B-36 Memorial

Amon Carter Field

February 12, 1959

UNITED STATES AIR FORCE . . . . . AEROSPACE POWER FOR PEACE

B-36 Memorial

Amon Carter Field, Fort Worth, Texas

February 12, 1959

Program

10 a.m.	Biggs AFB open house and take off ceremony
11 a.m.	Scheduled take off of aircraft from Biggs AFB
2-3 p.m.	Band concert by Arlington State College band
2:30 p.m.	B-36 flyover of Carswell Air Force Base
2:36 p.m.	B-36 flyover of Fort Worth
2:44 p.m.	B-36 flyover of Amon Carter Field
2:55 p.m.	Landing
3 p.m.	Aircraft in place before reviewing stand
3:10 p.m.	National anthem by band
3:15 p.m.	Debarkation and introduction of passengers and crew (Escorted by Angel Flight and AFROTC honor guard from Texas Christian University)
3:30 p.m.	Presentation of awards by Convair officials
3:35 p.m.	Introduction of honored guests by J. A. (Tiny) Gooch, president of the Fort Worth Chamber of Commerce
3:45 p.m.	Address by Amon G. Carter, Jr.
3:50 p.m.	Address by Headquarters Strategic Air Command representative
4 p.m.	Principal address by Lt. Gen. C. S. Irvine, Deputy Chief of Staff for Materiel, Headquarters United States Air Force
4:20 p.m.	Decommissioning ceremony (Aircraft presented to City of Fort Worth by military officials)
4:25 p.m.	Acceptance of B-36 by Mayor Thomas A. McCann of Fort Worth and Amon G. Carter, Jr.

4:30 p.m.	Benediction by Carswell chaplain
4:35 p.m.	Taps
4:36-5 p.m.	Inspection of aircraft by general public as band plays

From: Convair
A Division of General Dynamics Corporation
Fort Worth, Texas

HISTORY OF THE B-36

Design competition for the first intercontinental bomber--a high-altitude airplane with heavy bombload and unprecedented range--was initiated by the Army Air Forces on April 11, 1941. This was eight months prior to Pearl Harbor but at a time when Nazi aggression in Europe was meeting with phenomenal success. America was faced with the overwhelming prospect of having to contest, single-handedly, the Hitler war-machine. The defeat of Britain--which appeared probable--would leave us without European allies and with no bases outside the Western Hemisphere.

Specifically, the AAF was asking for a bomber that could (1) carry a 10,000-pound bombload to a target 5,000 miles away and return nonstop, (2) haul 72,000 pounds of bombs at reduced range, (3) travel 300-400 miles an hour, and (4) take off and land on a 5,000-foot runway.

Several airplane manufacturers had taken one look at the 10,000-mile-range requirement--and had then resumed work on projects they considered to be in the realm of possibility.

On October 6, 1941, Consolidated Aircraft Corporation submitted to the AAF a proposal to "develop and construct two experimental long-range high-altitude bombardment airplanes," of six-engine pusher-type design, which the company felt would meet all the AAF's specifications.

Ten days later General H. H. (Hap) Arnold, the new Chief of the AAF, directed that arrangements be completed to purchase two experimental models from Consolidated. The contract was awarded on November 15, 1941.

The company's San Diego division began development work on the B-36 project and built a full scale wooden mockup to check design accuracy. The project, including the mockup, was moved to the company's Fort Worth plant in August of 1942, shortly after the new factory was completed.

At that time, however, and for months to come, the Fort Worth plant was placing primary emphasis on the production of critically needed B-24 Liberator bombers. Because the B-36 project lacked priorities for manpower and materials, the development of the B-36 seemed exceedingly slow.

In the secrecy-shrouded experimental building at the Fort Worth plant, a relatively small group of men began working on the first experimental model of the B-36.

During the summer of 1943 the need for a weapon capable of striking directly at the Japanese homeland was made apparent by the impending collapse of China. There were still no bases from which our other bombers could reach Japan.

On July 23, 1943, Consolidated--which had now merged with Vultee Aircraft, Inc., to form Consolidated Vultee Aircraft Corporation--received an order for 100 production model B-36's.

As the campaign improved in the Pacific, however, the B-36 again found itself in competition for scarce resources with bombers already in production.

