***FRAUGHT WITH DESIGN AND PRODUCTION PROBLEMS, THE BREWSTER BERMUDA/ BUCCANEER MAY HAVE BEEN THE WORST AMERICAN AIRCRAFT OF THE SECOND WORLD WAR***

# STUDY in FAILURE

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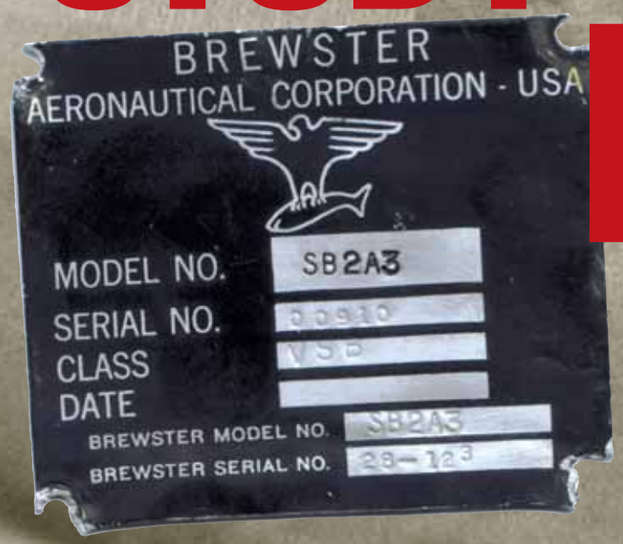


**Data plate for Brewster SB2A-3 BuNo 00910.**

**This view gives a good overall indication of the layout of the Buccaneer. This SB2A-4 was photographed on 20 May 1944 near Vero Beach with three 100-lb practice bombs under each outer wing panel. The type suffered numerous groundings such as one on 1 March 1943 when SB2A-4s were grounded for about 30-days because of hydraulic problems.**

By the first of July 1944, American and Allied forces were firmly established in France and on the start of a relentless march east towards Berlin. On the deadly Eastern Front, several massive Soviet armies were preparing for the push into Poland and Rumania. In the Pacific, the United States Navy had virtually destroyed the forces of Imperial Japan. In the United States of America, what had once been referred to as "the sleeping giant" was now fully awake and turning out an incredible variety of weapons to defeat the evils of the Axis powers.

All across America, new factories had been built — in what some would say "overnight" — while space in the pre-war factories was at a premium. Not only were the main suppliers of defense weapons completely full of contracts but so were the secondary and third-level suppliers of defense components. Looking back, it is rather surprising that aircraft that could be considered obsolete or second-line were also in full production — aircraft such as the Curtiss P-40 Warhawk and Bell P-39 Airacobra. Demand for these aircraft from countries like Russia was so great that the planes were being built almost alongside the latest advances in aviation technology.

The aviation industry had never been so well-off. In fact, a new generation of aircraft was on the drawing boards (such as the Consolidated B-36 Peacemaker) or actually being built — machines like the Lockheed Constellation. Money was pouring into these factories and unemployment was near zero as America built the weapons needed to defeat the deadliest enemy the world had ever seen.

However, among all this production and financial gain was one company that had entered the world of aviation just a decade earlier — entering with the highest hopes of creating a new generation of warplanes. Yet, the company was now teetering on the edge of disaster while also the subject of a Congressional investigation. After delivering the first US Navy monoplane with retractable gear fighter, the company was preparing to close its hangar doors.

Although it still struggled along — license-building designs from other companies along with subassemblies for a variety of aircraft — the Brewster Aeronautical Corporation of Long Island, New York, was looking directly at the bleakest of futures.

On 1 July 1944, after completing 735 F3A-1 fighters (the license-built variant of the Chance Vought F4U-1 Corsair), contracts for future Corsair production were suddenly terminated for what was called "poor management." Just a few short months later, the contracts for building Consolidated PBY-5 Catalina fuselage sections came to an end and Brewster — with its plants at Newark, New Jersey, Long Island City, and Johnsville, Pennsylvania — became merely a footnote in aviation history books.

During 1933, Brewster had made a most impressive debut. James Work purchased Brewster's small aviation division in 1932 for $30,000. Work had previously been employed by the Naval Aircraft Factory and Lockheed so he knew aviation and he knew he needed to build a skilled team. The Brewster Aeronautical Corporation thus became a completely separate business from the original Brewster & Co. Head engineer George F. Chapline, along with talented assistants Dayton T. Brown and R.D. MacCart, had created new designs that seemed to almost certainly lead on a long path to financial success. With this, the company's almost premature demise seemed difficult to comprehend.

