

WHAT'S UP DOC?

A SUPERFORTRESS FLIES AGAIN

After a 350,000-hour restoration, a Boeing B-29 Superfortress named *Doc* has returned to the skies. **Jay Selman** tracks one man's mission to breathe life into an old bomber

On July 17, 2016, a Boeing B-29 Superfortress named *Doc* took to the skies for the first time in over 60 years. It is one of only two flyable B-29s in the world and, according to programme manager Jim Murphy, it is unlikely there will ever be another one.

The restoration of *Doc* began as one man's dream – that man was Tony Mazzolini. His ambition would ultimately involve thousands of individuals (the majority of whom have been volunteers), dozens of corporations, millions of dollars, and over 350,000 man-hours.

Mazzolini is a USAF veteran who was a flight crewmember on Korean War-era aircraft. He first encountered the B-29 while in the military and developed a lifelong passion for

the majestic four-engine bomber.

In the mid-1980s, Mazzolini was working in communications for General Electric in the Cleveland area and, through a friend, was able to arrange a meeting with recording artist Tennessee Ernie Ford, who had served in the USAAC during World War Two as the bombardier on a B-29 Superfortress, flying missions over Japan. Chatting to this veteran intensified the passion within Mazzolini and after his visit he took a trip to Harlingen, Texas to see the B-29 operated by the Confederate Air Force (now the Commemorative Air Force). He later reflected that: "It was arguably the most advanced and innovative American aircraft that saw service in World War Two and there was something about that B-29 that truly captured my imagination."

Upon returning home to Cleveland he became a founding father of the Cleveland Wing of the CAF and made it his mission to find a B-29 to bring to the organisation.

WILD GOOSE CHASE

Mazzolini's quest to find a flyable B-29 led him on a search that spanned tens of thousands of miles. He continues, "I started networking and calling old bases where the B-29 has been stationed. Someone suggested the Aberdeen Proving Ground, a US Army facility located in Aberdeen, Maryland, but by then, they were all gone.

"Someone else suggested Naval Air Weapons Station (NAWS) China Lake in California. There, weaponry for all branches of the services was developed and tested,



At 9:01am, *Doc* lifts off from McConnell AFB's Runway 19L to rapturous applause. However, as soon as she became airborne the chip-detector annunciator light lit up, indicating the possible presence of metal chips in the oil. The crew flew a left-hand circuit and, as a precaution, landed back immediately. USAF



Above: **Doc** travelled 38 miles when removed from China Lake. via Jay Selman

Right: The revolutionary General Electric Central Fire Control system on the B-29 directed four remotely controlled turrets each armed with two .50 Browning M2 machine guns. The turrets on **Doc** are fully functional, albeit it with deactivated weapons.



and these weapons systems needed live targets. I understood that between 50 and 100 B-29s had been used as targets and I placed dozens of phone calls to NAWS, but every person I spoke with insisted that everything resembling a B-29 had been destroyed."

The wild goose chase continued. "One person suggested Disney Studios, as a B-29 had recently been shown in a Disney movie. Turns out it was the fine work of a special effects person. Someone else said that one might be in Kauai, Hawaii. I sent a guy out to the island. It was a great trip...for him, but there was nothing there that looked like a B-29.

"I called NAWS China Lake again, and again, they said, 'No B-29s'. Finally, I decided

to head out to California...maybe there were enough B-29 parts left to put together a complete aircraft. But at about the same time, a fellow who used to work at China Lake got wind of my search. He called saying there was, indeed, a B-29 intact there and he sent pictures!"

MILITARY NEGOTIATIONS

This was in 1987. Little did Mazzolini realise that the challenge of finding an intact B-29 would pale in comparison to the frustration of dealing with multiple government agencies. "The entire saga of my frustrations would be enough to fill a book" he says, "but I will say that General Russell Dougherty (Ret'd), former Commander-in-Chief of the Strategic Air Command, Chairman of the USAF

Association, and himself, a former B-29 crewmember, was instrumental in my mission to secure a B-29."

At this point, however, the aeroplane was technically the property of the US Navy, which led to another can of worms. "After dozens of phone calls to what seemed like everyone in the Navy, someone in the Judge Advocate's office finally gave me the good news...the Navy would trade the B-29 in exchange for a North American B-25 configured as a Doolittle Raider, for display at the National Naval Air Museum in Pensacola, Florida."