By the summer of 1945, Germany had been defeated and the end of the war was in sight. Warplane procurement was cut back; contracts were re-examined. But the requirement for a long-range bomber, capable of striking from bases on this continent, had not changed. The requirement had, in fact, been reaffirmed by the tremendous cost in lives and material incurred in the campaign for advance bases.

The advent of atomic war provided another reason for procuring intercontinental bombers. In an atomic war, retaliation would have to be instantaneous; it could not wait for the tedious conquest of overseas bases.

The B-36 program received a real shot in the arm with the end of the war. The contract for production of B-32 bombers at Convair-Fort Worth was cancelled, in common with contracts for other warplanes throughout the country, and Convair shifted engineering manpower to the B-36 program.

The XB-36 was wheeled out of its hangar on its own gear on September 8, 1945.

In June 1946 the XB-36 began engine run tests. An Air Force "689" safety board arrived to inspect the airplane.

On August 8, 1946, with 7000 employees lining the fence along the runway, the XB-36 roared into the air on its maiden flight. With Gus Green and B. A. Erickson at the controls, the world's largest bomber cruised over the nearby countryside for 37 minutes.

The first B-36 off the production line flew on August 28, 1947. Unlike the XB-36, it was equipped with bubble-type pilots' enclosure for increased visibility, and it had four-wheel main landing gears to distribute its weight over greater runway area, enabling it to operate from almost any airfield that could accommodate medium bombers.

Results of B-36 flight tests brought confidence in the huge bomber's ability to meet the specifications set by the AAF. The YB-36, for example, reached an altitude above 40,000 feet on its third flight.

On June 26, 1948, the Strategic Air Command received its first B-36A

and assigned it to the Seventh Bomb Wing, Carswell Air Force Base, Fort Worth, Texas, just across the runway from the Convair plant.

The B-36B model with 3500-horsepower engines flew for the first time on July 8, 1948.

As more B-36 airplanes became available to the Air Force, it became possible to compare actual performance with the estimates made for the airplane. Frequently these estimates were found to have been conservative.

A demonstration of the B-36's load capacity took place on June 30, 1948, when a B-36 dropped 72 1,000-pound bombs. Six months later a B-36 dropped 84,000 pounds of bombs from a high altitude.

On December 9, 1948, the YB-36 attained an altitude above 45,000 feet.

On July 28-30, 1949, a Convair crew flew a B-36 over 10,000 miles, carrying a 10,000-pound bombload halfway.

Although the performance of the B-36 after mid-1948 exceeded the early expectations, the possibilities of the B-36 had by no means been exhausted. Convair and the Air Force undertook to tap these possibilities, chiefly in the direction of improving maximum speed.

March 26, 1949, witnessed the first flight of a B-36 equipped with four jet engines as well as six piston engines. On this D model, jet engines were mounted in pairs under each wing panel.

The B-36 became the center of an Air Force-Navy controversy over strategic bombing and the subject of a Congressional investigation starting in August of 1949. The House Armed Service Committee, at the close, unanimously adopted a resolution to the effect that the evidence had shown that the B-36 was procured because it was the best bomber available to the United States.

As the international political scene darkened in 1950, additional procurement contracts for B-36's came from the Air Force.

As more powerful engines and better equipment became available, Convair developed new models of the B-36, and incorporated improvements in the early models.

The A models were converted into RB-36E reconnaissance airplanes.

F models came out with six 3,800-horsepower piston engines and four J-47 jet engines. First B-36F flew on November 18, 1950.

The H model came out with the same power as the F model but with two-station flight engineer's panel and improved radar and electronic equipment. First B-36H flew on April 5, 1952.

The J model--last of the B-36 family--had the same power plants as the F and H models but had a maximum gross weight of over 400,000 pounds. The first B-36J flew on September 3, 1953.

The Air Force ordered several of the models in both reconnaissance and bomber versions.

On the weekend of August 14, 1954, almost seven years to a day since the first B-36 intercontinental bomber was delivered to the Air Force, Convair rolled the last B-36 off the production line for delivery to the Strategic Air Command.

Delivery of this final B-36 meant that all of SAC's B-36 and RB-36 wings--from Maine to California and from Washington to Puerto Rico--were fully equipped.

Although this marked the end of B-36 production, it was not the end of B-36's at Convair-Fort Worth.

