

## Gott mit uns.

It was imprinted on the buckle of every German soldier: "God with us." And so it seemed that day in 1946. From the abyss of disaster in late 1944, the Third Reich won a seemingly heaven-sent reprieve in the wake of Soviet dictator Josef Stalin's assassination. With Russia descending into civil war, a de-facto cease fire had allowed the Wehrmacht to concentrate against the West. And there the lines had remained with little movement either way—an appalling replay of the Western Front of the Great War.

Oberstleutnant Karl-Heinz Schumacher commanded one of the smallest wings in the Luftwaffe, but perhaps the most noteworthy. Wearing the Ritterkreuz with Oak Leaves, his Jagdgeschwader 402 possessed only two *Gruppen*: a training unit of two *Staffel* for transition to the P.1101/1106, and a tactical group with three squadrons. Presently, only two of the latter were rated operational, awaiting more aircraft at Brandis Airfield, 200 miles east of Berlin.

The program had encountered numerous delays, but first flight had been achieved in the summer of 1945. Making 610mph, the Messerschmitt super fighter was expected to sweep Reich skies of Ami bomber task forces.

Schumacher strode to the front of the briefing room, walls bedecked with maps, tactical and communication information, aircraft silhouettes, and some fetching Anglo-American pinups retrieved from downed bombers. Whatever anyone could say about the Amis and the Tommies who routinely burned cities to the ground, apparently, they produced some exceptional females.

From the ceiling, scale models of German and Allied aircraft rotated on their strings. All were conventional designs, piston-powered, except for an Me 262 and Ar 234. However, the *Kommodore* had something new to share. He held up a silver-painted streamlined shape.



"Attack of the Black Cobras"  
The German Squadron called the "Black Cobras" flying P-1106s, attack a Northrop YB-49 Flying Wing. Lt. Col. Francis Gabreski, flying a P-80 A-1 from the 56th Fighter Group that was deployed to Germany in July 1947 turns to ward off the German fighters.  
(Art by Roy Grinnell)

WW II AIRWAR 1946-1947

What if WW II had lasted  
**TWO MORE YEARS?**

"This is our new enemy," Schumacher began. "It's a jet-powered bomber built by Northrop. Technical intelligence says its span is 57 meters, almost twice a B-17, and with eight turbos it's supposed to make 800 kilometers per hour." That information drew low murmurs and high whistles from the pilots. If the new bomber only cruised at three quarters of top speed, it was going to be hard to catch.

Schumacher rotated the 28-inch model, swiveling it from horizontal to vertical. "The Amis call it the flying wing, and you can see why. From the front, it's almost invisible. That means we have to change tactics. No more company-front attacks on bomber formations." He held the model level, moving one hand above it. "We're going to practice overhead attacks because that gives us a much bigger target to shoot at. It means a full-deflection shot, but your turbos have the new lead-computing sight. The ordnance bureau has worked out the lead for your rockets, as well. If you do it right, you should kill one or two bombers per sortie."

Privately, Schumacher held no such hope. Nobody survived more than three years of nonstop combat without realizing that things almost never turned out as planned.

