

Near-new B-25A, AC 40-2212, completed 6-26-41 (nameplate), Squadron No. 39 of the 34th Bombardment Squadron (Medium) with dark blue on front on engine cowlings, red, white and blue Thunderbird insignia. We parked on the dirt at Felts Field. Second lieutenant classmates will take turns flying on a cross-country flight. Far pilot is Frank M. Tuttle, KIA as a captain 15 months later flying a B-26 over France. Near pilot is E.W. "Brick" Holstrom, eight months later one of Doolittle's Tokyo Raiders, now a retired brigadier general. (B.C. Reed Photo)





North American Aviation Bombers I Have Known and Flown

by Boardman C. Reed, Lt. Col., USAF (Ret.)

Excerpts from the forthcoming book
"FLYING THE FORTRESS AND OTHER WONDERFUL OLD AIRPLANES"
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This is not a "war story. " Do not expect to find combat accounts, heroism or derring-do in this article. It is, rather, a very personal and subjective story, written by a lucky little boy now almost 80 years old, who always wanted to be an aviator. As a young child, he watched what seemed to him to be an enormous khaki-colored biplane (probably just a jenny! or maybe even a DH-4B Liberty plane) with large red, white and blue Army "Stars" under the wings, fly very low over his home in the orange groves of Southern California, perhaps heading for Ross Field, Arcadia (now the Santa Anita horse racetrack). It made a deep-seated impression. Ever after, even when dirt-track racing his cut-down and hopped-up Model A Ford roadster, he never forgot that boyhood dream to earn the Silver Wings of an Army Air Service (later, the Army Air Corps) pilot.

HAVING TOLD BITS AND PIECES OF SOME OF THESE EXPERIENCES at various times, I was urged to write them all out. This, however, is a story with a difference: Instead of a chronological account of all flights and events, it is restricted to just one make and type of airplane . . . North American Aviation bombers, with major emphasis on the marvelous B-25. A number of other old airplanes are mentioned here and there merely to establish a background for the narrative or maybe because a few readers might enjoy it, or most likely because I'm not consistent! My Air Corps Form 5 File, original Log Books, old letters and the *Augusta* (Georgia) *Chronicle* helped refresh hazy memories. Others who were there will, of course, remember half-century-old events differently. If an old man repeats himself, just read past it and go on!

B-21—In late 1935 and during 1936, the management and design team of the recently reorganized North American



Aviation, Inc., in their new California factory on Mines Field (now LAX, the Los Angeles International Airport), decided to expand their line of single-engined military trainers to include a twin-engined bomber. Their new trainers were inspired designs sold all over the world, setting future trends . . . but their Model (Charge Number) NA-21, unfortunately, was only a bigger and heavier version of the lumbering and already flying Douglas B-18. The Model NA-21 first flew in the spring of 1937 as the U.S. Army Air Corps XB-21, AC 38-485 (NAA serial NA21-84). The repetitive “21” (NA-21/B-21) was merely a coincidence. It was “all silver” (shiny aluminum) with the regular old red, white and blue Air Corps markings: rudder stripes and star insignia on all four wingtips. It was powered by two experimental 1,200-hp Pratt & Whitney R-2180-1 *Twin Hornet* engines, also an unfortunate design from an excellent manufacturer.

About that time, probably in 1938, I parked my Ford V-8 roadster alongside the road and walked all around the XB-21. I was able to look it over at very close range, parked in the dirt just east of the North American factory. Just imagine casually doing such a thing in later years! It had recently returned from a test flight during which the F-10 supercharger on the right engine had shed its turbine buckets, and I saw the ragged holes in the metal skin, looking, I imagined, as if shrapnel had hit it. Possibly, by that time it was already under the later NAA Charge Number NA-39 (NA-21 modifications). Unofficially the company had called the XB-21 the “Dragon,” and fortunately it became as extinct as that mythological monster, when five potential YB-21s were canceled, and the program ended.

NA-40—About two years after the unfortunate design of the XB-21, North American’s chief designer, J. Leland Atwood and his teammate Raymond H. Rice, came up with a fast twin-engined model, the NA-40, a really new and inspired light bomber designed for low-level attack. It sat on the new tricycle landing gear and looked as modern as tomorrow. The company painted Air Corps stripes on the twin rudders . . . but the Army never owned it; instead it had civil registration

North American XB-21 (NA-39), 38-485, taking off from Mines Field, Inglewood, California, circa 1938.
(North American Photo)

XI4221 on the twin fins (NAA serial was NA40-1052). It first flew in January of 1939 and that spring went to Wright Field, Dayton, Ohio, for acceptance trials. It crashed on one of its test flights because of propeller problems. The attack contract went to the similar Douglas 7-B (which had flown three months before the NA-40, also at Mines Field) in its improved DB-7 model, which the Air Corps called the A-20 attack (five years later I flew a couple of DB-7Bs and an A-20G in England). Apparently, North American had lost again.

B-25—Under increasing pressure from the growing threat of war in Europe, however, the Army Air Corps urgently needed to replace its aging and totally inadequate B-18A medium bombers. The NAA design team of Atwood and Rice, therefore, did a complete redesign of the NA-40 in the summer of 1939, resulting in their similar but heavier NA-62 proposal, far advanced over any medium bomber in the world. Although approximately the same weight as the lumbering old B-18A, it was considerably smaller, about a hundred miles an hour faster, and carried a larger load of bombs. It was *hot*!

And it was just in time, as World War II erupted in Europe on September 1, 1939. The NA-62 was only a design on paper, but the U.S. Army Air Corps immediately ordered it “off the drawing-board” that same month, and gave it the designation of B-25, as a medium bomber. It was two years or so later before it got the popular name of *Mitchell*, after the late, great General William E. “Billy” Mitchell. To us, of course, he was a hero, but we avoided all popular names.

There was no experimental “XB-25” designation, as was the rule up to that time, but the first ship built was merely a plain B-25 (NAA serial number NA62-2834, Air Corps serial AC 40-2165), making its first test flight August 19, 1940, within 11 months of the contract signing. At that time the Battle of Britain was in full fury. Although not designated as such, that first B-25 actually was experimental, initially



The North American NA-40, progenitor of the B-25 Mitchell medium bomber. (North American Photo)

having different shaped twin tails, and other differences. It was “all silver” (natural shiny aluminum), with regular 1940 Army Air Corps markings and insignia, as photos attest. The second and subsequent early B-25s were camouflaged and had the newer, modified markings as used in 1941.

As a very personal aside (you were warned this would be a subjective article!), 11 days after the first original B-25 test flight, that little boy’s dream came true when I graduated from the Air Corps Advanced Flying School, Class of 40-E, at Kelly Field, Texas (where I lived in the old 1917 cadet barracks), on August 30, 1940, as a second lieutenant, U.S. Army Air Corps, with rating as pilot. “I wanted Wings.” Now I officially wore Silver Wings! And a Sam Browne belt with a saber. Wow! Yet I had never even heard of a B-25. They would soon be entered in my log book, but first. . . .

The 17th Bombardment Group (Medium), GHQ (General Headquarters) Air Force, was the *very first* combat outfit in the world ever to receive a B-25. The 17th was a historic group, earlier having flown P-12s, P-26s and A-17s (in World War II they flew B-26s in Southern Europe). During the winter of 1940-1941, however, the 17th was based at the newly completed McChord Field, officially called the U.S. Army Northwest Air Base, on the site of the old Tacoma Airport, near Puget Sound, Washington. The older pilots, so recently transferred with the 17th up from March Field near Riverside in sunny Southern California, found winter weather in the Pacific Northwest included a lot of fog and rain, which meant no flying, as also did those members of my class of new second lieutenants assigned here, so recently out of flying school down in hot Texas. We became copilots in the three squadrons of the 17th Group, the 34th, 73rd and 95th, and each of us had additional squadron duties as assistant operations, maintenance, supply, or communications officers, etc. My name on the roster just happened to fill the blank for the assistant maintenance officer in the 34th, and that specialty

followed throughout my career which ended as Chief of Maintenance at Harlingen AFB, Texas, when I retired.

Each squadron in the 17th had about 10 polished-metal bombers: five old Douglas B-18As (twin 1,000-hp Wright R-1820-53 *Cyclones*) and five newer Douglas B-23s (two 1,600-hp R-2600-3 *Double Cyclones*). They were all “tail-draggers,” of course, although that term would have been meaningless in those days, because so was practically every airplane in the Air Corps or anywhere else. We called them “conventional landing gears.” The later term *taildragger*, to differentiate between the two, didn’t come into general use until the 1950s when the tricycle landing gear first began to be predominant. I was assigned to the 34th Bombardment Squadron (Medium), also an historic old outfit called the 34th Aero Squadron in 1917 during the Great War, “The War to End All Wars.” In the early ’30s the 34th Pursuit Squadron had flown Boeing P-12Cs, P-12Ds and the squadron commander’s P-12F biplanes and then P-26As at March Field. Later the 34th Attack Squadron flew Northrop A-17s, A-17As and a few rare Vultee YA-19s, also at March. The beautiful old red, white and black American Indian Thunderbird insignia (no relation to the current USAF “Thunderbirds” demonstration team) of the 34th Squadron was on our ships, and also as a patch on the left breast of our * ‘issue’ A-2 leather jackets. Unlike the modern USAF, we wore our squadron patch over our heart. Likewise, in 1940 we didn’t have Wings on our A-2 jackets because everyone knew *all* officers in the Army Air Corps had Wings! *That* soon changed, however, when the new nonflying administrative, supply, intelligence and communication officers—rudely called “Paddle-feet” at the time—were first assigned to Air Corps ground duties in 1941. We really appreciated them, however, as now we had more time to fly!

We didn’t realize it at the time, but we were enjoying the last days of the old peacetime Air Corps, with Wednesday and Friday afternoons off, and completely free weekends (one Saturday morning a month we had a dress parade). We were considered “student officers” for three more months, with



more Ground School. We expected to remain copilots and second lieutenants for years. On dress parades, we wore our snazzy officers' Pinks, Sam Browne belts, saber chains and glistening sabers with which we learned to saber-salute and to do "Parade Rest" with sabers extended. Mine now hangs in our living room, crossed with my grandfather's, U.S. Captain William Boardman Reed's, Civil War sword. (He had been twice wounded in the second battle of Bull Run.) In 1940, second lieutenants were told to expect serving seven years before making first lieutenant, and then *at least* five more years before even being considered for captain, *if* we were good enough to still be on active duty.

The fall of France, Dunkirk and the Battle of Britain may have been remote to second lieutenants (who ranked considerably below sergeants!), but the staff officers could see the handwriting on the wall, and the winds of change began to filter down even to us. Our near-new silver Douglas B-23s, hardly a year old, were already obsolete, and there were vague rumors of a new, secret airplane. We were lowly copilots on the comfortable old B-18A clunkers, but occasionally when we did get up in a '23 we couldn't even handle the controls; there were none on the right side! There was, however, one lonely old blue and yellow Northrop A-17, AC 35-129, with a 750-hp twin-row P&W R-1535-11 engine parked in front of Base Operations. No one seemed to want to fly her very much, but I loved to take her out solo whenever I could. I first met famous aircraft historians Gordy Williams and Pete Bowers that way when I flew the A-17 up to Boeing Field, Seattle . . . and once flew low over and around the Olympic Mountains in "my" A-17. I also managed to get a flight in an early Boeing B-17B, AC 38-215 (from Alaska), briefly visiting McChord Field and also in two B-17Cs being readied for transfer to the Royal Air Force in England. About now, the 73rd Squadron was replaced by the 37th. From early October 1940 to mid-March, this was our life, broken only by several B-18A cross-country flights down to Hamilton Field near San Francisco; to Santa Barbara, or March Field, Riverside, once searching for a lost B-18A down in a

The first production B-25 (NA-62) with constant wing dihedral from root to tip and original fin and rudder shape. (North American Photo)

snowstorm somewhere in the Cascades or Siskiyou Mountains (their wreckage was found later on a mountainside south of McChord). Our training, blind-flying instruments, radios and the old four-leg Adcock radio ranges—the best of the 1930s—were no match for a really big winter storm.

Years were almost condensed into weeks. In early March of 1941 we were checked out as First Pilots in B-18As, first "shooting landings" on buddy-flights with a classmate. I guess they figured if one of us fouled up, the other might get us down safely; we all made it. Big, bluff, unflappable Staff Sergeant Eldred V. Scott, the only other man on board, was *really* the aircraft commander, monitoring every move on my first solo (undoubtedly he soon made master sergeant). Four weeks later, I soloed a single-control Douglas B-23. All of this is merely some background on the very first outfit ever to receive a famous and enduring new airplane.