In 1953 Convair entered into a specialized aircraft maintenance program called SAM-SAC. This program was the first contract awarded under the

Air Force's plan of returning the product to the manufacturer for maintenance instead of doing the work itself at Air Force depots.

Convair modernization department crews inspected, modernized, and repaired the entire fleet of 383 B-36's as they rotated back to Convair from the SAC bases. SAM-SAC was completed in April 1957.

Several other programs involving the B-36 continued after the delivery of the last production airplane.

One such program was "Ficon" in which RB-36's were modified as carriers for RF-84 reconnaissance fighters. Designated GRB-36's, the modified bombers carried special trapeze apparatus in their forward bomb bays, for launching and retrieving the fighters while in flight.

The GRB-36 could take off and land with the RF-84 tucked into the bomb bay.

This program was to provide the Air Force with a fleet that could conduct long-range, high-speed reconnaissance missions over enemy territory with as much likelihood as possible for survival of both crew and equipment.

In September 1955 a modified B-36--later redesignated NB-36H--became the first airplane to carry an operating atomic reactor in flight.

While the reactor was not used to power the experimental plane, it was activated in flight to study problems of shielding the crew and equipment against radiation; to learn the effect of radiation on materials, the aircraft, and its systems; and to develop airborne nuclear instrumentation.

The NB-36H made 47 flights with the reactor in completing the first phase of the nuclear radiation effects program. The last flight was made March 28, 1957.

From: Convair
A Division of General Dynamics Corporation
Fort Worth, Texas

Convair's B-36 and B-58 programs merged briefly in 1957 to carry out one of the most unusual air transport operations in history. The occasion was the delivery of a B-58 airframe to Wright-Patterson Air Force Base, Dayton, Ohio, for static testing. The world's fastest bomber made the trip from Fort Worth partially tucked into the bomb bay of the world's largest bomber.

Carswell Air Force Base (just across the runway from Convair), first base to receive an operational wing of B-36's, flew its last B-36 on Memorial Day of 1958.

The bomber was on its way to Davis-Monthan Air Force Base in Arizona to join its sister ships in retirement.

On February 12, 1959, a B-36 from Biggs Air Force Base, El Paso, Texas, will make the last operation flight for the B-36 fleet. The B-36 will fly from Biggs to Fort Worth, Texas, where it will be retired from service. It will be installed at Amon Carter Field to remain as a memorial to the men who built it and to the men who maintained it and flew it.

(2-12-59)

From: Convair
A Division of General Dynamics Corporation
Fort Worth, Texas

BELIEVE-IT-OR-NOT ITEMS ABOUT CONVAIR B-36 BOMBER

Wingspan of the B-36 -- 230 feet -- was greater than first flight made by the Wright brothers' Kitty Hawk airplane in 1903.

The B-36 could carry a heavier load of bombs for a greater distance than any other airplane in existence. It has flown more than 10,000 miles, carrying 10,000 pounds of bombs halfway.

At high speeds, the B-36's ten engines (six reciprocating and four jet) developed the equivalent of more than 44,000 horsepower, roughly comparable to that of nine locomotives, or about as much horsepower as that generated by 400 average passenger cars.

Tremendous bomb load of the Convair B-36 was clearly indicated by the fact that a B-36 could haul 84,000 pounds of bombs--more than a wartime B-24 bomber weighed when fully loaded.

Volume of the B-36 bomb bay was 12,300 cubic feet, equivalent to the capacity of three railroad freight cars.

Volume of the B-36 bomber, nearly 18,000 cubic feet, was approximately the volume of three average five-room houses.

An automobile could easily circle the globe 10 times with the 21,000-plus gallons of high-test gasoline in the wing tanks of the Convair B-36.

More than 30 miles of wiring were required in the Convair B-36 electrical system, equal to the amount needed to wire 280 five-room houses.

A 600-room hotel, or 120 five-room houses, could be heated by the anti-icing equipment installed on Convair's B-36 superbomber. In an hour the giant plane's anti-icing equipment turned out 4,920,000 British thermal units.

There were 68,000 different shop-made parts and 11,000 different assemblies per B-36 bomber, not counting the thousands upon thousands of parts in government-furnished equipment.