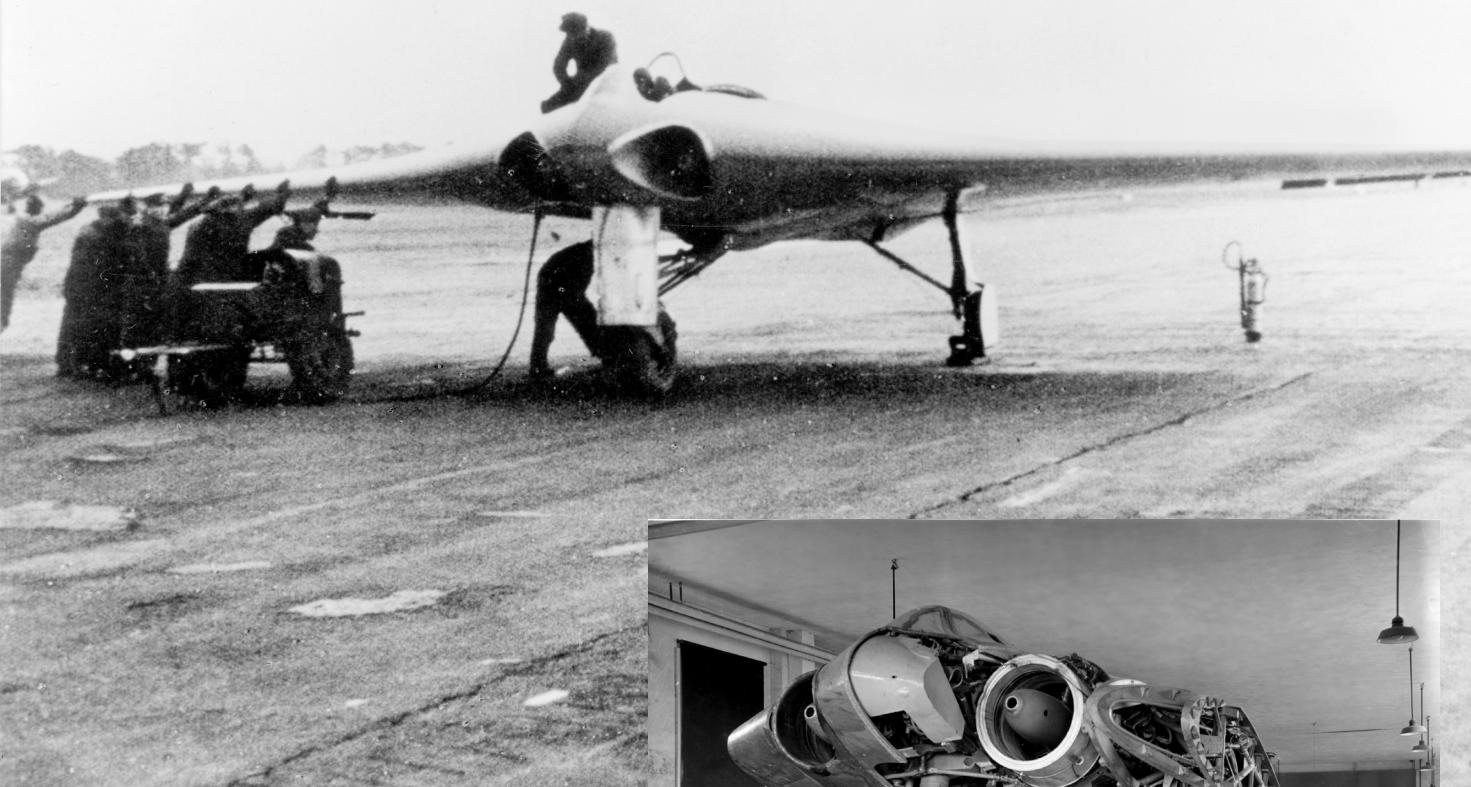
#### Pacific jets

The future arrived prematurely that morning in mid-1946. The two Army Air Forces B-45A Tornados from Okinawa had just completed their photo runs over Japan's southern island of Ky-

ushu when an eerily futuristic shape sliced at them from three o'clock level. Pushing more than 500mph, the tailless fighter snapped out two bursts of 30mm cannon at the North American jets but the full-deflection angle and the Tornados' speed foiled the approach. By the time the Japanese interceptor reversed for another pass, the speedy B-45s were nose down, leaving a smoky trail behind them.

Following the Japanese Army's overthrow of Emperor Hirohito the previous summer, the Allies had prepared for history's greatest invasion. The radioactive rubble of two cities had done little to dissuade the doom-laden samurai cabal in Tokyo, and America's reluctance to use additional A-bombs ensured that an invasion would proceed. However, the epic hurricane of November 1945—a genuine Divine Wind—had dispersed the U.S. Pacific Fleet and battered Allied bases throughout the Western Pacific. *Operation Downfall* had been postponed until the following year.