During our copilot days that winter, the rumors persisted about getting that new, secret B-25 . . . but there were all sorts of rumors. One of the first lieutenants, just sitting around one cold foggy morning, started a rumor that the 17th would soon be transferred, just to see how long it would take to get back to him; he heard it as a "fact" later that same day! We soon learned to discount rumors. But the B-25 rumor was true. It was toward the end of February 1941, about six months after the first one flew, when the fourth B-25, AC 40-2168, came in. We all stood out on the ramp to watch her land. The high-ranking officers crowded inside and up close, while we junior officers had to be content to walk around it. I clearly recall looking with awe and thinking it would be much too hot to handle, after the comfortable and familiar old Douglasses . . . and yet, soon after, when I was able for the first time to sit alone in the cockpit of the fourth B-25, I thought "but won't it be wonderful!" It came much sooner than any of us could possibly imagine. World events were accelerating swiftly in 1941. . . .

The first nine B-25s had wings of constant dihedral and, from personal experience, they were fun and very easy to fly, being extremely stable. This stability, however, worked against their accuracy as a bomber. The Norden bombsight was connected to a simple instrument in front of the pilot called a PDI or Pilot's Direction Indicator, which was merely a LEFT/RIGHT needle. As the sergeant/bombardier (commissioned bombardiers came later) adjusted his bombsight for drift, the pilot followed it with small turn corrections to keep the PDI needle centered. But those little rudder corrections (even trying to keep her level by slightly cross-controlling with the ailerons) would cause those early "straight-wing" B-25s to bank just enough to throw the bomb off to one side, if the automatic release was triggered that critical moment.

The Wright Field solution was for the factory to remove the outboard wing panels from the third ship and reinstall them flat (0° dihedral), which gave the now-familiar, so-called "gullwing" effect. Small corrections on the bomb run could now be made with less chance of dipping or tilting a wing, and bombing accuracy was improved. The ninth B-25 was too near completion to change, but the tenth and all subsequent airplanes on the production line incorporated the now-familiar flat wings. Strangely, however, there was no change in designation; with either type of wing it was still just a plain old B-25 with no letter suffix.

I have heard pilots who should know better say the change to the flat or so-called "gullwings" was to make the B-25 *more* stable. This always amazes me! Stop and think: the less dihedral, the *less* stability. The more dihedral, the more stability (obviously, of course, there is a limit to the amount of dihedral required for best stability). The few old pilots still left who might remember flying both types of wings know the old straight-wing '25 with dihedral was more stable and a joy to fly. The modified gullwing didn't completely solve the bombing accuracy problem, but it did improve it and made it

a very fine bombing platform. The '25 then went on to become the very greatest medium bomber of World War II and the pilots and crews loved her.

The first three experimental B-25s remained either at the factory or Wright Field for testing and modifications. Our first ship (number four) was, of course, assigned to Headquarters Squadron where the 17th Group staff officers and commanders could get checked out first. Shortly thereafter, the fifth '25 was delivered and, fortunately for me, was assigned to my 34th Squadron . . . the first B-25 ever to enter combat squadron service. We received it very early in March. I copied the information from its nameplate: the fifth B-25 was AC 40-2169, NAA serial NA62-2838, date completed, February 27, 1941. In my 34th Squadron, she was assigned squadron number 41.

Besides having upswept or "straight" wings, these very early '25s had another interesting feature: all large airplanes of the late 1930s had a tailwheel lock to prevent them from going into full swivel, except when unlocked to make a slow turn, as ground-loops were common. The designers, of course, figured the nosewheel on the new tricycle landing gears also needed to be locked during takeoffs and landings. When one of our first lieutenants forgot the lock, it still landed perfectly! After a few more careful tests, they soon discovered it was unnecessary, and shortly thereafter the nosewheel lock was forever deleted.

New second lieutenants had to be content to await their turn, so it was Wednesday, March 26, 1941, before I had my first flight in that B-25. Also about that time, our 34th Squadron received its second "straight-wing" ship, AC 40-2172, the eighth built, and assigned squadron number 42. Then in April and May we received three more '25s direct from the factory, the new so-called "gullwing" types, AC 40-2180/'86/'88, squadron numbers 43, 44 and 46 (No. 45 was a B-18A, AC 37-558).

Now we were copilots on B-18As, B-23s and B-25s interchangeably . . . with an occasional opportunity to fly "solo" as First Pilot (later called Aircraft Commander) on limited cross-country flights in the '18s or '23s . . . barely seven or

The fourth B-25 built, AC 40-2168, taxiing in after its first arrival at McCord Field past a row of B-18As, third week of February 1941. Note original wing with constant dihedral. A very hurried snapshot.

(B.C. Reed Photo)





eight months after graduation from the Air Corps Flying School. Such accelerated progress in multi-engined bombers was unheard of in the '20s and '30s. Put in perspective, my Flying Cadet Class 40-E won our wings on August 30, 1941; those of us assigned to the 17th Bombardment Group were made First Pilots on B-18s in early March, on B-23s in April, and on B-25s the end of May 1941. It never occurred to us that such unusually rapid progress was because the War Department thought we would be at war in the spring of 1942. They thought so . . . but they were very wrong. Tragically so. . . .

Winters are wet in western Washington, so to escape from the rain and fog of the Puget Sound area, in April 1941 the squadrons went on TDY (Temporary Duty) over to Felts Field, on the east side of Spokane. (Geiger Field did not yet exist and Fairchild Air Force Base was far in the unknown future). Married officers got apartments in town; others lived on the field in tents. So did our crews. There was one paved east-west runway, but we parked our ships on the dirt. When necessary, we flew back to our home base at McChord over the Cascade Mountains.

After a mere five hours and 35 minutes of transition training and an even dozen landings at Felts Field, on May 27, 1941, the squadron C.O., Captain Alvord Rutherford, checked me out as a B-25 aircraft commander. Now I was flying our two straight-wing and three gullwing ships interchangeably (together with the old B-18s and '23s). Once I was also copilot in another "straight-wing" B-25, the seventh built, AC 40-2171 (completed February 28, 1941), assigned ship number 11 in the 95th Bomb. Squadron, on a cross-country from Spokane to McChord and return, April 25, 1941. Years later, I heard that the few surviving "straight-

The seventh B-25 built, AC 40-2171, completed 2-28-41 (from nameplate), showing early dihedral originally built on first nine. This ship was Squadron No. 11 in the 95th Bombardment Squadron (Medium) with yellow on front of engine cowlings, when photographed by the author after a flight in it, late April 1941. Pine-covered hill is a familiar landmark north of Felts Field, Spokane.

wing" '25s had later been returned to the North American factory for modification and upgrading to gullwing standards.

One last incident in our old B-18s is worth mentioning. The CAA (Civil Aeronautics Administration) men in the Felts Field control tower were mostly Air Corps Reserve pilots. We became acquainted and often had coffee together. When they saw my Private License, they asked why I only had a single-engined rating when now I was regularly flying multi-engine Air Corps bombers. The senior CAA examiner suggested taking him along someday so he could examine me and give me a multi-engine civil rating. Which we did. It was okay with my squadron operations. All the other CAA men in the tower (those who were also Air Corps reservists) wanted to go along, as none had ever been up in a B-18A. There was room for all. I asked my examiner if he'd like to fly it from the left seat. He did, of course, so I acted as his copilot and check pilot. After he took it up, felt out the controls and made a couple of stalls, he shot several landings. Then the others also wanted to try some landings. Finally it was time to go in. I asked when I would be examined. They said anyone who could talk them through their landings, smooth out their mistakes and was unflappable when they bounced, *must* be qualified! And so that's how I happened to get a multi-engined rating on my Private License. Today, at the age of 79, that rating is still on my FAA Commercial Pilot's License,

together with a Class Two medical!

In early June, our pretty B-23s were transferred out, and by late July 1941 we saw the last of our old B-18s leave the group. Now all we had were B-25s. Dad enclosed a newspaper clipping in a letter which said the War Department now would publicly refer to military aircraft by “popular names” instead of numbers for security reasons, and the B-25 would be called the *Mitchell*. We revered the memory of General Billy Mitchell, of course, but scorned and ignored all those “popular” newspaper names. . . and the old crews still do to this day. To us it was, and always will be, just “the ‘25.”

Early in July 1941, with hardly eight and a half hours of B-25 First Pilot time since my checkout, I considered myself—in the oldest and best tradition of any young Air Corps aviator—quite a hot pilot! After all, I had soloed four different combat-type aircraft within nine months of winning my wings (plus five Air Corps cadet trainers). We all had big egos. What our superiors thought, with their thousands of hours of total time, must have been quite a different story! With the last of our old B-18As fast being transferred out, and new B-25s being turned out by North American faster than ferry pilots could deliver them . . . Captain Rutherford, our 34th Squadron Commander, had to get a ship ferried up from the factory as soon as possible. Whatever his reason, he must have thought (probably with considerable trepidation!) that I was at least adequate enough to keep from breaking my neck, and—far more importantly—from breaking up a valuable new semi-secret military airplane together with its priceless human crew. I was, therefore, assigned to go down to Southern California and take delivery of a brand-new B-25 A from the factory, and ferry it up to our squadron, still on TDY at Felts Field, Spokane. I considered this quite an honor, as it was to be the very first of our squadron’s new, latest model B-25As.

After a weekend visit with my folks in Pasadena, on Monday morning, July 7, 1941, Dad drove me across Los Angeles to Mines Field, Inglewood (now LAX), where I reported in to the Air Corps office at the North American Aviation factory, greatly enlarged since I last visited the plant several years earlier. The flight line was crowded with shiny new silver AT-6 and SNJ trainers, including some near-identical *Harvards* with British RAF insignia, plus a few with Central or South American markings, awaiting delivery. I hardly noticed them as, after all, I had trained on the older North American BT-9s and -14s at Randolph Field, San Antonio, and won my wings on BC-1s and its successor, the earliest AT-6s across town at Kelly Field. They were old stuff. What really got my attention were the new olive-drab B-25As with the beautiful red, white and blue Air Corps stars on their fuselages and wings. And one of them was mine! For a young Air Corps lieutenant only 10 months out of Flying Cadets, this was heady stuff. It really got the old adrenalin flowing, and the three-inch sterling wings on my chest seemed to grow to three feet! I was assigned B-25A, AC 40-2202, and as usual, I checked the company nameplate (probably one of the very few, if not the only crewman, ever to do so), serial NA 62-2871, completed June 26, 1941. Engines continued to be the 1,700-hp (for takeoff) Wright R-2600-9 *Double Cyclone* 14s, type B-655.

Together with my copilot, sergeant flight-engineer and

radio operator, we stowed our B-4 bags, preflighted the ship, admired the new features such as armorplate behind the seats and remarked about how pleasantly new the interior smelled. These B-25As also had another new feature: instead of the normal old metal fuel tanks they had “self-sealing” tanks and fuel lines made of synthetic rubber and other materials in layers nearly an inch thick. No metal. If pierced by a bullet, the leaking gasoline caused the inside materials to immediately swell up and seal the hole. I checked the fresh Form 1, noted the two short production test flights, and that the few squawks had been cleared on the Form 1-A. I would be the second pilot ever to fly it!

We settled in our seats and I called for the checklist. My copilot, keeping place, began calling off the items, while watching to double-check my movements—as any good copilot should—when I answered his checklist:

“Chocks?” IN PLACE. “Emergency airbrake pressure?” IN THE GREEN. “Ignition switches?” OFF. “Parking brake?” SET. “Controls?” UNLOCKED, FREE AND CORRECT. I moved all the controls, and looked at the left aileron, noting it went up as it should for a left turn. The copilot looked at the right aileron and reported it moved correctly.

“Throttles?” CRACKED. “Props?” FULL INCREASE. “Mixtures?” RICH. My eyes continued to scan the panel and my hands moved rapidly to ensure the proper positions of controls, levers and switches as I called out the answers. “Superchargers?” LOW AND LOCKED. “Oil cooler shutters?” CLOSED. “Carb. air?” NORMAL. “Cowl flaps?” OPEN. “Fuel valves?” ON. “Battery and generators?” ON.

I stuck my head out the side cockpit window and called CLEAR LEFT. The company alert-crewman, fire-extinguisher horn at the ready, repeated CLEAR and circled his upheld hand to indicate he was clear and ready for prop rotation.

