Boeing designed the B-17 for a contract that called for 200, and by the end of production, Boeing, Douglas, and Vega aircraft companies had built a total of 12,731! Of those, about 50 B-17 airframes survive today, most being on static display. Of those survivors, only about 9 of are flyable at any given time.

“Texas Raiders” was one of a block of 100 B-17’s contracted for in 1944 by Douglas Aircraft Company at their Long Beach, California plant after the Boeing and the Vega companies had already closed their B-17 lines. She was one of the last 20 B-17s built by Douglas, which makes her the youngest of the B-17s currently flying.

She was delivered on July 12, 1945, and by that time the USAAF did not have a need for B-17s. On July 21st of 1945, all 20 of those last Douglas B-17s were transferred to the U.S. Navy to serve as PB-1W Patrol Bombers. B-17G #44-83872 was assigned the Navy Bureau of Aeronautics Number (BuNo.) 77235.

Of the 22 PB-1Ws that were created, only 3 airframes survive today. Of those 3, ONLY “Texas Raiders” still flies, the other 2 PB-1Ws are stripped out hulks on display as B-17Gs at Barksdale and Eglin AFBs. This makes “Texas Raiders” the oldest airborne early warning and control (AWACS) aircraft currently flying.

Airborne Early Warning Electronics Development

In 1944, the Japanese started the Kamikaze attacks on U.S. shipping. This made long-range detection of aircraft a top priority for the U.S. Navy.

Project Cadillac

The Navy had been doing research and development on radio detection and ranging equipment, or RADAR, since the early 1920s. The inter-service program was an based at the Massachusetts Institute of Technology’s (MIT) Lincoln Radiation Lab (Rad Lab), along with the Naval Research Lab. Together, they demonstrated the ability to place RADAR in a Grumman TBM Avenger and transmit the video image via FM TV data link, to the navy fleet’s Combat Information Center (CIC). The battle commanders on the ship would assess the data and then react to it. Due to the FM TV signal’s very short
range, it was determined that command and control needed to be aloft with the RADAR as the commands could be sent via radio from a longer way out.

===Project Cadillac II===

“Project Cadillac II” was tasked with combining patrol, AEW, ECM, ASW, and hurricane hunter capabilities into a single aircraft. The aircraft would have its own CIC, with the RADAR operators and battle commanders onboard, making it a flying command post. The Navy had developed the first Airborne Early Warning and Control System (AWACS) aircraft!

==The PB-1W is Born==

The Navy used B-17s to modify into the PB-1W, and there would eventually be a total of 22 Navy owned B-17s fully upgraded to PB-1Ws.

The transformation took place by installing flooring and P-38 Lightning 300 gallon drop tanks on each wing. The 3,400 gallons of fuel gave the PB-1W the endurance of 22+ hours of flight time. The look-down RADAR’s rotating antenna was belly-mounted in a bulbous housing below what used to be the bomb bay. The RADAR relay transmitter, advanced version of Identification friend or foe (IFF), Radio direction finder (RDF), instrument landing system (ILS), and long range navigation (LORAN) were also installed at that time.

In the nose, the chin turret and Norden bomb sight were removed, while the auto pilot remained. The Bombardier’s station remained as a look out post. The navigator’s position was left unchanged.

In the Cockpit, the top gun turret and armor were removed, and the control panels were redesigned so that both aircrew had the same instrumentation for both redundancy and flight crew ergonomics.

The bomb bay had 2 RADAR consoles mounted on either side of the walkway with the operators facing aft. The CIC Officer was seated at the right rear of the bomb bay and the left side contained electronic and radio equipment. There were both plotting boards and status boards for the tracking of U.S. assets and enemy targets.

In the Radio Room, the radio operator's table was turned so that the operators faced outboard. The waist section had the guns and ball turret removed, and bench seats were installed at the waist windows for observers. Floating smoke buoys were carried to mark a position or target. A latrine and kitchen area with a stove was included and the putt putt, or APU, remained to provide auxiliary power. The tail guns, seat, and armor were removed, leaving room for spare parts or cargo.

