The Carswell B-36 Disaster

An intense storm knocked most of SAC's Peacemaker bombers out of commission.

By Sam McGowan

German targets from the US if Britain fell to the Nazis, the B-36's mission was changed to that of attacking Japan from Hawaii. It was to have a 10,000-mile range. Secretary of War Henry L. Stimson waived normal procurement procedures and ordered 100 of the new bombers into production, with deliveries to begin in August 1945.

Due to delays in the Consolidated company's decision to transfer the B-36 program from its San Diego plant to Fort Worth, Texas, the prototype was not unveiled until August 1945 and made its first flight a year later. By the time of its rollout, it wasn't really needed for its intended purpose: B-29s had already become a routine sight in Japanese skies and B-24s—as well as smaller B-25s, A-26s, and even fighters—were reaching Japan from bases in the Ryukyu Islands. Although the atomic bomb quickly put an end to the war, the Air Force continued to see a need for a longer-range aircraft with a bigger payload capacity. The B-36 went forward.

Consolidated—known after its merger with Vultee as Convair—began producing the B-36, now dubbed the Peacemaker, in 1948—the same year Fort Worth AAF was posthumously renamed for city native Maj. Horace S. Carswell Jr., a wartime Medal of Honor recipient.

WING STATUS

Designed with six Pratt &Whitney radial engines, operational B-36s were also given four General Electric J47 jet engines to boost takeoff performance and increase speed during bombing runs. The first deliveries went to SAC's 7th Bombardment Wing at Carswell in June 1948.

Next, the 11th Bombardment Group, based at Carswell, began equipping with Peacemakers. In February 1951, the 11th was elevated to wing status and became the 11th Bombardment Wing (Heavy). By September 1952, two-thirds of SAC's B-36 force was based at Carswell.

Sept. 1, 1952, was a typical summer day for the region, with the high temperatures and humidity that typically produce strong thunderstorms on the Texas plains. Because it was Labor Day, few personnel were on duty. But as conditions were ripe for severe weather and the National Weather Service forecast storms with winds

Two B-36 bombers at Carswell AFB, Texas, after the Labor Day 1952 microburst that knocked out two-thirds of the bomber type—USAF's main nuclear deterrent against the Soviet Union.

USAF photo

Convair photo

Left top: Tail damage to two B-36s after the microburst. Left: The tail section of a B-36 after the aircraft was blown completely off the runway, its fuselage broken in half, and the left wing and tail severed during the brief but vicious storm.

of 60 mph, the skeleton flight line crew went about securing the base's aircraft with tie-downs. According to one source, three-eighths-inch steel cables were used. The sky began to turn green and inky.

The storm hit at dinnertime. At 6:42 p.m., base personnel were convinced a tornado was in progress. The madly spinning anemometer in the control tower recorded winds of 90 mph before the device broke. Troops took cover in concrete or brick buildings. Winds swept across the flight line, with enough force to pick up aircraft, rip them from their steel cable moorings, and fling them into each other, into hangars, or other objects.

Flying debris acted like missiles, ripping through aircraft skins and giving the impression afterward that the bombers had been repeatedly raked by cannon fire. Cockpits were crushed and access doors ripped off. The wind blew big chunks off the roofs of many buildings at the field and tore great gaping holes in hangars.

Had winds been under the 60 mph forecasted that day, the steel cables probably would have been sufficient to hold the aircraft down, but wind speeds were likely well above the recorded 90 mph, creating "takeoff" conditions for some of the aircraft.

When it was over, the flight line was a tangle of airplanes, equipment, and pieces of buildings. The power of the storm was evidenced by the sole Peacemaker declared a total loss: Picked up by the winds, it was carried away, coming to rest in a ravine. Its fuselage was broken, only one wing was still attached, and its tail had been sheared off.

One B-36 suffered severe damage to the nose. Rather than use a new airframe from the factory for a planned special project, the Air Force decided to let Convair use the wreck for that purpose.

