highly hazardous intruder missions over all the important airfields in Southern France, materially assisting the important objective of neutralizing enemy airpower prior to the invasion. During this period the unit again distinguished itself, scoring several claims of destroyed aircraft, probably destroyed and damaged.

Shortly after beachheads had been successfully secured in Southern France, the 417th was ordered to proceed to Le Vallon Airfield, in the mouth of the Rhone Valley. Its mission was to give protection by night to the entire southern coast of France and the operational port of Marseilles which had begun receiving allied ships within a remarkably short time after its occupation.

From almost the first day of its arrival in Southern France, the squadron began experiencing a series of difficulties and obstacles, which came close but never quite shattered the morale of the entire unit. Some of difficulties should be related in detail, since, in all fairness, there should be some understanding of the tremendous mental and psychological hazard against which all personnel of the squadron labored during operations in France.

Upon arrival at Le Vallon Airport, a barren, depressing field close to a range of dangerous mountains, the men erected the tent area approximately one and a half miles northeast of the runway and line. Tents were erected during a thunderous downpour. Although care was taken to place the tents behind the shelter of a long windbreak formed by closely planted fir trees, French officials and civilians warned that when the winter Mistral began, the tents would be hurled into the Mediterranean, thirty miles distant, however, there was little or no alternative to this arrangement. The nearest town capable of housing the entire personnel was eleven miles away. Transportation was seriously limited, and to establish a system of commuting between a field and town would have imposed an unbearable strain.

Despite the unceasing rain, operations began within twenty-four hours after arrival. Patrols were imme-

diately dispatched to intercept German reconnaissance planes, which were determinedly seeking to photograph and observe the crowded harbor of Marseilles. Other Beaufighters were assigned to search for the one-man submarines, which the enemy had begun to use in large numbers with varied success.

Extremely poor weather conditions were merely a harbinger of a long series of misfortunes that befell the squadron. On the night of September 26, Lieutenant J. W. Grange suffered an engine failure and was forced to ditch in the Mediterranean. Fortunately, he was picked up by a rescue craft and survived the ordeal of exposure. Three days later a message was received that the squadron was to break camp an prepare for return to an Italian base. Departmental equipment was immediately packed, tents were removed, and transportation began to move the squadron back to Marseilles. Five minutes after the last truck had departed, a small echelon which had been left behind to care for a possible enemy attack on the harbor, received a message canceling the move. After frantic efforts a vehicle was found which ultimately intercepted the convoy at the town of Aix.

Back at the boggy, rain-swept field, the men replaced the tents, strung communications, unpacked crates and cases, prepared the planes for operations. That very night Beaufighters were sent aloft to cover the harbor of Marseilles and to guard shipping and installations against attack from the explosive-laden motorboats which the enemy had devised as another "secret weapon" of destruction.

The long period of incessant rain stopped, only to be followed by the nerve-wracking, bitter Mistral, which roared down the Rhone Valley night after night, seriously hampering operations, knocking down tents and making every landing and take-off a matter of hope and prayer. Despite the danger of taking off in the teeth of an officially wind of 60 to 70 miles and hour, pilots and radar observers resolutely went aloft each night to render vital protection to the port of Marseilles, and to smash any effort of enemy traffic with neutral fields. Only the heaviest of cross winds and virtually zero visibility prevented nightly flights. Dayfighter and transport pilots, occasionally visiting the base, shuddered at the seeming foolhardiness of a squadron, which countenanced such a suicidal operational tenacity. However, without any elaborate attempts at the installation of morale, every man realized that the port of Marseilles was one of the two vital arteries feeding the allied war effort in Europe, and under no circumstances could they permit this vital port to be an easy subject to enemy attack. As a result the enlisted men worked in bitter cold throughout the night, repairing, replacing, grimly fighting with wrenches and screwdrivers to keep the ancient Beaufighters ready for instant combat. There were no hangers, no shacks, and no tents to protect them from the incredible, blood-numbing cold brought by the endless Mistral. They worked uncomplainingly because the realization was never absent that other men would risk their lives on their handiwork, that other men would risk greater discomforts and dangers to protect them and tons of invaluable war material streaming to the front.

But bitter cold effected discomfort and frayed dispositions; the endless Mistral kept takeoffs and landings a constant hazard which skilled pilots usually surmounted. These conditions would have made only a temporary impression on morale. But the gremlins, which pester and torment the men of aerial combat weren't satisfied. Somehow they enjoined more evil allies. It began on the afternoon of October 15th. Lieutenant Noel Howard, conducting a routine night flying test, experienced an engine failure. By skillful handling, he brought the plane in on its final approach. Approximately 2500 feet from the end of the runway his remaining engine failed. The plane became a flamer, but fortunately the crew escaped with minor injuries.

A few days later Lts. Jesse W. Berryhill and Raymond Rodgers departed from the field for Dijon to secure needed signal flares. Accomplishing their purpose, they began the return trip in the early afternoon. When night came and there was no sign of the ship, search parties were sent aloft without success. On the following day, Lts. Howard and Mangone, accompanied by a crew chief, S/Sgt. John W. Schmitt, engaging in the search, were forced to make a crash landing when both engines failed. Again their luck held and none of the men were seriously injured.

Three days later, on November 7, 1944, Captain John S. M. Lee and Lt. Leonard R. Potter, conducting a

routine night flying test, without apparent reason, spun and crashed into the sea off Marseilles. Captain Richard C. McCray, who witnessed the crash while flying in the vicinity, immediately called naval rescue vessels. However, neither of the bodies were recovered. Captain Lee, squadron operations officer, and Lt. Potter, were tremendously liked in the unit. That such a skilled crew should make a fatal spin seems inconceivable to every member. Something was wrong - - something which each man began to wonder about morbidly and feel he could not control or correct.

That same night Captain McCray was forced to return from his mission when one of his engines failed. Lt. John W. Grange, who had completed one patrol, immediately volunteered to take off in whatever ship was available. Within a short time after beginning his protective patrol over the French coast, he reported to sector control that one of his engines had quit, then that the other was faltering. A broken message of "bailing-out" was received by sector and radio contact was lost. However, for a single ray of light in this blackest day in the squadron's history, both Lt. Grange and Lt. Sunyar, his observer, were found the following day wondering in the mountains north of Toulon. Lt. Grange reported that he was forced to "bail-out" at extremely low altitude, and his parachute opened bare seconds before he struck ground.

Another fortifying incident occurred on the night of November 29 when Captain Theodore Deakyne, who had fought with the British in the Battle of Britain, secured contact with a JU-88 off the port of Marseilles. Contact was momentarily lost, but his observer skillfully picked up another at the unusual range of six miles. After a brilliant pursuit at deck level, the enemy plane was shot down into the sea.

A few nights later, Lts. Jack DeVore and William Grinnell while pursuing an enemy aircraft towards the Italian Apennines, suddenly called over the radio that they were having difficulty with their plane. There was no further contact. Despite an intensive search, no trace of the plane or its occupants was ever found.

Such an abnormal series of mishaps and misfortunes forced a tremendous psychological burden upon every member of the squadron. Pilots faced every mission with undue tenseness and mental rigidity. They were honest enough not to conceal an ever-present feeling of anxiety and nervousness. Routine patrols were faced with more trepidation than the most dangerous intruder missions over enemy-occupied France had ever aroused. Crew chiefs and mechanics, who were responsible for the absolute proficiency of the planes became deeply depressed and labored under the mental handicap that the aircrews and personnel might believe the accidents were their fault. As a matter of fact, two reasons were immediately discernible for the serious accident rate? One, crews were using Beaufighters which should have been condemned long ago. All of the planes were at least three years old and some had been veterans of the Battle of Britain, with a record of overhauls that virtually stunned visiting American technical representatives. Several Beaufighters were received as replacements for crashed planes, which the engineering section immediately recognized as ships which sister flying squadrons had turned back as salvage! Two, several engine failures had been traced to an excessive amount of water in the fuel. Early efforts to trace the origin of this threatening factor ran into a stone wall. Fuel depot personnel asserted the gasoline had been certified as Grade "A". Finally, the Operations Officer, persisting in his investigation, discovered that the fuel was being loaded from pipe-lines into drums which had been left uncovered and resultantly had accumulated a considerable amount of rainwater, none of which had ever been removed. To condemn the entire amount of fuel on hand would have been unthinkable, since the supply of petrol in France at that time was dangerously low Ground personnel were, therefore, instructed to be extremely careful in refueling planes and to halt the flow before the water line in the drums was reached. However, this was a makeshift solution, and pilots were fully aware that the planes they carried aloft were subject to the ever-present threat of defective fuel.

It must be stated, in all frankness, that other night fighter squadrons equipped with rebuilt Beaufighters, were also having serious difficulties, as a result several aircrews requested release from flying status. In the 417th Night Fighter Squadron, <u>not a single aircrew made such a request,</u> nor sought to evade in any

manner its scheduled mission.

Seven days before the order was received to conduct special patrols to intercept and destroy any German effort at reaching neutral countries formerly friendly to its regime, Lt. Joseph E. Davis, test-hopping another overhauled Beaufighter, crashed near the field and was badly injured and burned when the ship exploded and burned. Four days later, Lts. E. C. Graybill and H. L. Klein crashed and were killed a short distance north of the field while engaged in a routine night flying test.

Thus, on December 12, when orders were received to exert additional effort in nullifying any enemy attempt to traffic with neutrals, squadron morale was stretched taut. Instructions, in brief, were that in addition to protective patrols, flights were to be airborne to search out and destroy large German transports which would attempt to carry military and economic experts to a large neutral country to further Germany's war effort. Intelligence was informed that such planes would conceivably carry on their relentless method of sowing doubt by Germany's most able propagandists among allied nations. Such ships, would, of course, carry large sums of precious bullion for the secret purchase of vital minerals and for propagandizement. The squadron was also informed that the enemy would probably attempt sending decoys and would conceivably send fighter protection.

To carry out this additional mission obviously would impose a terrific strain on men and machines. The easy way out might have been a frank declaration to headquarters that the precarious condition of the planes on hand made compliance almost impossible. But there was no declaration as such. There were no complaints. Air and ground crews, trained to duty and discipline, began to fulfill the assigned mission. Despite the bitterly cold weather, men worked all night and day to keep the creaky Beaufighters flying. And aircrews, despite all the accumulated hazards of weather, fatigue, unpredictable ships, and the hounding memory of men who had crashed in nightmarish succession through no fault of their own, flew ceaseless patrols. Engines would fail repeatedly, and many a Beaufighter would labor back on a single engine, with the same crew going back aloft in whatever was available.

That Lts. Campbell and McCullen, on the night of December 28, finally found and destroyed a large German transport, was no accident. It was the cold-cut result of perseverance, devotion to duty, and the stubborn determination of a squadron to complete its mission regardless of the hazards involved. Although the encounter has been described in the citation and in an attached extract of the brief combat report, there is only a slight reference to the most courageous and most extraordinary part of the encounter, - - the fact that the crew pursued the German plane less than twenty feet above the water. Such a tactic was compelled by the desperate effort of the enemy plane to escape, a move, which had enabled many a German aircraft to flee unharmed during the European months of warfare. Even in daylight, with increased vision and the stabilizing factor of horizon, the destruction of an aircraft at sea level is a worthy and unusual feat. At night, such an attempt may easily be labeled as deadly. Yet, Lt. Campbell, with exceeding skill, clung tenaciously in the darkness to the fleeing German and shot him down into the sea without injury to his own plane or crew.

His brilliant action, in bare assessment, could be called the feat of an individual. It wasn't. It was the accomplishment of a squadron of men who, despite an incredible series of obstacles and accumulated hazards, completed their mission with resolution and unfaltering courage.

HEADQUARTERS

TWELFTH AIR FORCE
APO 650

GENERAL ORDERS) 30 JUNE 1945
:
NUMBER 144) CITATION OF UNIT

Under the provisions of circular 333, War Department, 1943, and Circular 73, MTOUSA, 12 May 1945, the 417th Night Fighter squadron is cited for outstanding performance of duty in action against the enemy in the Mediterranean Theater of Operations, on the night of 28 December 1944.

After rendering unceasing protection by night to ships and personnel being-assembled in Mediterranean waters for the invasion of southern France and fighting off early enemy attempts to bomb troops and supplies at secured beachheads, the 417th Night Fighter Squadron was given the heavy responsibility of protecting the entire coast of southern France and particularly the port of Marseilles, one of the two existing arteries through which all vital supplies and reinforcements were fed to the fighting fronts in western Europe. In spite of extreme adverse flying conditions, including freezing temperatures, persistently low ceiling and 70-mile-an-hour winds common to the Rhone Valley, weather which grounded almost all other aircraft in France, air crews of the 417th Night Fighter Squadron, in complete defiance of hazards involved, resolutely performed their assigned task and turned away enemy attempts to prepare Marseilles for bombing by reconnaissance and path-finding. On 12 December 1944 the squadron was informed that the enemy would attempt to transport a large number of high government officials, Nazi leaders and gold bullion to a neutral country for the purpose of intensifying their war effort against the Allies and that every effort must be made to thwart such an attempt. With a strength of ten ancient Beaufighters, many of which had been salvaged, rebuilt and returned to service, the 417th Night Fighter Squadron accepted the tremendous strain placed on both men and machines. Despite ceaseless gales and bitter cold in which ground crews worked without shelter of hangars or tents, and burdened with the mental hazard of a depressingly long list of casualties suffered from weather, watered fuel, and mechanical failures of the out-moded Beaufighters, air crews courageously went aloft each night. Gallantly and with complete disregard for discomforts, dangers and discouraging weather conditions both ground and air personnel determinedly carried out their dual mission. On the night of 28 December 1944, culminating weeks of persevering effort, a 417th Beaufighter made contact with and identified a four-engined German transport. Courageously and skillfully maneuvering at less than 20 feet above the water, the determined crew, after an unrelenting pursuit through the darkness, opened fire with accurate bursts which sent the hostile aircraft crashing in flames into the sea. Displaying the highest sense of duty in carrying out their assigned missions despite inescapable and disheartening risks, the 417th Night Fighter squadron, paying heavily in gallant crewmen and aircraft, accomplished this vital interdiction and at the same time maintained continuous and effective patrol of the Marseilles port area. The courage, devotion and technical skill displayed by the personnel of this squadron in the face of extraordinary hazards reflect the highest credit upon themselves and the Military Service of the United States.

BY COMMAND OF BRIGADIER GENERAL MYERS:

OFFICIAL: JOHN W SESSUMS, JR

/a/ L. D. Cummings
/t/ L. D. CUMMINGS
Lt Col, AGD
Adjutant General

Colonel, GSC
Chief of Staff

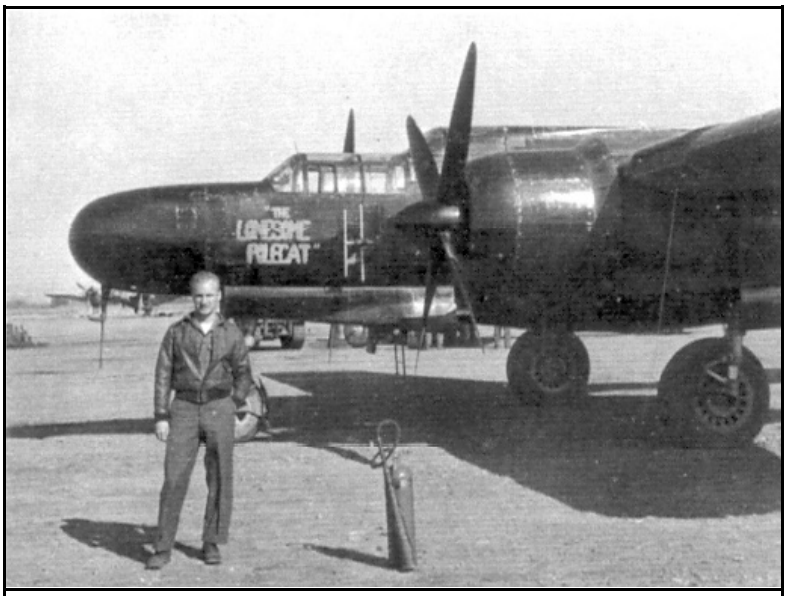
A TRUE COPY:
J. D. BROWN,

Thomas G. Hart
4 Wells Hill Rd.
Weston, Connecticut 06883

1993?

Dear Dick:

Thank you for your communications and good work as the 417th Squadron Rep. In our earlier newsletter you mentioned receiving a call from George Aubill. I was George's RO and we communicate on occasion. I was with George on the night of April 27, 1945 when we cracked up P-61B-1-NO *"The Lonesome Polecat"*, s/n 42-39420, while landing at Giebelstadt. This was the second night the 417th was operational with the P-61, the mission was to patrol over the Danube area. The U.S. 7th Army was engaged there in what was called the Ulm-Dillingen bridgehead. Ours was the third mission of the evening and we contacted a Me 262 jet fighter briefly. The first mission's crew, Cartmell and Anderson, were shot down over the bridgehead by friendly fire, and Allen and his RO on the second mission came back with an engine shot out and holes in the fuselage. These two nights, plus a few more, were the extent of the 417th's combat activities in P-61s. This is in contrast to what is written in *"Northrop P-61 'Black Widow', The Complete History and Combat Record"*, by Garry Pape and John M. and Donna Campbell. The book says the 417th NFS never used the P-61 during the war!



Tom Hart beside P-61 "*The Lonesome Polecat*", in France

George Aubill and I were a replacement crew in the 417th, arriving at Le Vallon in Provdence in January 1945. Among others in our group were Ray Pere and Dave Diehl.

s/T. Hart

Odd memories;

During the winter of '44/'45, the cold was so severe at La Vallon that we built a clubhouse and I volunteered to build a fireplace. Not a smart move. I didn't know the tricky thing about fireplace construction, so the finished product would never draw. Each attempt to use it resulted in smoking everybody out of the place.

Some time during December or January a Ju 88 came over and our Operations officer was unable to get his Beau high enough to intercept. About 21,000 feet his ailerons froze up and he couldn't control it any more. There was a Mosquito night fighter from a British squadron that came to stay with us for a while to attempt to get high enough for an interception. But the field at La Vallon was a rock orchard of the worst sort. Every time he took off the Mosquito got rocks through the elevator and stabilizer, which was a red-line condition, so he never got a chance to intercept.

While the Limeys were there they had a tent fire and lost everything but one dress uniform and one flying boot. Our squadron Supply Officer, Herbert Rudlin, had sold the fire truck to the local Frenchmen, so we couldn't do any fire-fighting except to drop the adjacent tent to prevent losing it, too.

While the tent was burning "Dirty" Dalton and I were standing nearby watching. One of the Limey's pistols got hot enough to cook off a round and it passed between Dirty and me. We looked wide-eyed at each other and left the vicinity at a quick-step. Later, I talked the Britisher into letting me have the gun, since he was about to write off the whole supply of clothing and other issued equipment. It was a Smith and Wesson .38 and shot "Long Colt" ammunition, which was scarce at the time. The squadron armorer was a good guy who cleaned up the badly burned gun and showed me how to dress the sear to give it a good trigger pull. I solved the ammunition problem by using 9mm but I had to point the gun up before each shot to be sure the cartridge was back at the rear of the cylinder so the firing pin could reach the primer.

Burned Tent at Le Vallon, France, February 1945.

Some time about February ('45) one of the tents burned down while everybody was at lunch. The CO needed to have an investigation report for the higher command, so he appointed me Fire Marshal, to do the investigation and write the report. The only thing I could find out about why the tent caught fire in everybody's absence was a tenuous theory that the addle-pated pup the guys had for a pet might have chewed through the rubber fuel line that brought gasoline from the storage container out back to the stove in the tent. So that's what I wrote in the report. I never did find out how much of a razzing Dick McCray took from his superiors for that report. But he (and Deakyne) kept me on as fire marshal until my departure for home in Feb., 1946. I guess they needed someone who could lie with imagination.

Some time in January or February, '45, "Moody" Grange and his radar operator, Sunyar, scrambled for an interception, but the Low fuel pressure warning light came on during take-off. That was a regular occurrence during the winter while we were obtaining our fuel in 50-gal drums that had sat empty on the loading dock at Marseilles for who-knows-how-long before being filled with 100 octane and sent to us. But this time the warning light didn't go out after take-off, so Woody told Sunyar "We are going in", meaning back to the field.

Sunyar had been in some nerve-wracking experiences before, and he interpreted Woody's words to

mean, "We are going to crash land". So he grabbed his chest-pack 'chute and bailed out, fast!

When Woody taxied up to the line and shut down, he waited for Sunyar to climb out of the back and join him for the ride back to Operations. No Sunyar. They went looking for him and found his hatch open, with the radio phones and cable and the oxygen mask hose, with the oxygen mask still attached, hanging out of the hatch. No Sunyar.

About that time Dick McCray got a call from the Mother Superior at the nunnery in town. She wanted him to come remove his crazy officer from the nunnery before one of her girls got raped.

It seems that when Sunyar bailed out he made a swipe at his 'chute harness snaps with the chest pack, but only got one snap attached. When his chute opened, he had no control, and was swinging wildly on the way down. He Just missed straddling the spiked iron fence surrounding the nunnery, and bounced off the wall before hitting the pavement. Something in his stability snapped, and Sunyar was never the same after that. He became like a wild man, trying to live it up as much as possible before whatever happened that was going to do him in.

Noel Howard, and his RO, "Mag-drop" Mangone survived three crashes in Beaus. I don't recall how two of them happened, but the third was from a blown tire on take-off at Cannes airstrip, paved with broken oyster shells. Noel saved the Pilot's relief tube from each crash. It was a beautifully chrome plated brass funnel-shaped device with a spring-loaded lid. Noel had each engraved and mounted on a wooden plaque as a souvenir. Mangone still has one.

In late November, or early December, '44, I was taken to Rosignano, Italy, to bring back a Beau being surplussed by a NF squadron there. They had been re-out fitted with Mosquito's. Our guys dropped me off from the B-25 and after they had left I found out that the Beau was not ready to go at all. The battery was dead and something was wrong with the exhaust system. So I nagged the line chief for a couple days until he fixed it and then I flew it back to La Vallon. Imagine my surprise to find the CO and Operations Officer and Line chief at home all mad as hell at me for bringing it back. They didn't expect me to. And if I hadn't, the squadron would get P-61s sooner. But nobody told me beforehand.

We got our first P-61s in March of '45, and moved into Wurzburg, Germany, in early April, with a short stopover at St. Dizier, France, en-route. While at St. Dizier, one of the recent replacements who had trained in P-61s, made a "Hot Pilot" take-off with the wheel retraction lever in the up position, depending on the squat switch to keep his wheels down while still in contact with the runway. Immediately after lift-off there was a slight reduction in wind, and the P-61 settled back on the concrete runway, with the gear up, and the steel props shedding pieces of steel all over the place. One of then hit the pilot's arm and broke it. He got shipped home after what is probably the world's shortest overseas assignment.

In Wurzburg, we got in a few missions before the war was over. On one memorable night, a Beau from the 418th was shot down, and our Jim Pence, next night fighter into that interdiction area, got one engine of his P-61 shot out. Next it was my turn in that area. The previous data was not available to me before we left, so when all of a sudden there were tracers coming up between the cockpit and the left engine, it was quite a surprise. I wracked that P-61 all over the sky trying to get away from those tracer, but the gunner was staying with us when we were so far away that his tracers were falling over my shoulder -still damned close! We found out, later, that it was an American outfit that had been badly shot up that night by a German jet plane. The gunner had a rail-mounted quad-fifty, and he was hopping mad at any airplane that came close.

Although it is not well known, our squadron flew the last "Combat" mission of the European war. The way it happened: We got an alert in September of '45 that there was a German Dornier transport that might be trying to take a bunch of Nazi brass to Spain during one dark night. We were put on Ready Alert to try to shoot it down. Moody Grange, leader of "A" Flight, was first up, and I would back him as leader of "B" Flight. We got a scramble notice in the night and Moody took off. I sure wanted to go, too,

but had to wait until we heard something from Moody. He intercepted the bogey, which turned out to be a Limey Lancaster with its IFF not operating. Never heard anything more about the Dornier. I don't know if the powers-that-be recorded that as a combat mission, but we sure did.