The typical B-17 bomber crew was usually 10. Navy PB-1W flight crew consisted of 6 officers, (PIC, SIC, Nav, CIC Officer, 2 RADAR Operators) and 5 enlisted men (Plane Captain, 2nd Mech, Electronics Tech, and 2 Radio Operators).
Besides providing RADAR early warning, air controlled intercepts and airborne CIC for forces afloat and ashore, PB-1Ws flew as “picket aircraft”, extending the RADAR coverage far out into the sea. The secondary missions were: Scouting, ASW, SAR, ECM, weather recon, and dropping of practice anti-aircraft “drones”.

==Texas Raiders' Service History==

===VPB-101 / VX-4===

Patrol Bomber Squadron 101 (VPB-101) was stationed at NAS New York, better known as Floyd Bennett Field in Brooklyn, where BuNo 77235, would first serve. VPB-101 would eventually end up at NAS Quonset Point, Rhode Island, and be redesignated Airborne Early Warning Development Squadron Four (VX-4).

May 1947, VX-4 was tasked with the developing airborne early warning systems at Quonset Point, a base both on the front lines of anti-submarine warfare and on the cutting edge research in airborne RADAR and electronics systems. During this period, Fleet Admiral Chester Nimitz, the Chief of Naval Ops, flew on one of the PB-1Ws and was amazed at its capabilities.

The U.S. and Canada teamed to aggressively expand their early warning capabilities as Russia was escalating its nuclear weapons program. The commands would later become Continental Air Defense Command (CONAD), and later, the North American Defense Command (NORAD) of today.

*BuNo 77235's first real world missions were flying RADAR picket patrols off of the east coast between Newfoundland and Iceland and around the Azores to extend the coverage of the “Pine Tree Line” along the 50th parallel.* VX-4 flew in conjunction with the first two cold war RADAR networks, "Lashup" and "Permanent", and was integral in the nationwide Semi-Automatic Ground Environment (SAGE) air defense system. LASHUP included early warning patrols by Navy RADAR picket destroyer escorts with air search RADAR units and PB-1Ws with look-down RADAR guarding the seaward approaches to the northeastern United States. Later, they would construct the Distant Early Warning (DEW Line), and the Pacific and Atlantic Contiguous Barriers, which would consist of 10 fixed RADAR stations 300NM off of each coast, and all augmented with PB-1Ws.

Another milestone for BuNo 77235 came in April of 1953 when she was the testbed for the first Airborne Moving Target Indication (AMTI), which separates a RADAR target from “clutter”.

VX-4 flew with the tail code “XD”, and it is uncertain which aircraft number BuNo 77235 was assigned while there.

===VX-4 / VW-2===

VX-4 relocated to NAS Patuxent River, Maryland in 1948. While at “Pax River”, VX-4 was redesignated as Airborne Early Warning Squadron Two, (VW-2) where she still supported the Atlantic fleet. *This is where BuNo. 77235 spent most of her Navy Career.*
Airborne Early Warning Squadron One (VW-1) was stood up as the West Coast PB-1W squadron.

Along with early Warning duties, she was tasked with hurricane hunting missions over the Atlantic Ocean. In June 1953, she was overhauled, at the Naval Air Material Center (NAMC) at NAS Norfolk, Virginia and then transferred to VW-1 in February 1954.

===VW-1===

*Her last military assignment was with VW-1 Detachment A, the "Typhoon Trackers" based at NAS Atsugi, on the main island of Japan.* Ironically, this base was built in 1938 by the Japanese Navy to oppose the threat of American bombing raids. Besides AEW and C&C missions, BuNo 77235 flew missions to support the Joint Hurricane Warning Service, gathering weather data on tropical cyclones in the Pacific.

*It is from NAS Atsugi that BuNo. 77235 flew her only combat patrols, supporting Navy Task Force 77 and the forces fighting in the Korean War. She also flew missions to support the DEW (Distant Early Warning) Line*, extending the reach over the Pacific Ocean.

While assigned to VW-1, she was assigned the new tail code of “TE” and was aircraft number 12 (callsign: TE-12 or RAINPROOF 12).

===The End of an Era===

Lack of scalability and lack of a pressurized cabin made the Navy turn to the new Lockheed PO-1W Constellation, later redesignated the WV-1, to replace the PB-1Ws. “Whiskey Victors”, were more comfortable, but the PB-1Ws were considered much more favorable to fly by the pilots. The Connie would carry a crew of 22, had 6,500+ pounds of electronic equipment, and it was alleged to have been able to power a small city.