The copilot continued his litany: “Ignition?” SWITCHES ON. “Fuel boost?” ON, PRESSURE UP. “Prime.” THREE SECONDS, AND ENGAGING! I watched the big three-bladed Hamilton Standard hydrometer propeller slowly begin rotating and glinting in the sun, the exhaust barked several big puffs of blue smoke, then became a smooth, full-throated roar as the prop disappeared in a shimmering silver arc. I heard the copilot call out, “Oil pressure coming up. Boost pump off. ’ ’ A slight throttle adjustment settled the tachometer needle at 1,200 rpm.

The ground crewman, wheeling the big red fire-bottle, moved around in front of our number two engine, and we repeated the starting routine. As soon as all temperatures and pressures were “in the green,” I signaled for the chocks to be removed, nodded my thanks to the ground-alert crewman, and called the tower for taxi clearance. I released the parking brake, rolled a foot or two and rechecked the toe brakes. We taxied out past dozens of other B-25 As awaiting their delivery pilots. After a careful run-up—remember, this was only its third takeoff!—I got a clearance for March Field, and took “the Active.”

Climbing out over the white sandy ocean beaches brought memories of playing there in the surf as a boy. The blue Pacific was under our wings. Circling back over Mines Field, I looked down at the North American Aviation factory, but how could I ever imagine that after a long hard war, I’d be working there in six years. And it was, of course, beyond



In relaxed formation over Colorado on cross-country from Spokane to Louisiana Maneuvers, September 10, 1941. Copilot flew while author opened his left-side window and took this snapshot. Front edge of cowl-ing is dark blue.

belief that this great factory complex, under a new name, would be dismantled, torn down and leveled to the ground in another 35 years.

But this was 1941 and we were young. The skies over Los Angeles were still blue and clear (well, almost, anyway), the term “smog” was not yet familiar . . . and an event to be called “Pearl Harbor” forever after was a long five months in the future. And so with light hearts we “bored through the blue” eastward, passing over places where I had first soloed a Kinner *Swallow* and then other wonderful old open-cockpit biplanes in earlier years. Forty-five minutes later we landed at March Field where we would RON (remain overnight). In those days we rarely saw another airplane in the skies, just about the only radar in the world was on the shores of the English Channel and the very strict, complicated Air Traffic Control—as known today—was completely nonexistent. Flying around the Los Angeles area was still fun in those happy, halcyon days! So on our way, I deviated slightly off course, dove down just a bit below (?) 500 feet and circled my house overlooking the Rose Bowl in Pasadena, and no one knew or cared; just try something like *that* today!

The next day it was a two-hour, 10-minute flight up to McClellan Field, Sacramento, for a two-hour refueling stop for both our aircraft and her crew. Then a three-and-a-half-hour flight on up to our squadron at Felts Field, Spokane. As

we climbed out of McClellan and flew over the foothills of the Sierra Nevada mountain range of Northern California, I never dreamed that one day my retirement home would be on a mountain airstrip way up there in the pine trees, where I would be reliving in memory and writing about this flight, half a century later!

There was a rumor going around the 17th Bombardment Group in the summer of 1941, but among the commanders and Field Grade officers it was no rumor: the War Department brass in Washington were scheduling war games in the southeastern United States to sharpen the skills of all organizations and ranks. The peacetime era was coming to an end. Our Wednesday afternoons off, the long weekends and relaxed atmosphere throughout the Air Corps of the last two decades (and even the glacier-slow promotions) had come to a screeching halt, although I was slow to realize it. The war in Europe was nearly two years old and the general officers and global planners in the War Department suspected our time was short. It was even shorter than they thought. December 7, 1941, was now only four months away . . . and time was running out.

The U.S. Army Air Corps, as an entity, lasted another six years (to September 18, 1947), but the Army saw the need to streamline its major combat commands into “forces,” such as the Army Ground Forces and the Army Air Forces as of June 20, 1941. This was one more step toward an independent Air Force. It is interesting to note that the wartime title “Forces” is always plural . . . unlike the postwar U.S. Air Force (singular), a detail often overlooked by historians.

In late August we got *The Word*: we were to take part in both the Louisiana and the Carolina Maneuvers in the autumn, although the area covered several more states than the names implied (see “*Smithsonian*” 22/6, September 1991, page 88 ff). And, incidentally, it would be in these war games that the brilliance of a regular Army colonel by the name of Dwight D. Eisenhower came to the attention of the General Staff. Colonel Eisenhower rapidly rose in rank thereafter, eventually becoming the President of the United States.

In early September our four squadrons of B-25s, in loose formation, flew east to Lowry Field, Denver, and then on down to Hawkins Field, Jackson, Mississippi, where we camped in tents. As we approached, Captain Rutherford tightened up his formation. I was flying on his right wing. We were circling to the right in a steep bank at a very low altitude preparing to enter the traffic pattern. He steepened his bank to what seemed to be considerably more than 60 degrees, and of course being on the inside of his turn, I had to throttle back to keep from overrunning him. This is a classic setup for a high-speed stall and sure enough a slight shaking warned me of what I sensed to be an incipient stall, so I slid down out of formation into the clear, simultaneously adding power and leveling my wings. Quite possibly it was only a little rough air. In any event, the B-25 is very stable, easy to fly and easy to fly out of a stall, so probably I should have hung in there. After landing, Captain Rutherford really chewed me out for breaking formation. Who was right? My squadron commander was, of course. He had the experience; junior officers didn’t. That’s why he was the squadron commander.

While we were here, I had one of those rare and wonderful experiences that could only happen in a relatively small peacetime air service. Two years earlier I had just finished a hitch in the 115th Observation Squadron of the California National Guard. As a PFC (Private First Class) with the specialty of aerial photographer, I had often flown in the rear cockpit of our grand old Douglas O-38s. That was the end of another nostalgic era of big and powerful military open-cockpit biplanes . . . military aviators flying with leather coats and helmet and goggles with white scarves made of old parachute silk (still have mine!). We were a close-knit group, and the lieutenants often let us handle the controls in the air. Knowing I flew civilian 220-hp biplanes and also was applying to become a Flying Cadet, a couple of pilots actually let me make a takeoff and landing in an O-38 a few times (obviously under close supervision on the controls!). It was against regulations, of course, but a fairly common practice. All of which brings us up to the 17th Bombardment Group and our arrival in Mississippi.

With the rapid expansion due to the pressures of the war in Europe, old experienced National Guard and Reserve pilots were being recalled to active duty and integrated into combat units to learn the latest equipment . . . and who should be assigned to the 17th in the autumn of 1941 but some of my officers from the old 115th! And yes, it actually happened: I was one of the pilots given the task of checking out a couple of them in our B-25s, one of whom had let me fly the old Air Corps O-38 open-cockpit biplanes. Just one more of my many "once-in-a-lifetime" experiences.

In the Louisiana Maneuvers, we flew under what we naively considered to be combat conditions (minus the shooting), and we learned to be up and away by first light, to fly a tight formation at treetop height and to coordinate with the ground troops. And we learned to think fast in emergencies. One day a violent thunderstorm left Hawkins Field flooded, shortly before a squadron was due to land. Several landing B-25s skidded sideways, finally slipping slowly off into the mud but without damage. Applying brakes, even slightly, caused the problem and yet the end of the runway was coming up much too fast. And the end of the runway had a sharp drop-off that would wreck any airplane. Then along came another '25, also low on fuel. After landing, one of his wet brakes grabbed. In a flash, that B-25 spun around and skidded backwards, tail first, straight down the runway at high speed. It was incredible! I watched, horrified, expecting to see an awful crash. The pilot, however, coolly opened his throttles and used the forward thrust of his engines to pull him to a stop. Then he taxied back normally to his parking area. We were learning . . . fast.

In mid-September, our B-25 Group received a single, strange new airplane in olive-drab camouflage, called the YO-59. Strange to a bombardment outfit, certainly, but to me it was merely an old civilian acquaintance I had known in a yellow sport coat. I hadn't realized it was now in Army uniform. It was an old familiar Piper J-3 *Cub*, AC 42-461, the second of four "off-the-shelf" civil J3C-65s procured for evaluation as the YO-59, later to become the L-4 *Grasshopper* in production. As it was assigned to group headquarters, it had the number "1" above "17B" painted in black on the tail. That code was usually reserved for a new

headquarters squadron B-25B. What a Piper *Cub* was doing in a medium bombardment group, we had no idea, but I knew I just had to fly it once. As it had been nearly five years since soloing the earlier J-2 and only briefly having flown a J-3, Major Paul L. Barton at group operations wanted to ride around with me a couple of times and check me out (the top speed of the YO-59 was *slower* than the stalling speed of a B-25!). He turned me loose and Master Sergeant W.T. O'Donnell also wanted a ride in it, so I got to log an hour altogether. Shortly thereafter the YO-59 was transferred out, probably for further evaluation in an infantry or artillery outfit where it went on to do such great work during the war.

My primary job as an aircraft commander continued, flying, working with my crew, learning the airplane and tactics; the same job any lieutenant and pilot does in any flying corps or air force in the world. We were in the air at irregular and unpredictable hours, mostly in formation, usually every day, sometimes several times a day. Later in September we made a cross-country flight to Barksdale Field, Shreveport, for some long-forgotten reason. I flew a B-25A there but was scheduled to "dead-head" back, as temporarily we had more pilots than planes. There were quite a variety of Air Corps and Navy planes at Barksdale that day and I was amazed to see an extremely rare Douglas DC-5 in U.S. Marine Corps markings parked nearby. I walked over to look at it and talk to the crew. It was a year-old R3D-2, BuAir 1906, Douglas (El Segundo factory) c/n 611, with "152-J-2" across the silver fuselage, and the beautiful, old-style red, white and blue tricolor rudder markings. The pilot, Captain E.W. Seeds, USMC, mentioned he would soon be taking off for Jackson, Mississippi. As that was exactly where I would be returning, he agreed to take me along. My CO gave permission (as I would be "sandbagging" back anyway), and so I got an hour-and-a-half flight in a very unusual Douglas DC-5, one of only a dozen built.

The 17th Bombardment Group, officially at least, was a first-line, combat-ready group, so we were constantly getting the very latest model B-25s from the factory while the older ships (although still nearly new) were transferred out. The first B-25B appeared in my Form 5 file October 4, 1941, when we all flew up to Patterson Field, the Fairfield Air Depot (the military pronounces it "DEP-o") at Dayton. The Louisiana Maneuvers were over and the crews were given a few days off in Dayton while our airplanes got some high-level depot maintenance and modifications.

At Patterson Field I saw for the first time the very latest new big-tailed, olive-drab B-17E, the model with those new power turrets. It was only the second one built, AC 42-2394, and was preparing for a local test flight. Once again I was at the right time and the right place to get an interesting flight! As with my three short hops in earlier B-17s at McCord Field, I could only stand behind the pilots and watch in awe as they flew this four-engined monster. I couldn't even imagine that in six months I would be an "IP" (Instructor Pilot) for a year in dozens of new B-17s, later to become a combat squadron commander in England and eventually to acquire over a thousand hours in the magnificent '17s.

While waiting at Dayton there was just time enough to visit relatives in Boston if I could fly. Wright Field was just across the highway from Patterson (later combined as Wright-

Patterson AFB) and Wright had a flight going to the Pratt & Whitney engine factory at Hartford. Close enough. I rode in a five-year-old C-33 (cargo version of the Douglas DC-2), AC 36-71, on a three-hour, 35-minute flight to Brainard Field, Hartford.

Back to work ... we were at Patterson Field, Ohio, from October 5th to the 25th during which time we absorbed more technical information and I made four local test hops in our B-25s. Then it was a two-and-a-half-hour formation flight down to Daniel Field, Augusta, Georgia, where we camped for nearly six weeks during the Carolina Maneuvers. While there, in November we flew all three early models: B-25s, B-25As and 'Bs interchangeably, although all the old original "straight-wing" '25s were long gone. By mid-November we had lost all our "plain" B-25s; two weeks later the last of the 'As were transferred out and I never saw any of them again. After that, all the 17th Group had were B-25Bs.