Astonishingly, given the force of the storm, much of the damage was determined to be minor. Engineers assessed that some of the bombers could be quickly repaired, while others required depot-level maintenance before they could be returned to service.

OUT OF COMMISSION

The greater damage was to the Air Force's nuclear response capability. Two-thirds of SAC's heavy bombers were temporarily put out of action and unavailable for combat. Had the Soviets decided then to launch an attack in Europe, the US response would have been severely limited. LeMay was forced to declare the 19th Air Division no longer operational.

LeMay had a reputation for quick, decisive action and the sudden loss of most of his nuclear bomber fleet produced a typical response. As soon

as word of the disaster reached him, LeMay ordered a maximum effort to return the bombers to service.

By daybreak the next morning, LeMay and his staff had come up with a response plan called Project Fixit. SAC personnel would perform repairs on the least-damaged third of the bombers, Air Materiel Command personnel from Kelly AFB, Texas, where the B-36 depot was located, would be responsible for another third, and the most heavily damaged remainder would be towed across the field to the Convair factory.

The repair effort began immediately, with crews working around the clock. SAC put the two Carswell wings on an 84-hour workweek until the fixes were complete. The first B-36 was returned to service within a week of the storm and nine more put in service the week after that. Just one month after the disaster, 51 bombers had been returned to service and the two Carswell wings were once again declared operational.

It took until May 11, 1953, to get the last storm-damaged B-36 back on flying status, however. Of the 82 B-36s damaged, all but two were returned to alert service. The one that blew into the ravine was written off and the wreckage later used to gauge the effects of nuclear blast.

The other, which had been returned to Convair for a special project, wound up being rebuilt into a testbed for a nuclear-powered bomber that was never put into production.

The Carswell disaster compelled the Air Force to think about how it should prepare for another such event, especially given that so many USAF fields were in "Tornado Alley."

The Air Force and SAC settled on two possible solutions. One was to secure the airplanes so they would be able to withstand high winds. The other was simply to get them out of harm's way by moving them to another location when severe weather threatened. That option became policy. From then on, when forecasts called for severe thunderstorms, crews would move the huge bombers out of the vulnerable region.

It was not a foolproof plan. Thunderstorms and tornadoes can develop with little warning in the American South and Southwest, and it takes time to assemble crews, get airplanes into the air, and arrange for them to be received elsewhere. These plans have been codified in procedures, and it's usually up to the base's wing commander whether to call for an evacuation of aircraft threatened by weather. Such decisions are fraught: Moving a wing is expensive and disruptive to flight schedules, both at the sending and receiving locations. Still, policy calls for erring on the side of caution, and the movements are seen by some senior commanders as useful exercises in rapid deployability.

The Carswell Labor Day storm was not the first time strong winds damaged large numbers of airplanes, nor was it the last.