During the interim, both sides accelerated their weapons programs. Besides the Lockheed P-80 Shooting Star, the Army Air Force gave high priority to the B-45, which had begun development in September 1944. An advance detachment joined the Sixth Reconnaissance Group less than two years later. Capable of some 550mph, the Tornado with its four-man crew enjoyed not only a speed, but also altitude advantage over most Japanese aircraft. While cruising above 40,000 feet, Tornados were largely immune to interception but Japanese engineers had been active as



**The Blohm und Voss Bv 40 was a high-speed armed and armored glider, which could be rapidly and economically produced. The prototype Bv 40 V1, coded PN+UA, pictured here, made its first flight in May 1944 after being towed into the air by a Bf 109. To keep the frontal area to a minimum, the pilot was in a prone position on a padded couch with a padded chin and brow breast rests. The proposed armament were two 30mm MK 108 cannons fitted inside bulged fairings at the fuselage sides beneath the wing roots. It would slash down through bomber formations, attacking from their most vulnerable position. (Photo courtesy of EN Archives)**

## OF ALL THE COMBATANTS, GERMANY CERTAINLY HAD THE GREATEST MENU OF CONCEPTS FOR POSSIBLE DEVELOPMENT.



well. The Kyushu company had flown its innovative J7W Shinden (Magnificent Lightning) in August 1945, and modified it beyond the original concept. With the same tailless canard airframe, the Imperial Navy replaced the 1,600-horsepower Mitsubishi radial engine with an Ishikawa Ne-130 jet similar to the BMW 003 that propelled the Heinkel 162 Volksjaeger. The jet boosted the Shinden's top speed from 460 to nearly 540mph: the fastest naval aircraft on Earth. However, the type was plagued by developmental and maintenance problems that limited its use. Nevertheless, a squadron of Shindens could be kept operational by the elite wing under Captain Minoru Genda at Kanoya. Flown and maintained by veterans, the Magnificent Lightnings were ready to scramble against selected Allied sorties penetrating imperial airspace.

The Tornados' recon mission might have generated the world's first all-jet dogfight, as a P-80 developmental unit was attached to the 49th Fighter Group at Kadena, Okinawa. Because the Shooting Stars were Lockheed products, they were naturally assigned to the stellar P-38 group. But the P-80A lacked the endurance to loiter over Kyushu, Japan's southernmost island. Therefore, V Fighter command had to establish a forward base at Kerama Retto between Okinawa and Kyushu. Consequently, the recon Tornados were largely on their own, although new P-51H Mustangs from Okinawa stood by to intervene if necessary.

Meanwhile, plans proceeded for *Operation Downfall*, sure to become the bloodiest military operation in human history.

#### Waiting in the wings

Whatever the geopolitical assumptions necessary



for WW II lasting beyond 1945, it's instructive to examine the aircraft that would or might have reached combat before the end of 1947. Of all the combatants, Germany certainly had the greatest menu of concepts for possible development. The many and varied proposals grew out of the Luftwaffe's July 1944 Emergency Fighter Competition, with many manufacturers offering schematics ranging from advanced to radical.

Nazi dictator Adolf Hitler had forbidden development of the Me 262 as a fighter in 1943, but hard lessons had been learned since then, necessarily focusing on air defense. Fighters dominated among the late-war proposals, including several other Messerschmitt designs. Representative among them was the P.1101/1106 concept, including a pressurized cockpit for operation at 14,000 meters (46,000 feet). A pure interceptor, the Messerschmitt had very short endurance but was expected to clock nearly 1,000kph, or more than 600mph. The 1106 replaced the original conventional straight tail with a V-tail design. The underslung engine gave a profile comparable to Russia's postwar MiG 9 and Yak 15.

Despite the various configurations, some ele-

**Above:** The Horten 229 V2 on the runway at Oranenburg shows the ground crew helping to hold the aircraft while Erwin Zeller, the pilot, starts the engines under the supervision from a Junkers mechanic. The Horten series of flying wings held great promise for Germany.