While Mazzolini welcomed this good news, it began still another wild goose chase that eventually led him to a B-25 located in Venezuela. "I bought the 'plane, paid for sea containers to ship the bomber to



Florida (through Hurricane *Andrew*), and purchased the components [such as a glass nose] necessary to modify it to the Doolittle configuration. [These parts actually cost more than the B-25 did.] Eventually, I trucked the 'plane up to Wycliffe, Ohio, where I rented a 10,000ft² building. After the owners forced me out of that facility, I later brought the entire project to Beaver Falls, outside of Pittsburgh,

This permission was eventually granted. Mazzolini prevailed, and in April 1998, he was finally the official owner of the B-29 named *Doc*. He is quick to point out that, despite the CAF's initial resistance to sharing the sky with a second B-29, the organisation in general, and the support team for *Fifi* in particular, have provided a wealth of technical support and abundant resources for Team *Doc*.



Above: **The authentically restored cockpit of N69972 nears completion in December 2015.** All Jay Selman unless stated

Below: **The flight engineer's station on *Doc*.**



Pennsylvania. Six years later, in 1998, the B-25 project was completed, and the Navy accepted the B-25 as a static display."

Meanwhile, Mazzolini had to overcome one obstacle after another. He found that the B-29 fell under the restrictions of the National Historic Preservation Act of 1966. Under the Act, any surviving B-29s, which were technically capable of carrying a nuclear weapon, were required to be rendered non-flyable. Obviously, one exception had already been made for *Fifi*, the CAF's B-29, and Mazzolini had to petition the Secretary of the Navy for an exemption for his aeroplane.

RARE SURVIVOR

This particular aircraft, officially designated as a B-29-70-BW, was originally registered to the USAAF as 44-69972 (MSN 10804) and rolled off the Boeing assembly plant in Wichita, Kansas in March 1945.

Tom Bertels, Marketing Steering Committee Chair for 'Doc's Friends', explains that in 1945, the B-29 was considered such a critical element of America's war effort against Japan that the design was evolving even as aircraft were rolling off the assembly line. "As a result, in order not to slow down production, the B-29s were built in a 'stock' configuration

and modified after they emerged from the plant. This particular 'plane was delivered to the Army Air Force requiring 110 modifications. As soon as 44-69972 saw sunlight, it was sent to Birmingham, Alabama for its first major modification."

In May 1945, it was assigned to the Third Air Force, and a year later was ferried to Peyote Army Air Force Base, Texas, where numerous B-29s were stored.

In 1950 the airframe was one of a number of B-29s pulled out of storage and readied for action in the Korean War. Bertels adds that there is speculation that *Doc* saw action in Korea, as evidenced by a seven-month gap in its records. It was eventually modified for radar calibration and, based in Rome, New York (later Griffiss AFB and now Griffiss Business and Technology Park) and flew radar defence evaluation flights between July 1951 and February 1955.

It was while in Rome that the bomber became known as *Doc*. The favourite film of the base commander's daughter was *Snow White and the Seven Dwarfs* and each of the seven B-29s on strength was therefore adorned with nose art depicting one of the Seven Dwarfs.

Following its service as a radar trials ship *Doc* was transferred to the 17th Tow Target Squadron at Yuma Air Force Station, Arizona and converted into a target tug for Air Defense Command.

However, for its final mission, *Doc* was transferred from the USAF to the US Navy and moved to the Naval Air Weapons Station at China Lake on March 14, 1956, to be used as a ballistic missile target for air combat training.

It is a matter of speculation as to how *Doc* alone survived without a scratch among the countless other B-29s that were destroyed by weaponry. What we do know is that 42 years after its supposedly last flight, *Doc* was moved from its final resting place, taking the first step towards what would be an 18-year journey to airworthiness.

RESCUED

The B-29 was to be taken to the United States Aviation Museum at Inyokern, California – but even that short trip from China Lake was not without controversy. Mazzolini notes: "Of all the agencies, [it was] the California Department of Fish and Wildlife [that] halted our progress because that particular patch of desert is home to the endangered desert tortoise. Towing the 'plane risked disrupting their habitat, so the department came up with a circuitous 38-mile route that wound through dry river beds, across private property, across railroad tracks and highways, and down runways, ending up at Inyokern Airport. We had to pay for environmentalists to walk in front of the landing gear. Altogether, it took some 75 people three days to move *Doc*. The irony is that this is the same area that the Navy was bombing the hell out of for years. Still, I appreciate the efforts of all those people who helped move *Doc*."



It was during the 1950s in Rome, New York that this B-29 became known as *Doc*. The favourite film of the base commander's daughter was *Snow White and the Seven Dwarfs* and each of the seven B-29s on strength was adorned with nose art depicting a different character.