After the war was over there were a lot of active young guys who were getting bored stiff with nothing to do. One of the popular sports during the fall of '45 was hunting. Several expeditions were assembled for hunting deer and boar. The weapons were whatever the participants could scrounge up. I recall one trip where the jeepload of hunters were equipped with an M-1, a Springfield, a carbine, a Thompson submachine gun, and a .45 pistol. From the dire effects of this assortment there came two of the large deer that in Europe are as big as the American elk.

We had a DP (Displaced Person) from Czechoslovakia named Henry who was acting as boss of the mess hall, and he and his helpers fixed those deer for some very good eating, much enjoyed by almost all.

Henry never would tell us what he had done for a living before the war. He must have been in his thirties at the time. But whenever there was a door that got locked inadvertently, and no key, Henry could open it.

One of the guys from Texas - Whitey was his nickname - liked to hunt ducks. He, and anyone he could get interested enough to join him, hunted ducks on the river that flowed past the airfield at Kassel. The hunting was so good that Whitey and friend(s) shot enough ducks so that every man in the squadron could have a duck for dinner for Christmas in 1945.

All the best to you for your much appreciated efforts in re-vitalizing the squadron

Bob Condon

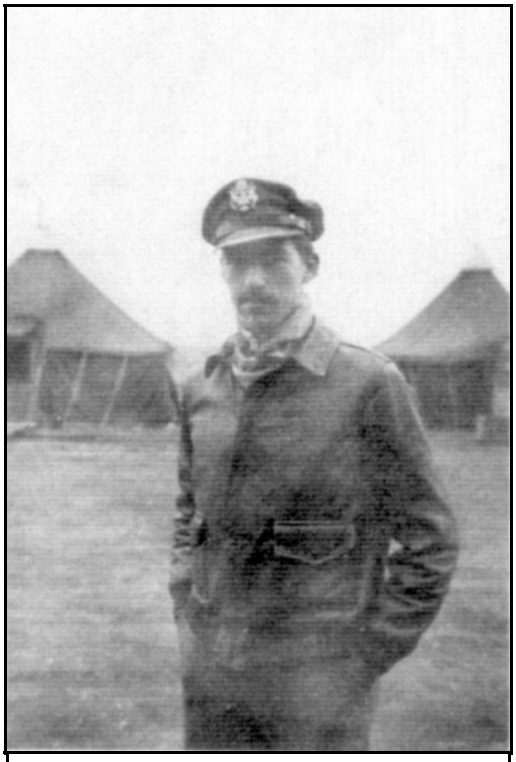
Poulsbo, WA June 22, 1993

Dear Rich;

I may not be good at remembering names, but I sure have a lot of memories of incidents that occurred with the members of the 417th.

For instance, there was the time in the dead of winter at La Vallon, when Al McQueen decided to clean his GI clothing. There weren't any civilians coming around to do such tasks at the time. Or maybe he was just too cheap to pay the minuscule fees they charged. Anyhow he decided to clean them in 100 octane gas. So he got a bucketful from the flight line, and proceeded to do the hand washing of his pants and shirts in that bucket on a table in the middle of the tent row. There is nothing odd about that except that he was smoking a cigar at the time. The rest of us, watching this foolishness from a distance - a large distance - expected to see him and his clothes go up all of a sudden to about the tops of the old poplar trees that were nearby. At least. eighty feet. But Al knew something we hadn't caught on to. There was a strong wind blowing at the time, and the fumes never got near his cigar. After a while we figured out why he was not a cinder, but still it struck us as a pretty risky thing to do.

The mistral was a difficult thing to consider. It was so strong, for the three, six, or nine days that it would blow, that very strange things could happen. For example: the battalion of Negro engineers that was stationed somewhere nearby came over to our field one calm winter day and erected a huge hanger for the line crew to get out of the cold wind while working on the Beaufighters. The hanger was shaped like a Quonset hut, but huge and made of a steel framework covered with canvas. Everything was great until the next mistral. That was the end of the hanger. It blew down, damaging the best of our Beaus. Not the old wrecks that were assembled of so many odd crashed planes that they couldn't be trimmed up to fly straight. No, it damaged the good ones.



Bob Condon at Le Vallon, France.

The trees were big old buggers, about two feet in diameter. They were planted all over the south of France, in an attempt to break up the wind. I suppose they helped some. The access road to our field penetrated the row where we were tented, and the aircrews had to cross it to get to the mess tent. Crossing that road when the wind was blowing could be interesting. Especially when there was ice on the road. At such times it was necessary to crawl across the gap in the trees.

Bathing was a problem at La Vallon. There was only the Lister bag of drinking water, not enough to take a bath or shower. A tin helmet full of hot water was the usual solution. But about once every six weeks we would have access to the public showers in a nearby town. For some reason it seemed that we always got there right after the whole French army had finished their showers. The stalls were full of dirty, soapy water - ankle deep - and they never drained well. As a result there was considerable speculation as to whether we were cleaner when we got through or when we started. "Baines et Douches" it said on the outside wall of the public showers. We were there for the douches. We never saw any baines (baths), and from the looks of the showers, we weren't interested in the baths.

I was on a weekend leave in Marseilles once and for some reason had worked up a sweat and

felt dirty. So I located a public bath-house and contracted to take a shower. The lady who ran the place asked whether I had brought soap. I hadn't, and when she found that she was going to have to provide some, she was somewhat distressed. But she came up with a block of whitish stuff, about an inch and a half cube with black spots in it, and sold it to me for an astronomical price. It acted kind of like soap, but the black spots turned out to be cinders, very scratchy, and the soap was so soft that it completely melted and disappeared in a few minutes. Nevertheless I managed to get clean with it, and realized a little about how much the French people had to endure during the occupation by the Germans.

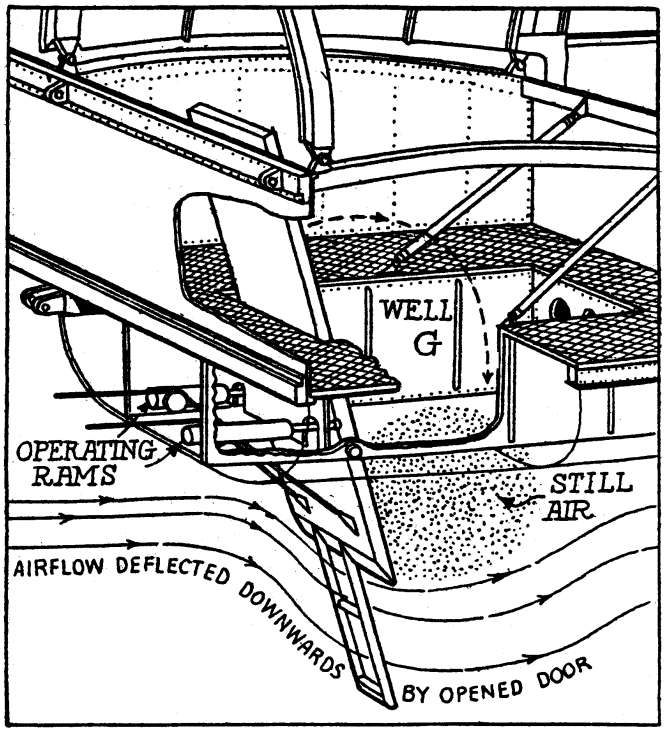
The runway at La Vallon lay east and west, which made the Mistral, which blew from the north, a direct crosswind. One windy night the CO sent for me to see if I would take Woody's place on patrol. Seems Moody didn't have enough confidence in his ability to try flying in such a wind. I was pretty dubious about it too, and decided that if Woody didn't feel confident enough then I better be pretty cautious, too. So I declined the honor. I have never had difficulties with crosswinds, but that one was a doozy, and the Beau's reputation was not conducive to reckless abandon. I had heard that the CO had groundlooped several times while taxiing to the end of the runway for his first takeoff.

One of the crews that came to the squadron in December, '44, included a pilot named Hoffman. He made a take-off at La Vallon in the standard manner, with a Beaufighter; full throttle, then devote both hands to pushing on the control column to get the tail up for good steering control. Unfortunately, Hoffman pushed on the wrong button on the control wheel. He had his hand on the gunfiring button, and all the way down the runway his Beau was shooting up the rocks on the runway ahead of him. After that he was known as Ha—ha—ha—Hoffman.

While at La Vallon, one of the other pilots, I don't recall his name, had put his landing gear control in the up position too soon on a daytime takeoff, and the Beau had settled back enough, from wind gusts, to bump the gear in a partially retracted position. Back at the tent row, we heard about the trouble he was having trying to get the gear to either go on up or go down, and it wouldn't do either. So the CO told him to bail out. He did, and we rushed to where he landed with the ambulance. We found him hanging in a tree, unconscious. We took him down and when he didn't regain consciousness, took him to a hospital. Turned out he had a basal skull fracture. When we visited him at the hospital later, he was severely cross-eyed, but with good prospects for recovery. He got shipped home from the hospital, so I never found out if he did fully recover.

The only way we could figure that he could have gotten the basal skull fracture (spine pushes up on bottom of skull until it fractures) was that he bailed out the side window instead of the bottom hatch, and hit his seat pack 'chute on the elevator.

The training flights we took getting ready to be a contributing part of the squadron



THE ESCAPE HATCH.—An interesting feature of the Beaufighter is the provision made for escape by pilot and observer in case of emergency. A hatch in the floor can be opened so that a portion of the door protrudes below the line of the fuselage, thereby affording an area of calm air through which a man can fall without getting blown backwards on to the structure, even when the machine is diving at more than 400 m.p.h.

were fun. We could explore all over southern France, and did. One crew of our group which had arrived in early November, 44, consisted of Ed Graybill and Harvey Klein. While on such a flight they ran into an unmarked low hanging power line while flying up a valley. I was one of the pallbearers at their funeral. There was very little of either of them in the coffins, they were so lightweight.

After we reached operational status, we had to test hop the aircraft before the night's mission. My favorite place to calibrate the radar altimeter was the Rhone river. I would fly low along its twisting, tree-bordered course and when the props picked up water from the river, the Beau was exactly ten feet above the water.

To test out the guns I would fire at some target on the ocean beach. There was a deserted tower at one particular spot that made a good target. I also found a large round black ball washed up on the beach and made one short run at it. Luckily I didn't hit it, because as I passed over it at low altitude, I realized it was a mine. If it had exploded from my firing, it would have blown my Beau to smithereens.

During such gun checkouts I also found that the Beau was slowed severely by the gunfire, if the four twenty-millimeter cannons and six .303 machine guns all worked. That's when I decided that if I ever had to shoot at a German aircraft, I wouldn't do it from underneath, but rather from the same level, to avoid the risk of stalling out from the reaction of the guns.

After we got our P-61s we moved into Germany via a stop at St. Dizier (pronounced D-Z-A) in central France. While we were at St. Dizier a Ju 88 tried to land one night and the tower gave him a red light. He made a go-around, with one engine completely dead, and landed at the next try. Turned out it was a newly trained Luftwaffe pilot who had been given enough gas to barely get to his target and back. He had already decided to surrender, and St. Dizier was as far as he could get with the gas supply.

Also while we were there a Beau from another Night Fighter Squadron crashed and burned in the woods at the northwest corner of the runway.

And one of our guys buzzed the tent row, and almost crashed from not knowing how badly the P-61 mushed in a steep pullout. He came within fifty feet of the ground, and blew some tents down.

From St. Dizier we were moved to a small unremembered farm village near Wurzburg, Germany. There was an Me 262 at the far end of the runway from the ready-room, where we stayed the first night. There was also an unexploded 500 pound bomb in the basement of the ready room. And bomb craters on the runway. Altogether a pretty spooky situation.

That evening while we were waiting for the army cots to arrive, I stepped outside to relieve myself under a tree. I had left my hat in the building, and when one of those humoungous June-bugs lit in my hair and scrambled around vigorously I nearly jumped out of my skin.

We were billeted in the farmers houses in the little town. That's when I discovered how backward the farm folks of that country were. There was a pile of cow manure Just outside the bedroom window. I was told it was standard procedure to do that so the heat of decomposition would help keep the house warm. I don't know how many BTU it added to the building, but it certainly added an "air" to the environment.

The buildings of the farms had been roofed with red clay tiles, like the Spanish use on their houses. I say "had been" because the bombs that landed nearby had shaken the buildings so badly that they had all shed their roof tiles and had only skeletal framework for roofs.

I have already discussed the time my P-61 almost got shot out of the sky by an angry American with a quad-fifty anti-aircraft gun. That was while we were at the little village near Wurzburg.

Shortly after we moved to Wurzburg the war concluded, and we were left with little to keep us occupied. I obtained a Walther P-38 pistol, and when I fired some blacknose ammo in it, it like to broke both my ear drums and my wrist. So I traded it for a motorcycle that one of the guys had "acquired".

Found out later that blacknose 9mm ammo was for machine guns, not handguns.

While we were there one of the guys shot a flare through the web of his hand between the thumb and first finger. Doc had to give him two shots of morphine to stop the hurt.

I also "liberated" a small German auto, an Opel Kadet. It had a lot of water in the very old gas in the tank and I had to take the carburetor apart and clean it out three times before I got rid of that water and sludge. I never did find out how many gears that transmission had. They weren't very far apart and it was too noisy to tell from the engine speed what gear it was in. The MPs liberated it from me and returned it to the original owner. When I complained to their Captain, he told me to shut up and go away while I still could.

From Wurzburg we moved to Darmstadt, which was a grass field with steel mat for a runway. After the first heavy rain I made a landing on the slick, mud-covered runway and skidded off the far end into a mudhole. The line guys had to get the Cleatrack to pull me out.

The 417th Engineering guys used a Cletrac for all types of towing and maintenance duties. This is at Schweinfurt, but it was typical of all 417th stations.

There had been some construction work going on at Darmstadt, and there was an abandoned diesel locomotive and a couple work cars on a short piece of track. We tried to fire up the diesel, but it wouldn't go with the small amount of compression we could generate by cranking. We found a long rod with a tubular end that locked into the cylinders with a "bayonet" lock. We tried to insert cigarettes in the tubular end and ram them into the cylinders while it was being cranked, but it just put the cigarettes out. So I had an inspiration. I got some hot-patches from the motor pool, and pieces of those would get the diesel running.

Next we scrounged the countryside for more track. Found quite a bit of straight, and one piece of curved, and lots of fishplates. So we ran the track off the hardstand where we originally found the engine, and through the woods toward the camp. To go around trees, we pried the straight track into a curve and staked it down with stakes from the steel-mat runway. This would leave a gap in the outside rail, and the engine jumped the track several times. We were always able to get it back on by using two pieces of straight track, bolted together, as a lever, and a chunk of tree for a fulcrum.

Dick and I scrounged up a locomotive bell off of a badly shot-up locomotive in a nearby field, and the guys from the motor pool donated a whistle that had been fabricated to go on a six-by-six exhaust pipe. The bell worked fine. Too good, actually. Me got to be worse than a nuisance with that @#$ %&* bell. But the whistle was made for a continuous flow of air or exhaust thru it to sound like a steam whistle, and the diesel only had two slow, long-stroke cylinders, so it went hoot, hoot, hoot, instead of WHOOOOOOOEY!

There were also two Bucker 181s at Darmstadt and two gliders. The Bucker 181s were small, side-by-side two-seated, fixed gear, low wing airplanes. One had something wrong with its carburetor that we never got fixed. The other was flyable until some passing GIs cut the swastika out of the rudder fabric. I flew that one before it was wrecked, and it was interesting trying to figure how high and how fast with the metric dials on the instruments.

I also flew one of the gliders. It was a "primary" glider, which means the body was open framework and the pilot sat out front with nothing around him, and no instruments. We would tow it with a 100 foot long rope, which would get it up to about fifty feet, then cut loose and glide to a skidding stop in the tall grass.

Few of the pilots would fly it. Too scary with no instruments, especially no air speed indicator. But they thought nothing of taking up a 4000 horsepower brute full of 100 octane gasoline. Those of us who did fly it had a lot of fun until a landing hit a big rock tossed out of a bomb crater and busted the landing skid. It was made of laminated and glued wood and we had no way to/fix it.

The other glider was a secondary model that looked like a real airplane, but there were a lot of control cables and other parts missing so it wasn't flyable.

While Dick and I were sitting in the tent one pleasant July afternoon, one of those big June-bugs flew in the tent, hit the tent pole, and crashed on his back on the wooden floor. Immediately a half dozen tiny, bright-red critters, so small as to be almost invisible, climbed off and started to go exploring. They crawled sideways like a crab. They got about four inches away before the June bug recovered from the impact and started to wiggle its legs. That was the signal for all the tiny red mites to scurry back to the June bug and climb aboard. Just as the last one got on, old June bug got himself turned over and took off. I doubt he even knew he had passengers, but those hitch-hikers had him perfectly calibrated. Not a single one of them got left behind.

From Darmstadt we went to Klein-Gerau, where there was a huge, concrete runway, virtually untouched by the war. There was a rumor that the reason it was untouched was that it was so close to the I. G. Farben plant in Frankfurt, nearby. Seems the bombers were forbidden to bomb that area.

While at Klein-Gerau we were billeted in the farmhouses of the tiny town. August was the time when the crops started showing up, and the house Dick and I were in had gooseberry bushes out back. Those berries were as big as giant olives. We talked the landlady, whose husband and son were in the German army, but not heard from for some time, into making us a gooseberry pie. This was no easy task, as she spoke no English, The only German-speaking member of the squadron was Doc Weinberg, who had been rotated home already, and there is no word in the German language for "pie". But we finally got across the idea that we wanted her to make us some pastry out of the gooseberries; so she told us what she would need and we got it from the mess supplies and she went to work. That evening she brought in her masterpiece. It was what we think of as Boston Cream Pie. That is actually a two-layer, white cake with sauce between the layers, sauce on top and a border of whipped cream around the top rim. It was delicious, and it disappeared before any of the other guys knew we had it. Some things are meant to be shared and some aren't!

Paul Peyron with one of the Piper L-4 airplanes

At Klein-Gerau there was a Feisler Storch at the far end of the taxi strip, so I decided to taxi it to the near end to try to get it into flying shape. The aileron and elevator control cables were disconnected, but I could steer with brakes and rudder. I was fast-idling along back down the taxi strip when I noticed that the ground was receding from under me. The plane was twenty-five feet in the air! I brought the throttle back to slow idle and we gently set-

tled back on the ground. I would love to have flown that airplane, but before we could get it working, we were moved to Kassel.

Just before we were moved, Dick and I were out practicing stalls in the Piper L-4 we had, and as the speed slowed the engine stopped. I put it into a vertical dive (we were at 3000 feet) to try to get the engine to turn over and start again. The prop rotated 180 degrees and that was all. By then we were down to 800 feet so I began looking for a landing field. The only suitable (almost) spot was a small, narrow plowed field with a peach tree in the middle. I slipped it down to fence-top level, slid past the tree going sideways, straightened out, jammed it down, bounced once in the soft dirt, and hit three-point, fifty feet later with the brakes locked. We skidded twenty five feet in the wet dirt and stopped.

It took Dick and I a couple hours to hitch-hike back to Klein-Gerau, where we told the line crew what had happened and that they would have to take the plane apart and truck it home as there was no way to fly it out of there. They were not really happy about that thought, and when they saw where it was, next to a big field full of tall grain, they thought I should fly it out of that field. When I pointed out that it would never be able to pull itself out of that tall grass, they offered to make me a runway. They drove the six-by-six to the far end and back, thereby flattening two tracks, just the right distance apart for the Piper's wheels.

Dick decided to ride the truck back, partially because there was a high power line across the far end of the improvised runway. Without his 175 pounds in the back seat I got it off and past the power line. To this day I don't know whether I went over or under that power line.

Having shown such dexterous skill with the Piper, I was assigned to fly it when we moved from Klein-Gerau to the airfield on the hill above Kassel. I suspect that Captain Deakyne knew there was a squall line coming that day. It hit me while I was half way there, long after all the others had landed. It was blowing from dead ahead, and so strong that with full power I could barely make headway to the nearest field, a half mile straight ahead. I landed across the taxi-strip and used almost full power to get up to the hanger out of the wind. Inside the hanger I was told that I couldn't eat in the officer's mess, because General Eisenhower was visiting that day, and I was not in proper uniform. So I sponged some food in the kitchen and when the storm had passed I went on without ever seeing the General.

At Kassel there were a lot of things to keep busy. There were boar and deer hunting, and duck hunting, and I found a complete photo lab in some of the boxes that the squadron had carried around since shipping overseas, without ever having opened them up. There was a Press-Graflex camera, and all the stuff needed to develop and enlarge photos. This may explain why the 417th never got much press coverage in any of the books or photo spreads of the troops overseas. Unfortunately there wasn't much raw film, and the stuff I mooched from the photo-recce squadron also on the base was so fast that it was exposed as soon as I took it out of the box in a closet, in a room with blankets over the windows, at night. Nevertheless I had a lot of fun with the photo lab. The standard house current there was 240 volts, however, and I got shocked more than a few times what with all the wet chemicals and doubling up of the equipment to cut the voltage down to usable level. You can believe me when I say that 240 volts is serious shocking. It would paralyze my whole arm for a few hours.

One of the guys located an Me 109 that was almost in operational shape at a little field in Czechoslovakia. The brass decided to try to get it in flying condition and they located a German Me 109 mechanic who was willing to do the Job. At some point in the many flights back and forth between Kassel and the little 2000 foot long field, somebody made a too-hot landing at the small field and badly overheated the brakes on his P-61 so they wouldn't break loose on one wheel. The mechanics determined that the best solution was to fly a replacement wheel, with brakes installed, to the field and change it there. Hoffman was selected to take it. And he took the P-61 that we shared, he and I. There weren't enough P-61s to go around to all the pilots.

As I watched the takeoff from the ready room, I saw something bounding along behind the P-61.

It was the wheel. The loaders had put it in the radar operator's cockpit, behind the gun turret, and hadn't tied it down. When Hoffman shoved the throttle to the big, black bird, the acceleration slid the wheel back onto the rear hatch, and its lock gave way under that much weight. By the time we realized what it was and got to the radio, Hoffman had already switched channels and we couldn't contact him to tell him he didn't have the wheel anymore. He didn't find out until he landed at the little field.

When the Me 109 was ready, one of the squadron's old-time pilots flew it, but he had serious trouble. The German ready-rooms at every fighter base had cautionary notes about the torque of the engines on those planes. It took full rudder to counteract it. We decided that our guy must have done something less, because as soon as the Me 109 cleared the ground, it went into a hard left turn, and never straightened out. It went around about 270 degrees and then the wingtip touched the ground and it rolled up in a ball and burned.

Shortly after we got to Kassel, the squadron acquired a C-64, which was a Noorduyn Norseman, on wheels instead of floats. I suspect it was designed for floats, because the thing was difficult to control on landings with the tail down. The fat fuselage would blank out airflow over, the rudder. Then the high CG, and narrow landing gear, and long wings would tend to go around in circles rapidly if left to their own devices. The pilot had to be quick on the rudder pedals to avoid ground loops. We had the only C-64 in Europe that had both wings in good condition.

It was soon established that "Dirty" Dalton and I were the only pilots in the squadron willing to fly it, so we put a lot of time on it carrying the enlisted flight crews that were beginning to show up as replacements. They arrived with their flight pay about to expire, and needed lots of flight time to make up for the lack of same during shipment overseas.

When we arrived at Kassel, there was a German twin-engined trainer that was for training Bomber crews. It looked like a miniature Heinkel 111. The night before the day I was to get checked out in it, one of the Night Photo Recce planes blew a tire on take-off, and skidded off the runway and demolished the bomber trainer. All I got to do was take photos of the wreckage. No checkout flight.

Early in the time we spent at Kassel, I found that the P-61 I was flying didn't want to lower its nose wheel. Landings are pretty hairy under those conditions, so I pulled a sneaky trick on the airplane. I pulled it up into a steep climb and when the speed fell off to almost nothing I pushed the nose over hard and simultaneously put the landing gear control in the down position. In essence, I rolled the airplane around that nose gear strut, and it popped loose and went down like it should. I wrote it up on the Form 1, but the crew couldn't find anything wrong with it. So we sent it to Frankfurt for major repair, and when they called to tell us to come get it I was sent to pick it up.