===Mustered Out===

January 15th 1955, BuNo 77235 was placed in Flyable Storage Status at NAS Litchfield Park, Arizona, (Phoenix Goodyear Airport) until stricken from the books on July 10, 1956. *She was one of the last 20 B-17s built, one of the last B-17s left in U.S. service at the time, and one of only 3 PB-1Ws saved from the scrapyard or scavenging.* She mustered out of the service having well over 3250 hours flying time accrued on the airframe.

*She is currently the only flyable PB-1W, which makes her the oldest AWACS aircraft in the skies, today.*

==From PB-1W to Aerial Surveying==
Aero Service Corporation of Philadelphia bought BuNo 77235 for $17,510.00 on October 1st of 1957. She was civil registered as N7227C, classified as “restricted use” by the F.A.A., and modified for use as a high altitude aerial surveying platform.

A large cargo door was installed on the port side of the aircraft, along with cargo flooring. At different times, N7227C had laser equipment, Doppler radar, a sensor pressure reference unit, blue spectrograph, Fairchild Camera and Instrument KC-4, T-11, and Wild RC-8 type 35mm cameras, a Bell and Howell 11Q strip camera, a gyroscopic camera mount, a magnetometer with a trailing cone probe, a Zenith photometer, and an airborne profile recorder probe in the nose installed. Western Geophysical, a company that specialized in using reflection seismology to explore for petroleum, bought Aero Service Corporation. Western Geophysical was later sold to Litton Industries.

Even though it had changed ownership twice, Aero Service Corporation, renamed ASC Inc, had remained in Philadelphia, and ended up selling N7227C to the Confederate Air Force on September 2, 1967.

**==N7227C Joins the Confederate Air Force==**

*The CAF, then based at Rebel Field in Mercedes, Texas paid ASC Inc. $50,000 for N7227C. N7227C was the first B-17 bought with the sole purpose of being restored as a warbird and maintained as a flying museum piece!* At the time, she was white with gray undersides and red striping. She also had a large U.S. flag on the tail. A Confederate States of America Battle Flag was added later.

**===Commemorating the 305th Bomb Group Triangle G===**

Four Star General Curtis LeMay, former commander of the Strategic Air Command and former Chief of Staff of the USAF, was consulted as to how the CAF’s B-17 should be painted. N7227C was camouflaged painted and with serial 41-24592, and flying in the colors of the 8th Air Force; 1st Bomb Wing/1st Air Division’s; 40th Combat Bombardment Wing; 305th Bombardment Group (Heavy) with the “Triangle G” tail code.

Major LeMay was the commander of the 305th BG (H).

**== Commemorating the 88th Reconnaissance Squadron in Tora act ==**

In December of 1941, two squadrons of B-17s were stationed in the Philippines when war broke out. The 38th and the 88th Reconnaissance Squadrons, flew 12 B-17s out of Hamilton Army Airfield in California enroute to the Philippines to augment those forces. They were scheduled to land at Hickam AAF, Hawaii on their first hop after flying most of the night, and arrived during the Pearl Harbor attack! On December 7th, land based RADAR operators had mistakenly thought that the Japanese attack force was the flight of B-17s arriving from California since they took the same track of approach. The Japanese attacked the unarmed B-17s that were now very low on fuel. The 12 bombers scattered, landing wherever they could. One opted for a golf course, some recovered at Hickam during the attack, some diverted to Bellows AAF, and others to Haleiwa Fighter Strip.

Texas Raiders has flown with the Tora group since their first show at Scholes Field in Galveston, in May of 1972. While doing the Tora act, Texas Raiders used to come in with
smoke trailing from the number 3 engine and had one main landing gear wheel down to simulate a shot up and damaged B-17 trying to get into Hickam AAF during the battle. For many years, CAF “Colonel” Van Skiles would actually touch the one wheel down and fly the length of the runway as had been done in the movie, Tora! Tora! Tora!