The B-25B was the first model with a power gun turret but it was located on the top and bottom of the rear fuselage, making the ship somewhat tail-heavy. The older lightweight B-25s were a real pleasure to fly but the "B" with armor-plate, self-sealing tanks and fuel lines, and especially with the big power turrets in the aft fuselage was—by comparison—noticeably heavier. The B-25B was, however, the first really "combat-ready" '25 as General Doolittle and his Tokyo Raiders proved the following April. Much later, the B-25H and J had the top turret moved forward nearer the CG (center of gravity) which noticeably improved their flying characteristics.

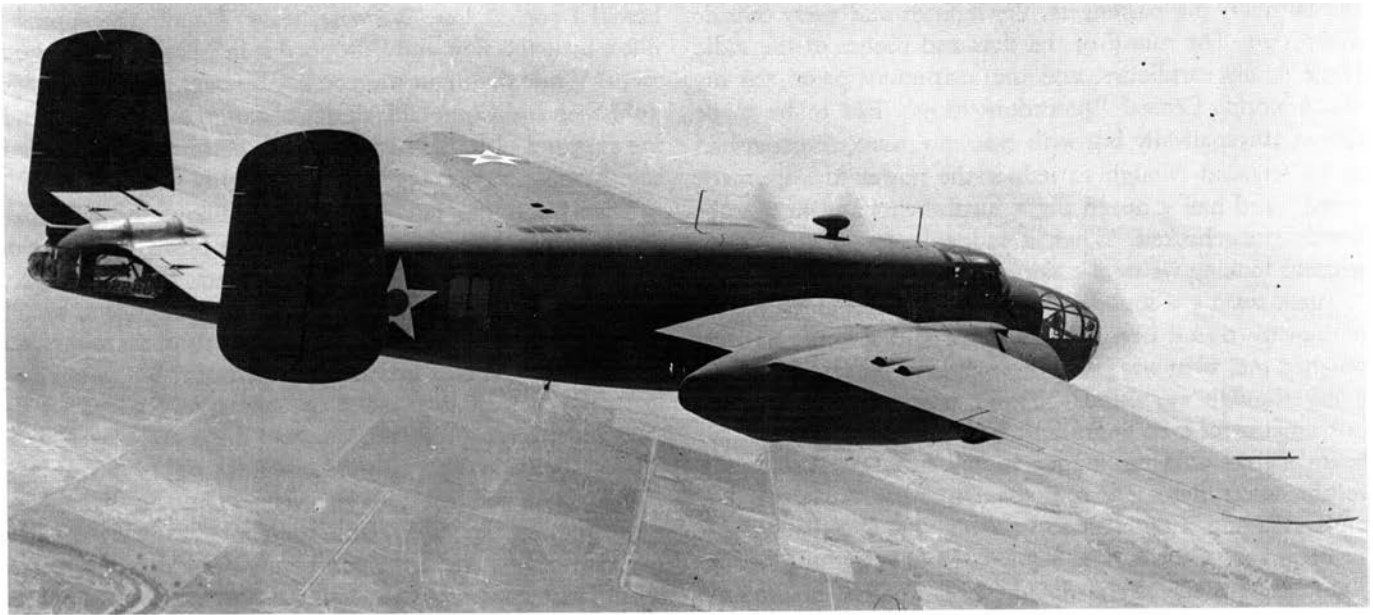
The 17th Bombardment Group got settled in our tents and quarters on one side of Daniel Field, Augusta, the last week of October. We had to be ready Monday, November 3rd, for the beginning of the Carolina Maneuvers. The preceding Thursday the new, young aircraft commanders were told we could have a "Personal Cross-country" that weekend. Now a so-called Personal Cross-Country was a privilege greatly appreciated by old peacetime Air Corps pilots. It meant you could draw almost any available airplane you were qualified to fly, and go wherever you wanted within specified limits of time and mileage. Whenever necessary to refuel, it was at government expense. Your only expenses would be your meals and lodging, and taking care of your passenger if an enlisted man wanted to go along. It would be my first. And the first time offered, it meant you had been watched and finally accepted by your commanders as being both professionally competent and reliable. Your first "Personal Cross-country" was, in a very real sense, a "rite of passage." Furthermore, my classmates and I in the 17th Group were hardly more than a year out of flying school and of course still second lieutenants. Instead of being given a single-engined aircraft as was usual, we were allowed to use one of the latest and fastest new twin-engined bombers! As Army Air Corps pilots, we had "arrived"!

This weekend our Personal Cross-country flights were limited to a radius of 1,000 miles, with no takeoff until after Friday midnight and we had to be back by sunset or twilight Sunday evening. Even those West Coast pilots who had no family or friends within the 1,000-mile limit, still wanted to go somewhere, *anyu>here*! There was a mad scramble to reserve B-25s and make long-distance phone calls. I opted for

"my" B-25A, the one I had picked up at the North American factory four months earlier, because I liked to think I had sort of a proprietary interest in it. Although I had just visited my cousins in Boston a few weeks earlier, this time I would be flying my own plane, arriving in style! Distance at about 900 miles was well within the 1,000-mile limit. There was plenty of room for the five men who wanted to go along. Second Lieutenant I.L. Ferguson was my copilot, Staff Sergeant M.L. Robertson was again the flight engineer (he had been on our delivery flight last July), Corporal W.L. Halliday studying to be a flight engineer, Sergeant William S. Underwood as radio operator who had flown with me on B-18s, and the 17th Group Chaplain, First Lieutenant C.H. Shold, whom we called "Chappie." Two of them had family in or near Boston. The others wanted to see New England for the first time, even if it was November!

My official request was approved. Our copilot got the maps, charted our course and made out the Flight Plan under my watchful eye. We planned to take off shortly after midnight Friday. Then the weather office told us to wait until 4 A.M. Saturday dawned with low clouds and rain all up the Atlantic coast. Today, of course, that would be no problem, but back in 1941 that meant postponing the flight. That evening we studied the weather maps and forecasts. Finally the weather prophets gave us The Word: we could leave at 4 A.M. Sunday but our clearance would only be as far as New York. We would have to get further clearance there, depending on weather. We were up at three. I collected everyone in my car, preflighted our ship and shortly before four we took off into the blackness ... a day late. At 2,500 feet we headed northeast up the coast. A three-quarter moon hung in the western sky. We watched a false dawn faintly glow in the east and then fade away. In time we saw the bright lights of the Newport News shipyards and the Navy Yard at Hampton Roads, Virginia, where battleships were being built around the clock. And immediately ahead were the runway lights and beacon of Langley Field. I cranked the radio to their frequency: "Langley Tower, this is Army zero-two-two-zero-two. Do you have a PX on me? Go ahead." (For some long-forgotten reason we called a Flight Plan a "PX" in those days.) He had. "Zero-two back to Langley, okay. Reed, B-25A proceeding to Mitchell at two-five hundred. Estimate New York at 7 A.M." Remember, all pilots were very long-winded on the radio before the war, but then, of course, there was comparatively little radio traffic.

Lieutenant Ferguson picked up a new heading over Chesapeake Bay (we took turns flying). To our right, over the Atlantic, orange lightning glowed over the horizon from the tag end of yesterday's storm. Dawn began to break as we approached Cape May, New Jersey, and soon the sun was up. Some of our passengers were sound asleep. Approaching Atlantic City, I wanted to do something quite normal in those days but which would get you in deep trouble today ... buzz the beaches. I took over the controls and let down rather close to the water. The chaplain woke up and looked forward with a shocked expression as he saw the famous Steel Pier directly ahead and slightly above us! I pulled up, cleared it comfortably and let down on the other side. We must have raised quite a racket at such an early hour on that quiet Sunday morning!



Unusual view showing original tail gun position in excellent detail. Ship was a B-25A, AC 40-2208, of the 34th Bombardment Squadron, taken by the author flying wingman on his element leader, September 10, 1941. Camera was a Zeiss Ikon using Kodak 120 roll-film, with author just guessing at the exposure in all photos.

The men in the back compartment of our B-25 were snapping pictures. Another pier was ahead and we could see startled fishermen as we pulled up and roared over. Before I could let down on the other side, however, there was another pier too close so I gave up this childish and dangerous sport and climbed back up to a respectable altitude (where we had been was certainly *not* considered respectable!). Glancing at our navigation chart, I noticed the Lakehurst Naval Air Station with its huge airship hangars was slightly off course inland. Why not? I'd always been fascinated by those giant silver dirigibles, having seen the Graf Zeppelin cruising over Los Angeles and once getting a ride in the little old Goodyear "Volunteer" blimp NC8A in 1936. The Navy Tower gave us permission to circle their historic air station while I explained its significance to my Army crew over the interphone. Then we headed on to New York City. Soon Sandy Hook appeared on our right. Ahead were the downtown skyscrapers . . . there was the Empire State Building which I had visited as a boy, and the Statue of Liberty was coming up on our left. "Get your cameras ready!" I advised over the interphone. They were surprised to see the famous statue had corroded to a green color. The weather had turned clear and sunny and I easily found and circled Mitchel Field on Long Island. This was as far as our flight had been cleared.

The Air Corps tower at Mitchel Field gave me the weather at East Boston Municipal Airport: "Nine hundred and one." That translates to a cloud ceiling of only 900 feet above the airport and little more than a mile visibility; a dreary, foggy day. This was called "Instrument conditions" which meant the pilot must trust his instruments and "blind flying" training to take him *exactly* to the correct airport, come down through clouds and still have enough visibility above the ground to circle the field and land safely (today it is infinitely more sophisticated than that). "Do you still want a clearance?" they asked. I did. Mitchel Tower told us to

continue circling and wait while they contacted New York traffic control at LaGuardia Airport. As there was no other traffic between New York and Boston (unlike that crowded corridor today!), I was given immediate permission to proceed, staying "on top" (above the clouds). So we flew on up Long Island Sound. Bridgeport was clear. New Haven was CAVUL (ceiling and visibility unlimited). This was the same air Lindbergh had flown after taking off from Long Island in the *Spirit of St. Louis* over 14 years earlier on his famous flight to Paris. Across a corner of Rhode Island the clouds started, hanging low to the countryside. Sensible aviators avoid hedgehopping close to the ground, and especially in fog or haze when they can't see clearly. This time, however, unlike my foolish buzz-job along Atlantic City, I was sensible. I went "on the gauges" (blind flying) and climbed up through the dense clouds until we broke out "on top" in the sunshine. Turning on the radio, the old four-leg Adcock Range at Boston came through clearly. Arriving over Boston at 8 A.M., the gray-white blanket of clouds beneath us stretched as far as the eye could see. Just as they had reported it would be, my destination was "socked in tight."

I had practiced flying "blind" on instruments and radio range orientation for a year and a half, but this would be the payoff. Now I must prove that the instrument card in my pocket meant more than a piece of paper. Our chaplain, never having flown in clouds and fog, couldn't understand how I knew we were over Boston, and it was incomprehensible that we could land without seeing the runway until the very last few moments. A radio call to the Boston Tower for permission to "let down" and land was denied until after a DC-3 airliner had taken off. I asked what legs of the radio range they wanted me to work. "Boston Tower back to the Army B-25. You will work the northeast and southwest legs. The airliner is off. You are now clear to make a letdown. I will keep you advised. Go ahead." My copilot completed the landing checklist except for the wheels. While still "in the clear" above the clouds I concentrated on the instruments without looking outside, flying the old complicated pattern (now long since abandoned and forgotten) called "Range Orientation and Letdown." I put out of my mind the size of

the bomber, the passengers, the hazards and every outside distraction. The sound of the dots and dashes of the radio range in my earphones, and the instrument panel was my whole world. Critical "procedure turns" had to be made almost automatically but with exact precision, throttles had to be retarded enough to reduce the power to "approach speed" and half a dozen flight instruments had to be constantly cross-checked. When it suddenly got darker I knew without looking we were sinking into the clouds.

There wasn't a sound. The noise of the engines was so normal we ceased hearing it. No one said a word. As they watched me, what was going through their minds? What was going through *my* mind? "Don't take your eyes off the instruments for even an instant. The steady 'on course' radio beam signal growing louder in my headset. Adjust the volume lower. Reset gyro compass. On course. Air speed, 170 mph. Altitude, 1,000 feet and sinking. 900 feet. Why don't we break out? Concentrate. 800 feet. Hold everything steady. 700 feet. Tension. There! A light spot. There's the ground! It's the airport! We broke out right on top of the Boston field. Call the tower for landing instructions. Very hazy; almost foggy. Gesture to copilot: gear down. Watch out for ship's masts and tall buildings. Slow down to 120 mph. This is a short field for such a hot landing airplane [the East Boston Municipal Airport was later greatly enlarged and now is the Logan International Airport]. Gear down; 'three in the green' (landing gear indicator lights). Full flaps. The threshold of the runway is just ahead. Cut the throttles. Come back on the yoke. *Crruunch!* The big tires hit the cinder field with a heavy thud and dig in solidly. Cinder runway? How odd. 100 mph and rolling hard. Slow down, baby, this field is short. 80 mph. Guess I'll have to let the nose wheel down and get on the brakes. Easy now, don't swerve. The field is almost gone. Get on the brakes, *now!* Aware that my flight-deck passengers lurch and hang on tight. The fence is coming up. Slowing down. We're stopped. Turn left over the the line and park by the gas pit. Thank-you courtesies to the gentlemen in the tower. Shut down the engines, radios and switches. Must be sure to close my flight plan." Just some of what went through my mind, with memory refreshed by rereading a 50-year-old letter written home at the time.