When I asked the line chief at the Frankfurt repair facility what they had found was wrong, he said "Nothing. We couldn't find anything wrong at all." Well, I knew better, so as I departed with a ride-hitching passenger, I left the gear down to be sure it was that way when we got home.

About a quarter of the way to Kassel, we ran into a wall of cloud that extended from the deck to as high as I could see. I started calling for radio help as soon as we were well into the soup, but nobody answered any of the eight channels the P-61 carried. So I decided to climb above it. But by the time we got to twenty-five thousand feet, and it still looked dark overhead, and we were picking up a lot of ice, I decided to raise the gear, lose some altitude (my passenger didn't have an oxygen mask and he was looking a little woozy) and bore on through it.

We flew far enough to be about over Kassel and still no response to any radio channel. I had no idea which way the wind could have blown us so there was nothing left to do but try to bore through it. After about another half-hour we were getting low on gas. Had used a lot flying with the gear down then trying to climb above the soup. I asked the passenger whether he would rather bail out or ride it down, and he said he wasn't particularly fond of the idea of bailing out, so I dropped altitude to as low as I

dared over Germany, and mushed on.

All of a sudden there was a hole straight below us and I could see a river. The hole wasn't very big - really a kind of chimney. So I dropped full flaps and corkscrewed down to about 200 feet above the river. That is where the ceiling was - 200 feet. We flew down the river, with a range of steep hills on the right side, and small hills with lowering clouds on the left. All of a sudden we were entering a town as the river valley broke out into flat plains. The town turned out to be a city, but it was a new one on me. Not a bit familiar. We were so low we couldn't read anything on the vehicles, but they weren't American army vehicles.

I decided to go beyond the city and belly it in to the first good sized field we came across. I found a good one on the other side of the city, and as I buzzed it lengthwise, something white flashed by on both sides. As I passed the far end of the grass field, there were two white letter L's - one on each side. Hot dog! A German fighter field.

I pulled up into the soup and made an instrument procedure turn and dropped flaps and - landing gear? Yup. The familiar kick in the pants told me the nose wheel had gone into down lock. We broke out of the clouds perfectly lined up with the runway and fifty feet above the ground.

Fw 190 captured in Germany by the US and evaluated by AAF. The Bf 109 being prepared by the 417th would have been used in the same program. Photo provided by 417th Squadron member.

The landing was anticlimactic after the weather. As we approached the only other airplane on the field, back at the end we had not noticed before, we realized that the airplane was a Focke Wulf 190 that had an extra three feet of straight tubular fuselage spliced into the body aft of the cockpit. Some kind of experimental base, I suppose.

The truck that came rolling out to greet us was one of those funny-looking ones, and I thought we were going to have to learn to speak Russian until an obviously British officer jumped out and came smiling to meet us. Whew, what a relief.

The Limeys gave us two hundred gallons of 100 octane from some cans they had found, all of it filtered through a chamois by a poor enlisted man on top of the wing in the cold wind, and treated us like royalty. We were tempted to stay indefinitely, but Christmas was coming up and we wanted to get home to be with friends, so we left as soon as the weather broke.

There was snow in early December, while we were still living in the houses on the south side of the runway at Kassel, and we got some great snowball fights going. That was the last time we enjoyed snow that winter, though. It was bitterly cold all winter. At least it was until I left for home at the end of February. I had managed to get some fur lined German Flying boots, but they were too small for my big feet and there wasn't room in them for the felt soles that were supposed to be part of the boots. So I stood on thin rubber soles with no insulation at all on the bottoms of my feet. It was so cold that as we passed through Antwerp on the way home I had a Belgian shoemaker sew the furry lining from my B-15 Jacket into my leather A-2 flight Jacket. THAT made a warm combination.

The ship that took me home, along with a lot of other guys, was a Victory ship, and we passed

through some of the terrible storms in the North Atlantic that winter. The ship would rise up on a huge wave, and pause at the top, then slam down into the oncoming next wave. Every time it slammed down it quivered like a knife stuck into a door. I thought of the high-school boys who had welded those ships together and hoped they hadn't become so money-hungry that they had done less than a good Job. Apparently they did a good Job on the ship I was on, although more than one such ship broke up in those storms.

That ought to satisfy you for stories, Rich. There are many more, but few of them would be of general interest. For that matter, some of these might not qualify, either, but I just had to tell them to somebody. By the time I got home, the war had been over for so long that war stories were no longer acceptable in polite company, so I never got to relieve my angst. Not until now, that is. Now I can finally breathe a sigh of relief. Thank you.

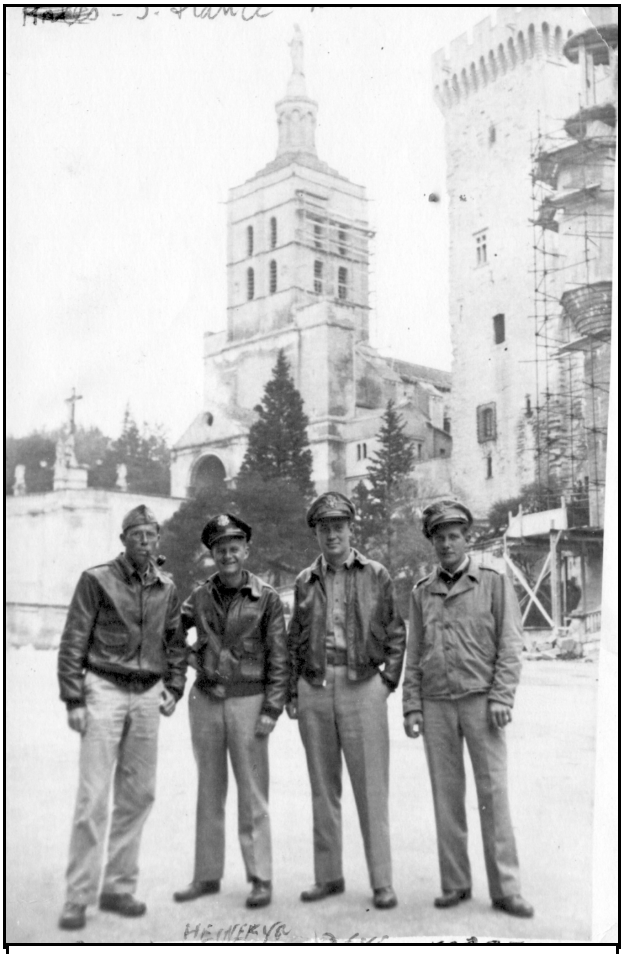
Bob Condon

1/25/93

Dear Rich,

To expand on the answer as to when I joined the squadron, I think I joined the squadron in the late fall or early winter of '43-'44. However, my real activation as an active RO did not take place until early spring of '44. That's because on Hew Year's Eve '44 I broke my ankle on a cobblestone street in Oran, North Africa and was hospitalized for a short tine afterwards. Had my foot and ankle in a cast for about 6 weeks after that and consequently was not exactly fit for flying duty. During the period I was grounded my fellow replacements were being checked out in the Beaufighters and Mark VIII Radar, so I had some catching up to do.

I cannot recall the exact number of aircrews (pilots and ROs) that was in the group assigned to the 417th. It was either 2 or 3 crews. My pilot was Tom Hill and one other crew was Russ Gebler pilot and Everett Packham RO. They probably also had already left the squadron by the time you got there since they came on-board the same time that I did. In the late summer of '44, after we had moved from Corsica to Southern France, I was teamed up with a new pilot who had been transferred to the 417th from the Royal Canadian Air Force. He wore his American Wings on the left side and his RCAF Wings on the right side. I got a new pilot because my first pilot, Tom Hill, refused to fly in the Beaufighter any longer because of a series of unfortunate incidents which completely destroyed his faith in the plane (remind me to tell you about these sometime). Ted Deakyne and I flew together for the rest of my time in the squadron, which was till February of 1945. We came home together, but he came home for only 30 days and I came home for good.



Arthur "Doc" Katzberg, Harold Heinecke, Ted Deakyne, Carleton Frazee (L-R) at Avignon, France (Pope's summer home, picture 1944)

Hill and I did get credit for a (July 8, 1944) "probable" when we were flying out of Corsica. We were vectored on to a Ju 188 that was flying at about 3 or 4 thousand feet. I'll have to confess that I can't take much credit for that "victory" because we had been at a higher altitude and I had all I could do to pick out the blip made by the Ju 188. The sea return on the radar was obliterating everything (the lower you fly the more sea return you got on the radar). Anyhow, the rear gunner on the Ju 188 started shooting at us before we opened fire on him. Hill saw some of our shots hit and the Ju 188 dove away from us. We were given credit for a probable because the Ground Control Radar lost radar contact. Before the engagement he had two blips on his radar, afterwards he only had one, and we were still flying. After we got on the ground, we went over the Beau with a fine toothcomb but couldn't find a single bullet hole, but the way those tracers were flying past my canopy I just couldn't believe it.

Harold Heinecke

3861 Orchard Street
Walworth, NY 14568
6 September 1993

Dear Rich,

Your "WHAT'S HAPPENIN6 IN THE 4l7TH N.F.S.?" postmarked 5/28/93 arrived promptly. Congratulations on a task well done. Those squadron insignia bring back memories of Corsica and southern France where we had hopes of making one of them official. Here's my check for $5.00 for a pair with the rest to go into the pot.

While looking for some other information in the archives, I ran across three or four yellowed mimeoqraphed pages of European legal size sheets of "FIGHTER DIRECTORY VOCABULARY" (see Appendices/Editor) to teach us Yanks to talk and understand English as spoken on our R/T (radios). You may find the enclosed copy interesting.

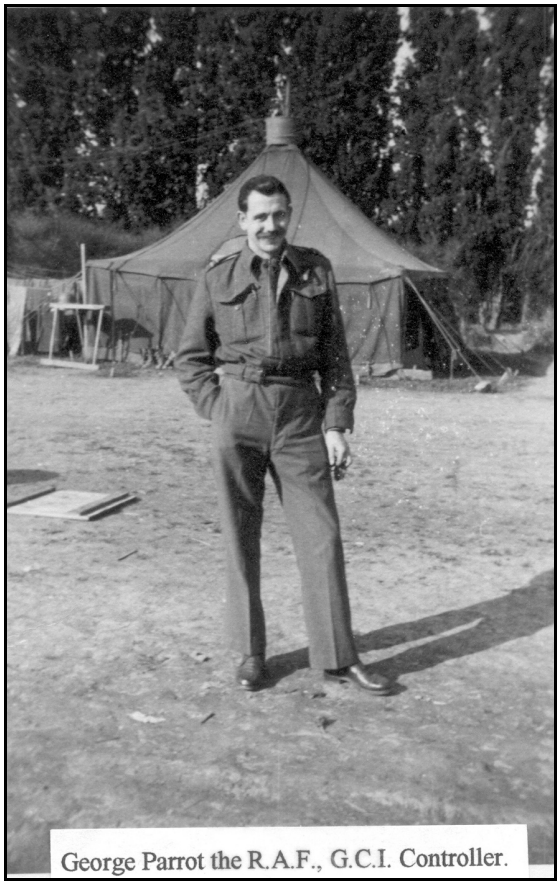
I'm also sending along an up-dated version of the list of 417th aircrew derived from the Historical Research Center microfilm A0801. It includes a few KIA and MIA's not shown on your Deceased Roster. L. C. Caotmoll on your listing should, I believe, be E. C. Cartmell who was shot down by "friendly" ack-ack two weeks before the European hostilities ended. You will probable find a few other discrepancies in spelling. If so, the microfilm may help.

In addition to aircrew, R. J. (Shorty) Melancon died in hospital 8 February 1945 of an unidentified illness, and Sgt Tucker (name or initials not shown in the history) was killed in a weapons-carrier accident 25 May 1944. He may be the Harry E. Tucker shown on your list.

Did I send you a copy of the 417th's Pilots Log? Beginning 26 September 1943 our Operations Officer, Capt K. K. Nelson, directed us to record a short summary of each flight. By mid-March 1944, the log faded out. Today it makes interesting reading. If I (and the rest of the squadron) have neglected you, let me know and I'll slide the disk into the drive and run off a half-inch thick copy.

The two tracings are prized possessions, and in a round-about way may explain why some of the original squadron crews tended to be Anglophiles. Flying Officer George Parrott who did both of these tracings first crossed our paths when he was an RAF ground radar controller working with us out of Scorton in the U K. His A. M. E. S. (Air Ministry Experimental Station - GCI to you and me) worked with us thru North Africa, Corsica and southern France. The plot of Hostile 362 vs W/N 77 on July 20, 1944 is what the Ground Control Station recorded of Inglis and Hearne intercepting Jerry. The landmass on the western edge is Corsica, and the island is Elba.

The tracing dated March 1, 1945 is less dramatic — my last chase in a Beaufighter out of LeVallon in southern France when Jerry got higher than I could. Naturally, I'd like them back after you make copies.


George Parrot the R.A.F., G.C.I. Controller.

I thank you for the enclosures (Noel Howard's report of his crash in ND139; copies of "The Fryinq Pan"; 417th 2/12/93 roster and Bob Condon's letter). They keep reminding me of how much organizing my 417th information needs.

Keep up the good work, and our best regards to you and Lorraine.

Sincerely,

s/Dick McCray

Following completion of the squadron establishment and assignment of personnel, the 417th departed Kissimmee, Florida in early May 1943. The destination was England for assignment of British aircraft and equipment, our C.O. was J. T. Ehlinger. From Florida we proceeded to Camp Kilgore, N.J. for overseas processing. Shortly after arriving the squadron boarded the *Queen Elizabeth*. In the process we saw the *Queen Mary* in dock for repairs to her prow. Both ships crossed the Atlantic unescorted, having been escorted out of port to open seas. In the *Queen Mary's* case, leaving England in a heavy fog a British cruiser cut in front of her and the *Queen Mary* nearly cut the cruiser in two. The *Queen Mary* continued to New York for repairs.

The Queen Elizabeth was a huge ship and looked it, 67,000 tons, I think. We were packed in with others, 15,000 troops total on that ship. The ship was unescorted and sailed in a zig zag pattern at 25 knots. Our route took us near Bermuda and Ireland, arriving in Glasgow in six days. While enroute the ship's captain informed everyone that the German radio had reported the sinking of the *Queen Elizabeth*.

After arriving in Glasgow the 417th was housed temporarily at a British airfield some distance from Glasgow. This airfield was used by British and American 8th AF Bombing outfits. All windows in all quarters were blocked out by some type of black material, which served a dual purpose. At the time of year we were there sunlight was visible until after midnight. The darkened windows also helped our sleeping during the long daylight hours.

Shortly after arriving in Glasgow we were ordered to a British Air Base at Bedford, England for training then to a British base in Northern England for outfitting and training in the British *Beaufighter* and related equipment.

Sometime in August we left England for combat assignment at Tafaraoui, Morocco, near Oran. Tafaraoui was a small French base from which the 417th conducted intruder missions and patrol over the Mediterranean and the Spanish coast. The landscape surrounding Tafaraoui was bare and desolate, the temperature was very hot and the flies were everywhere and unforgettable. October and November were wet and cold. General Doolittle had been there prior to our arrival and he stated it was the "muddiest place in the world." The 417th shared the base with the British and the French, the British were flying amphibians and the French the American Aerocobras. The 417th as well as the British and French lost a number of aircraft and personnel in operation from this base. Prior to our receiving the newer Beaufighters our crews were experiencing navigation problems at night and during bad weather returning from missions. We converted some IFF equipment into a homing beacon when triggered by the Beau's radar.

Christmas the German's sank some ships in the Oran Harbor. Among the ships sunk was a mail ship. We got our Christmas packages but most of them were soaked with seawater (tasty cookies).

The date the 417th departed Tafaraoui escapes my memory. We were ordered to Corsica, on the east coast of the island some miles south of Borgo. We shared this base with a British Fighter outfit. This air base had recently been occupied by Germans, and they left a number of bombs and other ordinance scattered over the area, some of which were booby trapped. However, some of our 417th people found a use for the bombs, fishing with them by detonating them in the nearby marsh. German reconnaissance flights by "Bed Check Charlie" were a nightly occurrence and the Germans made occasional bombing runs. The British fighter outfit nearby was frequently hit and in one raid suffered severe personnel losses. A large number of the British had fox holes in a large grove of trees. The Germans dropped frag bombs in the trees one night, the fox holes afforded poor protection.

An American fighter group was stationed on the southern end of the island and at one point they were undergoing night flying training, one night one of them flew over our area, the pilot while experiencing night vertigo bailed out at 10,000 feet. His chute did not fully open and we watched him in the searchlights fail feet first into the marsh by the sea. Some of us visited him in a nearby hospital, he suffered only bruises from the jump.

The 417th remained in Corsica during the landing at Palermo and the siege at Cassins. Shortly after the landings in Southern France the Air operation was experiencing difficulty coordinating radio communications

between Army Ground Radar Units installed on the Operation Control ship "*Baby*" anchored in the St. Tropez Harbor. This difficulty was due to the lack of accurate frequency calibration equipment in air and ground operations. The 417th had recently received a new and accurate frequency meter. The Commanding General directing air operations on the control ship apparently contacted the Commander of the air wing to which we were attached. The 417th Commanding officer arranged for the 417th personnel to report to the Operations ship and furnish assistance. All communication and radar equipment on the Control ship were adjusted to conform to those specified enabling successful ground air operations.

Shortly after the allied landings, the 417th was moved to Southern France near Arles. This was approximately 40 miles northwest of Marseilles. This area was part of the Rhone Valley. At the time of the year we were there strong winds, called "Little Mistral" and "Big Mistral", were common. We experienced the little ones, tents and equipment were blown down or damaged. The engineers had erected a portable hangar for the squadron. You guessed it, the wind destroyed the hanger. The squadron's operation during the time we were at this location was in support of Patton's push through France into Germany. Intruder missions and flying all manner of supplies in support of his drive, shortly after arrival at this location the 417th received orders to move to Italy. Everything was packed and the squadron caravan was on the road. After proceeding 2-3 miles orders were received canceling the move. I don't think anyone was unhappy with that change of orders.

The 417th moved to a small airfield about 75 miles east of Paris sometime in the spring of '45, staying there only a short time. It was in this period that the 417th, received the P-61's. Events moved rapidly and so did the 417th, three locations in Germany (I don't know by name), staying there only a short time. One was a German village within about a mile of a Nazi concentration camp. Two others in a dense forest, one of these being near a camouflaged German jet field. The jets were hidden in the dense forest near the autobahn. Large trees growing in root balls were supported on rail cars. The trees would be moved away from a taxi way to the autobahn. The center dividers on the highway would move to the side of the pavement leaving a wide runway for these aircraft.

(L-R) Speier, Berry, Williamson, Jeffrey & Kulpinski in Background, Nelson in front, with women at 1st Reunion Dinner, Hammer Field, Fresno, CA. Many of the 417th crewmen served at Hammer training new crews for Nightfighting.

We were located in Giebelstadt, a village near Wurzburg for a period and our last location was in the vicinity of Kassel. We were there when the war ended. Word came that the outfit would remain in Germany as part of the Occupation Force, however, as replacements came in, our personnel were processed for return to the States. I left in late September however, because of some trouble with the French, and did not arrive in England until November. There was no available transportation, on our own our group managed to procure a Liberty ship, the *S.S. Huntington* for passage to the States. The Atlantic was rough, the ship's captain in fear of losing the driveshaft slowed the ship to minimum speed, taking a month to reach New York. In doing so we ran out of food. This is not direct information regarding the 417th, however.

The above is related to the best of my memory. How much coincides with your memory? I had a few photographs but misplaced them. If I locate them I will send them along. Few pictures were taken due to the lack of cameras, etc. and due to the 417th's remoteness from other American outfits during the ETO campaign. Also the barren and sometimes desolate areas and surroundings didn't seem conducive to picture taking.

I am including the name and address of Robert Shafer (6058 Osbourne, Sepulveda, CA 91349, (818) 892-1628). His uncle, a pilot, was transferred from the RAF to the 417th in England and was killed at Tafaraouri. Mr. Shafer is gathering all information available relative to the 417th as he is attempting to portray the 417th through paintings. He would welcome any information anyone could give him.

Also find included a copy of the *S.S. Huntington's* newspaper which you may find amusing.

George E. Nelson

****

Dear Richard: June 10, 1993

Thanks for the newsletter of the 417th. I was going through some of my files and am sending the enclosed information for what it is worth.

As I may have told you previously, I was one of the original Radar observers assigned to the 417th at Kissimmee. Except for Dan Cordell (who was a Flight Officer we Radar Observers were all enlisted (I was a Pvt.) when we sailed over on the *Queen Elizabeth* and during our initial training in England. The R.O.s were sent to RAF Usworth near Sunderland, England for about 30-40 days of extensive training after which we joined the Squadron, and our pilots at RAF Scorton. We were appointed Flight Officers on July 30, 1943, just shortly before leaving England for North Africa. I flew with Bill Larsen on that trip and later in North Africa I flew with C. K. Fuller before he and John Clemmons were killed at LaSenia Air Base in Oran.

When I left the Squadron for the States in December 1944, we were in Southern France. As the aircrews were returned to the States, just about all were eventually sent to Hammer Field in Fresno, California (which is where the P-61 crew training took place). We all became instructors.

Enclosed is a program for a dinner dance, which I worked up listing the original pilots and ROB along with replacement aircrew members (thru November 1944). As the program states, this was the first 417th reunion. Also enclosed are some pictures from that party. I have identified the fellows for you.

I recently received the Night Fighter newsletter and note that the next reunion will be in Norfolk. Perhaps I will try to make this and look forward to seeing you again. Keep up the good work.

Tony Spier

Original Aircrew Members

J. T. Ehlinger	R. O. Leeman
W. A. Larsen	D. B. Cordell
H. A. Stirnus	J. F. Draper
*J. S. M. Lee	T. C. Kulpinski
R.C. McCray	*L. R. Potter
*A. L. M.cQueen, Jr.	R. D. Hamilton
*J. E. Leonard	†R. W. Hall
S. B. Hooten	*R. W. Christensen
*C.E.Watson	J. F. Fenimore
J. F. Kirwan	*T. DeSantis
*R. F. Swift	J. M. Van Laecken
W. G. Groom	*H. A. Kohrman
*G. W. Hughes	†H. L. Roth
R. W. Jeffrey	*J. F. Clemmens
W. R. Williamson	W. A. Henderson
*C. K. Fuller	G. F. Allen
T. A. Deakyne	A. A. Speier
*F. McClain	†W. A. Roble
	A. Hendershodt

Replacement Members (to November, 1944)

K. K. Nelson	R. E. Perkins
R. J. Gebbler	E. F. Packham
T. A. Hill	†H. H. Heinecke
G. N. Wilson	E. R. Berry
L. G. Mouldrem	E. H. Bowman
J. E. Davis	W. W. Woods
S. C. Rial	J. W. Chelf
R. C. Anderson	T. L. Welfrey
*J. DeVore	*W. Grinell
H. J. Allen	F. S. Campbell
N. Howard	R. P. Mangone
J. W. Grange	*F. P. Rogers
*M. D. Campbell	R. J. McCullen
R. J. Pence	S. C. Russell

* Members lost either through enemy action or through the misfortunes of night fighting.
† Discharged members
(Roster from August 4, 1945 Dinner)

My Memorabilia of World War II

September of "42", I was drafted into the United States Air Force. I was sent to Scottfield, Illinois for training. After graduation I was sent to Kissimmee Air Base, birthplace of the 417th Night Fighter Squadron. The 417th was conceived on Feb. 20, 1943. On March 5, 1943 the 417th Night Fighter Squadron fourth unit of its kind in the history of the U.S. Army were thus amongst the original official night fighters in America air force history. The infusion of lifeblood began. Kissimmee Air Base, Florida just 20 min. southwest of Orlando, and on March 6, 1943 we were finally assigned a commanding officer, his name was Captain Joseph Ehlinger.