--- Commemorating the 381st Bomb Group Triangle L---

It was decided to not commemorate a particular aircraft during her first CAF restoration in the 1960s, so she was named "Texas Raiders" to honor Texas Veterans. Nose art was later applied, consisting of the Texas flag and “Texas Raiders” in white block lettering.

At some point, a scantily clad cowgirl with six-guns in hand, next to a Texas flag replaced the original nose art. A USAF B-1 bomber later copied the name and loosely copied the nose art as well. Texas Raiders has undergone many changes to put her back to B-17G configuration that flew with the U.S.A.A.F. in the European Theater of Operations (ETO).

She was assigned to the Gulf Coast Wing by the CAF in 1972, based at Scholes Field at Galveston, Texas before moving to Ellington Field in Houston. In 1977, the fully operational Sperry ball turret, a mock top turret, and tail gunner’s equipment were installed. Texas Raiders underwent a $300,000 restoration and rebuild project from 1983 to 1986, which saw the cargo door and cargo flooring removed, installing the bomb bay, operating bomb bay doors, and the bombardier’s chin turret. A $180,000.00+ interior overhaul and new paint job was completed in 1993, with the current nose art applied at that time.

Chosen for its colorful red trim, it was decided that Texas Raiders would be painted in the colors of the 8th Air Force, 1st Bomb Wing/1st Air Division; 1st Combat Bombardment Wing; 381st Bombardment Group (Heavy) with their “Triangle L” tail code. She represents the 533rd Bombardment Squadron's plane "hull number" X, and retains her proper Douglas factory serial number, 44-83872.

In 1942, the 381st Bombardment Group was formed at Pyote Air Force Base, Texas which was nicknamed the “Rattlesnake Bomber Base” due to the amount of rattlesnake dens in the area. After training in the U.S., the 381st was assigned to USAAF Station 167, Ridgewell Airfield in Essex, England, where they amassed a very impressive unit history. The 381st would later become the 381st Strategic Missile Wing, maintaining intercontinental ballistic missiles (ICBMs).

The original 381st BG B-17 coded VP-X was Boeing B-17F serial 42-29983, named "Iris", and later named "Uncle Sammy". She was lost on August 17th of 1943.

Douglas built B-17G serial 42-37719 was named “Dinah Mite” for a time and then “Hellcat”. She was lost on January 11th of 1944.

Next came a Vega built B-17G, serial 42-97503, named "Princess Pat". She was listed as salvaged on March 25th of 1945.
The last VP-X was Boeing B-17G serial 43-39300, which retired back to the United States in May of 1945. The 533rd Bomb Squadron’s callsign was “Tabby”, so these aircraft would have been known as “Tabby X-Ray”.

==Current status==

Texas Raiders has finished a lengthy and costly main spar replacement project, started in 2001 due to the Federal Aviation Administration (FAA) Airworthiness Directive # 2001-22-06, citing corrosion in the wings. TR was flown to south Houston's Hobby Airport (KHOU) where she would be based for over 5 years.

After testing, it was determined that Texas Raiders did indeed have corrosion pitting and cracks on the wing root hardware, so replacement parts had to be re-manufactured. It was further decided that since she would be out of service for an extended period that she should be completely refurbished. This project cost well over 500,000 dollars by the time she was airworthy again.

Texas Raiders returned to flight on October 13, 2009, and then debuted on static display at her "home airshow", Wings Over Houston, later that month.

March 2010 found Texas Raiders relocating to a spacious hangar at the Tomball Jet Center at David Wayne Hooks Memorial Airport (KDWH) in Tomball, Texas.

Texas Raiders rejoined the air show circuit in 2010, just in time to commemorate the 75th anniversary of the first flight of the B-17. She has traveled to the world renown Experimental Aircraft Association (EAA) AirVenture Oshkosh airshow, where she was featured in AeroShell Square. She has also participated in the Gathering of 'Fortresses at the Thunder Over Michigan air show, and as a tribute to the unit that she memorializes, appeared at the 381st Bomb Squadron's reunion.

In 2012, she participated in the airshow at Dyess Air Force Base. TR was hosted by the 436th Training Squadron, which is the unit whose linage traces back to the 88th Reconnaissance Squadron that Texas Raiders commemorates while performing in the Tora Tora Tora act.