**Inset:** The Horten Ho 229 V3 as found by the Americans at the GWF plant in Friedrichroda. In the background can just be seen what appears to be the framework of the Ho 229 V5. This aircraft was transported to Freeman Field in Indiana. It is currently in the collection at the National Air and Space Museum. (Photos courtesy of EN Archives)



**Above:** The P.1101 was a very advanced design that was to be powered by a Junkers Jumo 109-004B turbojet engine. The sweepback angle of the wings could be varied on the ground from 35 and 40 degrees. Had this project been accelerated and put into production, it is probable Germany would have had a simpler, more reliable jet fighter than the Me.262 that could outperform the Allied jets of 1946/1947. (Photo courtesy of EN Archives)

ments were common to most Emergency Fighter entries: a 40-degree swept-wing design with pressurized cockpit and heavy cannon armament, usually the Mk 108 series of 30mm weapons. Heinkel's S 011 engine was a frequently cited powerplant, an advanced concept combining axial and centrifugal designs producing about 2,700 pounds of thrust.

One of the most influential designs was Kurt Tank's Ta 183 and the similar Fw 250 (aka Project 11/44). The stubby, swept-wing jet with a T tail looks much like a baby MiG-15, though Russians assert that the similarities were coincidental. But apart from the external appearance, consider this. If you sit in a Fw 190 and then climb into a MiG-15, you get an eerie déjà vu sensation. Even some details appear identical, including the safety over the stick-grip firing button and the spring-loaded

crosshair backup on the lead-computing gunsight.

The 183 was temporarily revived after Prof. Tank relocated to Argentina but the project floundered. Nevertheless, a successful lookalike was the Saab 29 Tunnan (Flying Barrel) tested in 1948, rated at 660 mph; coincidentally 661 were built. Perhaps the most prescient concept was Messerschmitt's P.1110, looking for all the world like the Hawker Hunter, which first flew in 1951. The 1110/II retained the general outline but had a V tail and an annular intake aft of the cockpit. Presumptive VMax was 630mph with the S 011 engine. (For comparison, the Hunter F.6 made 715mph.)

#### Western allies

Britain had raced neck and neck with Germany to produce the first jet engine, with Heinkel producing a functional design in 1938 and flying a testbed aircraft that year. The Gloster E.28/39 first flew in 1941. The firm's production twin-engine Meteor entered service in 1944, flying with one RAF squadron through V-E Day.

Meanwhile, De Havilland tested the single-engine, twin-boom Vampire in 1943. The first production example was flown in April 1945, entering squadron service a year later. It cer-



**Left:** The P-80A was fast and reliable for 1947, but the Shooting Star's range would only make it a real contender with the P-80C built in 1948—too late to help as World War II dragged on into its seventh year. The latest attempt in 1947 to reinstate red into the U.S. national insignia with horizontal bars was viewed by some as premature, given Japan's stubborn refusal to surrender. Others argued that jet speeds made such detail less critical. (Photo courtesy of Frederick A. Johnsen)

tainly would have seen combat in 1946, though its short range posed a liability. Some 3,200 were built versus nearly 4,000 Meteors.

Certainly one of the rarest concepts was the Saunders-Roe SR.A1 jet-flying boat fighter. The Air Ministry approved the project in 1944, but first flight was delayed until July 1947. Without need for a water-based fighter, only three were built.

Meanwhile, America benefited from British engine technology, producing the Bell P-59 Airacomet that flew in late 1942. Its performance was inadequate to replace existing piston fighters, but the next jet was a keeper. Lockheed's P-80 Shooting Star, flown in January 1944, arrived in Europe in limited numbers in 1945, and was in full squadron service the next year. World War II in 1946-1947 definitely would have involved full-strength groups of Shooting Stars. It's possible that the remaining P-38 groups in Europe would have converted to the new Lockheeds: the 474th of the Ninth Air Force plus the 1st, 14th, and/or 82nd Groups of the 15th Air Force in Italy.