With *Doc* now safely out of the desert, Mazzolini was able to give the B-29 a good inspection. It did not take long for him to realise that, as well preserved as the aircraft was, it still needed much more help than what was available locally. "I began reaching out to various contacts in hope of finding someone who could provide some much-needed resources," he says. "Someone suggested that since *Doc* was built in Wichita, it might be a good place to start looking. So I took a deep breath and made a cold call to Boeing-Wichita. Before long, I received a return call from Jeff Turner, Vice President and General Manager of Boeing-Wichita [now Spirit AeroSystems]. I explained what I wanted to do and to my surprise, he quickly responded, 'If you can get the plane to Wichita, we can help you.'"

RESTORATION BEGINS

In May 2000, Mazzolini began the process of dismantling *Doc* and loaded it onto seven flatbed trucks before the convoy set off for McConnell AFB in Wichita. Upon arriving, he found that Turner was as good as his word. An army of volunteers was waiting to begin working on the B-29, including Connie Palacios one of the thousands of 'Rosie the Riveters' who had worked in the Boeing factory during the war.

Turner told *Aviation News*, *Doc* represented a tremendous source of pride, having been built in this very facility half a century earlier. "I personally believed in Tony's dream, and it was obvious that we had access to infinitely greater resources than he did. We reached out to dozens of corporate sponsors who were happy to contribute expertise and material to the cause. Before long, we'd gotten the ball rolling."

Then 9/11 happened, and as quickly as momentum had been building, things ground to a halt. For several years, *Doc* sat in a hangar at the Boeing facility at McConnell AFB without much meaningful work being accomplished. In 2005, Boeing decided to sell off its Wichita business to Spirit AeroSystems, and Jeff Turner became the CEO of Spirit. As the worldwide aviation industry began to recover from the devastating aftershocks of 9/11, work picked up on *Doc*, and ancillary industries again began supplying financial and material support.

Nevertheless, *Doc* still required a financial investment that Mazzolini was unable to maintain alone. By 2013, he was out of resources and all that everyone had worked so long and hard for was in jeopardy. He again reached out to Turner, who had now retired from Spirit. In February 2013, a group



Tony Mazzolini speaks to the audience of invited guests at *Doc*'s maiden flight. It was the completion of a project he first envisaged three decades earlier.

of Wichita aviation enthusiasts and business leaders led by Turner formed 'Doc's Friends', a 501C3 non-profit board to manage the restoration project and help see it through to completion.

Turner says: "There was no way I was going to allow this project to fail, especially after seeing how Tony had poured his heart and soul into *Doc*, and had overcome such insurmountable odds. Wichita is recognised as the 'Air Capital of the World', due to several major aircraft manufacturing companies headquartered there. If there is any place in the country where we can generate local support for this project, it is here in Wichita. Our board consists of some people with real pulling power for attracting funding and resources."

ENGINE MODS

Doc's Friends breathed new life into the restoration project, and the aircraft surged towards the finish line. On September 18, 2015, all four of the B-29's Wright 3350 engines were started for the first time.

Doc has been fitted with hybrid 3350 engines, similar to those created for the CAF's B-29 *Fifi* and each producing 3,000hp. These powerplants have a 3350-95 front end and a 3350-26WD back end to improve overall cooling of the engine. ▶



The B-29 taxis out at McConnell AFB in readiness for its maiden flight.

However, after the successful engine tests *Doc* sat outside for most of the winter, which delayed the award of a certificate of airworthiness by the Federal Aviation Administration (FAA). Tom Bertels explains: “The engines use a very heavy weight oil, and below 50° [Fahrenheit] this oil is thicker than natural honey, which puts us in danger of damaging the engines.