(2-12-59)

From: Convair
A Division of General Dynamics Corporation
Fort Worth, Texas

CONVAIR B-36 AND RB-36 AIRPLANES -- FACTS AND FIGURES

The B-36's produced by the Fort Worth plant of Convair, a Division of General Dynamics Corporation, were the world's largest bombers. They could carry heavier loads of bombs for greater distances than any other aircraft in the world.

B-36's never "fired a shot in anger," but they played a major role in the United States' policy of "peace through airpower" during the troublous decade of 1948-58.

With delivery of the last B-36 to the United States Air Force on August 14, 1954, all the B-36 and RB-36 wings of the Strategic Air Command were fully equipped. They stretched from Maine to California and from Washington to Puerto Rico.

The Strategic Air Command is the global striking force prepared to conduct long-range aerial operations in any part of the world at any time.

Power and Performance

Latest models of the B-36 were equipped with four J-47 jet engines in addition to six 3,800-horsepower pusher-type reciprocating engines. Mounted in pairs in a "pod" beneath the outer wing panels of each B-36, the four jet units provided additional power for takeoff, improved the rate of climb, raised the service ceiling, and increased the plane's speed.

The Air Force disclosed that maximum speed of the B-36 was over 435 mph and that its service ceiling was over 45,000 feet. Maximum gross weight was approximately 400,000 pounds. Wingspan of the B-36 was 230 feet. Length of the plane was 162 feet; height, nearly 47 feet.

The Air Force returned earlier model B-36's to Convair, which installed four jet engines, snap-action bomb bay doors, and various other improvements, making these airplanes comparable in performance to the latest-model B-36's.

Under a major work program known as SAM-SAC, Convair-Fort Worth handled the modernization, inspection, and repair of the Air Force's entire fleet of B-36's from 1953 to 1957.

Convair-Fort Worth modified an undisclosed number of RB-36 reconnaissance bombers into carriers for RF-84 reconnaissance fighters, providing the Air Force with the capability for long-range high-speed reconnaissance. The "parasite" RF-84 sweptwing jet could be released and retrieved by the "mother" RB-36 while in flight. This airplane was known as the GRB-36.

RB-36 Described

Externally, the RB-36 reconnaissance airplane closely resembled the B-36 bomber; but internally, in addition to bombs, the RB-36 carried the large cameras and other special equipment needed in long-range high-altitude reconnaissance. In the RB-36 forward bomb bay, for example, were 14 different cameras including one with a 42-inch focal length lens. This is believed to be the largest photographic set-up ever designed into one airplane.

The B-36 bomber and the RB-36 reconnaissance airplane had the same defensive armament. They were protected by eight remotely controlled turrets containing a total of sixteen 20-millimeter cannon--more firepower than any other bomber. All turrets, except those in the nose and tail, were retractable.

The six R4360-53 piston engines drove 19-foot-diameter reversible-pitch propellers, which acted as a braking force during the plane's landing run. These three-bladed, hollow-steel props had a built-in thermal anti-icing system for all-weather operation.

Leading edges of the B-36's wing and tail were double-skinned to permit the flow of heated air for anti-icing. Heated air also defrosted the pilots' and bombardier's enclosures and the several sighting blisters.

The central portion of the 230-foot wing, which was mounted slightly forward of the midpoint of the fuselage, was seven and a half feet thick--high enough to permit installation of a catwalk so that crew members could climb into the wing for access to the nacelles during flight. Six wing tanks held more than 21,000 gallons of gasoline and 1,200 gallons of oil.

Interesting Performance Data

A B-36 flew more than 10,000 miles non-stop and non-refueled, dropping a 10,000-pound bomb load midway in the flight.

A B-36 dropped two 42,000-pound dummy bombs, or a total of 84,000 pounds, on a California bombing range. This was the heaviest load of bombs ever carried by one airplane.

B-36's flew the longest high-altitude (40,000 feet and above) non-refueled missions thus far recorded.

All B-36's had four-wheel main landing gears and a steerable dual-wheel nose gear. The eight 56-inch main wheels distributed the B-36's weight over a comparatively large area of the runway, enabling the plane to

operate from almost any airfield that could accommodate medium-size bombers.

Crews consisted of sixteen men, including five relief members. Crew members used a four-wheel scooter, operating on rails and running through an 85-foot-long pressurized tunnel, to travel back and forth between the pressurized forward and aft crew compartments.