We were men from all walks of life, from comparative old timers to a few rookies barely out of basic training. Yet we were all equipped for our jobs. There were 266 men who made up the 417th, and on April 26, 1943 at 8:30 a.m. we left Kissimmee Air Base for Camp Kilmer, New Jersey, staging area for U.S. Army units going over seas. No one was able to have any communication with the outside world, our location and expectations were taboo. We shipped out at night and the New York skyline though "dimmed out" was nonetheless impressive. The Empire State Building and Woolworth's were familiar landmarks. We passed pier after pier of ships in the New York harbor, one of them the lopsided hull of the French liner *Normandie* could be seen.

Bill Rhodes waiting quietly! Tafaroui, North Africa.

We boarded the *Queen Elizabeth* and our destination was Scotland. We pulled into the firth in Greenock, Scotland however the 417th didn't disembark until the next morning when we arrived at Ayr, Scotland. On May 23rd we went from Ayr to Scorton, England. Scorton was an operational R.A.F. Air Base. We shared the air base with them, eating in the R.A.F. mess. During this time the crews averaged 70 to 80 hours each of flying time. About this time we had our first fatal accident. Flight Officer and his observer, a mechanic cracked up on the coast coming from some air base to sea firing. Flight Officer McClain and mechanic Cpl. Dyer were killed.

On July 12th our C.O. Ehlinger was appointed major, all of us were sincerely pleased. By this time we all knew we were going to Africa. My assigned duties were to be in the control tower.

There were 32 ships in the convoy to Africa, with the usual destroyer and corvette escort. When we pulled into Algiers harbor we had been eight days at sea.

The squadrons second fatal crash occurred on the morning after the squadron assembled. First Lt. Walson and his observer Flight Officer Desantis were coming back from down patrol, crashed into a mountaintop and both were killed.

November 13th, the squadrons's newspaper "Grounded" was published and a success. It gave squadron activities, plus added a little spice to various happenings. The only recreation in North Africa was watching a movie at the outdoor theatre in the monsoon mud, which I ran.

November 25th, thanksgiving dinner was a gala occasion in true American style, with turkey, dressing, mashed potatoes and gravy and all the trimmings for a Thanksgiving dinner. It was a repast greatly enjoyed by the 417th.

At last we left North Africa heading for Bastia, Corsica where I contacted malaria. We also had a

mutt called *Lady* as our mascot. When we left Bastia our next destination was for Di Jon, France.

"Lady" may have been a mutt, but she was a warm friend to every man in the 417th NFS.

By now our squadron converted from the Beaufighters to the P-61 entirely. This Northrop P-61 (Black Widow) aircraft pleased the pilots immensely. The Beaufighters were a difficult aircraft to handle. These English built planes were not reliable, and a loss of one engine was almost certain to bring on an emergency situation, either a bail-out or a crash landing.

April "45", we moved to Saint Dizier, French. Our squadron had a real Indian chief from an Oklahoma tribe. He was continually drunk and we would take turns bailing him out of trouble. Chief Morton was a likable "Joe" though. Another time, one of our pilots shot down a German plane trying to head out with jewelry stolen from the French. In the last 2-1/2 years we had lost quite a few pilots and ROs. I had several medals issued to me, among them the Presidential citation.

One other incident was during a raid, when the alert was sounded, everybody dove into trenches. Our C.O. Major Ehlinger dove into a hole already filled with men, and they threw him out yelling "get the hell out of here", they hadn't recognized him as their commanding officer.

May 6, 1945, the war ended in the European theatre. Returning on the *Queen Mary* was a memorable occasion. Everyone was on deck to see New York come into view. Then the Statue of Liberty a beautiful sight to behold. We were all happy to set foot on American soil, never to leave these beautiful United States again. The feeling of "freedom" is prevalent.

"God bless America"

William A. Rhodes
Born in New York in 1920
Retired from Pacific Telephone Company
Resident of Yucca Valley since 1989

HUN HUNTERS
Frying Pan
FRITZLAR, GERMANY
VOL. 2 No. 23, FRIDAY, JULY 26, 1946
PUBLISHED BY SPECIAL SERVICE 366th FIGHTER GROUP

Who killed Cock Robin? That is a famous little saying that has passed down from mouth and often been wondered about. At this time the column would like to add it's explanation to what happened to the poor bird.
Once upon a time there was an airplane. It was a pretty airplane. You could almost say a shiny black P-61.
Now on every airplane there must be a crewchief but this particular one had a crewchief that was hard, cruel, bitter, and in general a "Simon Legree".
As the story goes on this poor little bird found refuge from the chilly evenings and rain in the radar compartment of the P-61. That is until this so-called crewchief found out. Then every night he would lock up the plane and the next morning what would be seen but the bird flying out of tee airplane. This was the last straw. In a fit of anger Cpl. Cobaugh (the crewchief) seized a flashlight and out he went to search and send forever the hero of this story away. Naturally without the protection of the motherly P-61 he couldn't go on. The poor bird was last seen perched on a telegraph wire. As the rumor goes he sat there with his heart gradually filling with remorse until there was no point in going on. Here this little episode ends having but the feeling of sorrow and an explanation.
Say, how many of you Night Fighters saw our planes way out in front of the air show last Saturday leading the parade for the T-Bolts. Yes men, we were right in there where we belong and let's keep pitching so we can hold the prestige we deserve. Those men in engineering are doing a great job even though their backs are aching from the biting whip of Whitey. Just to keep the promise of last weeks column here it is. The poll was taken and it finds T/Sgt Shields guilty of cracking the whip to an over whelming majority. There was but one man that did not up hold the column and he changed his mind after an explanation. Let's all hope that Whitey has had the fun reading this as it has been writing it; (After all thats what he's there for)
There have been a couple shake-ups in our outfit. First of all handsome Bob Auten has been transferred from Special Service to the carpenter on the line. Flight Officer Jacobsen, our adjutant, made 2nd Lt. We have received more men and hope they enjoy being in a good outfit. Dick Ziebart has left for Z. I. to go back to the States.
Now to bring up the ball games between our two squadron teams. The Scrap Lappers have been steadily warping the Flieger Boy. It's becoming a known tact that the Lappers Just play them for practice. To back that up the Lappers first baseman and pitcher traded, positions and still won by nearly 5 runs. (Just Kidding Chuck)
Let's end it here for another 7 days. 0. K.?

416th - 417th Are Inactivated 52nd Ftr. Group Replaces

Effective to-day the 416th and the 417th Night Fighter Squadrons will be inactive, it was announced by USAFE last Thursday, November 7th. To replace these two squadrons will be activated the 52nd Fighter Group (All Weather) which will be composed of the 5th and the 2nd Fighter Squadrons. The 52nd Fighter Group was inactivated November 7th 1945 The 5th and 2nd Squadrons were part of this group at the time of its inactivation.

Both the 416th and the 417th arrived at Schweinfurt last August. The 416th came from Horsching, Austria while the 417th from Fritzlar, Germany. Both of these Night Fighter Squadrons have long records overseas during and after the war. The 416th is a veteran of the long campaign through the Mediterranean coming from Africa, to Italy and Southern France. The 417th also saw combat in the Mediterranean Theater of Operations beginning its war record in Africa, and ending it in Central Germany.
The men and the equipment of these two Night Fighter units will be absorbed by the newly formed 52nd Fighter Group, it was announced by USAFE.

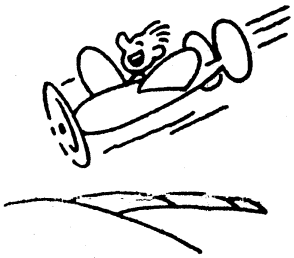
Beaufighter KV912, a Mk VI with Mk VIII AI. When this picture was taken the aircraft was assigned to the 416th NFS. The 417th NFS operated KV911 and KV913, and may have had KV912 on charge at some time.

Commemorative plaque at USAF Museum, Wright-Patterson AFB, OH

THE STRAWBERRY BLONDE

Casey would waltz with the strawberry blonde
And the band played on.
He'd glide 'cross the floor with the girl he adored
And the band played on.
His brain was so loaded it nearly exploded
The poor girl would shake with alarm
He ne'er would leave the girl with the strawberry curls
And the band played on.

COMIN' IN ON A WING AND A PRAYER



Comin' in on a Wing and a Prayer,
Comin' in on a Wing and a Prayer,
Tho' ther's one motor gone,
We can still carry on,
Comin' in on a Wing and a Pray'r.
What a show, What a fight,
Yes we really hit our target for tonight;
How we sing as we limp thru the air,
Look below, there's our field over there
With a full crew aboard
And our trust in the Lord
Comin' in on a Wing and a Prayer.

BLESS 'EM ALL

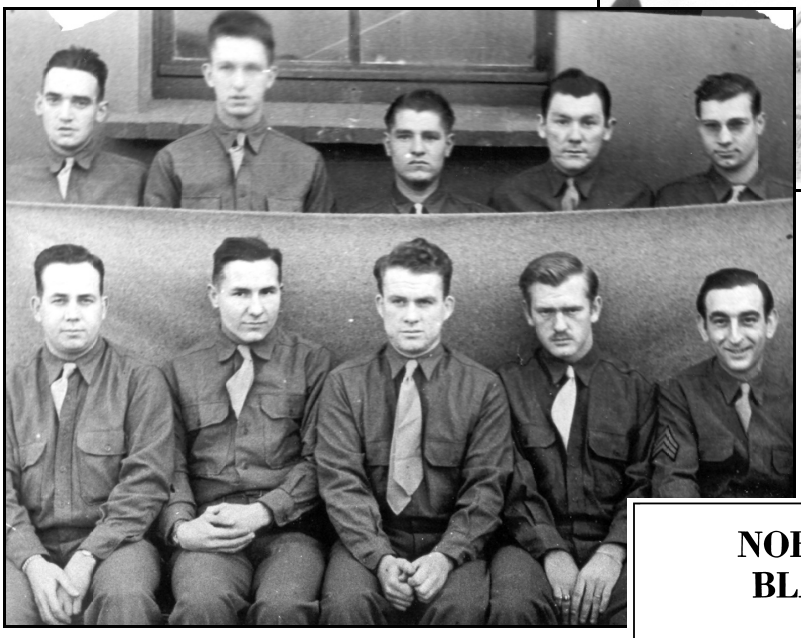
Bless 'em all, Bless 'em all,
The long and the short and the tall
Bless all the sergeants, we have to obey,
Bless all the corp'rals who drill us all day,
Cause we're saying goodbye to them all,
As back to the barracks they crawl;
No ice cream and cookies for flat-footed rookies,
So cheer up my lads, Bless 'Em All!

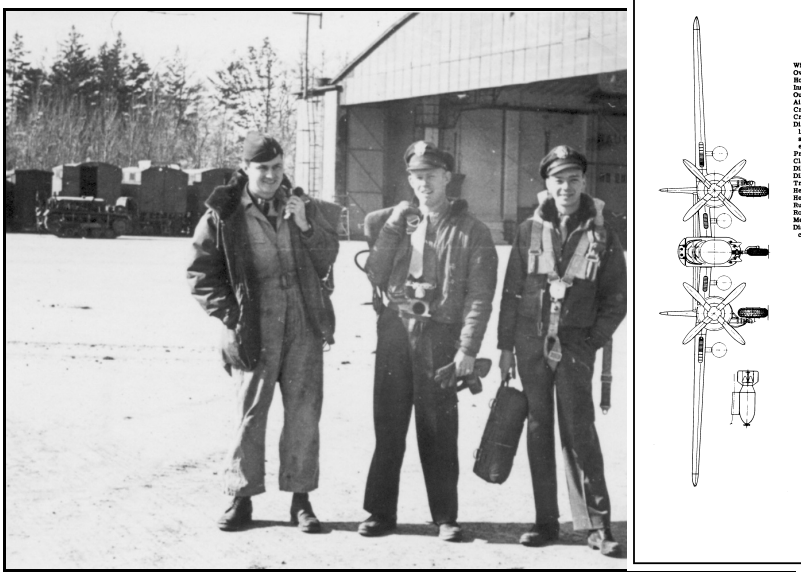
Bless 'Em all, Bless 'Em all,
The long and the short and the tall,
Bless all the blondies and all the brunettes,
Each lad is happy to take what he gets
Cause we're giving the eye to them all,
The ones that attract or appall;
Maud, Maggie or Susie, you can't be too choosey,
When you're in camp, Bless 'em all!
Heavyweight, underweight, big or small,
When you're in camp, Bless 'em All!

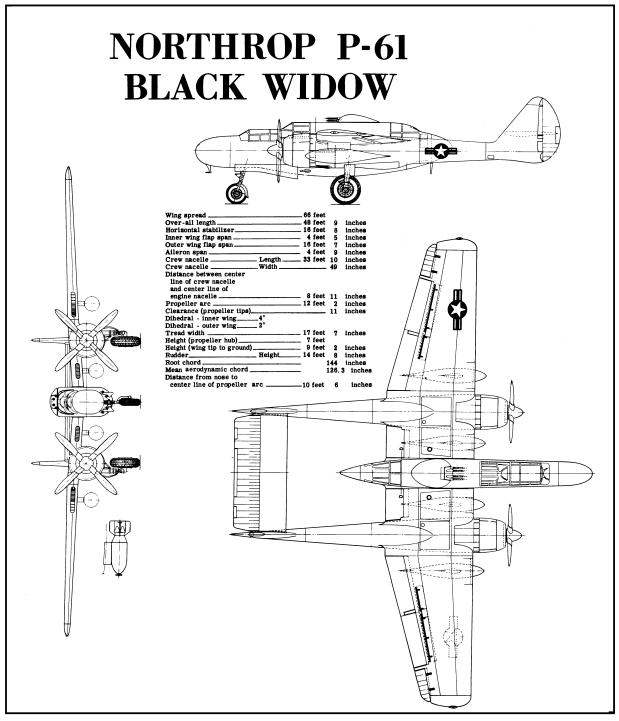
417th Night Fighter Squadron

Appendices

P-61B #42-39594 "Midnight Menace" undergoing radar maintenance at Fritzlar by Lt. Wheeler, T/Sgt. Frank Bolinski, and Sgt. Terence Carter







Appendix 1: **Original Squadron Roster**

417th Night Fighter Squadron

Appendices

ORIGINAL ROSTER - 417TH NIGHT FIGHTER SQUADRON

HEADQUARTERS
ARMY AIR FORCES SCHOOL OF APPLIED TACTICS
Orlando, Florida

April 24, 1943

SPECIAL ORDERS)
:
NUMBER 114) E X T R A C T

18. PIC Itr WD 370.5 (3-8-43) OB-S-E-M, subj: *, the 417th N Fi Sq **** WP **** by rail to Cp Kilmer NJ thence to New York ****. A roster of O and EM certified as correct by CO of the unit will be atchd to this O by CO and upon atchmt hereto is incorporated into and becomes a part of this O. ****. This is a PERMANENT change of station. ****.

The following O and EM of this organization, having already departed this sta will rejoin the unit in accordance with existing O:

1st LT	ROWAN A. WILLIAMS	01288987	AC
M/SGT	EUGENE O MOORE	6932760	
SGT	JOSEPH H BALL	35483526	

QMT TDN FD 33 P 433-01 02 03 07 08 A 0425-23.

BY COMMAND OF BRIGADIER GENERAL PEABODY:

ROBIN A. DAY
Colonel, GSC
Chief of Air Staff

OFFICIAL:
(signed)

F. T. HEMENWAY
Colonel, AGD
Adjutant General

DISTRIBUTION:
50 - CO 417TH N Fi Sq
5 - 201 Files 10 - CO Cp Kilmer, NJ 10 - Utilities officer QAB
3 - Postal officer
5 - QM, OAB
5 - A-3
1 - A-2
5 - A-1

Appendices

ORIGINAL ROSTER - 417TH NIGHT FIGHTER SQUADRON

The following is a roster of O and EM of the 417th N Fi Sq. This roster is integral part of SO 114 Par 18 - April 24, 1943.

JOSEPH T EHLINGER	CAPT	0413923	COMDG O	(AC-ORC)
JOSEPH H DOUGHERTY	CAPT	0492555	INTELL O	(AC-AUS)
ARTHUR J KATZBERG	1ST LT	0482310	FLT SURGEON	(MC-AUS)
GEORGE E NELSON	1ST LT	0431829	RADIO (S)	(AC-ORC)
SUBHI M SADI	1ST LT	0916547	INTELL O	(AC-AUS)
ROWAN A WILLIAMS	1ST LT	01288987	SUPPLY O	(AC-AUS)
J D (I O) BROWN	2ND LT	01286240	ADJ	(AC-AUS)
KENNETH (NMI) CAMPBELL	2ND LT	0860173	ENG O	(AC-AUS)
HERMAN C DOESCHER	2ND LT	0855891	ARMAMENT	(AC-AUS)
CARLETON B FRAZEE	2ND LT	0856243	WEATHER O	(AC-AUS)
WALTER G GROOM	2ND LT	0737775	PILOT	(AC-ORC)
SAMUEL B HOOTON	2ND LT	0735787	PILOT	(AC-ORC)
GEORGE D HUGHES	2ND LT	0737789	PILOT	(AC-ORC)
JOHN F KIRWIN	2ND LT	0737800	PILOT	(AC-ORC)
WILLIAM A LARSEN	2ND LT	0793126	PILOT	(AC-ORC)
JOHN S M LEE	2ND LT	0793127	PILOT	(AC-ORC)
JOSEPH E LEONARD	2ND LT	0793129	PILOT	(AC-ORC)
WILLIAM J LODGE JR	2ND LT	0649976	STATISTICAL O	(AC-AUS)
ALEXANDER L MACQUEEN JR	2ND LT	0793140	PILOT	(AC-ORC)
CLARENCE R MCCRAY	2ND LT	0793137	PILOT	(AC-ORC)
HUMPHREY M MALLORY	2ND LT	0793142	PILOT	(AC-ORC)
GEORGE A MOESER	2ND LT	01552937	ORD NCE O	(AC-AUS)
JAMES J SIMPSON	2ND LT	0856817	COMDG O	(AC-AUS)
HERMAN A STIRNUS	2ND LT	0735834	PILOT	(AC-ORC)
CHESTER E WATSON	2ND LT	0735846	PILOT	(AC-ORC)
CLARENCE K FULLER	F/O	T-311	PILOT	(AC-AUS)
RAYFORD W JEFFREY	F/O	T-12005	PILOT	(AC-AUS)
ROLAND O LEEMAN	F/O	T-332	PILOT	(AC-AUS)
FRANK (NMI) MCLAIN	F/O	T-340	PILOT	(AC-AUS)
WILLIAM R WILLIAMSON	F/O	T-389	PILOT	(AC-AUS)
ALPHEUS L WITHERS	1ST LT	0239547	GCI O	(AC-AUS)
MAURICE J LONG	2ND LT	0486209	GCI O	(AC-AUS)
HARRY A PALMER	2ND LT	0493061	GCI O	(AC-AUS)
WILLIAM WHEELER III	2ND LT	0915488	GCI O	(AC-AUS)
CHARLES F HOCKMAN	1ST LT	6914314	(RA)	
AUDREY M CHRISTENSEN	M/SGT	19024066	(RA)	
KENNETH W MIDDOUR	M/SGT	20761166	(NG)	
EUGENE O MOORE	M/SGT	6932760	(RA)	
ROBERT A PERRY	M/SGT	20761260	(NG)	
ELZA (NMI) SWAIN JR	M/SGT	17006582	(RA)	
EARL A WETHERALD	M/SGT	20542542	(NG)	

EDITORS NOTE: 417th NFS Wartime fatalities noted in **BOLD** type.

ORIGINAL ROSTER - 417TH NIGHT FIGHTER SQUADRON

JENNINGS B BLANKENSHIP JR	T/SGT	15019935	(RA)
PAT D CARL	T/SGT	16022133	(RA)
ABBOT J COOK	T/SGT	20761365	(NG)
JOSEPH (NMI) GONZALES	T/SGT	19000781	(RA)
ROY E HEDRICK	T/SGT	15018761	(RA)
WAYNE H MCMINIMENT	T/SGT	20718220	(NG)
RICHARD C MOSER	T/SGT	6914189	(RA)
OSCAR P RICE	T/SGT	6577876	(RA)
GEORGE W ROBINSON	T/SGT	14059988	(RA)
PHIL P SARTIN	T/SGT	18063324	(RA)
ROBERT G THOMPSON	T/SGT	18010998	(RA)
JOHN (NMI) ZAPANTIS	T/SGT	36328554	(SS)
RAYMOND (NMI) CHRISTENSEN	S/SGT	37093868	(SS)
ROY W HALL	S/SGT	32316159	(SS)
WILLIAM A HENDERSON	S/SGT	37108446	(SS)
HARRY D HERBERT	S/SGT	33180312	(SS)
RICHARD J HOVERSON	S/SGT	6937874	(RA)
EDWARD W HURTA	S/SGT	18057110	(RA)
LORENZO R PETERS	S/SGT	19075551	(RA)
ALLEN A SAMSON	S/SGT	13103328	(RA)
JOHN J SOBCZAK	S/SGT	36124075	(SS)
WILLIAM A ANDERSON	SGT	37211321	(SS)
ORVILLE O ARENDS	SGT	17035828	(RA)
MINOR R ATKINSON	SGT	14134549	(RA)
ORVILLE W BAKER	SGT	39452094	(SS)
GEORGE W. BAUMGARDNER	SGT	12138074	(RA)
EARLEY R BASS	SGT	33219119	(RA)
LESTER E BEENE	SGT	18124628	(RA)
JOSEPH H BELL	SGT	35483526	(SS)
SHERMAN (NMI) BOYD	SGT	38246342	(SS)
RUDOLPH B BROWN	SGT	39268046	(SS)
STANLEY E CHMIELEWSKE	SGT	33188106	(SS)
JAMBS D CLARK	SGT	37286832	(SS)
FREDRICK J COLVILLE	SGT	32720404	(SS)
MILTON B CROSS JR	SGT	35383915	(SS)
MATTHEW F FILIPOWICZ	SGT	33201456	(SS)
IRVIN E GATHRIGHT	SGT	33219310	(SS)
GEORGE L HASSLER	SGT	33235647	(SS)
DAVID G IVES	SGT	19074242	(RA)
JAMES G KEANE	SGT	32402475	(SS)
AFTON (NMI) KOSICK	SGT	32229285	(SS)
BRUCE B MCGHIE	SGT	37324467	(SS)
JAMES J MCINTYRE	SGT	33322206	(SS)
CORNELIUS J MCNULTY	SGT	16069641	(RA)
LEWIS A MILLER	SGT	39094128	(SS)
RICHARD O NEEL	SGT	18085193	(RA)
STEPHEN E PEERY JR	SGT	32204533	(SS)
PAUL C PEYRON	SGT	39683102	(SS)

ORIGINAL ROSTER - 417TH NIGHT FIGHTER SQUADRON

FREDERICK O POND	SGT	33125855	(SS)
CARROLL F POOLE	SGT	32076778	(SS)
WALTER J PRESTON	SGT	33129170	(SS)
NICHOLAS C RAPUANO	SGT	31143540	(SS)
ARTHUR (NMI) REED	SGT	32405900	(SS)
SAMUEL (NMI) RESNICK	SGT	12040270	(RA)
WALLACE G RODLAND	SGT	19059715	(RA)
PHILIP (NMI) ROSSMAN	SGT	32339215	(SS)
AARON G STEINER	SGT	13073105	(RA)
HARRY E TUCKER	SGT	39115578	(SS)
LINDSAY J WILLEY	SGT	38194112	(SS)
MARTIN W ZENGE	SGT	16037165	(RA)
EDWARD T AKIKIE	CPL	31164130	(SS)
FELIX A ARANOWSKI	CPL	36339877	(SS)
ELLERY C BADGERO	CPL	39268806	(SS)
DONALD E BAKER	CPL	37401808	(SS)
REUBEN (NMI) BALLOW	CPL	33480848	(SS)
WARREN L BARNEY JR	CPL	17123754	(RA)
IRVING W BASSOW	CPL	32408873	(SS)
ALBERT R BATTISTONI	CPL	32625676	(SS)
JOHN F BAUBLIS	CPL	32464748	(SS)
ROBERT N BAUER	CPL	33548234	(SS)
BONNIE L BENEFIELD	CPL	34336055	(SS)
ANDREW (NMI) BERNARD	CPL	33290307	(SS)
WILLIAM A BERNSTEIN	CPL	32431146	(SS)
ISAAC (NMI) BETON	CPL	14142840	(RA)
ROBERT L BOSSHART	CPL	12130428	(RA)
MICHAEL (NMI) BRECHUN	CPL	33498758	(SS)
ROBERT J BRENNAN	CPL	33498780	(SS)
CHARLES E BRIGDEN	CPL	35311755	(SS)
SAMUEL O BRILES	CPL	35163224	(SS)
LEO C BRODIE	CPL	6924405	(RA)
LEO R BROWN	CPL	37401055	(SS)
DONALD H BURRIER	CPL	15323819	(RA)
ANGELO J CERVO	CPL	13031085	(RA)
JACK (NMI) CHOOLJIAN	CPL	12136660	(RA)
GEORGE E CROUCH	CPL	33274395	(SS)
ROBERT L CULP	CPL	34603540	(SS)
ROBERT J DAVIS	CPL	32447452	(SS)
MICHAEL (NMI) DEMEDA	CPL	33103014	(SS)
TELLO (NMI) DE SANTIS	CPL	39528195	(SS)
RICHARD (NMI) DONOVAN	CPL	32390744	(SS)
JOE F DRAPER	CPL	34312679	(SS)
WALTER T DYER JR	CPL	38115782	(SS)
DAROLD H ENGLEHARDT	CPL	17160009	(RA)
CHARLES W FAHRBACK	CPL	32624281	(SS)
JOHN J F FENIMORE	CPL	17058614	(RA)
ASHLEY S FOSTER	CPL	17160015	(RA)
JAMES F GENESSE JR	CPL	12189709	(RA)

