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RECORD SETTING BENDIX TROPHY WINNER

Dakota Territory Air Museum's P-51 C Thunderbird

by Chuck Cravens



AIRCORPS AVIATION



Thunderbird taxis back from winning Bendix Trophy flight, September 3, 1949,
Jim Pyle photo, courtesy of Kevin Grantham



www.dakotaterritoryairmuseum.com



Update

A ten year old boy paints a picture of a P-51 Mustang on his bedroom wall and dreams that he is in the cockpit, swooping through a cathedral of clouds at 400mph. All who are intrigued by warbirds likely had this same fantasy at some point in our childhood, and for most, flying a Mustang will continue to elude us, even into adulthood. But this story is about more than wishful thinking, it is about how that same 10 year old boy made his dream a reality. Looking up at his wall, a young Warren Pietsch vowed that someday he would own and fly a P-51, but he couldn't do it alone.

Warren's father, Al Pietsch, owned Pietsch Flying Service in Minot North Dakota), and Warren was fortunate to grow up in the family aviation business. In the 1990's Warren took ownership of the company and renamed it *Pietsch Aircraft Restoration & Repair, Inc* which would eventually become *Minot Aero Center*. Warren's father Al, mother Eleanor, and brothers Gary and Kent were all pilots, and supported Warren's flying career early on. Many others were also encouraging: Gary Johnson, a mechanic and pilot who went to work for Warren's dad in 1964 and still works for Warren; Don Larson, chairman of Dakota Territory Air Museum; close friends Brian Sturm, Jay Blessum, and many others, had an impact on Warren's aviation story.

Over the years, as his experience and qualifications as a pilot expanded, Warren had the chance to fly warbirds like the Mustang with Dakota Territory Air Museum and Texas Flying Legends. He got that chance because people in the warbird industry like Casey Odegaard, Bernie Vasquez, Doug Rozendaal, Dusty Dowd, and Forest Lovely all provided friendship, knowledge, encouragement, or training. Thunderbird wouldn't have been possible for Warren without fellow dreamers like Gerry Beck and Bob Odegaard - it takes an industry to bring these aircraft to life.

In 1999, Warren purchased what he believed to be a damaged P-51A in Scottsbluff, Nebraska. It was only later that he discovered that it was actually "Thunderbird", the iconic blue P-51C flown by Jimmy Stewart in the Bendix Air Races. This discovery, and the incredible history of this P-51, began Warren's journey to restore Thunderbird as a tribute to its legendary owners. Jimmy Stewart, Joe DeBona, Jackie Cochran, and Jim Cook. Thunderbird is truly a people's airplane because of the many folks involved with the dream since the beginning, and those tasked with bringing the project to life.



Warren flies Lope's Hope 3rd, one of Dakota Territory Air Museum's beautifully restored warbirds. Photo by Scott Slocum

For every warbird, the question of “why this particular airplane” comes up. Once Warren learned that his purchase in Nebraska was Jimmy Stewart’s Thunderbird, the story alone was enough to inspire a tribute restoration. The modified P-51C is ripe with history from air racing, to coronation tapes and speed records. In addition to Jimmy Stewart, Thunderbird’s story includes household names in aviation and popular culture like Jackie Cochran, Joe DeBona, and even Queen Elizabeth II.

Once completed, Thunderbird will look and feel much different from any currently flying military schemed Mustangs. It isn’t meant to be a “time capsule” aircraft with every detail and rivet precisely faithful to the original. Instead, the Thunderbird of today will honor its predecessor by telling the Thunderbird story, and showing the public what the iconic aircraft looked like when it participated in the air races.

Much more of Thunderbird’s rich history will be told in subsequent updates through the families of the individuals associated with the aircraft, their memoirs, and with the help of historians at the Society of Air Race Historians. We are excited to have this incredible opportunity to be a part of the journey as a piece of history comes to life!