At the Army operations office I sent a PX back to Augusta notifying them of my arrival. I had to move my B-25 a couple of hundred feet from the gas pit to the flight line, so I let my two cousins ride the distance in the cockpit, to their delight. We all had breakfast at the airline terminal restaurant. My relatives and their dog took me home for luncheon. Our crew scattered. "Be back in time or you're AWOL [Absent Without Leave] and stuck here!"

All too soon we had to return. By now the clouds and haze had burned off and the sun was out. We had to fly 900 miles before dark. While filing a flight plan in Operations, two flight surgeons, Majors Alper and Campbell, asked if I could drop off Alper at Mitchel Field and take Campbell all the way. Glad to; easily done. Anyone in uniform was always welcome. I amended our flight plan for a stop at New York. Took off at 13:45 (1:45 P.M.) Sunday afternoon and 55 minutes later was on the ground at Mitchel Field, Long Island. I have made and forgotten many thousands of landings across the years for over half a century, but that is one still remem-

bered! I got careless. We were heavy. I made the approach just a little too slow and "dropped it in" hard. It rattled our teeth! While the flight surgeon got his bags out, I asked Sgt. Robertson and Corporal Halliday to closely examine the landing gear and tires. No rivets popped, nothing bent, no damage. North American built strong, mighty fine aircraft.

Twenty minutes later, with a hitchhiking Army private replacing the major (still eight of us on board), we were on our way again, nonstop, down to Augusta, Georgia. With a chaplain and a flight surgeon among our passengers, we left nothing to chance! It was now after 3P.M. and the winter sun was beginning to sink low in the western sky. We would have to "shake a leg" to make it by sunset, so I advanced the throttles to high-speed cruise, turned the controls over to the copilot and we wasted no time but stuck right on course.

This was a good time to let everyone on the flight deck, crew and passengers alike, sit in the pilot's seat a few minutes and cautiously handle the controls under the very watchful eye of Lieutenant Ferguson. This was a privilege in the old Air Corps that was always greatly appreciated (as I well remembered when I was a lowly private in the rear open cockpit of the old peacetime Douglas O-38 Observation biplanes). We landed at Daniel Field at 18:10 (6:10 P.M.), about half an hour after sunset. Some of the other ships had returned ahead of us while several more came in later. All returned safely without incident.

We had covered over 1,800 miles and logged nine hours and 15 minutes. Cruising at over 200 mph, we should have made it in well under eight hours. The extra time was taken up by going out of our way sightseeing and the instrument letdown at Boston. Our maximum altitude was 3,000 feet. Our ground speed averaged about 240 mph. The two 1,700-hp Wright R-2600-9 *Double Cyclone* engines burned 1,335 gallons of 100-octane gasoline, or just over 70 gallons an hour for each engine. The cost was credited to morale, greater experience and the increased confidence of being "on your own." I've long forgotten what the Air Corps paid for a gallon of gas (in bulk quantities) in 1941 but it was probably less than two bits (25 cents) a gallon. For example, Major P.A. Campbell, the flight surgeon who had asked us to bring him down from Boston, took our chaplain, Lieutenant Ferguson, and me out for a dollar steak dinner. That's right, a *good* steak dinner for one dollar in those days! At that rate, I'll let *you* figure out the cost of 100-octane aviation gasoline in bulk at that time! As the mess hall was closed, I ordered a motor-pool car and driver for the other men to go into town for dinner, on me.

The next day we began flying in the Carolina Maneuvers. As before, the U.S. war games were divided into the Red Army and the Blue Army. As part of the Red Army, we had large red crosses painted in washable watercolor on the fuselages and wings of our aircraft. It was all much the same as our recent experiences flying in the Louisiana Maneuvers. Two stories, however, stand out in [my] memory. One was a merely personal incident. The other, an extremely tragic accident.

I was wingman flying in a three-element formation of nine B-25s on a long search pattern at low altitude somewhere in the western Carolinas. In memory, it was woods and forests with small farms and winding country roads. Prominent landmarks were few and far between when flying at perhaps a



Number 39 was a B-25A, AC 40-2212, with Thunderbird insignia of 34th Squadron. War games markings (red cross in circle) in washable water paint is visible on fuselage and left wingtip. Taken by the author in a loose formation during the war games.

hundred feet or so above the trees, and we were supposed to make a right turn at a certain point. Unsure of his exact position, the lead pilot radioed the formation, "We'll have to turn on Time, ' ' meaning if we couldn't find our precise turning point, then we would turn when our time was up. He was a wise navigator. We soon picked up our new checkpoints and arrived over Charlotte on schedule. We heard the formation leader call the control tower and get permission to land "formation in trail." One by one we peeled off and fell into line on a long, curving approach. The plane ahead of me touched down and rolled out to the south. I was "On Final," following closely, wheels and flaps down. Out of long habit, I briefly looked around, scanning the other approaches to the airport and was startled to see an Eastern Air Lines DC-3 coming in from our left, also on final approach for a landing on a cross runway. If we both continued our landings, we would meet at the intersection, much too close for comfort. Possibly we might even have hit each other. What was the airliner captain thinking of? Probably meeting his schedule, rather than safety. Or was it the control tower's fault? Still 200 feet up, I acted instinctively. "Go around! — Gear up! — Flaps up!" My hand was already on the throttles, laying on takeoff power. The copilot got the gear and flaps. The DC-3 pilot continued his landing, apparently unperturbed. What I thought of that airline pilot (quite unprintable!) came later, after we landed and I quieted down. What his passengers must have thought, seeing an Army bomber coming right at them, then roaring by, close overhead, must be left to the imagination.

In 1941 there were a great many more trees and woods around Daniel Field, Augusta, Georgia, than there are today, and the trees down in a low spot at the west end of one runway, with small fields and a swampy area beyond, are a part of this story. Early Thursday morning, November 6th, the 17th Bombardment Group was preparing to take off on a routine formation flight. As usual, we carried a four-man crew consisting of pilot, copilot, flight engineer and radio operator. The Army's Carolina Maneuvers (covering several states) were now in full swing. The 37th Squadron took off, one by one, ahead of us. We were taking off toward the west. One B-25 would be in the air, another would be halfway down the runway on his takeoff roll, while a third waited at full power, ready to release his brakes. This was done at 30-second intervals and, like formation flying, required split-second precision and close coordination. We were flying a mixture of B-25As and B-25Bs, all with the new self-sealing fuel tanks and hoses while the 'Bs also had power gun turrets. My 34th Squadron leader was getting ready to move up into takeoff position while the rest of us were on the taxiway close behind. After completing our checklists and engine runups, we watched (as most aviators usually do) the other takeoffs. I saw several '25s leave the ground and begin to climb out over the trees, then briefly looked away to monitor my engine temperature gauges. The first ships to take off were already circling overhead and joining their formation.

My copilot let out a gasp. I looked up to see a B-25 making a much longer takeoff run than usual, fly too low for possibly a mile or so and then sink down beyond the trees. There was a flash of red-orange fire and a great billowing column of oily black smoke boiled up. The four men never had a chance. They "bought the farm" instantly. The following ship, already rolling fast and unable to stop, took off and climbed up past the smoke. Here memory fails me . . . did the horror of

it cause me to forget what happened next? Did the rest of us continue our takeoffs and flight, or were we immediately recalled? I simply don't remember.

What had happened? You can imagine what was going through everyone's mind. Our shock. The anguish at the loss of our friends. And of course the technical problems. The overly long takeoff run and their inability to climb seemed to indicate they had only partial power, then one or both engines apparently failed. But why? Was it fuel starvation or some internal failure? Was this an isolated problem or a defect in all our ships? And if so, who would be next? Or maybe it was something we hadn't thought of yet. But what? We had flown our B-25As and 'Bs for many hundreds of hours and made scores and dozens of takeoffs without even a hint of trouble. And now this tragedy. There *had* to be an explanation. All we suspected for sure was engine failure. All of our B-25s were grounded.

Fuel was tested; there was no contamination. The engines were removed from the wreckage and closely examined. There was nothing wrong (except for impact and fire damage). Mechanics in parked '25s ran up the engines at full power without difficulty. Carburetors, magnetos and spark plugs were all carefully checked. Finally one suspicious old sergeant climbed in the oldest ship in the 17th Group, the one with the most flying time, and started the engines. He ran them at full power. No problems. But then he allowed the engines to run at wide-open throttle longer than usual, long enough to simulate a pilot's careful engine check *and* a full-power takeoff run and climb out. Suddenly one lost power and slowed down. Several seconds later it backfired, backfired again and then quit cold. Fuel starvation! The sergeant ordered his mechanics to pull off the engine cowlings, remove the self-sealing fuel hoses and cut out a section. Inside he could see a large blister. Somehow a crack had developed *inside* the hose, allowing gasoline to seep between the layers and swell up, making a huge internal blister. Self-sealing tanks and hoses were something new to our generation (there had been some attempts years before) and so, with no recent experience for guidance, apparently they had been poorly designed or badly built. The self-sealing qualities—potentially valuable against enemy gunfire—had turned against us. Barely enough fuel could get through to complete a power check and a takeoff. Then fuel starvation happened at the worst possible time. All self-sealing fuel tanks and hoses were removed. Most were found to be developing internal cracks and big blisters.

All of these were potential accidents just waiting to happen. A different manufacturer solved the problem and rushed new replacement self-sealing tanks and hoses to all B-25 outfits and we had no more difficulties. Further improvements have made them practical and useful, saving many lives over the years . . . but, as so often happens, men died during the early experiments. Ours was a costly and tragic lesson for all concerned. It seems that—more often than not—every new type of airplane, just as with our automobiles, invariably develop undetected problems after they have been out in service a while.

As winter approached, the Carolina Maneuvers ended and on December 4th the 17th Group packed up and headed home to the West Coast. By now we had checked out the

older copilots and often let them fly from the left seat leaving me free to take formation photos. There was a fuel stop at Barksdale and RON at Biggs Field, El Paso. We landed at March Field near Riverside, on Friday afternoon, December 5, 1941. It was a warm, sunny winter weekend in Southern California, and we were released on a weekend pass, to return Monday morning. After a restful weekend, we would proceed on up to Pendleton, our new base in the Pacific Northwest.

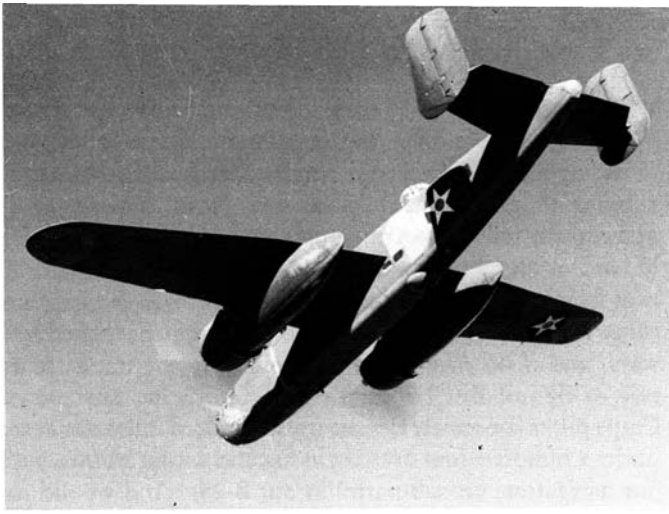
My folks, alerted to meet me at March, drove me home for the weekend. Saturdays had always been a peacetime fun flying day, so I asked my good friend Dave Kenyon—from our old 115th Observation Squadron days—if perhaps he might like a flight in one of those new B-25s. Such a silly question! In uniform, he drove us back out to March Field where I gave him a half-hour hop in one of my 34th Squadron ships, a near-new B-25B, AC 40-2301. This was his first flight in the newly fashionable tricycle landing gear, so after we landed, I demonstrated it by holding the nosewheel off as long as possible. So far, of course, that felt like a normal, old familiar tailwheel landing; he could feel the main wheels firmly on the runway. But when we slowed down further, and our B-25 finally pitched forward on the nosewheel, his horrified expression was wonderful to behold, as he just knew we were going over on our nose! Later, Dave was on B-29s, and after the war spent many years with the graceful Lockheed *Constellations*—he once gave me my first *Connie* flight—but I often wondered if he ever recalled his very first landing with a nosewheel.