This global bomber, in spite of its size, was controlled with ease through physical efforts of the pilot. The huge control surfaces--almost as large in area as the entire wing of a B-24 Liberator bomber--were operated without any power boost by spring tabs attached to the trailing edge of the control surfaces. The pilot operated only the tabs, which in turn moved the control surfaces by aerodynamic forces.

An experimental transport version of the B-36, designed XC-99, was developed for the Air Force. Flying heavy loads of high-priority cargo between various depots of the Air Materiel Command, the XC-99 established new cargo records with almost every flight.

The XC-99 could haul 400 troops or 100,000 pounds of cargo.

Development History

Convair made preliminary studies for the 10,000-mile B-36 bomber early in 1941, and a few months later received a contract to develop and build two experimental models. In 1942 the XB-36 project was transferred from Convair's San Diego division to its Fort Worth plant, shortly after this mile-long bomber factory was erected and began producing B-24 Liberators.

The XB-36 was first flown on August 8, 1946. The first production-model B-36 was flown August 28, 1947. First flight of the B model (with six 3,500-horsepower engines instead of 3,000) was on July 8, 1948. The first B-36D, equipped with four jet engines as well as six piston engines, made its first flight on March 26, 1949. The first RB-36 flew on December 18, 1949.

First flight of the F model (with 3,800-horsepower piston engines and four jet engines) was on November 18, 1950. First flight of the H model (with various refinements, including a two-station flight engineers' panel) was on April 5, 1952. The J model, with a maximum gross weight of over 400,000 pounds, made its first flight on September 3, 1953.

Translating B-36 facts into commonly known comparisons: its ten engines could develop as much horsepower as nine locomotives; its wing tanks held enough fuel to drive an automobile around the world 16 times; volume of the B-36 bomber (nearly 18,000 cubic feet) approximated the volume of three average five-room houses; more than 30 miles of wiring were required in the B-36's electrical system.

Current Convair Planes and Projects

Convair's Fort Worth plant is currently engaged in the production of the twice-the-speed-of-sound B-58 bomber. This program is being carried out under the Air Force's weapon system management policy, which places with Convair the responsibility for finding, developing, buying, and installing all of those items of equipment which previously have been

furnished by the government.

For several years Convair-Fort Worth has been doing research and development in connection with atomic-powered aircraft.

Current Convair planes, in addition to the supersonic B-58 bombers, include the following aircraft built at the company's San Diego plant: the Air Force F-102A "Delta Dagger" and F-106A and F-106B "Delta Dart" supersonic, all-weather, delta-wing interceptors; TF-102A proficiency trainers; and Convair 880 and Convair 600 commercial jet airliners.

Convair's Astronautics Division is engaged in research, development, production, and testing of the "Atlas" intercontinental ballistic missile as well as other classified military projects and research and design work looking toward space flight.

At Pomona, California, Convair produces "Terrier" supersonic surface-to-air guided missiles in quantity for the Navy Bureau of Ordnance and the U. S. Marine Corps. The Pomona plant also has the "Tartar," newest and smallest of the U. S. Navy's surface-to-air missiles, in pilot line production.

At Daingerfield, Texas, Convair operates for the Navy Bureau of Ordnance the little publicized but highly important Ordnance Aerophysics Laboratory, which includes a supersonic wind tunnel and a ramjet burner test center.

Other Convair Achievements

During World War II Convair produced over 33,000 military aircraft, including equivalent planes delivered as spares.

From: Convair
A Division of General Dynamics Corporation
Fort Worth, Texas

Convair designed, developed, and is manufacturing the first known intercontinental ballistic missile, the Air Force "Atlas."

Convair designed, developed, and built America's first turboprop (turbine-propellor driven) airplane, the Air Force XP-81.

Convair designed, developed, and built the world's first high-speed jet seaplane fighter, the Navy delta-wing XF2Y-1.

Convair designed, developed, and built the world's first successful vertical takeoff (VTO) fighter, the turboprop, delta-wing Navy XFY-1 "Pogo."

Convair designed, developed, and built the world's first turboprop seaplane, the Navy XP5Y-1.

Convair produced the nation's first twin-engine turboprop military transport, the Air Force YC-131C.

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