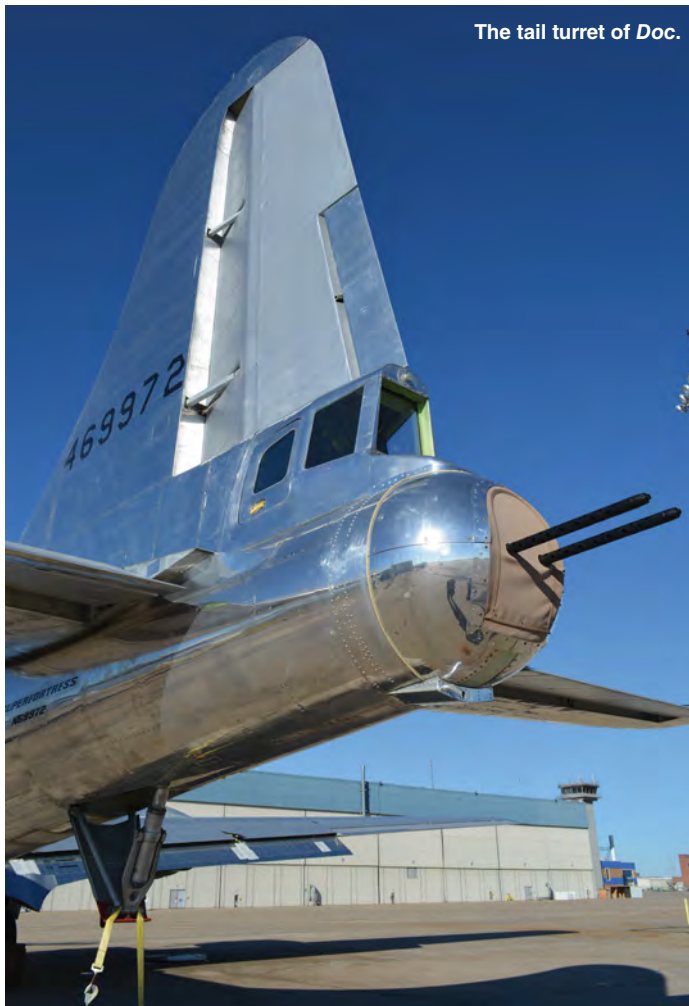
“In wartime operation, gasoline was pumped into the engine to thin out the oil for engine starts, but it does not require much imagination to recognise the potential downside of this procedure. During the past winter, we did not have a hangar in which to house *Doc* and Kansas winters can be quite cold. Part of the FAA certification process involves running the engines, so we had to wait until spring to accomplish this.”

Finally, on May 20, 2016, *Doc* received an FAA certificate of airworthiness and soon afterwards the bomber began low-speed taxi trials.

However, there was one last set of hoops to jump through. Bertels explained: “*Doc* was sitting on an active Air Force base, and civilian aircraft simply can’t come and go as they please. When the Navy transferred ownership of *Doc* to Tony Mazzolini, it became a civilian aircraft and was registered N69972 [in recognition of its original USAAF registration, 44-69972]. Permission had to be obtained from the Pentagon for *Doc* to take off from McConnell AFB and, more importantly, to return to land.”

MAIDEN FLIGHT

Finally, on July 17, 2016, with a crowd of invited guests that included Wichita Mayor Jeff Longwell and Connie Palacioz, now 91, Captain Charles Tilghman taxied *Doc* out to the runway at McConnell AFB.



The tail turret of *Doc*.

As with most first flights there were a few minor hitches. As the B-29 taxied out, the bomb bay doors sprang open and Tilghman had to bring her back to the ramp so the maintenance crew could close and lock them.

At last, at 9:01am, *Doc* lifted off Runway 19L to rapturous applause. However, as soon as she became airborne the chip-detector annunciator light lit up, indicating the possible presence of metal chips in the oil. Tilghman flew a left-hand circuit and, as a precaution, landed back on 19L. This indication is very common in this type of engine during early operations, but it doesn't necessarily mean

that it's 'making metal' – in fact there were no major issues with the engines or airframe. Tilghman was overheard saying: “It flies like a proper B-29.” That's pretty high praise from a no-nonsense B-29 expert.

It might not have been the perfect performance that everyone had hoped for, but considering it had been some 60 years since *Doc*'s last flight, the 'old girl' did OK. Although she is flying, there is still work to be done to get her ready for the end game in Mazzolini's grand plan... to have *Doc* tour the country as a flying, self-funding monument to history.

What began as one man's vision took nearly three decades, over a third of a million man-hours of elbow grease, and millions of dollars to reach fruition. Why did Tony Mazzolini do it? He explains: “It started with my love of aviation. I have a profound respect for ‘The Greatest Generation’, and I felt it was tremendously important to keep memories alive. We helped to restore the past for the future. *Doc* will serve as a flying museum to honour, educate and connect future aviators with a rich

example of aviation heritage. We do plan to offer rides, as other warbirds do, which will enable *Doc* to be fully self-funding under the terms of a 501C3 corporation. Just as important, we expect that the story of *Doc* will serve as an inspiration to all who have what seems like an impossible dream.”

During the post-flight interview, Mazzolini was asked if he would have undertaken this project if he had known about the challenges he would face. Without a second thought, he replied, “No!” Fortunately for *Doc*, Tony Mazzolini proved that the impossible is often, indeed, possible. **AN**



Safely on the ground after her maiden flight. Although the chip-detector light lit up no major issues were found with either the engines or airframe. Pilot Charles Tilghman was later overheard saying: “It flies like a proper B-29.”