The next day was Sunday, December 7th.

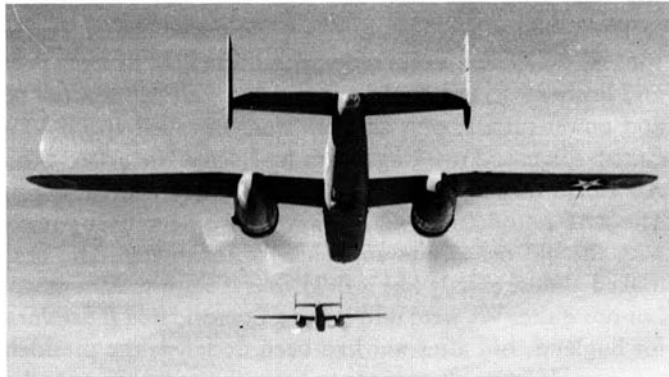
Can you imagine what it was like? . . . That Sunday, so many years ago . . . “A date [our President called it] that will live in infamy.” For those of us who lived during World War II, it is already fading into dusty old memories, although most of us remember what we were doing on “Pearl Harbor Day.” But for the vast majority, however, “The Day that will live in infamy” is already becoming a distant event, ancient history . . . something briefly learned in school . . . and soon forgotten. Somewhere it is written, “Those who forget the past are doomed to repeat it.”

Sunday morning, December 7, 1941, we attended the Church of Our Saviour in San Gabriel, where—as a little boy—my first Sunday School teacher had been Miss Ann Patton, whose brother became the famous General Patton. Home in Pasadena that Sunday afternoon, we didn't have the radio on. Television, of course, was not yet developed or even available. At supper with friends in a restaurant, we were shocked by dozens of wild rumors. Strangers were exchanging the latest radio reports. The “Japs” had bombed Hawaii; our Pacific fleet had been destroyed; their fleet was approaching our coast; the Boeing airplane factory in Seattle had been bombed; strange airplanes were over Los Angeles . . . or maybe it was San Francisco. How much was really true and how much was hysteria? I repeatedly tried to phone March Field, but couldn't get through. It was chaos . . . and also getting late. We would drive out to March very early in the morning.

At March Field (as everywhere) the chaos was compounded. We were confronted by confused armed sentries at the gate. No private cars were allowed through and there was a traffic jam of more family cars outside the North Gate with



A B-25B, AC 40-2263, completed 10-15-41 (nameplate); top and bottom power gun turrets also identify it as a 'B. Ship No. 36, of 34th Bombardment Squadron. Again note war games markings. Photographed by the author returning from the Carolina Maneuvers after refueling at Biggs Field, El Paso, and heading for March Field, Riverside, on Friday, December 5, 1941, two days before "Pearl Harbor"!



soldiers hurriedly returning. Car radios ceased their doomsday bulletins to announce the President would address the nation and I heard the words "—a date that will live in infamy . . ." as I sprinted for the gate. "Halt!" Full uniform and my AGO card (Adjutant General's Office ID card) meant little or nothing—maybe I was a saboteur in disguise! An MP officer was called. What was my outfit? "There is no 17th Bombardment Group assigned to this base." "Of course not; we are just passing through on a 'cross-country'." Telephone calls. "That outfit has departed to a secret destination." Finally convinced that I knew where they were going (Pendleton, Oregon), and that I was legitimate, they cleared me in. A passing Jeep took me the mile down to Base Ops, where I got a ride up to my squadron at Pendleton Army Air Field.

Earlier in the year, a new policy had transferred shorter ranged pursuit squadrons to airfields closer to the coast, while longer ranged bombers would be based a little further inland ... in our case, just behind the Cascade Mountains. It turned out to be an unusually brief PCS (Permanent Change of Station), as we almost immediately went TDY (Temporary Duty) down the river to the new Portland-Columbia Airport, still under construction and basically just acres of concrete with a hangar or two. Today, it is the Portland International Airport and, of course, totally unrecognizable from 1941.

From here we would be flying our B-25Bs on coastal patrol off Oregon and Washington. Enemy submarines were reported along all of our coasts and, in fact, a few really were. We flew in typical December weather along the Pacific Northwest coast—fog, low clouds, drizzle, more fog and even ice. That was when Portland had a freezing rain that turned to ice, coating everything, and breaking electrical lines and trees. There was no flying, of course, as the ramps, runways and aircraft were also ice-covered. I had recently been issued a

tug that ran on endless tracks, called a Cletrac. As with a Caterpillar tractor, it was steered by two levers which, when one was pulled back, braked the track on that side. Practicing on an empty, remote ramp, and going too fast on the ice, I government driver's license for Jeeps and staff cars, so I took this opportunity to add more vehicles to my license, including the huge fuel tank trucks. For towing airplanes, we had a pulled harder than necessary on one lever, and around and around we spun. It was fun on a wide-open space with no obstructions, so I tried it a couple of more times. The ever-observant sergeant glared at me when I returned to the hangar. More importantly, I also learned that if even a Caterpillar tractor will slide on ice, automobiles are much *more* able to skid, a lesson that has kept me out of some trouble ever since. Well, mostly . . . anyway!

When that Silver Freeze ended, we again had good flying weather . . . "good" was ceilings of a couple of hundred feet and maybe a few miles' visibility (if we were lucky) in mist, fog and scattered rain showers. Sensible birds were walking, but we would take off, one by one, fly on out the Columbia River to the coast and over the Pacific Ocean for many, many miles. Once we had to land up McChord Field for fuel, and sometimes at the Swan Island Airport, Portland's old downtown air terminal—soon closed—in the middle of the Willamette River. We would fly on our own, either south off of Oregon or north along Washington, loaded with bombs, with everyone looking and hoping to stumble on a submarine. We had been briefed that none of ours were in these waters, so any we saw was to be attacked: Although I cruised as far as almost a hundred miles out, as well as inshore, all I ever saw—besides a great 28-ship convoy, once—was jillions of rain droplets streaming across my windshield, wind-torn waves on an angry gray sea a couple of hundred feet below and one buoy that almost looked, at first glance, like a sub's conning tower. It wasn't, and we didn't . . . but I could visualize the newspaper headlines:

BUM BOMBER BOMBS BUOY

At any rate, I was never cut out to be a hero. About all I accomplished was burning up an awful lot of 100-octane gasoline and getting dozens of hours of mostly instrument time in B-25Bs at a very low altitude. None of us ever considered such flying to be unusual or hazardous, although of course it was. As second lieutenants, we were getting a base pay of \$210 a month, plus an additional 50 percent flying pay, to do a job we all enjoyed, and we savored every minute of it.

Those anti-submarine patrols, however, did generate some excitement among us. Recently I found a letter which I had written to my folks at the time. Here is some of what it said: "About 8:30 A.M. the day before Christmas, 'Brick' Holstrom [a classmate in the 95 th Squadron] was cruising in his B-25B about 50 miles out to sea from the mouth of the Columbia River, under heavy clouds with an 800-foot ceiling. Changing course slightly to avoid a small local rain shower, he

observed the conning tower and bows of a lone unidentified submarine rising up out of the ocean. Brick called his sergeant bombardier in the nose who, at the moment, was being sick in his hat! He managed to release one bomb which fell about 300 feet over their target. As they passed directly over the sub, the copilot saw it for the first time, and became quite excited." Not very much ever gets past a copilot!

"The visibility was very bad," my letter continued, "but Brick did a smart thing: he made a careful and deliberate Procedure Turn"—three precise turns to reverse, and return to an exactly opposite track—"and passed back over the same course. Even in the best of weather this can be difficult to do accurately and at over 200 mph it takes a mile or more to turn, giving the wind time to drift you off course. Anyway, Brick's good piloting brought the sub back in view, now crash-diving to get away. The next bomb fell a hundred feet short. The third one hit squarely in the middle. Brick said he could feel a very slight jar from the concussion of his bomb, then an instant later his plane was badly shaken when, probably, the torpedoes blew up within the sub. They turned around and dropped their fourth and last bomb in the middle of the debris. Two big blobs of air blew to the surface. Oil, cork and other floating particles boiled and churned around. [We generally carried four 300-pound high-explosive demolition bombs.] He landed at Boeing Field, Seattle, as Portland and McChord Field had become fogged in. Brick was very modest about the whole thing, but he told me the story as I have related it."

This is the same Everett W. Holstrom who flew another B-25B in formation with Lt. Col. Jimmy Doolittle on the famous Tokyo raid, some four months later. Eventually he retired with the rank of Brigadier General.

The end of January 1942 we returned to Pendleton, and on February 4th I flew my last flight with the 17th Bombardment Group. A great many of us were transferred out, the theory being that old experienced groups with highly qualified personnel should share their skills with new groups. What remained of the 17th Group hurriedly departed for Columbia, South Carolina, where Doolittle recruited his famous crews. With some others, I stayed behind in Pendleton, a mighty bleak place in midwinter. We were temporarily assigned to the 34th Bombardment Group (Heavy)—coincidentally the same number as my old 34th Squadron—while awaiting new orders.

Once, in the middle of the night on short notice I was ordered to fly a load of young lieutenant navigators from Pendleton up to the new Geiger Field (now Spokane International) in an old B-18A. Without a *current* checkout in the airplane? With a load of valuable new navigators? In the middle of the night? Did the 34th Group operations officer just assume any pilot out of the old 17th was qualified? (We were, and by now I was just beginning to be a somewhat experienced second lieutenant.) Fortunately, I had a lot of B-18A time the summer before, so it was an old familiar friend and our flight was routine. But why the big rush in the middle of the night? I found out later an enemy submarine had surfaced just offshore, south of Santa Barbara and lobbed shells into some oil wells and tanks.

The damage was very slight, but it certainly shook up the whole U.S. Army and Navy all along the West Coast! Rumors

were everywhere: Los Angeles was having an air raid! But my night flight to Spokane was no rumor. A new Martin B-26 outfit up in the Northwest needed navigators instantly for submarine patrol because—as any Naval aviator would gratuitously tell you—Army pilots always got lost out of sight of land! A Naval aviator once informed me (a foul canard, if I ever heard one!) that whenever they flew over dry land and came to a railroad, they pulled up and stopped, looked both ways, and if no Army pilot was following the tracks, it was safe to fly on! But I couldn't help wondering how we Air Corps pilots constantly flew nearly a hundred miles out at sea, under a hundred-foot overcast in fog and winter storms, without navigators, on sub-patrol in our B-25s. And we did just that, day after day, for weeks.

There were three "heavies" on the flight line at Pendleton, all only a few weeks old and still smelling of fresh paint and leather . . . two brand-new B-17Es with the new tall tail and power turrets, plus another monster called an LB-30 in British colors and markings, with RAF serial No. AL-634 (our Air Corps officially used those same letters and numbers). The RAF roundel insignia, however, had been over-painted with the old red, white and blue American star. The beast looked almost exactly like a B-24, but it wasn't. Almost . . . but not quite. We were told it was a Consolidated *Liberator II* for England, but after war had been declared, the president temporarily froze all overseas military shipments to our allies until our own immediate needs were satisfied. I only had a couple of copilot flights in the LB-30 before it was transferred down to Panama, but I got something over 10 hours and a very complete copilot checkout in the big, beautiful new B-17Es. Although I could not know it at the time, the few hours logged in those and earlier '17s would change my military career.