ORIGINAL ROSTER - 417TH NIGHT FIGHTER SQUADRON

MAURICE J GILLICK	CPL	36340406	(SS)
RAYMOND J GOERES	CPL	37466059	(SS)
IRVING I GOLD	CPL	32415184	(SS)
STEPHEN T GRACHEN	CPL	13107044	(RA)
CLODIO (NMI) GRAPPONE	CPL	12136493	(RA)
ERNEST A GRIFFITH	CPL	39546430	(SS)
EDWARD G HAFF	CPL	32626173	(SS)
BASIL D HALL	CPL	36375577	(SS)
RALPH B HANNA JR	CPL	33516540	(SS)
JOSEPH J HENDERSHOTT	CPL	12123377	(RA)
BERTRAM (NMI) HOLLAND JR	CPL	34344918	(SS)
RUDOLPH J HODUL	CPL	32684547	(SS)
ROBERT M HUTCHISON JR	CPL	37500513	(SS)
CLARENCE W JENSEN	CPL	17080594	(RA)
HAROLD A JOHNSON JR	CPL	32675372	(SS)
BURTON B KNOPP	CPL	17127926	(RA)
ABRAHAM (NMI) KAPLON	CPL	39167743	(SS)
RALPH H KOFSKI JR	CPL	15338842	(RA)
HENRY F KONTER	CPL	37453488	(SS)
REGIS W LANDY	CPL	13128749	(RA)
ROLAND D LAWVER	CPL	13093797	(RA)
BARON H LEVY	CPL	17077480	(RA)
WILLIAM J LINDSEY	CPL	34355694	(SS)
ALBERT (NMI) LIPKIN	CPL	32419463	(SS)
EDWARD J MAHON	CPL	13077840	(RA)
ASHER (NMI) MEDVID	CPL	39534628	(SS)
DAVID (NMI) MILLER	CPL	12057269	(RA)
JAKE D MILLER	CPL	38396691	(SS)
LYLE J MOMTBRIAND	CPL	17106739	(RA)
MARTIN T MOODY JR	CPL	14137685	(RA)
CLIFFORD H MORTON	CPL	18004847	(RA)
JOHN R MUSICARO	CPL	32426084	(SS)
DONALD R OLSEN	CPL	17090375	(RA)
EDWARD J O'NEILL	CPL	12131282	(RA)
JAMES S PACKARD	CPL	33274041	(SS)
JOHN (NMI) PAVLIK	CPL	31167942	(SS)
CHARLES F POEKERT	CPL	13045737	(RA)
PAUL R PROCTOR	CPL	34315228	(SS)
ANTONIO (NMI) PUENTE	CPL	38413102	(SS)
JAMES T QUINTY	CPL	33488799	(SS)
MARX B RASBACK	CPL	12138199	(RA)
EPHRAM M RIDGEWAY	CPL	17166298	(RA)
GEORGE M ROBINSON	CPL	37412200	(SS)
WALTER J RUNOWSKI	CPL	33333628	(SS)
JOHN W SCHMITT	CPL	16037379	(RA)
PHILIP M SHERR	CPL	33553877	(SS)
MATHEW T SMITH	CPL	15319066	(RA)
ELLSWORTH J SNOW	CPL	31284333	(SS)
GERALD F STOECKEL	CPL	32489649	(SS)

ORIGINAL ROSTER - 417TH NIGHT FIGHTER SQUADRON

WILLIAM A STUERZEL	CPL	32429282	(SS)
HORACE W TATUM	CPL	34345770	(SS)
CHARLES R TOMPHINS	CPL	12166548	(RA)
FRANK J TRACY	CPL	32782988	(SS)
JOSEPH M VAN LAECKEN	CPL	37452280	(SS)
JAMES R VAN VALKENBURGH	CPL	3233916	(SS)
ROBERT E WASHINGER	CPL	3347100	(SS)
MURRAY (NMI) WAYNE	CPL	1218114	(RA)
HALTER H WILKE	CPL	1711148	(RA)
ROBERT J WITTWER	CPL	3238899	(SS)
ARTHUR (NMI) WRAY	CPL	3241793	(SS)
MATTHEW V ZAJONC	CPL	3245010	(SS)
LEO (NMI) ZUCKERMAN	CPL	3254155	(SS)
HARRY E COSPER	PVT 1CL	3837855	(SS)
CARROLL A BLACK	PVT 1CL	3605143	(SS)
MAX (NMI) DONNER	PVT 1CL	3274833	(SS)
CHARLES G HANCOCK	PVT 1CL	3269341	(SS)
THOMAS H HASTINGS	PVT 1CL	3463220	(SS)
HARRY E HIBNER JR	PVT 1CL	1308411	(RA)
MEYER (NMI) STOLLER	PVT 1CL	3278143	(SS)
CLARENCE F BARRY	PVT	3238309	(SS)
JAMES (NMI) BELCASTRO	PVT	3574892	(SS)
KENNETH C BLOCKSOM	PVT	3572498	(SS)
EARL S BRYAN	PVT	3559495	(SS)
ADEN H CAMERON	PVT	3237746	(SS)
JACK T CHRISTENSEN	PVT	3242093	(SS)
JOHN F CLEMMENS	PVT	3430325	(SS)
HARLEN G COLEMAN JR	PVT	3466221	(SS)
DAN B CORDELL	PVT	3408599	(SS)
RANDALL W COTTRELL	PVT	3554096	(SS)
JIMMIE (NMI) CURNUTT	PVT	3568260	(SS)
ADAMS B DARRELL	PVT	3568822	(SS)
GEORGE R DELLINGER	PVT	3460479	(SS)
JOSEPH J DI CAPRIO	PVT	32780370	(SS)
HESSEL (NMI) DYKSTRA	PVT	37112882	(SS)
CHARLES A ENGLAND	PVT	18129693	(SS)
THOMAS A FRAMBES	PVT	32077703	(SS)
ABRAHAM H GARMISE	PVT	34603543	(SS)
PETER C GOPSHES	PVT	35532590	(SS)
BENJAMIN (NMI) GURA	PVT	3345432	(SS)
EMANUEL (NMI) HALCOMB	PVT	35684263	(SS)
MARVIN (NMI) HALL	PVT	35649445	(SS)
ROBERT D HAMILTON	PVT	33260223	(SS)
JOHN E HEANEY	PVT	35537582	(SS)
EARL F HISSETT	PVT	35532781	(SS)
HAROLD W HOFFMAN	PVT	35596236	(SS)
THOMAS D HUFFMAN	PVT	38223591	(SS)
SAMUEL L HUGHEY	PVT	37412678	(SS)
HOWARD A KOHRMAN	PVT	35501479	(SS)

ORIGINAL ROSTER - 417TH NIGHT FIGHTER SQUADRON

EDWARD F LENARD	PVT	32241353	(SS)
ALBERT L LEWIS	PVT	14082918	(RA)
HOWARD S MCCAIN	PVT	34428125	(SS)
ROBERT F MCKENZIE	PVT	32785498	(SS)
WILLIAM E OEHRTMAN	PVT	15087666	(RA)
LEONARD R POTTER	PVT	37094724	(SS)
GERALD E CHRISTINE	PVT	13092654	
HAROLD L ROTH	PVT	33316508	(SS)
ANTHONY A SPEIER JR	PVT	38112803	(SS)
CECIL L TAYLOR	PVT	34286232	(SS)
SAL C TRIMBOLI	PVT	32625808	(SS)
NEAL D WILLIS	PVT	36638231	(SS)
CHARLES M YERICO	PVT	35308998	(SS)
ROBERT L BECK	T/SGT	15098350	(RA)
MURRELL W ANDERTON JR	SGT	34329997	(SS)
RALPH H JONES	CPL	37440446	(SS)
THOMAS W ANDREWS	PVT 1CL	38279232	(SS)
ORAN R BALDWIN	PVT 1CL	18129876	(RA)
THOMAS N CRANDALL	PVT 1CL	39457916	(SS)
WOODROW (NMI) HALSEY	PVT 1CL	15111462	(RA)
JESSE L JAMESON	PVT 1CL	38237104	(SS)
HARRIS D REYNOLDS	PVT 1CL	33254365	(SS)
JOHN W SWAIM	PVT 1CL	38333929	(SS)
JOHN F SHANNON	PVT	14079391	(RA)
JAMES M FINNERTY	SGT	69953326	(SS)
ALBERT S BETTENCOURT	CPL	39085780	(SS)
JAMES T HARRAH	PVT 1CL	35636255	(SS)
JOSEPH S SOUZA	PVT 1CL	39085851	(SS)
SALVATORE (NMI) CONSIGLEO	PVT	32710182	(SS)
FRANK J MULLEN	PVT	32322020	(SS)
MARSHALL J NEWTON	PVT	33446237	(SS)
DAVID T TUTTLE	PVT	37140335	(SS)
MELVIN A VERSTOPPEN	CPL	36254814	(SS)
WILLIAM F ERNST JR	PVT 1CL	31106051	(SS)

I certify that the above roster contains a correct list of the O and EM assigned to the 417th Night Fighter Squadron.

Joseph T. Ehlinger

Commanding Officer

Appendix 2: **Final Squadron Roster**

417th Night Fighter Squadron

Appendices

417th NFS Final Roster

November 30, 1946

Commanding Officer Maj. Konosky, John M.
Executive Officer Maj. La Barre, Kenneth A.

Cpt. Castleberry, Samuel L.
Cpt. Camble, Jack K.
Cpt. King, Joseph L.
Cpt. Klandrud, Roy A.
Cpt. Saylor, David W.
Cpt. Taylor, Jay J.

1Lt. Clauson, Arthur C.
1Lt. Dobbs, Bryon N.
1Lt. Farnsworth, Al W.
1Lt. Ferretti, Romeo
1Lt. Graham, Roland W.
1Lt. Groll, Arthur W.
1Lt. Minnis, John W.
1Lt. Moeller, Robert L.
1Lt. Mouser, William G.
1Lt. Nowak, Chester L.
1Lt. Van Voorhls, James C.
1Lt. Walt, Robert H.

2Lt. Allen, J. F. Jr
2Lt. Broschart, L. L.
2Lt. Bouchard, Edmund M.
2Lt. Craig, James M.
2Lt. Foley, George E.
2Lt. Gabreil, William W.
2Lt. Jacobsen, Earl F.
2Lt. Moore, Alvin G.
2Lt. Smyda, Joseph T.
2Lt. Snyder, John W.

1st Sgt. Rosier, Merle H.

M/Sgt. Hatcher, Nathan A.
M/Sgt. Homza, Michael
M/Sgt. Jones, James M.
M/Sgt. Seppula, Edward W.

T/Sgt. Bolinski, Frank S.
T/Sgt. De Haven, Leon P.
T/Sgt. Gerosky, Francis
T/Sgt. Gibbons, George W.
T/Sgt. Hayden, Fred C.
T/Sgt. Joslyn, Roger R.
T/Sgt. Lamoreau, Herman C.
T/Sgt. Mabry, Ralph O.
T/Sgt. Poggl, Wilfred J.
T/Sgt. Shields, Murt R.

S/Sgt. Bardotz, Paul S.
S/Sgt. Bishop, Lyle D.
S/Sgt. Butler, Robert E.
S/Sgt. Cotlle, Ernest H.
S/Sgt. Crawley, James W.
S/Sgt. Dietrich, Peter P.
S/Sgt. Gloielii, Vincent J.
S/Sgt. Fawcett, Gerald D.
S/Sgt. Kinder, James D.
S/Sgt. Martin, Harvey W.
S/Sgt. McClain, Willis A.
S/Sgt. Miller, Bernard
S/Sgt. Nali, Mason L.
S/Sgt. Plasha, Ludwig O.
S/Sgt. Smart, John J.
S/Sgt. Spadone, John G.
S/Sgt. Wayman, Harold

Sgt. Anderson, Donaven E.
Sgt. Bailey, Wilgus
Sgt. Bradford, Melville
Sgt. Bubash, Paul A.
Sgt. Carlisle, Robert M.
Sgt. Davey, Dwight A.
Sgt. Hammond, Clyde L.
Sgt. Hardwick, Reno E.
Sgt. Keen, Floyd R.
Sgt. Kleffner, Andrew P.
Sgt. Klem, Alexander
Sgt. Lanigan, Charles B.
Sgt. Logan, David D.
Sgt. Morgan, Gerald J.
Sgt. Roberson, John M.
Sgt. Seals, James C.
Sgt. Slayton, Robert G.
Sgt. South, Hobson C.
Sgt. Wentykier, Marcel T.
Sgt. Whitby, Robert W.

Cpl. Barnett, Timothy A.
Cpl. Blair, Sanford B.
Cpl. Bowen, Donald R.
Cpl. Caldwell, Paul O.
Cpl. Carroll, Edwin G.
Cpl. Caulfield, John F.
Cpl. Dark, George V.
Cpl. Doherty, Charles T.
Cpl. Fields, Roy T.
Cpl. Fitzgerald, Peter J.
Cpl. Fox, William P.
Cpl. Gregory, Raimond M.
Cpl. Harris, John E.
Cpl. Hayes, William F.
Cpl. Hoillslet, Jack E.
Cpl. Kwiaikowski, Francis B.
Cpl. Lake, Don R.
Cpl. Mangum, Leornard J.
Cpl. Mauchiine, Daniel D.
CpL McCormIck, John A.
Cpl. McDonald, William F.
Cpl. Moore, William R.
Cpl. Naylor, William H.
Cpl. Noblin, Billy B.
Cpl. Oberbeck, Ten A. X,
Cpl. Olson, William G.
Cpl. Ostman, Thorsten A.
Cpl. Prentice, Clyde E.
Cpl. Roberts, Enoch H.
Cpl. Smith, William C. Jr.
Cpl. Van Citters, Earl F.
Cpl. Walje. James A.
Cpl. Walker, Billy C.
Cpl. Wehnes, Harold O.
Cpl. Willis, Arthur V.

Pfc. Apo, Samuel U.
Pfc. Archbold, Edward W.
Pfc. Archuleta, Jose A.
Pfc. Collins, Emory L.
Pfc. Cooc, Elmer L.
Pfc. Cox, George
Ptc. Fortner, Grant W.
Pfc. Griffey, James A.
Pfc. Haller, Samues
Pfc. Kob, John R.
Pfc. Lambert, Billy J.
Pfc. Lee, Joseph E.
Pfc. Lee, Paul L.
Pfc. Maldonado, Rafael A.
Pfc. Marchand, James W.
Pfc. McDonald, Charles R.
Pfc. Miller, Wollie L.
Pfc. Mueller, Alois J.
Pfc. Nash, Edward A.
Pfc. Riley, William H.
Pfc. Sandefer, Winifred
Pfc. Severance, James H.
Pfc. Smale, Richard D.
Pfc. Smith, Tim W.
Pfc. Stevens, Irvin J.
Pfc. Stratton, Harvey A.
Pfc. Tesseneer, Miles W.
Pfc. Thomas, Orvllle V.
Pfc. Townsend, Allen N.
Pfc. Vidal, Gilbert
Pfc. Walters, William W.
Pfc. Williams, Charles L.
Pfc. Williams, George S.
Pfc. Witte, Everett H.
Pfc. Wolszczak, Henry C.
Pfc. Yount, Howart

Pvt. Alvarez, Ignaebo V.
Pvt. Bilodeau, Lucien J.
Pvt. Lookingblll, Burneli E.
Pvt. Monaghan, Alfred C.
Pvt. Okamoto, Kazu
Pvt. Ramirez, Mercy
MAS. Jackie, Krejcy
Pvt. Randall, Thomas C.
Pvt. Sisco, Leonard
Pvt. Voss, Carl E. T.

Appendix 3: **The Beaufighter**

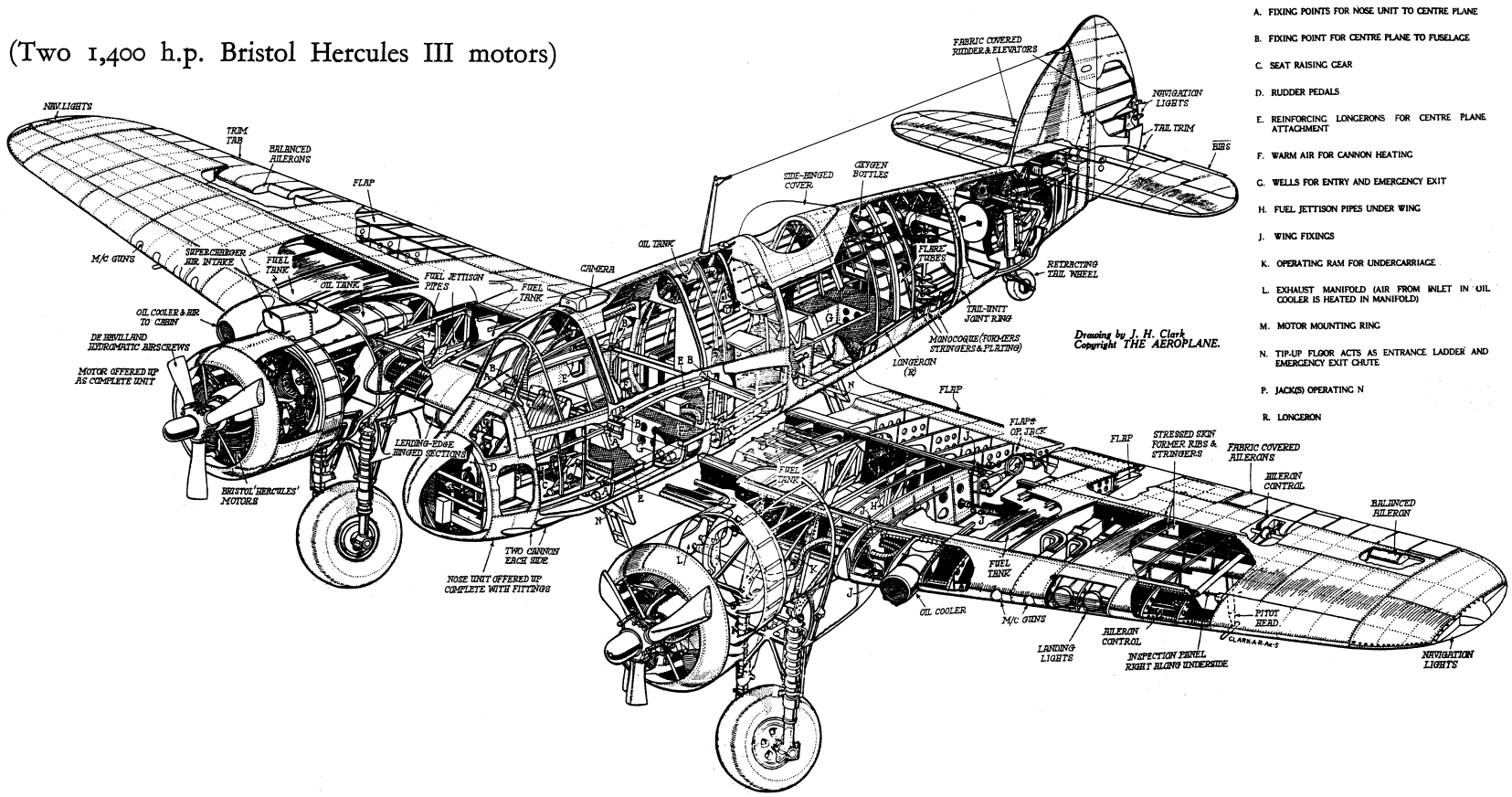
The 417th NFS Beaufighters

The Bristol Type 156 *Beaufighter* came from a private effort to derive a heavily armed night fighter and anti-shipping aircraft from the Bristol Beaufort. From proposal to first flight a period of only eight months elapsed. That aircraft was a two-seat, twin-engine bomber used by the RAF. The Beaufort contributed the wings, tail, and landing gear. The new elements were the armored fuselage for the two-man crew, and more powerful engines needed for the fighter mission. The *Hercules* engines were also built by Bristol, and were of the unique (to Americans) sleeve-valve, air-cooled, radial arrangement. Demand for the fighter was such that Bristol set up three production lines, in keeping with the wartime British policy of "shadow factories" as a defense against expected bombing attacks.

Beaufighter Mk IF X7543 in flight over the English countryside. 954 examples of this first Mark were built prior to the Mk VIF used by the 417th NFS. The Mk VI incorporated a dorsal fin and 12 degrees of dihedral on the tailplane as a way to control the severe swing to starboard on takeoff. This swing continued to be the nemeses of a number of Beau pilots. The Mk VI was fitted with either *Hercules VI* or *XVI* 1670 hp engines.

The first flight of a prototype was on July 17, 1939, and four prototypes were tested before the first operational aircraft were available. WWII officially started on September 1, 1939 with the German invasion of Poland. The *Battle of Britain* was in the late summer and early fall of

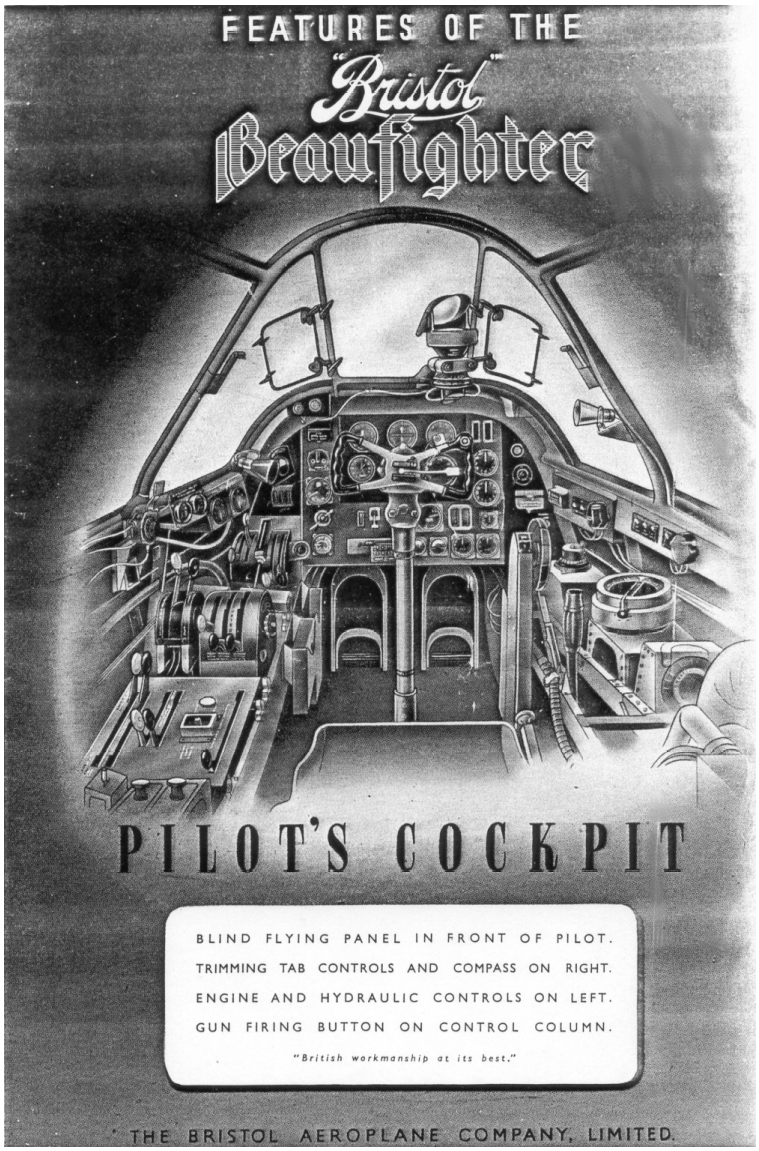
(Two 1,400 h.p. Bristol Hercules III motors)



Cutaway of Beaufighter Mk IF. Similar to Mk VIF but with straight tailplane rather than the later 12 degree dihedral. From *The Aeroplane*, September 12, 1941.