The Bendix Race

The striking color photo that begins this article documents Joe DeBona's triumphant landing after winning the 1949 Bendix Trophy Flight at the Cleveland Air Races. Thunderbird, with its gloss blue paint scheme, red Pegasus horse, and celebrity owners/pilots, continues to be one of the most recognizable P-51s in the world. Four hours, sixteen minutes, and seventeen point five seconds before this photo was taken, Joe had lifted off from the starting line at Rosamond Dry Lake, on the grounds of Muroc Air Force Base, (now Edwards Air Force Base).

For the first time, a simultaneous racehorse start was used in the 1949 Bendix Race. The reasoning behind the racehorse start was that it would make it easier for spectators in Cleveland to follow the race. Six racers started the Bendix. Lifting off with DeBona were two other P-51Cs (both entered by Paul Mantz Air Service), a DeHavilland Mosquito, a B-26C Marauder, and a Republic AT-12.

The racers climbed to reach favorable winds at altitude, and flashed east. The first to drop out was Vince Perron, flying the AT-12. He had made a slightly late start due to his engine not putting out full power as he began his takeoff. The issue was quickly resolved, but his engine troubles recurred over Colorado and he withdrew from the race at Grand Junction.

Lee H. Cameron, in the B-26, had fuel feed problems and had to land at North Platte, Nebraska. The problem was found in the pumps transferring fuel from the extra tanks in the bomb bays. The issue was repaired in slightly over an hour and he was off again, but he ended up finishing after the race deadline.

While some of their rivals had mechanical issues, the two bright red Paul Mantz Air Service P-51Cs and DeBona's cobalt blue Thunderbird streaked on, extending their lead as they went.

DeBona flew a precise course and was helped by tailwinds estimated to average between 29 and 33 mph. DeBona would finish the race first, and set the piston powered record for the Bendix Race in the process. The race covered 2008 miles and was to be the final time the Bendix was contested with a piston engined division, so DeBona's record of 470.136 mph still stands today.

Eleven and twelve minutes after DeBona crossed the finish line, the scarlet Mantz Mustangs finished second and third, flown by Stanley Reaver and Herman "Fish" Salmon respectively. Reaver averaged 450.221 mph and Salmon came in at 449.214 mph. The Mosquito flown by Donald Bussart, made a relatively routine, trouble free flight, averaging 343.757 mph, and landed at Cleveland in fourth place.



Early History

Thunderbird was a much modified P-51C that has no known Army Air Force serial number, and was built from parts from three different airframes. Leland and Martha Cameron bought the parts to build and modify Thunderbird through their business, Allied Aircraft of Chicago, Illinois.

The Civil Aviation Administration file for Thunderbird states, "THIS AIRCRAFT WAS ASSEMBLED FROM COMPONENTS OF OTHER AIRCRAFT OF THE SAME TYPE." The aircraft is designated on the form as a North American P-51C, Serial No. 2925. The serial number appears to be a made up number because it does not conform to any North American Aviation or USAAF serial number sequences for P-51s.

Before issuing registration to Cameron in 1948, The CAA questioned the bill of sale to Allied Aircraft that was dated February 11 of that same year. According to a research summary of the CAA files done by photographer and historian Malcolm Gougan, Cameron sent a letter of clarification to the CAA stating that the parts for the airplane were purchased from: the War Assets Administration, WAA Agents, U.S. Army or U.S. Navy, Wunderlich Contracting Co., and Sharp and Fellows, Inc.. The Wunderlich Contracting Company had purchased all the surplus planes stored at Kingman Army Air Base (Martin Wunderlich had paid \$2,780.00 for 5,483 planes)¹. Also as part of his clarification letter, Cameron attached an invoice for the fuselage.

Much later, as he researched for a book he co wrote, *Military Aircraft Boneyards*, Kevin Grantham had the opportunity to speak to Leland Cameron, about building up the plane, and Cameron confirmed that the fuselage of Thunderbird had in fact come from Kingman, Arizona.