In October 1945, a typhoon struck Okinawa and caused tremendous dam-

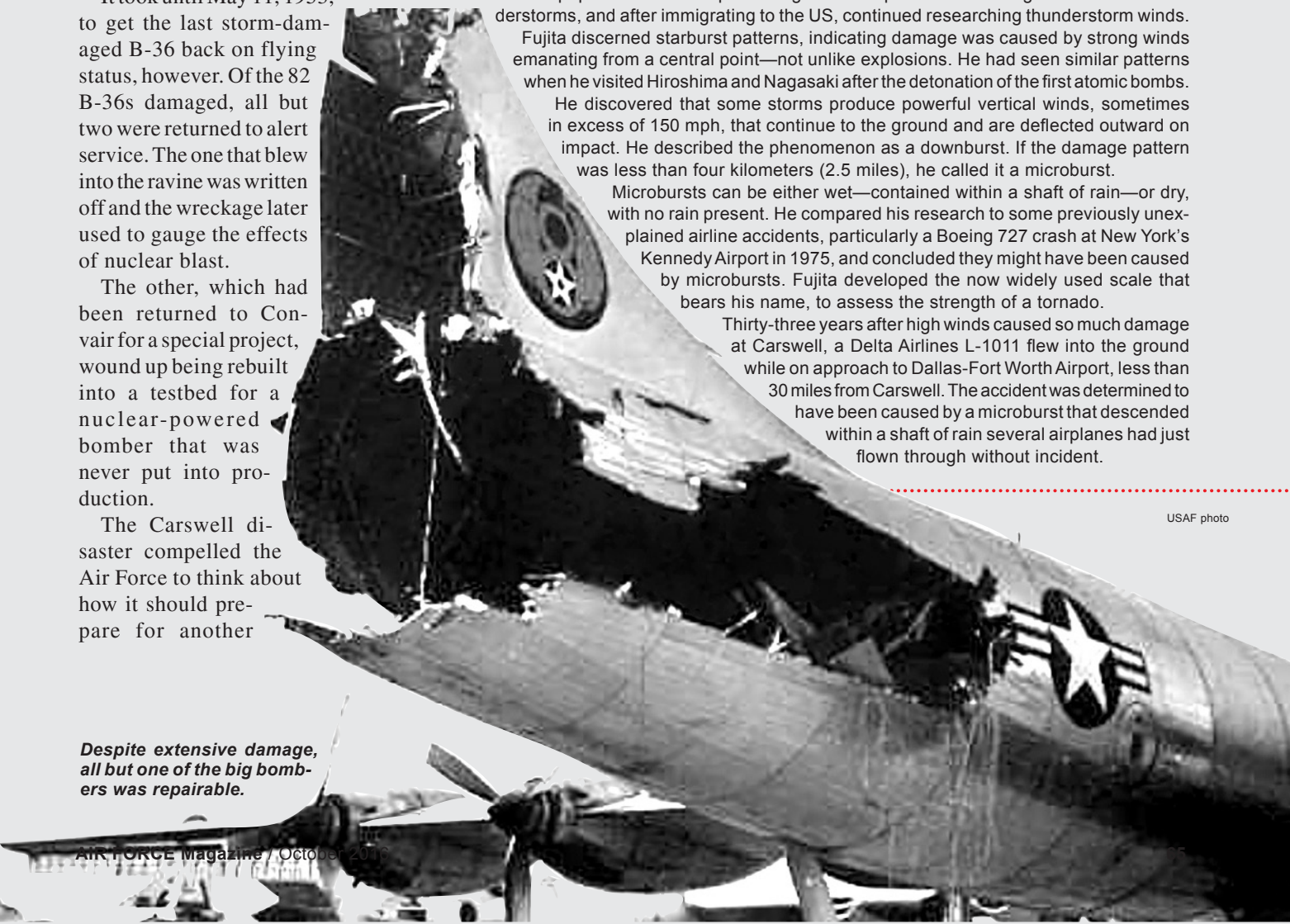
NOTHING LITTLE ABOUT A MICROBURST

Long thought to have been a tornado, the storm that hit Carswell in September 1952 is now believed to have been a microburst. This phenomenon wasn't identified until the late 1970s by Tetsuya T. "Ted" Fujita of the University of Chicago. A native of Japan, Fujita had written a paper in the 1940s speculating about the presence of strong downdrafts in thunderstorms, and after immigrating to the US, continued researching thunderstorm winds. Fujita discerned starburst patterns, indicating damage was caused by strong winds emanating from a central point—not unlike explosions. He had seen similar patterns when he visited Hiroshima and Nagasaki after the detonation of the first atomic bombs.

He discovered that some storms produce powerful vertical winds, sometimes in excess of 150 mph, that continue to the ground and are deflected outward on impact. He described the phenomenon as a downburst. If the damage pattern was less than four kilometers (2.5 miles), he called it a microburst.