1940. There was a very aggressive push to get the Beaufighter ready for the coming battle.

The first operational aircraft, a Beaufighter Mk IF was delivered to the RAF on July 27, 1940. 25 Squadron was the first to become operational on the type, as of October 10, 1940. 640 Squadron claimed the first victory for a Beaufighter, using the Mk IV Airborne Intercept radar, on November 19, 1940. The victim was a Ju 88 over England.



Ground Controlled Intercept (GCI) was developed and first became operational in January 1941, giving a great aid to the limited range of the airborne radar in the Beaufighter. GCI could position the Beau so that it could close on and track a target with AI. Though the Beaufighter squadrons were too late for the heavy action of the Battle of Britain, they played a primary role in defending and defeating the Luftwaffe's night "Blitz" in the 1940-1941 period. The aircraft went on to serve in every major theatre and campaign of the war.

Model Development

The Rolls-Royce *Merlin* powered Beaufighter Mk II was first flown on March 22, 1941. It was intended to be a backup design if the supply of Hercules engines should be interrupted. The further improved, Hercules powered, Mk IV first became available at the end of the year. The first Beaufighter Mk VI aircraft were operational in the spring of 1941. By the fall of 1942 the RAF was already re-equipping some Beaufighter squadrons with the Mosquito. Beaufighters were built in two different types the "F" for fighter type and the "C" for anti-shipping "sea" duty. For example, they would be designated as Beaufighter Mk VIF or Mk VIC. The differences were primarily in equipment, the C being fitted for launching a torpedo. Both types usually carried AI radar.

The last Beaufighter (SR919) left the Bristol Aeroplane Company's Weston-super-Mare works on September 21, 1945.

On May 10, 1943 the 414th NFS of the US Army Air Forces became operational at Le Senia, Algeria. The 415th NFS became operational on May 12, 1943, also at Le Senia. Both squadrons were operating Beaufighter Mk VI aircraft fitted with the Mk IV AI. The 415th scored the first US victory in the Beaufighter on July 24, 1943. On August 8, 1943 both the 416th and 417th NFS became operational in the Beaufighter at Tafaraoui.

Beaufighter Specifications

	Mk IF	Mk IIF	Mk VIF	Mk XF	TF Mk X
Wingspan	57' 10"	57' 10"	57' 10"	57' 10"	57' 10"
Length	41' 4"	42' 9"	41' 4"	41' 4"	41' 4"
Height	15' 10"	15' 10"	15' 10"	15' 10"	15' 10"
Weight-Empty, lbs	14,069	13,800	14,069	14,069	14,069
Weight-Max	20,800	21,000	20,800	20,800	20,800
Speed, mph	323	323	333	300	305 at SL, 320 @ 10,000'
Service Ceiling, ft	26,500	26,500	26,500	29,000	19,000
Range, miles	1,500	1,500	1,480	1,470	1,400
Engine	Hercules XI (1500 hp)	RR Merlin X (1072 hp) or XX (1280 hp)	Hercules VI or XVII (1670 hp @ 7500')	Hercules XVII (1770 hp)	Hercules XVII (1725hp @2900rpm, 1395hp @ 2400rpm at 1500'
Equipment	Mk IV AI		Mk IV AI or Mk VIII AI	Mk VIII AI	Mk VIII AI
Filton	I-4 IF-268 IC-97	IIF-450	VIF-669		
Fairey	IF-25 IC-300		VIC-175		
Weston	IF-260		VIF-260 VIC-518 VI-ITF-80	XIC-163 XF-2042	
Stoke-on-Trent			VIC-518 VIF-150	X-110	
Other	954 built (V8322)	450 built	1,852 built	2,205 built	Torpedo

Beaufighter Operations

The Beaufighter developed a love-hate relationship with many of its crew. A major fault was its tendency to swing to the right on takeoff. After the first models a large dorsal fin and 12 degrees of dihedral on the tailplane were introduced, but ineffective in solving the swinging problem. It was also renowned for having the cannons jam if fired under negative "g", and when fired they would effect the directional compass. The engines were prone to overheating during ground operation when in areas with high ambient temperatures, like North Africa. Even so, with six .303 machine guns and four 20mm cannons it was a very effective weapon, and when everything was running in the "green" the pilots liked to fly it. Experience of the AAF, operating dozens of different types of aircraft, was that their Beaufighters had the highest accident rate of any aircraft in US service. Except for the later introduction of the Mosquito, the Beaufighter was the only "long-range" British fighter until the North American P-51 became available.

IT AIN'T A RAFFING MATTER
or
I told Orville. I told Wilbur. It'll never....

The Bloody Beau's a work of art
Dashed off in haste and panic
By Britishers whose prior job
Was building the Titanic

The dynamics of its aero
Were patterned on the brick
If one Bristol ceased its churning
You could well be up the crick

The man up front aghast, amazed
At a total loss
The man behind bewildered
Staring at a Maltese Cross

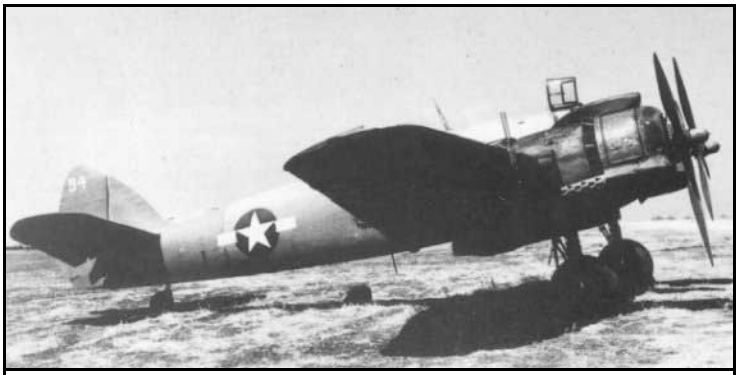
Out of rig
Unbalanced
A survivor just the same
The bloody, lovely Beau
A beaut
A bitch
But what a dame!

417th Night Fighter Sqdn. WW II · James K. Pence 4-25-77

The Beaufighters used by the 417th were all Mk VI variants, the model that began production in the spring of 1942, after the Battle of Britain, and near the end of the "Blitz". Many of the first Beaus assigned were in the serial number block "V" with individual serials mostly in the range V8700 to V8899, but there were exceptions, such as V8450. We also know that Mk IF airplanes carried serial numbers such as V8322 and that such airplanes were active late in the Battle of Britain. This lends considerable weight to the often repeated comments by 417th NFS flyers that some of their airplanes had flown in the Battle of Britain, and showed the ravages of long operation and were definitely war-weary.

Maintaining the Beaus

The British developed repair and modification of aircraft to the level of an "art form" during the war. Early on this was to provide aircraft in the defense of the island, and later it was a way to augment production while minimizing costs. That the Beaufighters continued to be supplied to the US AAF throughout the war was an expe-



A 417th NFS *Beaufighter*.

dient way of paying for some of their "Lend-Lease" costs by the method of "reverse" Lend-Lease with the US.

Beaufighter Mk IF V8313 operated by the British Desert Air Force in North Africa, April 1943.

British repair and modification centers would take war-weary, crashed, or outdated aircraft and completely overhaul and recondition them to the latest standards. The 417th certainly experienced this when they began exchanging their Mk IV AI equipped airplanes for Mk VIII AI models in the fall of 1943. The old airplanes were flown from Tafaraoui to Regalia and exchanged. At the same time engines were exchanged for the current model, and ones that had been overhauled and were ready for another 250 hours of operation. In this way airplanes that left the factory in England as Mk I models operationally became examples of the Mk VIF.

Another 364 Beaufighters were built as Mk 21s in Australia. These were similar to the Mk X. A total of 5,564 Beaufighters were built in England, though the factory numbers tabulated above do not quite add up.

Special Features

Given the all-weather night mission of the aircraft the designers worked to provide a good cockpit layout and smooth operating controls. The pilot and observer each entered and exited the aircraft by two specially designed hatches in the underside of the fuselage. The pilots hatch was between the wing spars, and the observers hatch further to the rear. These hatches are pivoted panels that normally form part of the under surface of the fuselage. For use they swing to the vertical position, operated by a lever from the inside, and use is made of a ladder attached to them. By operating a quick-release, each door opens so that part of it protrudes outwards into the air stream, creating a dead-air region through which the crewman can drop free without risk of injury, even in a dive up to 400 mph. Additional emergency exits consist of a knockout panel on the starboard side of the pilot, a hinged window above the pilot, and a hinged hood above the observer. A push-button, operated by the pilot, warns the observer to prepare to abandon the aircraft; and when the warning light on the instrument panel informs the pilot that the observer is ready, a separate switch is depressed signaling the observer to exit.

The airplane was equipped with a 1200 psi hydraulic system that operated the unique split flaps (on the top and bottom of the wing), and the landing gear. Also unique for the period, it fea-

tured a retractable tail wheel. As typical for British aircraft of the period, pneumatic brakes were fitted. A 24 volt electrical system provided up to 500 watts for the various communications, lighting, and incidental equipment in the airplane.

Armament featured six Browning .303 machine-guns, mounted in the wings, outside of the oil coolers, and somewhat unique, four were in the starboard wing, two in the port. Each gun fired 1,200 rounds per minute. The four Oerlikon type Hispano-Suiza 20mm cannon, each firing 550 rounds per minute, were mounted under the floor of the airplane and were readily accessible by the observer who had to load additional ammunition and clear stoppages. The Beaufighter was a formidable gun platform, able to unleash 765 pounds of fire power per minute.

The *Hercules* engines were of the unique Bristol sleeve-valve design and had 18 air-cooled cylinders arranged in two rows of nine each. A two-speed supercharger was included, giving the engine good performance at relatively high altitudes.

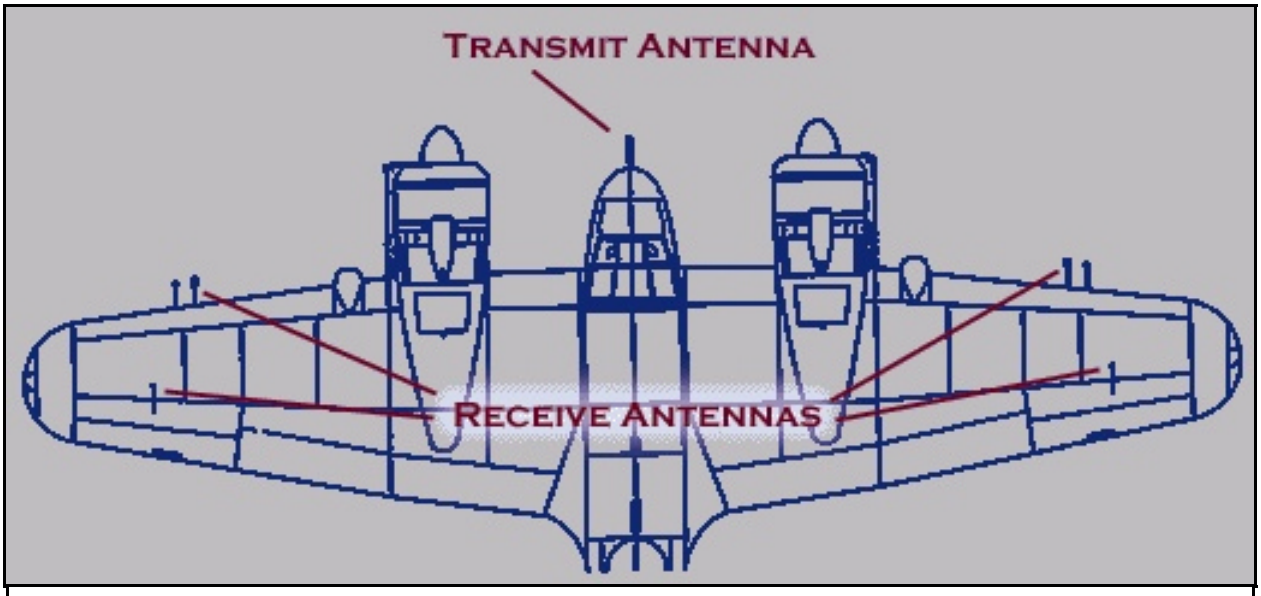
Airborne Intercept Radar

Radar did not exist until the late 1930s. Developed largely by some of the best technical minds in Britain, and in great secrecy, the bulky equipment was only suitable for tracking targets from the ground. With the advent of war and the expectation of nighttime attacks on London, the British rushed the development of lightweight airborne radar, the Mk IV. It suffered from poor definition and was very susceptible to interference from the ground or water. Because of weight and power limits it also had very limited range, requiring a skilled operator and aggressive flying by the pilot to position their Beaufighter so that they could even see or follow a target.

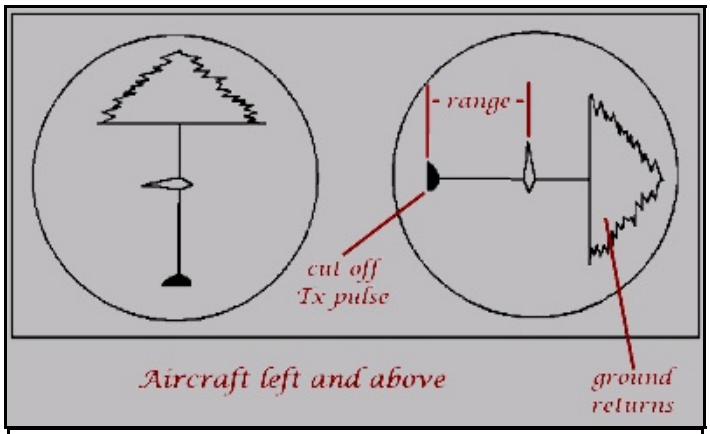
The Mk VIII AI Radar operated at much shorter wavelengths and offered a significant improve-

ment in resolution and ease of operation. It still was limited in range, but was much better in presenting the target with less interference from ground and noise returns. This radar was such an improvement, and utilized an entirely new type of radar wave generator, that for most of the first year the Mk VIII was in service it could not be carried in aircraft operating in areas in which it could fall into the hands of the enemy.

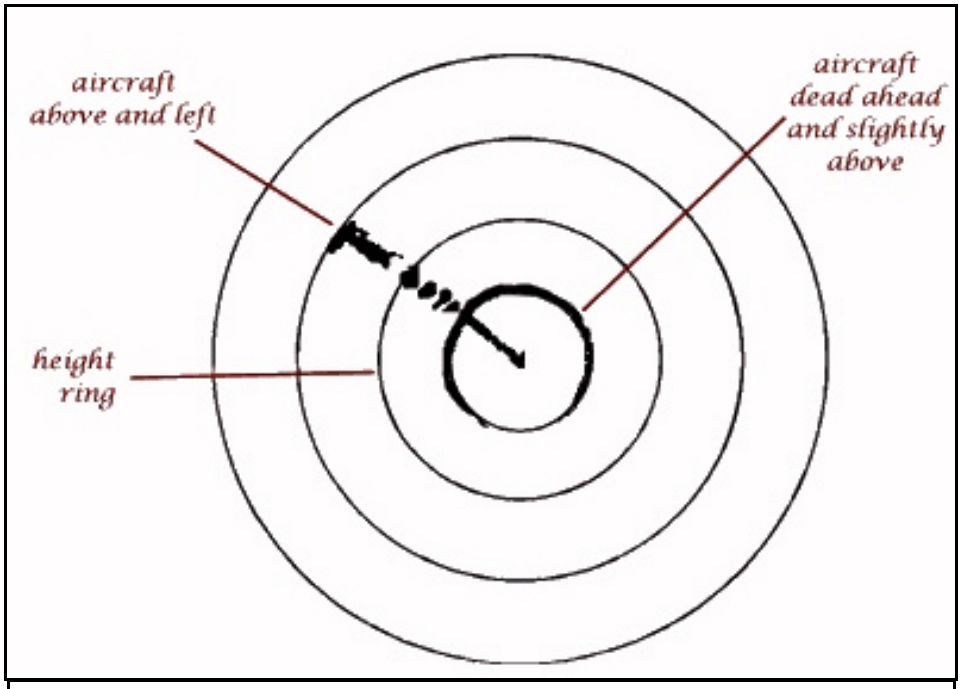
The ROs in the 417th had trained as "radio operators", but on a new type of secret radio about which they could never talk. Their logs show their flight operations as "observer", while the Squadron history talks about "RO". Specifics about how the AI radar in the Beaufighter operated follow.



Antenna locations for the Mk IV AI. When the Mk VIII AI was installed these were removed and an new extended “thimble” radome fitted to house the dish antenna.



Typical images on the two CRT screens used by the RO when operating the Mk IV AI. A lot of skill was required.



The much different presentation of target information as seen by the RO when operating the Mk VIII Airborne Intercept radar.

Stan Chmielewske, Doug Herbert & Bob Davis (L-R) with Beaufighter MkVI fitted with Mark IV AI, at Borgo, Corsica.

Appendix 4: **The Story of the P-61**

P-61 ***Black Widows*** for the 417th NFS

During the 1920s and '30s a debate raged about the superiority of the bomber; many theorized bombers were impossible to defend against, particularly at night. At the time the possibility of radar, was undreamed of and no aircraft could challenge the performance of the bomber. Consequently, at nightfall, one's only protection from the bomber was in a strong shelter. The night was conceded to the enemy.

WWII was not a surprise, for the seeds and events that led to that monumental conflict had been developing for 20 years when the Nazi attack on Poland brought England and France into the fray in September 1939. The first real test of the west came in late 1940 with the *Battle of Britain*. A battle that was closely watched by a world concerned for its safety.

The unofficial patch of the 417th NFS during the period when they were operating the Northrop P-61 "Black Widow" was designed by Noel Howard .

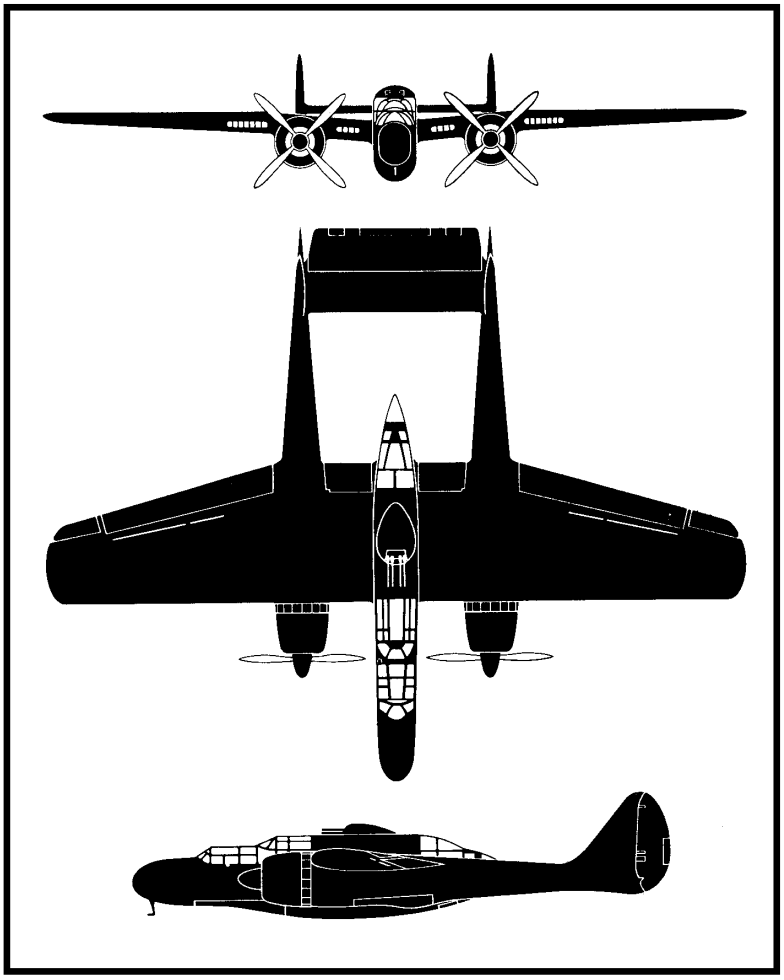
The neutral US Army had several observers stationed in England during the *Battle of Britain*, and subsequent nighttime *Blitz* of 1940-41. The relative impunity with which the Nazi intruders roamed the skies over England showed the necessity of a nighttime bomber-destroyer. As a result the USAAF developed and issued specifications for a dedicated nightfighter of their own.

The Army specified an aircraft that would possess a combination of capabilities that here-to-for had never been seen. Army planners knew of the British Mk IV Airborne Intercept radar, and arrangements were made to build a version of it for the new aircraft. The equipment was heavy and would require a large aircraft. Given the night mission it would be important that the new aircraft be a stable gun and observation platform, and be heavily armed (to take advantage of fleeting attack opportunities). It also needed a dedicated radar operator directing the pilot, and a power operated gun turret (and gunner) able to fire at targets when the fighter was not directly aligned with the enemy aircraft. These requirements could only be met by a twin-engined aircraft, and a large one at that.

A New Aircraft

By 1940 all major US aircraft manufacturers were fully committed to huge production contracts and development programs for the new generation of aircraft that would fight the coming air-war. As such none were able to commit to the new specification, although the Douglas Aircraft

Company offered to convert their A-20 *Havoc* light bomber by fitting the Mk IV AI. This plane, designated the P-70 by the Army, was only an interim solution. As a nightfighter it lacked the performance needed to be capable against the Nazi bombers. Only a relative few were built, to be used primarily as trainers for the crews going overseas to fly British nightfighters (obtained by reverse Lend-Lease). Further quantities of P-70s were used in combat in the South Pacific.