¹ Nicholas Veronico, A. Kevin Grantham, Scott Thompson, *Military Aircraft Boneyards* (MBI Publishing, Osceola, WI 2000,) p40



44-10911 at Kingman Photo by William T. Larkins via A. Kevin Grantham. This photo appears on page 47 of The fine book *Military Aircraft Boneyards*, by Nicholas Veronico, A. Kevin Grantham, and Scott Thompson.



In the process of researching for their book "Military Aircraft Boneyards" Nick Veronico and Kevin Grantham were able to establish that there was only one P-51C (actually an RF6C-10-NT version) at Kingman. This C model Mustang carried AAF serial number 44-10911 and is believed to be the fuselage used for Thunderbird. All subsequent registration documents designate the airplane as a P-51C. The decision to designate the aircraft as a "C" model was likely the easiest option due to the major modifications done on the airframe, and the aforementioned fictitious serial number.

The CAA issued a registration certificate for N5528N to Cameron on April 5, 1948.

On April 7, 1948, Cameron sold N5528N to the Joe DeBona Racing Company, which was a partnership venture between Joe Debona and famous actor and WWII B-24 pilot, Jimmy Stewart.

DeBona and Stewart



Jimmy Stewart and Joe DeBona show all the parts removed to lighten Thunderbird for racing. Life magazine photo by Allan Grant.



In the next several months after the sale from Cameron, Thunderbird was prepared for the upcoming 1948 Bendix Trophy Race. Unnecessary equipment such as the self-sealing fuel cells, the fuselage fuel tank, and much more., were removed to save weight. Streamlining efforts like installing fairings over the gun ports, and filling the airframe seams with putty and sanding them smooth were all done to increase speed. An experimental high speed propeller tested by North American was also acquired and installed on Thunderbird.

Thunderbird was then finished with 48 coats of primers and a beautiful glossy cobalt blue paint. Polished to a high shine, the paint job reportedly added 8 mph to the speed of the aircraft.

DeBona entered the 1948 Bendix but dropped out enroute, landing at Norwalk, Ohio short of fuel. It must have been a great disappointment to have to land just 63 miles short of the finish line at Cleveland.

In December of 1949, after the triumph of that year's Bendix win, Jimmy Stewart (sole owner, for Joe De Bona Racing Co.) sold Thunderbird to Jacqueline Cochran of Indio, California, for "\$1.00 and other consideration.", and she went on to set 3 world speed records with the aircraft.

Jackie Cochran had owned Thunderbird for just over three years when, on 20 January 1953, she sold it back to Jimmy Stewart for "\$1.00 and other consideration."



Joe DeBona and James M. Stewart with Thunderbird in April 1949, before the Bendix win. (Allan Grant/LIFE Magazine)



April 1949, Joe DeBona polishes "Thunderbird," with Paul Mantz and his P-51C NX1204, "Latin American" in the background. (Allan Grant/LIFE Magazine)



In successive updates, we'll examine the history of Thunderbird after Jackie Cochran acquired it. Other fascinating aspects of this project will also be detailed, from the records set, to the support of many in the aviation, warbirds, and air racing communities.

The project is the culmination of a dream by Warren Pietsch who has long been fascinated by the history of Thunderbird. That dream is to create a P-51C that represents Thunderbird's unique history, recognizes the many people who have influenced and helped Warren, in addition to highlighting the rich story of Thunderbird's celebrity owners and record setting flights.

Thunderbird isn't intended to be a rivet by rivet restoration but rather a "time capsule" restoration capturing a period in Mustang history not represented by currently flying P-51s. The most important goal is to make this flying piece of history a people's airplane that can be enjoyed by everyone, from Mustang and air racing enthusiasts, to air show attendees.

There is a great deal more historical information to relate, which will be related in the next update. Besides Jimmy Stewart and Joe DeBona, household names in aviation and popular culture like Jackie Cochran, and even Queen Elizabeth II are part of Thunderbird's story.