America's first jet bomber was Northrop's Flying Wing, the YB-49, developed from the YB-35 that flew in June 1946, powered by four P&W R4360s. The all-jet YB-49 with eight Allison-GE J35s was much faster—nearly 100mph more than the previous design. However, serious stability and flight control problems plagued both programs, and neither type entered production. Nor could the Wings carry nuclear weapons of the period. But had the stability and control gremlins been excised, the B-49's altitude, speed, and range could have made it an exceptional recon platform.

The next major bomber program served both roles of bomber and reconnaissance. Consolidat-



**DURING WW II, THERE WAS LITTLE NEED FOR A BOMBER WITH A 4,000-MILE REACH, BUT THE POSTWAR WORLD WAS FAR DIFFERENT**

ed's B-36 dated from 1941 when Britain appeared in danger of conquest by Germany. The Army Air Forces wanted a bomber with intercontinental reach, and the huge Peacemaker first flew in August 1946. Like the Northrop YB-35, the B-36 was propelled by powerful pusher engines, six R4360s plus four GE J47s. During WW II, there was little need for a bomber with a 4,000-mile reach, but the postwar world was far different, and upon en-

Although technically outperforming its competitor, the Convair B-36, Northrop's radical X/YB-35 design suffered from engine/prop and stability challenges that led directly to its redesign with eight turbojets. The desired speed increase brought it into the competition as a survivable bombing platform but with its range now cut in half the upgrade effectively eliminated its strategic need in a protracted WW II. (Photo courtesy of Stan Plet)



The blank expanse of aluminum on the nose of the B-45 cried out for artwork, and in mid-1946 after its inconclusive dust-up with a Shinden, it was time to paint nose art depicting a comely brunet uttering the title lyrics of Louis Jordan's January hit, "Buzz Me." (Photo courtesy of Frederick A. Johnsen)

**Right:** The Mitsubishi J8M1 represented one of the very few joint Navy/Army projects to be realized during the war. While licences for the Me 163B and Walter rocket motor were purchased under the Germany/Japan technical aid program, only basic data would reach Japan, but this was enough for them to produce a Komet-inspired rocket interceptor. Despite seven aircraft being completed before Japan's surrender, only one powered flight would take place before the Japan surrendered, resulting in the death of the test pilot. The Army's version, the Ki-200, was seen as a stepping stone to the much larger K-202. (Photo courtesy of Joe Picarella)



**Below:** The Nakajima Kikka ushered Japan into the age of jet-powered flight a mere eight days before their cease-fire. As with the J8M, the Kikka was an interpretation of the Me 262, based on fragmentary technical data supplied to Japan. Smaller and less advanced than its German counterpart, the efforts of the Japanese engineers, to design and build an indigenous turbojet from scratch, with almost no previous jet experience were laudable. The Army's desire for a larger turbojet powered aircraft took them down their own (Ki-201) development path, which was planned to be a more detailed copy of the Me 262, but this was destined to remain a paper project. (Photo courtesy of Joe Picarella)



tering service in 1948 the Peacemaker became an icon of the Strategic Air Command.

While the Army Air Forces concentrated on current and next-generation aircraft, the Navy also experimented with jets. Despite its name, the Ryan FR-1 Fireball was a non starter, being a composite fighter with a Wright radial up front and an anemic GE jet in the tail. It could have entered combat in 1945 but offered little over Hellcats and Corsairs.

However, the McDonnell FD-1 Phantom had prospects. A twin-engine jet flown in January 1945, it offered 470mph top speed—previously unobtainable for a carrier fighter—and four .50 calibers which were adequate against Japanese

aircraft. Since it entered squadron service in August 1947, the Phantom might have reached combat before our end date.

The Soviets tested an indigenous jet engine in 1943 but did not get airborne until 1946.