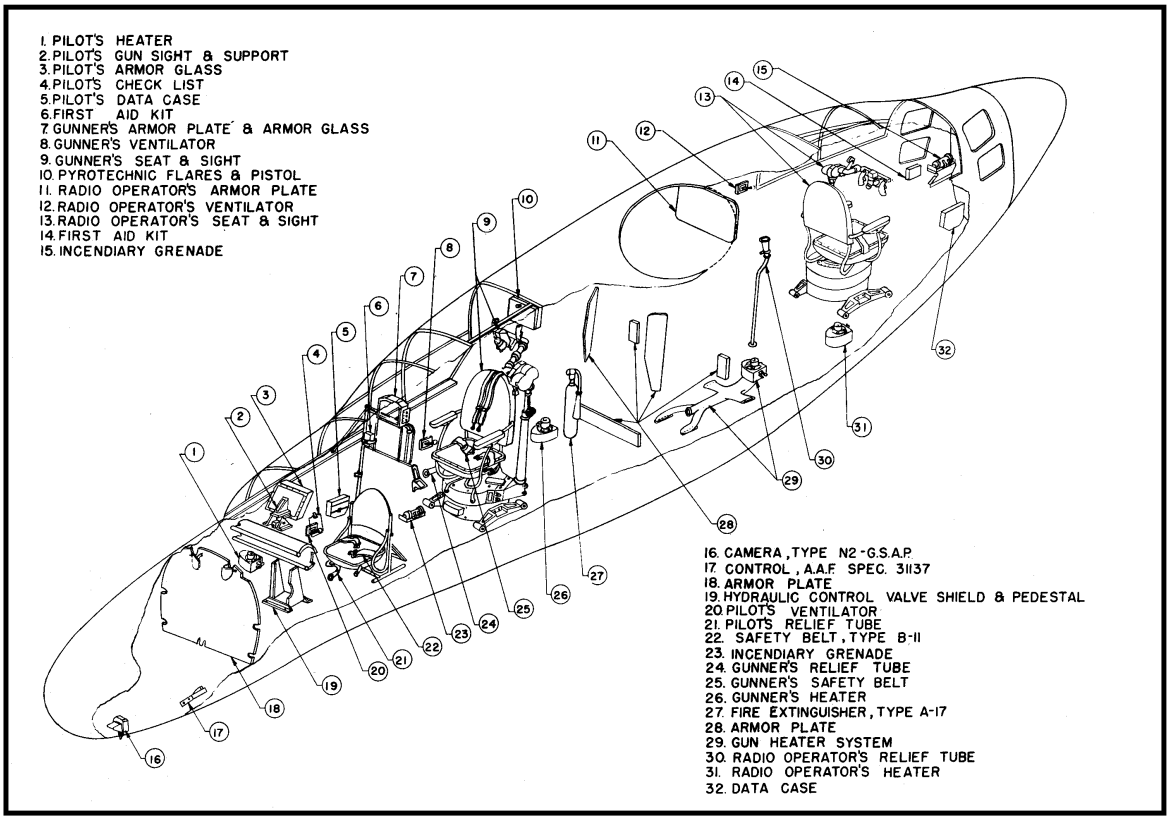
The company selected to develop the first US aircraft purpose built as a nightfighter was Northrop, of Hawthorne, California. Their only previous military production aircraft was the single-engine N-3PB floatplane used by Norway as a patrol bomber, but at the time they offered the needed design capability.

The innovative Jack Northrop and his team began work on the design in October 1940, during the *Battle of Britain*. The initial design was presented to the Army during the first week in December, (one year prior to the infamous attack on Pearl Harbor) and received Army approval on December 17, 1940. The initial contract was for two prototype XP-61 airplanes, supporting data and wind tunnel models.

The aircraft Northrop produced was as unique as were the requirements for this first of a new class of fighter. It was large, as large as a medium bomber, as such it was able to carry a considerable fuel load, heavy radar equipment, and armament. It used two of the new P&W R-2800-A5G engines. An engine still in development when first bolted onto the XP-61. The pilot, radio operator, and gunner were all housed in a single pod/fuselage, suspended from the mid-level wing. The engines were located at the front of long booms that also housed the landing gear, and carried the horizontal stabilizer at their aft end. Armament was to consist of four 20 mm cannons mounted in the wings, two .50 caliber machine guns in a turret under the fuselage, and another four .50's in a top turret. In addition, there were numerous innovations in the manufacture; the booms were to be fabricated of welded magnesium sheet, the wings featured spoiler type ailerons and airbrakes, and a complex General Electric fire control for the remotely operated top turret. And then the changes began.

Post war photo (note “PK” *Buzz* number) of P-61A 42-5491 in high-gloss “Jet Black” paint. *USAF Photo*

Mike Lamoreau working on the radar in P-61 *"The Dragon"* while the Squadron was stationed at Fritzlar, Germany, 1946.

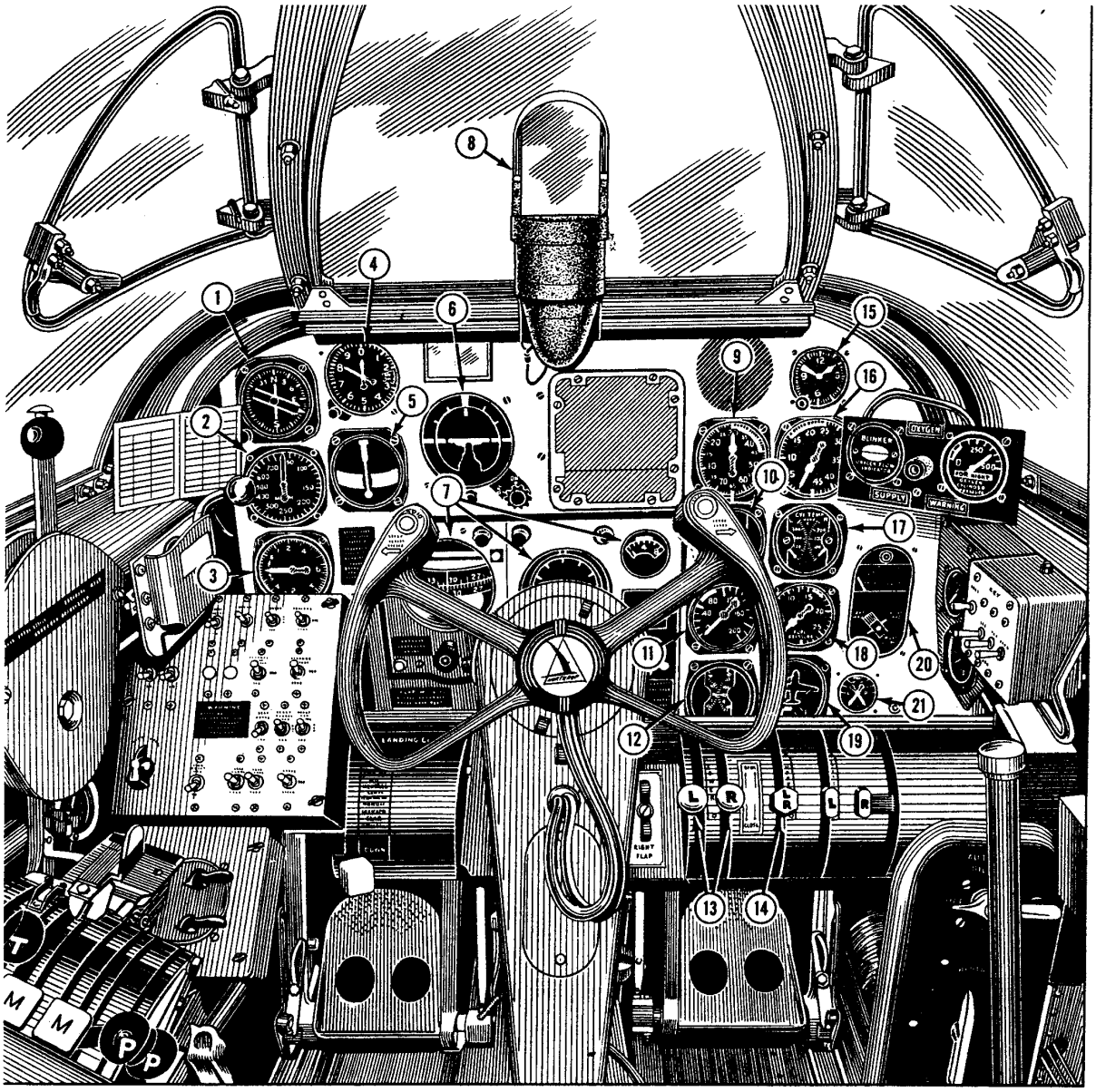


The pilot is up front and the RO in the rear, facing aft. The gunner position was not normally manned. On those airplanes with the four .50 caliber gun turret they would be simply fired straight ahead.

When the Army inspected the full-scale mock-up it was decided to concentrate all of the guns in the fuselage, with the cannon being located in a tray under the fuselage in place of the two machine guns. Difficulties fabricating the booms in magnesium resulted in a redesign to use aluminum sheet, and the remote controlled turret would not be available for the early airplanes. Northrop was also having problems accommodating the corporate growth demanded by the war effort. To provide work and support the corporation during the P-61 development period they took a contract to produce 400 Vultee *Vengeance* attack bombers for the RAF. This involved setting up a new production line and new facilities, which had the near term effect of delaying work on the XP-61.

In late 1941 the USAAF became very concerned with the situation in Europe and the lack of a suitable nightfighter. Thus even before the first XP-61 had flown Northrop was issued a contract for 150 of the new fighters. The first flight of the aircraft was made with legendary test pilot Vance Breeze at the controls on May 26, 1942. Test flying identified several areas of the aircraft that needed strengthening, and for a while, problems with the new R-2800s delayed needed testing and production.

The Pilot's Cockpit



Controls, Switches, Instruments (Front Panel)

1. Remote compass
2. Airspeed indicator
3. Rate of climb indicator
4. Altimeter
5. Turn and bank indicator
6. Gyro horizon
7. Dials of automatic pilot
8. Pilot's gunsight
9. Manifold pressure indicator
10. Oil temperature indicator
11. Oil pressure indicator
12. Carburetor air temperature indicator
13. Lower cowl flaps control valves
14. Upper cowl flaps control valve
15. Clock
16. Tachometer
17. Cylinder head temperature indicator
18. Fuel pressure indicator
19. Wheel and flap position indicator
20. Fuel gage
21. Oil cooler flap indicator

Operating the P-61

The radar for the XP-61 was so secret that it was not installed at the factory, rather the Army had it installed after the aircraft was safely at their remote test facility at Muroc Dry Lake (later Edwards Air Force Base) or Wright Field, Ohio. The radar was a US built version of the highly secret British microwave Mk VIII AI radar, initially known as the AI-10. The prototype for these units was tested at MIT in January 1941, and was first flown in the US installed in a Douglas B-18A bomber. Fifteen sample systems were ordered for the initial P-61s in February 1941. After 108 of these systems were produced a number of improvements were incorporated and the revised system designated SCR-720. This equipment, improved for maintainability and Americanized, was a direct development of the Mk VIII radar that was first operated by the 417th NFS in its *Beaufighters*, beginning in the late fall of 1943.

Army pilots praised the XP-61's handling qualities and performance, but when the second aircraft was flown with all armament installed (November 1942) it was found that windows and hatches in the fuselage would come loose when the cannon were fired. This required strengthening of the structure and a delay in the production of the 13 preproduction YP-61s. It was also found that there was considerable buffeting of the aircraft when the turret guns were turned or elevated. Again reinforcements were required, and two of the guns were removed from the turrets in the YP airplanes. Finally, Northrop received production go-ahead for the P-61 in July 1943.

	XP-61	YP-61	P-61A	P-61B	P-61C
Wingspan	66' 0"	66' 0"	66' 0"	66' 0"	66' 0"
Length	48' 11"	48' 11"	48' 11"	49' 7"	49' 7"
Height	14' 8"	14' 8"	14' 8"	14' 8"	14' 8"
Empty Weight, lbs	19,245	21,910	20,965	23,450	24,000
Weight-Max	28,870	28,830	32,400	36,200	40,300
Speed, mph	370	370	369	330	430
Service Ceiling, ft	33,100	33,000	33,100	33,100	41,000
Rate of Climb	2900 fpm	2900 fpm	2700 fpm	2550 fpm	2600 fpm
Range, miles	1200	1200	na	610	1725
Engines	R-2800-10 @ 2000 hp	R-2800-10 @ 2000 hp	R-2800-65 @ 2000 hp	R-2800-65 @ 2000 hp	R-2800-73 @ 2100 hp
Engine, War Emergency	2000 hp	2000 hp	2250 hp	2250 hp	2800 hp
Production	2	13	45 as A-1 (R-2800-10s) 35 as A-5 (R-2800-65s) 100 as A-10	450 built in ten sub-variants	41 built, 476 canceled after VJ day
Serial Numbers	41-19509/510	41-18876/888	42-5485/634 42-39348/397	42-39398/757 43-8231/320	43-8321/361

USAAF nightfighters had been hearing rumors about the new P-61s since the first squadron formed at Kissimmee. The truth is that the first four squadrons, including the 417th NFS, were already in combat in the *Beaufighter* when production of the P-61 was authorized!

The *Black* in "*Black Widow*"

The primary defense against airborne night attack up until the late 1930s was to illuminate the attackers with searchlights and then let gunners visually track and shoot them. For the coming P-61 considerable effort, and theory, was expended on selecting the best paint to conceal an airplane. The Army argued for a flat-black that would absorb the light, but tests showed it actually made the airplane more visible. They then had the P-61s painted in the standard Olive Drab/ Neutral Gray scheme. Meanwhile, studies at MIT proceeded and produced a new "Jet Black" high-gloss paint that was successful in reflecting the beam of a searchlight if applied over a smooth metal surface. The system of command and change-orders resulted in a delay in application of the gloss black P-61s, with the first coming off of the production line in February 1944. Since the paint was applied directly to the metal, without a primer, it was very easily damaged. Leaking oil from the R-2800s acted as a solvent and would strip the paint off of the booms. Tape, applied to seal the interior of the airplanes during sea shipment to Europe, left bare metal patches when it was removed. Photos of 417th NFS "*Black Widows*" clearly show the bright bare areas.

P-61s in Europe

Some of the first YP-61 and P-61A airplanes were used by the 348th NFS in Orlando, Florida for training nightfighter aircrews. They found that the P-61 could outfly the P-70 in all respects. The first squadron to finish training on the P-61 curriculum was the 422nd NFS, which shipped for England in March 1944. The limited number of available aircraft delayed their full introduction into combat. The first public knowledge of the *Black Widow* was on January 8, 1944 when one participated in a joint Army-Navy war show held over the Los Angeles Coliseum. 75,000 observers saw the largest pursuit plane of all time perform that day.

Another battle that the first P-61 squadrons had to win was a battle within command Headquarters as to whether the aircraft should be abandoned in favor of acquisition of British de Havilland *Mosquito* nightfighters. The issue was complicated by the desire of the British to benefit from reverse Lend-Lease by selling the *Mosquito* to the US as a replacement for the war-weary Beaufighters. Test flights between a P-61A and the *Mosquito* NF Mk XVII were inconclusive, with each aircraft having good and bad points. The USAAF went ahead with plans to bring the *Black Widow* squadrons up to full strength.

The 422nd and 425th NFS were the first P-61 squadrons and were involved in D-Day operations and subsequent operations in France. The four original nightfighter squadrons, the 414th, 415th, 416th, and 417th would convert to the *Black Widow* over the next year. The 417th was the last to convert in April 1945, just weeks before the end of the war in Europe.

The high speed of the P-61 made it one of the few aircraft able to successfully attack German V-1 "Buzz Bombs", the jet propelled robot aircraft that flew 350 mph at relatively low altitude when being launched against London in the period following D-Day. The 422nd and 425th

scored nine kills of these dangerous bombs.

While the P-61 was a large and powerful fighter it was a docile aircraft to fly with its well harmonized controls that gave pilots enough confidence to even dog-fight with single-engine fighters. It had a surprisingly short turning radius and so was able to cut inside a turning target and position itself for the attack. None the less, there were complaints from combat pilots focusing on two points: climb performance and top speed. The AAF attempted to resolve these issues in November 1943 with a directive to improve the performance at altitude. This ultimately led to the turbosupercharged P-61C.

Tommy Hart in Radar Operators Cockpit on the P-61, Kassel Germany, 1946.

Upgrades and Modifications

More power was required to remedy the shortcomings. After the first 45 P-61As were built the 2000 hp R-2800-10 engines (R-2800 "A" series engines with two-stage, two-speed, gear driven superchargers) were replaced in the P-61A-5s by R-2800-65 engine delivering 2250 hp (R-2800 "B" series engines, also with two-stage, two-speed, gear driven superchargers). The P-61A-10 added water injection, allowing even higher “War Emergency Power” ratings (maximum allowed manifold pressure increased from 54 to 60 inHgA). Combat operations also revealed other needed improvements, such as fitting stiffeners in areas of the wing skin to prevent wrinkling during high "g" maneuvers. Another common occurrence during high "g" was a tendency for the large plexiglas fairing behind the gunners position to break away. This problem was remedied with a warning notice reminding crewmembers not to sit on it inflight.

The P-61B was fitted with an eight-inch longer nosecone to better house the radar, but was still powered by the R-2800-65. It also incorporated a number of detail improvements as well as wing racks for rockets or external fuel tanks. With the P-61B-15 model the intended power turret with four .50 caliber Browning machine guns was fitted. A total of 450 "B" models were built. Important to the pilots was the addition of night binoculars and a radarscope repeating the ROs presentation directly on the panel in front of him. The 5.8 power night binoculars were unique as they improved the pilot's vision by a factor of four and incorporated the gun sighting features, all mounted on gimbals to eliminate vibration.

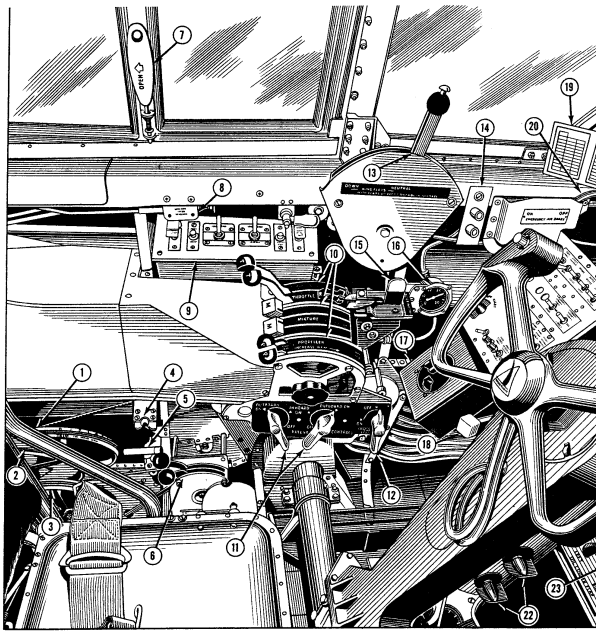
The design reached its zenith with the P-61C model. It featured turbo-supercharged P&W R-2800-73 engines (R-2800 "C" series engines with single-stage integral superchargers) fed by

General Electric CH-5 turbos. The propellers were the large "paddle-bladed" type, the combination producing “War Emergency Power” of 2800 hp from each engine and gave the aircraft tremendous acceleration. To prevent overshooting a target when rapidly overtaking from the rear, the wing was equipped with air-brakes. The airplane was heavier, up to 32,200 pounds; and some pilots felt that it was sluggish at lower altitudes. The turbos give it great high altitude capability, and effectively made the airplane the perfect long-range escort for the Boeing B-29 *Superfortress* bomber. A total of 41 "C" models were produced by the end of the war, when another 476 were canceled. Several airframes were converted to other models, with one, the F-15A *Reporter* recon model, being placed in production. Orders for 175 were canceled after only 36 were built. This model used many P-61C parts.

The End

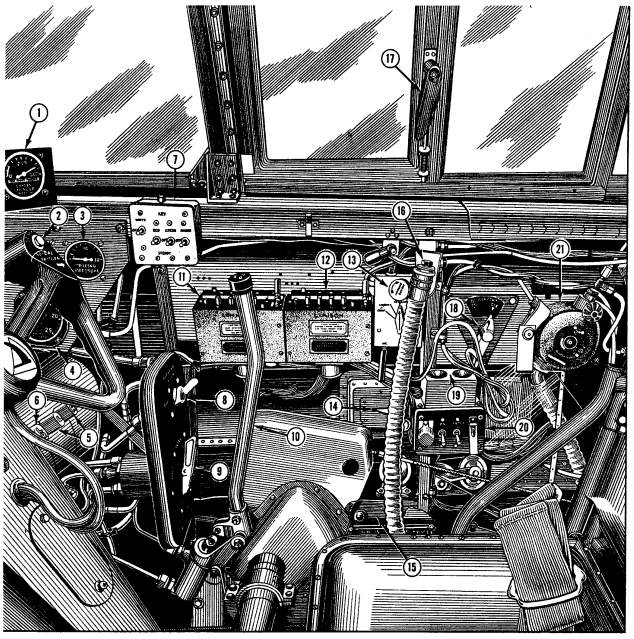
The 417th NFS was the last of the European nightfighter squadrons to re-equip with the Black Widow, and soldiered on to be the last such squadron in Europe. When deactivated in December 1946 the 417th had accumulated the bulk of the P-61s remaining in Europe as other squadrons departed. To them fell the job of destroying the potent aircraft. None were left.

Nearly all of the *Black Widows* remaining from the 686 originally built during the war were scrapped soon after. A few continued in special programs requiring a large high performance aircraft, but these too were soon disposed of as well. Today there are believed to be only four P-61s remaining. One is on display at the USAF Museum, one is in storage at the Smithsonian, one in a museum in China, and one has been recovered from New Guinea. This aircraft, P-61B-1-NO t/n 42-39445 crashed on the slopes of Mt. Cyclops, and the crew of four survived. It is undergoing restoration by the Mid-Atlantic Air Museum as N550NF. We wish them luck.