Restoration Progress

In 1999, Warren Pietsch became involved in bringing Thunderbird back to life.

Twenty some years later, after years of gradual work on the P-51C, Thunderbird arrived at AirCorps Aviation as a fuselage, empennage and a set of wings. The airframe was largely structurally complete, but still needed systems, firewall forward installation, wiring, and final paint and finish work to be completed. The remaining work will be done to AirCorps' world class standards, and thanks to the parts Warren has collected over the past 15 years, the timeline to complete Thunderbird will be much shorter than a typical warbird restoration.



Thunderbird on jacks at the AirCorps Aviation hangar.



Warren brought Thunderbird to AirCorps Aviation as a project that had much of the basic work completed on the wing, fuselage and empennage. The goal now is to install all the systems, finish the sheet metal work, and get the Mustang in the air and ready for the distinctive Thunderbird cobalt blue paint scheme.

One of the real challenges in this restoration is determining the precise paint color that was used in 1949, and duplicating all the smaller exterior markings on the aircraft. While there are photographs from Thunderbird's heyday, color photographs are not always an accurate match to original paint colors. Additionally, not every area of the airframe is visible in the photos available to us, which makes it difficult to accurately verify marking placement and decals. Any help locating additional photographs would be very much appreciated.

Wing Modifications

Mustang enthusiasts will notice the wing and some of the lower engine cowling chosen for this project is from a P-51D and does not match the C model fuselage. The decision to use the D model wing was ultimately made by Warren, and because of this change the lower cowl had to be changed from the 3 piece B/C model to the one piece D model skin, due to the increased cant of the D model wing. The position of the landing light was also moved from the wing leading edge to a location inside the landing gear well to produce less drag with the gear retracted.

One of the aspects affecting the choice of using a D wing is related to both safety and handling qualities. The later model D wing has more robust and reliable landing gear and gear door systems. The B/C wing's clamshell doors were lighter and had a single uplock, while the D gear doors had multiple locks that made cycling the gear more reliable. Additionally, there had been documented instances of the B/C doors tearing off in high speed dives, so North American reengineered an updated system for the D model.

The early model clamshell doors on the original Thunderbird may have been what caused the aircraft to crash in June of 1955 when they closed out of sequence, and jammed the main landing gear. The owner at the time, Joe Cook, elected to bail out rather than risk a landing in the wet winged Mustang with the gear jammed.