Like rival Grumman, which had incorporated three-years earlier and was located virtually next door, Brewster began by making seaplane floats, pontoons, and subassemblies for other more established manufacturers. For example, Brewster's first work was building O2U floats for Chance Vought; followed by a Grumman contract to build wing and tail structures for the new FF-1 and other Grumman "barrels." Where Grumman was a totally new firm, the original Brewster could trace a long history of craftsmanship — dating back to 1810 with the manufacture of coaches that carried over to auto bodies after the turn of the 20th Century (in fact, the company's motto was "Carriage Builders to American Gentlemen").

If timing is everything, then Brewster entered the aviation business at the right moment. By the mid-1930s, monoplanes — despite the bias exhibited by conservative biplane adherents — obviously represented the wave of the future.

However, there were obstacles.

In addition to the Navy's biplane lobby, backed up by established firms such as Vought, Martin, Great Lakes, and Curtiss, the new monoplanes were more expensive. The more conservative opinions in the Bureau of Aeronautics considered that these aircraft could have less reliability while some pilots viewed the higher performance with skepticism.

Despite the opposition to newer designs, emergent companies such as Brewster and Grumman pioneered the development and introduction of the monoplane into the Fleet inventory. Accordingly, it wasn't long before the more established firms such as Vought and Douglas were following that lead.

Eventually Vought would produce the best Navy monoplane fighter of the era, but it would take the company and the Navy an inordinately long time to qualify the Corsair for operation off carrier decks. Meanwhile, the older companies that could not — or chose not to — compete (companies such as Loening, Great Lakes, Curtiss, and Berliner-Joyce) would either cease supplying any aircraft to the Fleet or be forced into only designing land-based naval aircraft.

The advent of monoplanes brought with them consolidation but, with the outbreak of the Second World War in Europe, it was apparent that the former diversity of types — each performing a different mission — would be incorporated into fewer types capable of performing multiple missions. With the rise of the monoplane, the aircraft carrier became the kingpin of the Fleet. Battleships suddenly took a backseat and the entire concept of how sea warfare was waged changed. But in 1935, all this was in the future.

Under Brown and MacCart, the Brewster Aeronautical Corporation came up with some very interesting applications for aircraft design. However, company management was inexperienced at best, and inept at worst. Production was slow and time squandered by incessant delay was to become the real reason for the demise of Brewster. As early as 1934, even as the Navy ordered the new monoplane Northrop BT-1 and Douglas TBD prototypes, the first a dive- bomber, the second a torpedo-bomber, it ordered the Brewster XSBA-1. A contract for one prototype was placed on 15 October 1934. The craft was to be a two-seater with an internal bomb bay that could accommodate a 500-lb bomb. Fitted with a Wright R-1820-4 Cyclone of 770-hp, the XSBA-1 flew on 15 April 1936 and was soon delivered to the Navy for extensive flight-testing.

But where the larger XTBD-1 was delivered in April 1935 for testing, the mid-wing two-seat XSBA-1 took an additional year for delivery. It its original configuration, the XSBA-1 had a top speed of 242-mph. Later, with a three-blade propeller and more powerful Wright R-1820-22 radial engine providing 950-hp for takeoff, the prototype hit 263-mph at 15,000-ft. At this time, the plane also received a revised tail section. Thus, it was the fastest dive-bomber in 1937. So, what went wrong?

Time, however, was being lost. While the press was proclaiming the performance of the new company's dive-bomber, along with its companion fighter —the XF2A-1 — the Douglas TBD-1 had already entered operational service.

Obviously, the Navy had high hopes for the Brewster dive-bomber, but when the service agreed to purchase 30 SBA-1s in late September 1938, the planes were to be built by the Naval Aircraft Factory and were redesignated SBN-1 (the Navy wanted Brewster to concentrate on the production of the Buffalo fighter). Perhaps the Bureau of Aeronautics realized that Brewster would have a difficult time making the deliveries.

By June 1939, the Brewster F2A-1 Buffalo was introduced to the Fleet but the SBA/SBN was another matter. Even with the Naval Aircraft Factory (NAF) building them, the first example did not come off the line until November 1940. The next 22 were not delivered until July 1941 with the final machine delivered in March 1942 and by that time they were obsolete.

Flight-testing of the SBN-1 was underway at Anacostia but halted in January 1941 when the windscreen began cracking during test dives. A few minor fixes didn't work and a new unit had to be designed. The 18 aircraft were flown to NAS Norfolk and assigned to a pool. In July 1941, four more were completed and two of these were retained by NAF for further testing

The majority of the SBNs went to Bombing Squadron 3 (VB-3) that was to serve aboard the USS *Saratoga* (CV-3), but the type did not receive operational status and most became trainers.

An aura of failure seemed to hang over Brewster. The F2A-1 Buffalo, which had been hailed as such a success story in 1939, grew sluggish as it grew heavier and even the NAF SBN-1s were associated with tragedy.