If the day we went to war was chaotic, the next several months were hardly any better. During the weeks after Pearl Harbor, it seemed to this lowly lieutenant that the Army was a lot like swarming ants when their anthill is disturbed . . . organizations and individuals were transferred to opposite ends of the country. No matter *where* you were, they just *had* to send you somewhere else, and usually about as far away as possible. Since we had graduated from flying school a year and a half before, thousands of new mechanics, pilots and officers were coming along. From being at the bottom of the totem pole, we were being pushed up into the top third of the Air Corps, or soon would be. Congress, belatedly and now finally aware of their short-sighted folly buying quantities of obsolete B-18s a few years before, was now desperately trying to get more and more advanced long-range, four-engined bombers. . . the ones, they earlier claimed, were too much for the average aviator to fly! (I once soloed a B-17F with *no* one else on board; so much for political foresight!) Suddenly they were being turned out like cookies, but *who* would fly them? The Air Corps searched their records for older pilots who had *any* four-engined experience . . . and I now had over 10 hours as a qualified copilot! It was as if someone in the Officer Assignment Branch had said, "Send him as far away as possible (northern Oregon to Florida) and make him an instructor pilot on B-17s!" Such was just one very small example of the chaos and confusion that existed during the weeks after war was declared. It is ever thus!

It would be two years before I ever saw or heard another B-25, and this time it was in England. Those years had been spent as an Instructor Pilot teaching young lieutenants just out of Air Corps cadets how to fly Boeing B-17Es and then as a combat squadron commander on B-17Fs (see “Flying the Fortress into Combat,” AAHS *Journal*, Spring 1987).

It was a typical February winter’s day in England . . . with low rain clouds, low visibility, cold wind and periodic showers moving through. At Knettishall Airfield in Suffolk, just one of dozens and scores of American Eighth Air Force bases in East Anglia, all was quiet. Crew chiefs welcomed the time to patch battle-damaged B-17s and bring them back up to combat readiness. Aircrews relaxed—as much as aircrews ever could, never knowing what tomorrow would bring—in the sack, writing home or whatever . . . mostly “whatever.” When not flying combat, boredom and worry was the enemy. Cooks and clerks did whatever cooks and clerks always had to do, regardless of the weather. Suddenly there was the sound of engines in the pattern. Curious, I stepped outside the Nissen hut and peered into the damp overcast. It was an old B-25C, a rare type in Britain, circling for a landing. They would want a ride into base operations so I zipped up my A-2 jacket, jumped in my jeep and was waiting at the hard-stand when they taxied in.

And so I met Captain Jack Campbell of the 14th Photo Reconnaissance Squadron, 7th Photo Recon. Group from Mount Farm Airfield, Oxford. He regularly flew Lockheed F-5s (“F” for “Foto”) and British *Spitfires*, over Nazi-occupied Europe (through our friendship, I got to fly two Mark Fives and a Mark Eleven *Spit* and I also checked Jack out in a B-17F). The B-25C he was flying that day, AC 42-53357, *Miss Nashville*, was just a squadron “hack” for chasing parts or supplies. Later I had a flight with Jack in it.

Another year, and now based at Eighth Air Force head-

quarters (code-named PINETREE) at High Wycombe west of London. Our Flight Section was at nearby Bovingdon Airfield. Whenever we could get away from our administrative or desk work, called “flying a desk,” headquarters pilots who loved to fly spent their spare time at Bovingdon. Here we had the glorious opportunity to fly anything from L-4 Cubs to a P-38 and ’39, from P-47s and ’51s to B-17s . . . and just about everything in between. And here I got time in another tired old B-25C, AC 42-32427, also—as was the other ’25C—camouflaged and stripped of all armament and turrets.

After two years in wartime England, it was home to America in May of 1945 for a month’s R&R (Rest and Recuperation) leave and then assignment to Western Flying Training Command headquarters in downtown Santa Ana, Southern California. Those of us who had seen overseas combat and returned with colorful rows of decorations and ribbons (rudely called “fruit salad”) were resented by the pilots who never left the States. Undoubtedly our free-wheeling attitudes and casual disregard of regulations was as obnoxious to them as their “spit and polish” fussiness was to us. With a thousand hours in B-17s and many hundreds of hours in B-25s, for instance, they constantly put obstacles in my way or never “had the time” to give me a recheck in either type. I was, however, considered qualified to ride along in the copilot’s seat! Overseas pilots reassigned to WFTC were allowed to solo the AT-6A, AT-7C, AT 11 and the Canadian-built C-64A *Norseman*, all of which I had previous experience flying at the Orange County Army Airfield (now “SNA,” the John Wayne Airport, Santa Ana).

At least three natural aluminum (all silver) TB-25Js—the first I’d seen—were also on the flight line of headquarters, Western Flying Training Command. The “T” prefix meant “Trainer” Bomber. And the old major was allowed to ride copilot 10 hours in AF 43-28208 on a four-day cross-country visiting desert training bases in Arizona and New Mexico. And copilot on a short local flight in 44-29824. Then I forced the issue and finally got checked out in AF 44-30672 with six landings in two hours, 10 minutes. There was a specific

North American B-25, AC 40-2186, of the 34th Bombardment Squadron (Medium), 17th Bombardment Group (Medium), probably photographed in October or November 1941 at Bridgeport, Connecticut.

(Harry Thorell Photo)



reason for this. Besides, of course, wanting to fly the new B-25J, I especially wanted to give my mother a long-promised '25 flight!

As the war in the Pacific wound down, victory was in the air and a few old peacetime regulations were gradually being reinstated. One such pleasant old privilege was giving immediate family members a short orientation flight on a restricted basis. An official request was submitted and approved. Mother, always a good sport, had flown with me (quite illegally, of course) in a B-17E and 'F. But why not my father? Dad steadfastly and resolutely refused ever to set foot in any aircraft and he never did, although he was extremely proud of his only son's career in the Air Corps. But my mother would, and did. In July 1929, as a sixteenth birthday present, she had given me a flight in a beautiful maroon and gold—with silver wings and tail—Fokker F-10 "Super Trimotor," NC-5358 (the third built), of Western Air Express, a 1928 12-passenger "Transport" so primitive it still had a tail skid! ("The Forgotten Rockne Crash," EAA Vintage Airplane, January 1989.) Although she and my grandmother both had their first flights at that time, Dad stayed firmly on the ground, puffing on his pipe! And so it was I took her up in the TB-25J-25-NC (Field No. 5), AF 44-30672, on a 45-minute flight over our home in Pasadena. It was the last time Lever flew a B-25 solo, as Aircraft Commander. The next day, August 6, 1945, the atom bomb was dropped on Japan . . . and so the war ended as it had begun for me: flying a B-25. It was now reasonable to assume that would be my last experience with North American bombers . . . but it wasn't!

After the war I was a mechanic and ferry pilot for the Aviation Maintenance Corporation in Van Nuys. When they went out of business, I became a flight test analyst for a year at the wonderful old North American Aviation plant in Inglewood, the same factory I had flown over, after taking delivery of that B-25A so long ago . . . was it only six years before? Seemed like a lifetime! Finally moved up another notch or two writing Service Bulletins on P-80Cs at Lockheed Aircraft (a great company!) in Burbank, ending up writing the Pilot's Handbook and flying copilot on production test flights in Lockheed P2V-3W and P2V-3Z *Neptunes*. Even got a cross-country flight from Burbank to NAS North Island, San Diego, in the famous long-range, record-breaking XP2V-1 *Truculent Turtle*, now in the Naval Aviation Museum in Pensacola. And all the while being a "weekend warrior" in the new U.S. Air Force 452nd Reserve Wing flying Douglas A-26Bs and Cs (by then redesignated B-26s) at Long Beach.

March 4/5, 1950, was just another flying and drill weekend at the Long Beach Air Reserve Base when an Air Force B-25 landed and taxied in to the ramp. It just *had* to be the cleanest, shiniest and most beautiful '25 I had ever seen, and therefore from some very important headquarters. The pilot would be at least a "bird" colonel. It was, and he was! Colonel J.V.O. Weaver from the Pentagon was flying out of Bolling AFB, Washington, D.C., and he required a copilot for a quick two-day cross-country. My local commander immediately named me, as I was both proficient in our very similar B-26s and the most experienced '25 pilot on the field, although I hadn't been inside one in nearly five years. Naturally I jumped at the chance. This particular ship was one of the very last '25s ever built, taking into account that

many serial numbers in that final batch were canceled at war's end. It was a TB-25J-35-NC, AF 45-8856, c/n 108-47607, with seven crew positions and R-2600-29 engines. Buzz number BD-856 was on the fuselage.

Riding as his copilot, we departed Long Beach immediately for Davis-Monthan AFB, Tucson, and then back up to Williams AFB (known as "Willie AFB") near Phoenix. Here, Colonel Weaver courteously gave me the left seat and he acted as my copilot on the night flight to Biggs AFB, El Paso. The last time I'd been in there was two days before "Pearl Harbor" in an earlier B-25, only then it was still "Biggs Field"; now it was "Biggs Air Force Base." As we flew in a southerly direction down the airway from Phoenix, passing Marana, the twilight was fading in the western sky across the desert. In the darkness to our left, a reddish glow began to spread over the mountains and then a huge orange full moon began to rise majestically over the range. I turned east over Tucson, the moonlight lightened our darkness across the desert and I greased it on the concrete at Biggs that Saturday night.

The last thing the colonel said as we got our separate BOQ room keys was, "Wheels in the wells at zero seven thirty." It was spoken softly but it was a direct order. What he meant was, at that precise time—and not a minute under or over—we would be off the runway and the landing gear retracted in the wheel wells under the engines. Colonel Weaver was obviously testing me! I fell asleep figuring how much time was needed to dress, eat, file a clearance, preflight the ship, start engines, taxi out . . . and all too suddenly it was time to hit the deck. Clearance in hand, I walked out to the ramp, and "guess who" was standing by the ship, waiting! Apparently satisfied with my ability to meet his standards, handle a '25, work the radios and navigate, Colonel Weaver again indicated the left seat. Together, we made a careful preflight and engine runup. The tower gave us takeoff clearance. We broke ground. "Gear up!" We felt the wheels retract and lock in the nacelles. Automatically we both checked our wrist watches. 07:30. Nothing was said but we exchanged brief glances. I picked up the heading for Tucson.

After our last stop at Davis-Monthan AFB, he told me to take her on in to LAX, Los Angeles International, where we found the usual onshore fog and low overcast lying inland over the beaches and runways. It would require an instrument approach and landing. I glanced at him with an unspoken question as if to ask, "Do *you* want to take her in?" Instead he just worked the radios and gave me the instrument approach headings and times. Fifteen minutes on the gauges and I was rolling on the runway at LAX. It was the last landing I ever made in a B-25 . . . the last time I ever handled her controls. Surely *now* my B-25 experiences had finally ended.

Colonel J.V.O. Weaver was an officer and a gentleman in the finest tradition, as well as a superb pilot and it would have been a privilege to have served under his command. I was remiss in not learning more about him. We were only "ships that pass in the night." After thanks and military courtesies were exchanged, he ordered a staff car to return me to "LGB," the Long Beach Airport where I picked up my car. The next day, Monday morning, I was back at my desk at Lockheed Flight Test in Burbank, writing pilots' handbooks.

A mere 16 weeks later the communist North Koreans



North American B-45A, 47-011, the 11th of 96 production B-45AS, and the model the author flew in at Norton AFB, in flight over the mountains.
(R.E. Williams Collection)

crossed the 38th parallel and invaded the Republic of South Korea. Shortly after, the 452nd Bombardment Wing was back on active duty. In mid-October 1950, together with other A-26 pilots and staff, we flew the Pacific in the back of a ratty old C-54/DC-4 freighter and into my second war in two decades, on two different continents, against two different enemies. My experiences in the Korean Air War included time in C-47Ds and F-51Ds, among other types.

Two years later it was back home to the States, this time commanding the big Boeing B-50s at Mather AFB outside of Sacramento. There were also a number of tired old dull-silver TB-25js at Mather (20 serials are identified) for training American and Allied navigators but I paid little attention to them. The feel of a very heavy bomber with four huge 3,500-hp Pratt & Whitney R-4360 "corn cob" engines was my greatest flying pleasure at that particular time. I got a thousand hours in B-50s, the last propeller-driven bomber in the USAF inventory.

There were, however, a few B-25 flights yet to come, although never again on the controls. On November 6, 1952, I was part of a B-50 crew sent up to Boeing Field, Seattle, to ferry back a brand-new B-50H. We were flown up in a nine-seat TB-25J-25-NC, AF 44-30699, in which I rode as copilot. On February 19, 1953, it was as a passenger in that same ship from Mather down to the Lockheed Air Terminal, Burbank, on emergency leave when Dad died. In the autumn of 1954 I was Chief of the Flight Test Section at Mather AFB, mostly flight testing B-50s and Convair T-29s, but made five short test hops as copilot in four TB-25J-30-NC ships: AF 44-31385, -86767, -86770, and -86838, the last of these on December 7, 1954 . . . this time undoubtedly the very end of my B-25 experiences. They were soon to be retired.