#### Japan

One of Tokyo's possible what-if designs was the Yokosuka R2Y *Keiun* (Beautiful Cloud). A two-seat, long-range recon bomber, it was propelled by a huge Aichi 24-cylinder liquid-cooled rated at 3,400 takeoff horsepower to handle a 46-foot span and 20,700 pounds gross weight. It made one flight in May 1945 before being destroyed by American bombing. The "dash two" concept employed two Ne-330 axial-flow of 2,900 pounds thrust but it never flew.

Nakajima's twin-jet Ki-201 *Karyu* (Fire Dragon) was designed in late 1944, slated to fly before the end of 1945. Its performance was to be comparable to the Me 262, around 530mph. However, the JAAF preferred the Me 163 concept, Mitsubishi's J8M *Shusui* (Sword Stroke) for allocation of increasingly rare materials. Unpowered flight tests began in December 1944, but a crash seven months later suspended the program until war's end.

Japan produced almost no multi-engine bombers during the war but recognized the potential. A JAAF technical panel astutely predicted the nascent B-29's likely performance and tried to match that exceptional standard. Kawasaki developed the Ki-91, a four-engine long-range bomber project begun in 1943. It was approaching initial production when a B-29 raid smashed the tentative factory in early 1945. A 6,200-mile range was anticipated, which would have yielded a mission radius of about 2,000 miles—good for the Mari-

anas and Philippines. But even a one-way mission would have accomplished little: Sapporo in Northern Japan is 3,000 miles from Anchorage while Honolulu and Seattle—perhaps the most worthwhile targets—are 4,000 to 4,300.

Another ambitious concept was Nakajima's G10N1, a rare army-navy effort intended to strike the American mainland. The six-engine bomber was still under development on V-J Day.

#### Spoiling the theory

It doesn't take long examining WW II what-if scenarios to realize that jet combat in 1946-1947 posed more problems than solutions. Yes, the early jets were fast in comparison to existing reciprocating engines. The Me 262 represented a nearly 100mph advantage over most Allied fighters, and presumably the late-war designs would have boosted that edge. But global war on an industrial scale demanded immense numbers—a contest that the Axis never could win.

However, one factor little considered in Germany's favor was the prospect for producing more jet fuel than high-octane avgas. With Romania's capitulation in August 1944, Hitler lost about one-third of his petroleum, and synthetics could not make good the deficit. But jet fuel—essentially kerosene—is easier and cheaper to produce. What if: in 1943 the Luftwaffe had anticipated

losing most of its gasoline supply and concentrated on producing jet fuel for more jet engines?

What if engine technology had permitted wider use of jets before 1944? German metallurgists had solved the problem of jet fatigue, extending engine operating life to 50 hours between overhauls. But those were laboratory results; factories were forced to rely upon lower-grade steel that wore out in 12 to 20 hours. Assuming more engines for available airframes, would a large Luftwaffe jet force have made a significant difference?

Probably not: Germany still would have lost the war although the Allies would have paid a higher price for that victory.

Ironically, the Luftwaffe had the means of shutting down daylight bombing without jets. The Eighth Air Force's two disastrous Schweinfurt missions in 1943 resulted in crippling losses of nearly 20%—unsustainable attrition from conventional fighter attack. As it was, bomber crews faced the statistical impossibility of completing a 25-mission tour with an average 4% loss rate.

But the *Jagdwaffe* might have inflicted even greater losses upon American bombers. No less an authority than the Cdr. John S. Thach stated during the war that if the Luftwaffe had mastered the U.S. Navy's overhead gunnery run, daylight bombing probably would have ended in 1943. A widely respected Luftwaffe leader, Col. Johannes

**Near the Mongolian Border,** a Douglas B-45 "Tornado" from the Air Commando Group is attacked by a Kyushu J7 W1 "Shinden" (Magnificent Lightning) now running jets and carrying (4) 30mm guns. These Shindens are from the 343rd Air Group, an elite group of handpicked veterans. (Art by Roy Grinnell)

## ANOTHER AMBITIOUS CONCEPT WAS NAKAJIMA'S G10N1, A RARE ARMY-NAVY EFFORT INTENDED TO STRIKE THE AMERICAN MAINLAND



Steinhoff, agreed, noting that the overhead was nearly impossible to defend against and gave the fighter a much bigger target than a horizontal approach. But as Steinhoff explained, "We did not have the fuel to teach large numbers of pilots the overhead, so we stuck with the frontal attack."