Microbursts can be either wet—contained within a shaft of rain—or dry, with no rain present. He compared his research to some previously unexplained airline accidents, particularly a Boeing 727 crash at New York's Kennedy Airport in 1975, and concluded they might have been caused by microbursts. Fujita developed the now widely used scale that bears his name, to assess the strength of a tornado.

Thirty-three years after high winds caused so much damage at Carswell, a Delta Airlines L-1011 flew into the ground while on approach to Dallas-Fort Worth Airport, less than 30 miles from Carswell. The accident was determined to have been caused by a microburst that descended within a shaft of rain several airplanes had just flown through without incident.



USAF photo

Despite extensive damage, all but one of the big bombers was repairable.

A ceremony recognizing B-36s coming to Carswell in 1948.

National Museum of the US Air Force photo

BECOMING CARSWELL

Now known as NAS JRB Fort Worth, Texas (the airfield itself is still called Carswell), Carswell AFB dates its post-World War I history back to 1940 when the city of Fort Worth petitioned several aircraft manufacturers to build a facility there. Consolidated Aircraft accepted the city's request, then approached the Air Corps with the suggestion that they build a joint airfield adjacent to their new plant, where they planned to manufacture a four-engined bomber that would become known as the B-24 Liberator.

In June 1941, President Franklin Roosevelt approved a $1.7 million appropriation to build the Lake Worth Bomber Plant airfield. Since it was located in Tarrant County, Texas, the new airfield was initially called Tarrant Field. Air Corps plans called for it to be home to a bomber group.

The Japanese attack on Pearl Harbor came while the airfield and adjacent plant were still under construction. The new Army Air Forces decided that instead of making Tarrant Field an operational base, it would be a combat crew school for B-24 pilot transition and crew training.

The field was officially named Fort Worth Army Airfield during the war. The Consolidated plant turned out B-24s, and bomber crews went through training at the adjacent air base. Meanwhile, the company, which had merged with Vultee and would later become Convair, was working on two new aircraft designs. The first, the B-32, was designed to meet the same requirements as Boeing's B-29. Consolidated lost that contract to Boeing but Far East Air Force Commander Lt. Gen. George C. Kenney insisted that at least some be built to get around the military politics surrounding the B-29s.

Although they only saw limited combat, Consolidated produced 118 B-32s at the Fort Worth factory and their crews were trained at the adjacent air base, renamed for Maj. Horace S. Carswell Jr. in 1948. For much more on Carswell the airman, see "Namesakes" on p. 76.

age at Kadena and Naha air bases. The storm wasn't expected to hit the Ryukyus but made a sudden turn and caught the American bases by surprise. Among the 60 airplanes damaged were several B-29s.

LUCKY TIMING

Four years before the Carswell incident, Tinker AFB, Okla., was struck by two tornadoes only five days apart. The first, on March 20, 1948, caused $10 million in damage. Weather forecasters noticed that conditions five days later on the 25th were identical to those of the 20th and put out the base's first tornado alert ever issued. Sure enough, Tinker was hit again. Damage from the second storm was $6 million.

There have been dozens of incidents since Carswell, resulting in large numbers of airplanes damaged by high winds. Though most have been light aircraft and helicopters, wind damage at a base with large airplanes is always a risk. Although LeMay ordered Carswell's B-36s be evacuated anytime high winds were forecast, such evacuations may not prevent damage from microbursts because the most violent are believed to occur in isolated thunderstorms rather than lines of severe storms. In fact, they are often found in seemingly harmless rain showers.

The Carswell storm is unique for the damage it caused to the most important weapons in the US nuclear arsenal. In a matter of minutes, the storm grounded much of SAC's long-range bomber fleet. Fortunately for the US, the Soviet nuclear force did not yet exist. Although the USSR had a nuclear program, only three weapons had yet been tested and none had been deployed. Even if the Soviets had possessed a small arsenal of nuclear weapons, their only "long-range" bomber was a knockoff of the Boeing B-29 and lacked the range to reach targets in the continental US. ✪

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