Controls, Switches, Instruments (at Pilot's Left)

1. Aileron trim tab wheel
2. Elevator trim tab wheel
3. Rudder trim tab wheel
4. Emergency release handle support
5. Main landing gear emergency release
6. Supercharger controls
7. Left window latch
8. Landing gear warning horn release
9. Pilot's propeller control panel
10. Engine control quadrant
11. Fuel selector valve controls
12. Fuel tank cross flow valve control
13. Flap control lever
14. Flap position warning lights
15. Water injection control switch
16. Emergency air brake pressure gage
17. Box assembly ignition switch
18. Landing gear selector valve
19. Correction card holder
20. Emergency air brake lever
21. Pilot's electrical switch panel
22. Fluorescent light switches
23. Oil cooler flap switches



Controls, Switches, Instruments (at Pilot's Right)

1. Oxygen pressure gage
2. Cannon firing button
3. De-icer air pressure gage
4. Water injection pressure gage
5. Intercooler door control valves
6. Upper cowl flap control valve
7. Recognition light control box
8. Automatic pilot pressure valve
9. Hydraulic hand pump selector valve
10. Hydraulic hand pump handle
11. Command radio control box (SCR-522 No. 1)
12. Liaison radio control box (SCR-522 No. 2)
13. Interphone jack box
14. Pilot's ventilator
15. Automatic pilot master control
16. Pilot's oxygen tube
17. Right window latch
18. De-icer control valve
19. Destructor switch
20. Identification radio (IFF) control box (SCR-695)
21. Oxygen regulator

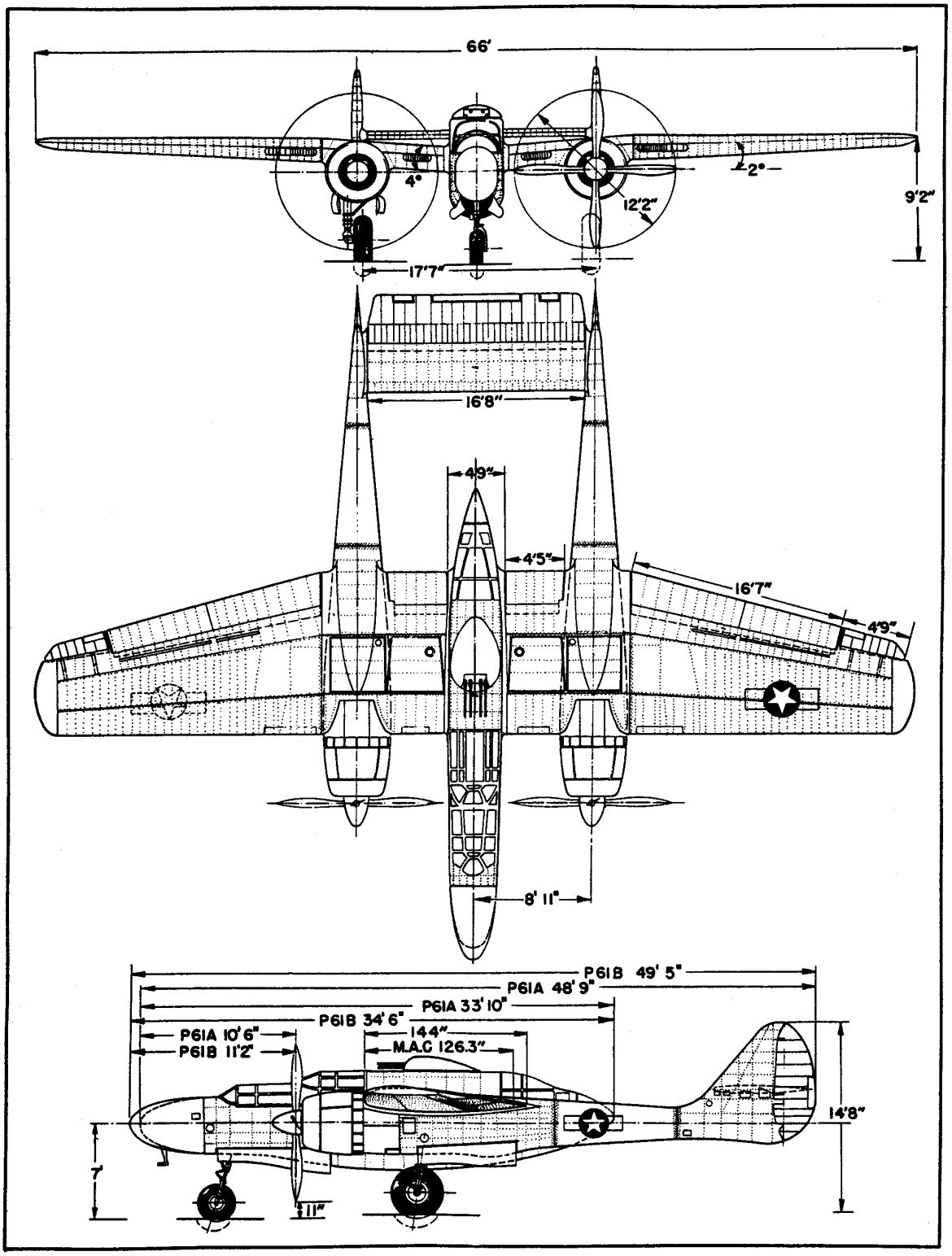


Figure 2 — Principal Dimensions

Appendix 5: Aircraft Operated by the USAAF 417th NFS

A/C #	A/C Type, Mark	Total Hours	Date On-Charge	Last Active Date	Comments
41-12876	B-25C-NA	4.00	NA	NA	"Strawberry Roan", One of 605 early B-25s in block 41-12434 thru 41-13038, 2 ea 1,700 bhp Wright R-2600-13 engines.
#443	B-25C-NA				"Pizzonia", Came on charge in Borgo, replaced "Strawberry Roan".
HV649	Beaufighter	19.28	**9/28/43**	12/15/43	
KV823	Beaufighter Mk VI, MkVIII AI	2.00	11/29/43	11/29/43	
KV911	Beaufighter Mk VI, MkVIII AI	86.37	**9/27/43**	12/7/43	USAAF 416/1578 Flt
KV913	Beaufighter Mk VI, MkVIII AI	110.67	**9/27/43**	11/27/43	"Finished Time" and turned in on 11-27-43
KV923	Beaufighter Mk VI, MkVIII AI	20.50	12/3/43	12/27/43	
KV928	Beaufighter Mk VI, MkVIII AI	2.00	12/4/43	12/4/43	
KV932	Beaufighter Mk VI, MkVIII AI	0.50	12/8/43	12/8/43	Belly Landed at Setif on delivery flight, 12-8-43
KV937	Beaufighter Mk VI, MkVIII AI	2.58	12/28/43	1/1/44	
KV938	Beaufighter Mk VI, MkVIII AI	65.72	11/29/43	**3/18/44**	
KV940	Beaufighter Mk VI, MkVIII AI	42.00	12/11/43	1/20/44	
KV941	Beaufighter Mk VI, MkVIII AI	81.12	11/13/43	**3/2/44**	Active w/417th on 4/13/44 mission out of La Senia A/B
KV961	Beaufighter Mk VI, MkVIII AI	56.53	11/17/43	**3/19/44**	Active w/417th on 4/19/44 mission out of La Senia A/B
KW151	Beaufighter Mk VI, MkVIII AI	33.67	1/30/44	**3/18/44**	A/C Flown by Kirwan/VanLaecken on 4/19/44 out of LaSenia, on 5/1/44 combat out of Borgo.
KW158	Beaufighter Mk VI, MkVIII AI	34.65	2/1/44	2/29/44	
KW161	Beaufighter Mk VI, MkVIII AI				Active w/417th on 4/19/44 mission out of La Senia A/B, Kirwan/VanLaecken
KW197	Beaufighter Mk VI, MkVIII AI			11/16/44	Lost at sea, Devore & Grinell bailed out/lost. Active w/417th in July 44 out of Borgo
KW203	Beaufighter Mk VI, MkVIII AI				Active w/417th in July 44 out of Borgo
KZ488	Beaufighter Mk VI, MkVIII AI	1.67	11/11/43	11/12/43	
LB595	Hurricane Mk. IVC (Trop)	73.30	10/2/43	**3/19/44**	Hawker Hurricane Mk IIC or Mk IV built during 4-18 to 9-29-1943, 1,260 bhp Merlin XX
ND139	Beaufighter Mk VI, MkVIII AI			**11/4/44**	Aircraft crashed by 2nd Lt. Noel Howard w/2nd Lt. Robert P. Mangone, RO. Starboard engine lost power over Lyon Bron Airdrome, port wheel failed to extend, belly landed. No fire, no injuries. Aircraft appeared salvageable.
ND164M	Beaufighter Mk VI, MkVIII AI	76.28	11/25/43	**3/16/44**	Active w/417th on April 44 **Kirwan/VanLaecken** missions out of La Senia A/B on 6,7,14, 23
ND167	Beaufighter Mk VI, MkVIII AI	31.42	1/1/44	**3/9/44**	
ND168	Beaufighter Mk VI, MkVIII AI	83.57	11/29/43	**3/11/44**	This is "Cervo's" plane?
ND171	Beaufighter Mk VI, MkVIII AI	15.80	12/7/43	12/16/43	
ND177	Beaufighter Mk VI, MkVIII AI	46.72	11/25/43	2/6/44	Lost in Lake on 2-14-44, piloted by Lt. Lee, Bishop 53
ND203	Beaufighter Mk VI, MkVIII AI	6.92	12/8/43	12/15/43	
ND204	Beaufighter Mk VI, MkVIII AI	74.73	12/7/43	**3/16/44**	Active w/417th on 4/13/44 mission out of La Senia A/B. Bob McCullens reported that ND204 ditched on 9-25-44, Lt. Grange & Rogers got out OK. Starboard engine failed, could not maintain altitude on port engine alone. Ditched in Gulf of Fos area, south of Port De Bouc.
ND210	Beaufighter Mk VI, MkVIII AI	43.28	12/9/43	**3/4/44**	Active w/417th in May 44 out of Borgo
ND274	Beaufighter Mk VI, MkVIII AI				Squadron Photos number 339 and 340, had British roundels, not US Star & Bar
ND278	Beaufighter Mk VI, MkVIII AI	15.25	1/15/44	2/26/44	A/C Flown by Kirwan/VanLaecken on 2/24/44 combat out of Oran
ND280	Beaufighter Mk VI, MkVIII AI			11/28/44	Crash landed at LeVallon by Wastenot 81 due to engine failure. A/C used by Groom/Roth for Ju 88 victory, 4-15/16-44
ND282	Beaufighter Mk VI, MkVIII AI	14.83	2/16/44	**3/18/44**	
ND296	Beaufighter Mk VI, MkVIII AI			12/5/44	Active w/417th in July 44 out of Borgo. Starboard engine failed after takeoff from LeVallon, piloted by Wastenot 78 (, crashed and burned 12 miles west of tower.
V8450	Beaufighter	58.12	**9/26/43**	12/1/43	
V8558	Beaufighter			10/15/44	A/C forced landing, water in gasoline, both engines failed, at Le Vallon. Noel Howard Pilot, Robt Mangone RO
V8716	Beaufighter			1/18/45	Starboard landing gear damaged in takeoff, E.G. Harding, pilot, bailed out.
V8743M	Beaufighter	93.55	**9/26/43**	11/22/43	USAAF 414/USAF 417, Oct 1, 1943
V8745	Beaufighter	12.00	10/10/43	11/21/43	USAAF 417/I OADU/89
V8760	Beaufighter	122.65	**9/27/43**	11/29/43	USAAF 414/USAF 417, Oct 1, 1943, Turned in at Setif for ND168, 11-29-43,
V8806	Beaufighter	93.87	**9/28/43**	11/29/43	USAAF 417, Oct 1, 1943, Turned in at Setif for KV823, 11-29-43
V8814M	Beaufighter	81.27	**9/26/43**	12/5/43	USAAF 417, Oct 1, 1943
V8819	Beaufighter	77.57	**9/26/43**	12/5/43	USAAF 417, Aug 31, 1943, Turned in at Setif 12-5-43
V8822	Beaufighter	78.73	10/11/43	12/5/43	USAAF 417/210 Gp TF, "Finished Time" and turned in on 11-27-43
V8831	Beaufighter	91.55	**9/30/43**	10/28/43	USAAF 417, Oct 1, 1943
V8834	Beaufighter	108.25	**9/26/43**	1/3/44	USAAF 417, Oct 1, 1943, Turned in on 12-21-43?
Misc	Beaufighter	19.83			Not identified as to aircraft
	Total hours	**1882.74**			

Information provided by Graham Salt by letter, March 10, 2001

V8745	Beaufighter	USAAF 417/I OADU/89
V8830	Beaufighter	USAAF 417/68/RAE, became 5686M
V8812	Beaufighter	**USAAF 417-Crashed Westerdale, Yorks Jun 22, 1943. NOTE: The 417th suffered it's first fatal crash on May 22, 1943, "on the coast". Should this be May not June?**
V8821	Beaufighter	USAAF 417/301 FTU/1 OADU/ 176/22FC
KV910	Beaufighter	USAAF 417
KV913	Beaufighter	USAAF 417

Appendix 5: Aircraft Operated by the USAAF 417th NFS

Other Beaufighters from Bob McCullens Flight Log:

BT287	Beaufighter Mk VI, MkVIII AI	**11/2/44**	Lt Berryhill, Rogers, S/Sgt Anderton took off from Dejon, all dead
KW191	Beaufighter Mk VI, MkVIII AI		Active until at least 3/1/1945
KW197	Beaufighter Mk VI, MkVIII AI		Active until at least 10/8/1944
MM839	Beaufighter Mk VI, MkVIII AI	**11/7/44**	Capt Lee & Lt Potter ditched of Marseilles, lost, sighted a Dingy.
MM934	Beaufighter Mk VI, MkVIII AI		Active until at least 3/21/1945
MM938	Beaufighter Mk VI, MkVIII AI		Active until at least 10/3/1944
ND139	Beaufighter Mk VI, MkVIII AI	**11/4/44**	Lt Howard forced landed at Lyon with engine failure
ND197	Beaufighter Mk VI, MkVIII AI	**11/15/44**	Lt DeVore and RO bailed out after making contact with Boggie. Both lost.
ND204	Beaufighter Mk VI, MkVIII AI	**9/25/44**	Lt. Grange & Rogers ditched, made it out OK
ND207	Beaufighter Mk VI, MkVIII AI	**1/2/45**	Lt. Anderson on patrol had trouble with Stbd engine, made successful crash landing
ND274	Beaufighter Mk VI, MkVIII AI		Active until at least 2/14/1945
ND288	Beaufighter Mk VI, MkVIII AI	**11/7/44**	Lt. Grange & Sunyar bailed out over mountains above Toulon, both OK
ND296	Beaufighter Mk VI, MkVIII AI	**12/5/44**	Pranged west of field. Lt. Davis, Pilot OK but burnt badly, sent to the states.
T3227	Beaufighter Mk VI, MkVIII AI		Active until at least 3/2/1945
V8558	Beaufighter Mk VI, MkVIII AI	**10/15/44**	Lt. Howard tried single engine-Didn't quite make it, crew OK!
V8568	Beaufighter Mk VI, MkVIII AI	**2/1/45**	12/28/1944, Lt. Campbell and McCullens destroyed Ju 280 this date. On 2-4-45 Lt. Howard blew tire on take-off, damaged aircraft. Howard and Mangone (RO) are OK.
V8644	Beaufighter Mk VI, MkVIII AI		Active until at least 2/25/1945
V8716	Beaufighter Mk VI, MkVIII AI	**1/18/45**	F/O Harding, U/C wouldn't come up or go full down, pilot bailed out over field. Badly injured, returning to states
V8875	Beaufighter Mk VI, MkVIII AI	**12/9/44**	Local training flight, crashed, killed both pilot and Klein, the RO who had only been with the Squadron a few weeks
V8899	Beaufighter Mk VI, MkVIII AI		Active until at least 10/26/1944
42-39397	P-61A-10-NO	7/4/45	Date flown by C. R. McCray
42-39420	P-61B-1-NO		Prang-job of the "The Lonesome Polecat", Gieblestadt, Germany. McCullen did not fly in this A/C.
42-39420	P-61B-1-NO	3/12/45	Date flown by C. R. McCray
42-39487	P-61B-2-NO		Active until at least 5/15/1945
42-39505	P-61B-6-NO	3/22/45	Date flown by C. R. McCray
42-39507	P-61B-6-NO		
42-39509	P-61B-6-NO	**6/9/45**	Lt Cooley killed while flying to Paris, feather wrong prop.
42-39509	P-61B-6-NO	4/22/45	Date flown by C. R. McCray
42-39517	P-61B-6-NO	4/14/45	Date flown by C. R. McCray
42-39521	P-61B-6-NO		Active until at least 5/18/1945
42-39533	P-61B-6-NO		"Markey-Hades Lady", 42-39533 needed a nose cone, the one from Hades Lady was used, thus the compound name. Named for Markolita Johnson, became wife of Lt. Sam Rial.
42-39533	P-61B-6-NO	4/1/45	Date flown by C. R. McCray
42-39535	P-61B-6-NO		Active until at least 5/6/1945
42-39535	P-61B-6-NO	3/28/45	Date flown by C. R. McCray
42-39536	P-61B-6-NO		Active until at least 4/20/1945
42-39536	P-61B-6-NO	3/18/45	Date flown by C. R. McCray
42-39559	P-61B-10-NO	3/20/45	Date flown by C. R. McCray
42-39563	P-61B-10-NO		Active until at least 4/24/1945
42-39563	P-61B-10-NO	3/27/45	Date flown by C. R. McCray
42-39594	P-61B-15-NO		"Midnight Menace",
42-39606	P-61B-15-NO		"Li'l Abner", also fitted with top turret,
42-39628	P-61B-16-NO		This aircraft fitted with top turret
42-556?	P-61A-5-NO		"BATTLE AX", was 1st P-61 to destroy an enemy aircraft, a Ju 88 on 8-7-44 when with 422th NFS. Assigned to 417th NFSin 1945.
42-5568	P-61A-10-NO	7/25/45	Date flown by C. R. McCray
42-5571	P-61A-10-NO	7/3/45	Date flown by C. R. McCray
42-5585	P-61A-10-NO	7/22/45	Date flown by C. R. McCray

McCullens flew in all of the above aircraft in the period from October 1, 1944 until V-E day, May 6, 1945. 417th ended Beaufighter operations at end of March 1945.
McCullens flew in twenty different Beaufighters in this period, of these 12 were lost during the period. Four were fatals.

P-61	"EDEE", Pilot George Aubill named his A/C for his girl from Omaha, NB, she left him, Fritzlar, 1946
P-61	MISS BILLI II
P-61	Bunny II
P-61	"OLD CROW"
P-61	"Air Quack"
P-61	"Carolyn", pilot was Morris Dalton

COMMENTS:

This data is taken from the Squadron "Pilots Log", of which only the dates September 26, 1943 through March 19, 1944 are available.
The S/Ns of the likely remaining Beaufighters, of the 12 brought from England, are shown in **BOLD** print.
The Squadron had on charge 36 different Beaufighters during this period. Eleven is probably the maximum at any one time.
Note: This is not a comprehensive list of all aircraft operated by the 417th NFS.

FIGHTER DIRECTOR VOCABULARY

Change No. 1 Included

Part I
R/T CODE AND VOCABULARY USED FOR THE DAY CONTROL OF FIGHTER AIRCRAFT EITHER UNDER SHORE OR SHIP CONTROL

W/T	R/T	MEANING
AB	Above	Aircraft above you
AM-MN	Ammo Minus	Have less than half ammunition left
AM-PS	Ammo Plus	Have more than half ammunition left
AM-O	Ammo Zero	Have no ammunition left
AK	Anchored	Am orbiting a visible orbiting point
AG	Angels	Height in thousands of feet
AW	Away	Aircraft is flying away from directing ship
BT	Bandit	Identified enemy aircraft (Number may be included)
AS	Base	Home airfield (Note: With ship based aircraft this means "Carrier"
BE	Below	Aircraft below you
BG	Bogey	Unidentified aircraft (Note: Implies "investigate with caution - may be friendly"
BS	Bombers	High level bombers
UR	Burst	Am about to fire H.A. Shells to burst at estimated height of and in direction of enemy
BU	Buster	Fly at normal full speed (Note: Indicated Air Speeds will normally be used by shore controllers
CT	Center	Center of Unit or indicated part of Unit (see CLOCK CODE)
CN	Chickens	Own fighters
CA	Clara	R. D. F. screen is clear
CL	Close	Keep near directing ship
FS	Fishes	Torpedo aircraft
FD	Freddie	Fighter Directing Ship
FD FD FD	Freddie	Am identifying myself as Fighter Directing Ship by making puffs of smoke and/or some other prearranged signal
FY	Friendly	Aircraft is/are friendly
FL	Fuel	Quantity of fuel remaining (Number of gallons e.g., "Fuel forty-two")
GA	Gate	Fly at maximum possible speed (Note: Not to be maintained for more than five minutes)
GR	Grand Slam	Enemy aircraft shot down
HS	Hawks	Dive bombers
HU	Heads Up	Enemy got through (part or all)
RC	Hey Rube	Rendezvous over directing ship. Report when on station
LF	Left (Port)	Alter course to left (port)(aircraft normally alters course 30 degrees)
LT	Lights	Identify yourself now
LI	Liner	Fly at economical cruising speed (Note: Indicated Air Speeds will normally be used by shore controllers)
MT	Mattress	Below cloud
Q	...o'clock	Aircraft in clock code sector indicated (See CLOCK CODE)
OR	Orbit	Circle and search
OP	Orbit Left	Circle and search to left (port)
OS	Orbit right	Circle and search to right (starboard)
PK	Pancake	Land, refuel and re-arm
PK-AM	Pancake ammo	Returning short of ammunition. Wish to land

PK-FL	Pancake fuel	Returning short of fuel. Wish to land
PK-HU	Pancake hurt	Returning wounded or damaged. Wish to land
	Pip-Squeak	Contactor
PY	Popeye	In cloud
QL	Quilt	Above cloud
RS	Rats	Identified enemy fighters
RE	Rear	Rear of Unit or indicated part of Unit (see CLOCK CODE)
RM	Resume	Resume patrol
RH	Request homing	Request course to steer for "home"
RT	Right	Alter course to right (starboard)(aircraft normally alters course 30 degrees
SV	Salvos	Am about to open fire (magnetic bearing may be indicated) Keep clear
SA	Saunter	Fly at lowest speed possible without losing height
SC	Scramble	Take off, set course and climb (e.g., Scramble zero four zero, angels ten)
CU	See you	Fleet in sight
SD	Shad	Shadower
SP	Snooper	Low Shadower (below 2000 feet)
SR	Steer	Set course...(magnetic course indicated) for "home"
TL	Tallyho	Enemy aircraft sighted (Note: Number, type and height of enemy aircraft sighted should be reported)
TH	Touch	In touch with homing beacon
TO	Towards	Aircraft is flying towards directing ship
TR	Tramlines	Beam Approach
VN	Van	Front of Unit or indicated part of Unit (see CLOCK CODE)
VC	Vector	Alter course to ...magnetic course indicated (Note: Like SCRAMBLE must be used with three figure group e.g, "Vector zero six zero: NOT "Vector siz zero " nor "Vector sixty" For homing course STEER is used (q. v.).)
VC-PO	Vector left	Alter course to ...magnetic course indicated, turning to left (port)
VC-ST	Vector right	Alter course to ...magnetic course indicate, turning to right (starboard)
WT	What state	Report fuel and ammunition remaining

APPENDIX TO PART I - INFORMATION R/T CODE AND VOCABULARY USED BY SHIP WITH SHORE BASED FIGHTERS UNDER SHORE CONTROL

W/T	R/T	MEANING
AB	Above	Aircraft is above you
AW	Away	Aircraft is flying away from directing ship
BE	Below	Aircraft is below you
BG	Bogey	Unidentified aircraft (Note: implies "investigate with caution - may be friendly")
BS	Bombers	High level bombers
UR	Burst	Am about to fire H. A. Shells to burst at estimated height of and in direction of enemy
CT	Center	Center of Unit or indicated part of Unit (see CLOCK CODE)
CL	Close	Keep near directing ship
FS	Fishes	Torpedo aircraft
FD	Freddie	Fighter Directing Ship
FD FD FD	Freddie	Am identifying myself as Fighter Directing Ship by making puffs of smoke or some other prearranged signal
FY	Friendly	Aircraft is/are friendly
HS	Hawks	Dive bombers
LF	Left	Alter course to left (port) (aircraft normally alters course 30 degrees)
LT	Lights	Identify yourself now
MT	Mattress	Below cloud
Q	...o'clock	Aircraft in clock code sector
PY	Popeye	In cloud

QL	Quilt	Above cloud
RE	Rear	Rear of Unit or indicated part of Unit (see CLOCK CODE)
RM	Resume	Resume patrol
RT	Right	Alter course to right (starboard) (aircraft normally alters course 30 degrees)
SV	Salvos	Am about to open fire (magnetic bearing may be indicated) Keep clear
SD	Shad	Shadower
SP	Snooper	Low shadower (below 2000 feet)
TO	Towards	Aircraft is flying towards directing ship
VN	Van	Front of Unit or indicated part of Unit (see CLOCK CODE)

Part II
R/T IFF CODE

(a) I.F.F.

Cockerel	I. F. F.	Mark II G
Make Your Cockerel Crow	Switch on your IFF	"
Strangle Your Cockerel	Switch off your IFF	"
Cockerel is strangled	I.F.F. is switched off	"
Check your cockerel	Adjust your IFF (i.e., Cockerel (up one down two)=Turn IFF (up one notch down two notches)"	

Note: the word 'notch' is never used. Cockerel "CROWS" and is "heard" and not 'Seen".

Canary	I.F.F.	Mark II G (f), Mark III G
Canary please	Switch on your IFF	"
Canary thank you	Switch off your IFF	"

PART III
R/T CODE AND VOCABULARY USED WITH NIGHT FIGHTERS UNDER SHORE OR SHIP CONTROL

The following code words and phrases are used in addition to those in Part I:

(a) GCI CONTROL WEAPON AI

"Flash your weapon"="Switch on your AI"
"My weapon is flashing"="My AI is switched on"
"My weapon is bent"="My AI is unserviceable"

Contact	I have an indication on my AI
Contact Lost	The indication on my AI has faded
Punch	You should very soon be obtaining a CONTACT on the aircraft that is being intercepted
Judy	Take over (or "am taking over") the interception
Mother or Grannie	Homing Beacons
Cousin Maud or Cousin Jim	Patrol Beacons
Father or Uncle	Beam Approach Beacons (old)
Baby	Beam Approach Beacon System (new)

(b) SEARCHLIGHT AIDED SECTOR CONTROL

Candles	Searchlight beams
Douse	Extinguish searchlights
Trade	"Enemy raiders are in the offing" (This is a warning message and is followed by the general direction of the approach of the raiders, e.g., "Trade South")
Smack	Cease orbiting (if "Trade" has not been given_ and proceed in direction indicated

Crackers	Attack any enemy aircraft within your "Box"
Freelance	Attack any enemy aircraft anywhere without restriction
RL-Orbit	Abandon chase and return to orbit location
Gauntlet	Am leaving orbit to attempt an interception
Normal	Do not adopt gauntlet procedure
No Joy	Cannot find the raid allotted to me

Approved and published by authority of the Combined Communications Board.

G. B. MYERS, COMDR, U. S. NAVY
JAMES DRYLAND, LT., COL., BRITISH ARMY
COMBINED SECRETARIAT

Original Mimeograph received 17 May 1943
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