With ample long-range fighter escort from early 1944, bomber losses steadily declined, as did the Luftwaffe's survival rate. By the time of D-Day, German fighter losses approached 25% pilots and 40% aircraft per month.

If greater numbers of more capable jets could not have reversed the European air war, it would have mattered far less over Japan. Even presum-

ness from the ground up—he had graduated in the same 1929 pilot class as Curtis LeMay.

Davidson glanced through the misty window. Typical British fall weather—cold and damp. Out there on the flightline, obscured in the evening fog, sat nine futuristic shapes closely guarded by unhappy sentries.

The commander of the 512th Composite Group set down the Glengoyne. It paid to maintain cordial relations with the RAF, which had turned over one of its most remote Bomber Command bases to the Americans.

"Well, you know the background of the Flying Wing. It was unstable as hell until Wright Field perfected the autopilot, and Northrop made it work most of the time. I know that you like to check out in new airplanes under your command, but honestly Tim, this isn't the time for it."

Atwood sipped at his reinforced coffee. As a bomber wing commander, he was current in the B-17 and 29, and he had flown the B-24 on occasion. But he valued Davidson's opinion and decided not to press the matter. Reading his host's inflection and mood, he ventured a guess. "You seem to be saying that Hap Arnold has jumped the gun. Again." Atwood had seen the results of the Army Air Force chief's decision to commit the Superfortress to combat prematurely.

Davidson grinned slightly. "Well, let's say that I'm hinting more than actually saying anything. But yeah, the '49 needs several more months of debugging."

"Well, you don't have several months, Hal. And neither do I. The old man wants the Flying Wing dropping bombs pronto."

"Affirmative," the CO replied. "With our range we can hit anywhere between here and Greece. Depends on the bomb load, of course."

Atwood absorbed that sentiment. "Let's see, you cruise at better than 400 so that's about seven hours mission time. Do you have enough copilots yet?"

"Barely. Not to mention the flight engineers, bombardiers, radiomen and gunners. A six-man crew might be minimum. There's room for a third pilot but we're still thin on full combat crews."

"Yeah, I got a telex about that. You should be getting more bodies over the next month. Meanwhile, I wonder about replacement aircraft."

Davidson shrugged eloquently. "You know with a radical design like the Wing, we're going to have casualties. I'm more worried about operational losses than whatever we lose to the German jets."

"Me too, Hal. Me too." ♦



**Convair's "Magnesium Cloud" was intended in 1942 to range from Newfoundland to Berlin or Hawaii to Japan. With a first flight of the XB-36 in August 1946, the "Peacemaker's" first production lot, if accelerated, could have had a presence in a protracted airwar, but its slow, relative speed penetrating against a second generation of German jets would have reduced its strategic value. (Photo courtesy of Stan Piet)**

ing Tokyo's ability to solve the myriad technical and operational problems of advanced aircraft, Japan faced a far worse strategic situation than Germany. As an island nation, Dai Nippon had to import nearly every everything but coal. That was increasingly difficult from late 1944 when the Pacific Fleet submarine campaign combined with Marianas-based B-29s to choke off the sea lanes and ruin most industry. By the summer of 1945, the Superfortresses' mining mission—*Operation Strangle*—further reduced imports to a fraction of the previous high.

### An Eighth Air Force base in England, 1947

Colonel Harold Davidson poured a dram of single-malt scotch into his guest's coffee cup. The two-star general nodded slightly in a "hit me again" gesture. Davidson considered it a good sign.

"Hal, how is this Northrop thing going to work? I don't mean in flight—I mean in combat." Major General Timothy Atwood knew the bomber busi-