A promotion and a new assignment as Chief of Maintenance of T-29B and 'C Convair Liners at Harlingen AFB took me to south Texas in the spring of '55. Thereafter, I requested release from active duty to attend the Anglican Theological College of British Columbia in Canada in preparation for a new and unrelated profession.

The B-25 wasn't the only bomber built by North American Aviation, Inc. There were others: one XB-21 (described earlier), two XB-28s, two XB-70s, and 143 production B-45s,

the first *operational* jet bomber in the USAF; but hardly a handful compared to the B-25 production. Leading up to the new jet-powered aircraft, however, the first time I ever saw one was the Bell XP-59A at what was then called the Muroc Flight Test Base, now Edwards AFB on the vast dry lake in the Mojave Desert, 21 January 1946. It was AF 42-108786, Bell c/n 27-3, the third of three "X" jobs, the first jets ever to fly in America. A crude open cockpit had been cut in the nose ahead of the pilot's canopy (see cover photo, *AAHS Journal*, Fall 1966). Through a friend, I had my first ride in a jet that day, in the XP-59A at up to 350 mph wearing an old leather helmet and goggles in an open cockpit! Three years or so later I got an hour's flight in a new Lockheed TF-80C-1-LO, AF 49-894, c/n 580-5044 (later redesignated the T-33A), but I was never "Jet Qualified" at any time. All of which brings us up to my third jet ride, this time in that new four-jet North American bomber, the B-45.

Returning to Southern California briefly in 1957, I had become acquainted with General "Smokey" Caldera at Norton AFB, San Bernardino. At that time the Air Force had an old North American B-45A-5-NA based there, AF 47-025 (factory c/n 147-43425), modified with a solid nose and a B-45C cockpit canopy, but having no wingtip tanks. 5,200-pound-thrust engines from a B-45C had been installed, J-47-GE-15 jet turbines in No. 1 and 3 positions; J-47-GE-13 jets in No. 2 and 4 positions. This nine-year-old B-45, the 25th production ship built (not counting the three experimental prototypes), was soon to go into storage or salvage, having long been replaced by Boeing B-47s.

General Caldera arranged for my flight in the B-45 A. I was told to be at Norton Operations at 0800 Saturday, 24 August 1957. I was early! At the airplane, there was a thorough briefing on the operation of the new (and unfamiliar to me) seat-ejection system with automatic seat-belt release and automatic parachute opening. Captain Sherwood F. "Sandy" Reynolds, the young instructor pilot, told me to climb in the copilot's seat in tandem behind him, under the clear bubble canopy. Wearing a jet helmet with built-in earphones, the

rising whine of the four jet engines starting and spooling up was muffled. At 0935 he released the brakes and we taxied out. Unlike my years of a lengthy "runup" of piston engines with propellers, carefully checking this and that before takeoff, the simplicity of the new jet engines required little more than opening the throttles and GO!

New generations of jet pilots would, of course, consider the old B-45 as primitive as the Stone Age, but to this old colonel it was marvelous. It seemed as if we practically levitated up to 20,800 feet, cruising over Mt. San Antonio ("Old Baldy"), the edge of the desert, Big Bear Lake, then down past March Field and Lake Elsinore. Our maximum airspeed was 380 knots or 440 mph corrected for temperature and altitude. He demonstrated one full stall—it was surprisingly gentle—and we were up 1:10 altogether. The IP courteously gave me :40 pilot time on the controls but besides straight and level, I only flew some steep turns and partial stalls. The smoothness and lack of churning propellers seemed like flying a high-performance sailplane. Sandy Reynolds said that when the B-45 was new, they called it "the hottest ship in the Air Force," not because it was so fast (it wasn't), but because the air conditioning didn't work as advertised! The problem must have been solved because it worked fine for us on a very hot summer morning. Such was my one and only flight in a North American B-45A, the first operational jet bomber in the USAF inventory.

Many years later I was given the courtesy of the cockpit of a Boeing KC-135Q, AF 59-1523, of the 9th Strategic Reconnaissance Wing out of Beale AFB. I had watched the aerial refueling of an SR-71 (a fantastic sight!) lying on my stomach beside the boom operator. Later, at altitude over the Pacific Northwest, the old man was invited to fly the big Boeing from the copilot's seat, a rare privilege greatly appreciated. The modern instrumentation and the Flight Director, however, was unfamiliar and confusing. A couple of thousand hours in earlier Boeing B-17s and B-50s provided no point of reference, and so, because of the new (to me) severely swept wings, I was unable to see and therefore level the wingtips, an old technique. Consequently I was unable to fly her smoothly, a great embarrassment. The "state of the art" had passed me by. With only the above few flights at the controls of modern military aircraft, quite obviously I was never a jet pilot. I would have to stay with my old familiar propeller-driven B-17s and B-25s, but at my age who would even give me a ride in one anymore?

Of nearly 10,000 B-25s built, only a relatively small number became war surplus and useful in some commercial enterprises in the decades following the war. The very few survivors are increasingly being rebuilt and restored for the growing "warbird" movement or appearing in museums so that later generations will be able to appreciate them in full dimension. Some still fly in airshows, recalling the sights and sounds of a once vast formation. At these airshows, old men are still seen looking through the fence with a faraway look in their eyes, remembering. With them, I could only watch from the sidelines. . . .

In July of 1984 at an airshow in Stockton, Central California, there was a beautifully restored, privately owned B-25 named *In the Mood*, combining appropriate "nose art" with the World War II song of that name made popular by the

great Glenn Miller. The pilots, C.A. "Tony" Ritzman and Carl W. Scholl of Aero Trader (now at Chino, Southern California), were standing under the wing. We struck up a conversation and I showed them an early rough draft of this article and some never-published enlargements of my 1941 B-25 photos. They requested duplicates. I promised to have them at another airshow the next month.

The "Gathering of Warbirds" in mid-August at Madera in Central California is one of many annual, exciting airshows across the country featuring restored ex-military airplanes. Dean Hirst, a neighbor on our residential airport, and I flew down to Madera in his Cessna 172 on a scorching-hot Saturday, 18 August '84. The ramp was packed tight with "big iron" including, to my amazement, five B-25s in various colors and markings. By the landing gear of one, a tape player gave forth with the incomparably smooth music of Glenn Miller's orchestra which was so much a part of that wonderful era. The thunder of heavy double-row radials and powerful V-12 aero engines firing up, taking off and then buzzing the runway in various formations added to the nostalgia.

I found my new acquaintances "sticking" the fuel tanks (to be certain they were full) on top of the wing of *In the Mood* and gave them their folder of photos. To my surprise, they also had something for me . . . the five B-25s were scheduled for takeoff at 1415 on a formation flight and Tony wanted me to be his copilot! Did I still have a multiengine rating on my commercial license? "Sure do. Take a look!" "Good—be here at 1345 for a briefing and preflight." Suddenly I was 45 years younger, my hearing was acute again and I stood tall. For a brief few minutes I would no longer be watching from the sidelines, but in an old, familiar military cockpit and in the air where I belonged.

In the Mood is a TB-25J-20-NC, AF 44-29199, c/n NA108-33524, modified by Hayes Aircraft for the USAF as one of 47 TB-25N pilot trainers. Now in private ownership, it has the civil registration N9117Z. That day, however, the "numbers game" was farthest from my thoughts; after all these years I was about to have one last B-25 flight! I went under the nose and climbed up the ladder built into the bottom hatch just aft of the nosewheel. My hand just automatically found the grip bar, as if it were yesterday. I climbed up to the old familiar flight deck, slid into the copilot's seat and fastened my safety belt. A flood of emotions swept over me, but I'd have to wait until later to sort them all out. Tony's hands and eyes moved confidently over the levers, switches and instruments just as I so often had done, so many years ago. The Dash -35 double-row radial engines coughed, barked and came alive. The characteristic and distinctive sights, sounds and smells were overpowering.

Tony taxied out as admirers lined the taxiway, cameras clicking left and right. He made a careful engine runup with all instruments in the green, repeated his instructions to me and took the Active, number two in trail. Carl Scholl (in N9856C/43-28204) was ahead on the right side of runway 30. We were on the left side. The other three B-25s and a Grumman S2F-1 were following, likewise staggered. Engines strained against the brakes. The tower interrupted my thoughts: "B-25 formation, clear to takeoff."

Tony advanced the throttles and my left hand followed up the console to keep them from slipping back and to maintain



North American XB-45, 45-59479 (NA-130), on the flight ramp at the North American factory at Mines Field circa 1947. Note the North American Navion aircraft in the background. (North American Photo)

2,600 rpm for takeoff. Double checked oil pressures, oil temperatures and cylinder head temp—all normal. We broke ground, gear up, climbed out in a sweeping left turn, crossed over and directly were in formation just off the right wing of Carl's lead ship, painted blue, as a Navy PBJ-1. We made several low passes over the flight line, bomb bay doors open, at better than 210 mph indicated, while I snapped a couple of photos. We flew with our side cockpit windows open because of the August heat. Our formation climbed out to the northeast toward the High Sierra and circled quite a while, in various positions. A Beech Bonanza (N3022W) took photos for *Air Classics* (see cover and centerspread of January 1985 issue; we are the silver ship). A wildfire in the dry foothills was a landmark of sorts. Forty-three years earlier I flew across this same sky on a cross-country in a B-25A.

Our hour was almost up so we headed back to Madera, peeled off and entered the busy traffic pattern. The sky was filled with fighters, bombers and other warbirds so it was time for swivel necks and eyes in the back of your heads, so reminiscent of flying in heavy traffic around wartime airfields. "See and be seen" is one (of many) rules for an aviator's long life. On Final, I also checked to see that our ground shadow was clear of any merging shadows. Then we were down on the runway and rolling fast. Scholl's '25 was ahead of us, slowing down and turning off. Behind us, another was coming "over the fence" for a landing. We were separated by 30-second intervals, just like the old days. Waves of memories and nostalgia flooded around me. We taxied in and shut down. For me, undoubtedly it would be the last time. Many years from now, when Tony and Carl are in their high 70s or 80s, will someone give them such a flight as they gave me, or will the remaining few warbirds become forgotten and seldom-seen decaying dinosaurs in some dusty museum? I hope not! But I do hope their courtesy to me will be repaid in kind. Thank you, gentlemen!

Admittedly there are those who have had many more excit-

ing experiences, combat stories and many more hours in the cockpit of North American Aviation bombers than I . . . but perhaps these stories will give new generations some small idea of what it was like to fly B-25s, way back in the early days when flying was a lot more relaxed and fun (still is fun sometimes, but not as much as it once was), pilots and aircrews were all called "aviators" and a girl who flew was called an "aviatrix."

To understand what it was like seeing a '25 for the first time in early 1941, just imagine your first view today of a completely new, unusual and unconventional military aircraft with speed and capabilities far beyond the old familiar models. In spite of my youthful misgivings when I first saw one, the B-25 was an extremely easy airplane to fly, very straightforward, predictable, dependable and forgiving. She was exceptionally well built. I recall no vices as long as you didn't mistreat her or overload her. Personally I never had the slightest trouble with any Wright R-2600 *Double Cyclone* 14 in the B-25 or any other airplane (such as DB-7Bs, A-20G, A-35B or B-23s) with those engines. Credit and thanks must be given to all the unknown but dedicated crew chiefs and their hard-working mechanics with grimy hands and the specialists who worked long and difficult hours in cold and rain and heat so that glamor-boy pilots can write accounts such as this. □

ABOUT THE AUTHOR

"BC," as an old friend of founder Bill Larkins, is AAHS member No. 12. He had his first flight on July 12, 1928, and has been soloing airplanes over 56 years. He likes to say he still flies T-41As at Beale AFB which, of course, are merely old Air Force surplus Cessna 172-Fs in the USAF Aero Club at Beale. His aircraft articles and photos have appeared in several publications. BC and his wife Lorraine of over 30 years recently restored the prototype 1928 Timm Collegiate open-cockpit parasol (NC337) by throwing (as he says) thousand dollar bills at the project for many years. After he made the first test flights, they flew to the annual Antique Air Show at Merced, California, in 1985 where they were awarded the Grand Champion trophy. They live at "Aero Pines," a residential airport at Brownsville in the High Sierra of Northern California where BC is completing his book.