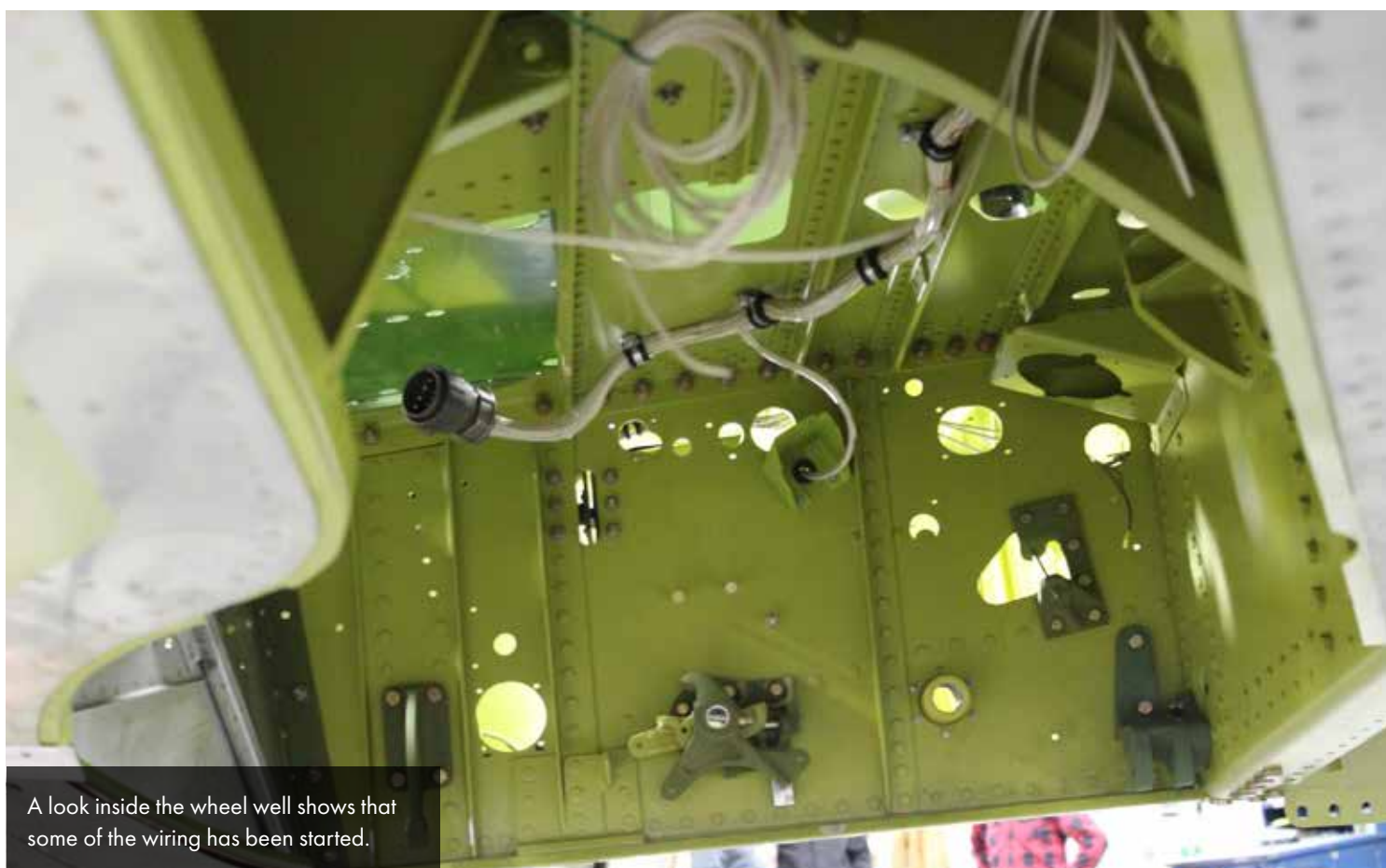
In addition to improved gear doors, the D model wing also has stronger and more effective ailerons. A seal added to the leading edge of the ailerons reduced stick pressure during hard maneuvering.

With all of the technical considerations and improvements that were made to the D wing, electing to use this later style on Thunderbird made sense on paper. However, Warren also has extensive real world experience flying many different C and D model P-51s, and ultimately made the final decision because he prefers the flying characteristics of the D wing.

Fortunately, fitting a D wing on a B/C Mustang had been pioneered and documented by North American Aviation during the war. It was an idea that was built and tested, but never produced. The documented existence of this factory tested prototype made obtaining major alterations approval from the FAA much easier.



Wing Modifications





Thunderbird's landing gear is original to WWII, and has never been installed on an aircraft until now.



Mark readies the wing for the left aileron.



One of the distinct features of Thunderbird was that the gun ports were replaced with a smooth aluminum skin to reduce drag. Mark works at fitting that piece of wing skin.



Lower Fuselage

One of the areas on a Mustang that takes a great deal of time in a restoration is the lower fuselage that is made up of the air scoop, doghouse, radiator wrapper, and exit duct. These components house the radiator, oil cooler and exit door. Luckily with Thunderbird, we had original parts for several of these major elements that required only slight restoration before being fitted to the airframe.



Here is a good view of the forward part of the original scoop assembly (forward) and doghouse (aft).

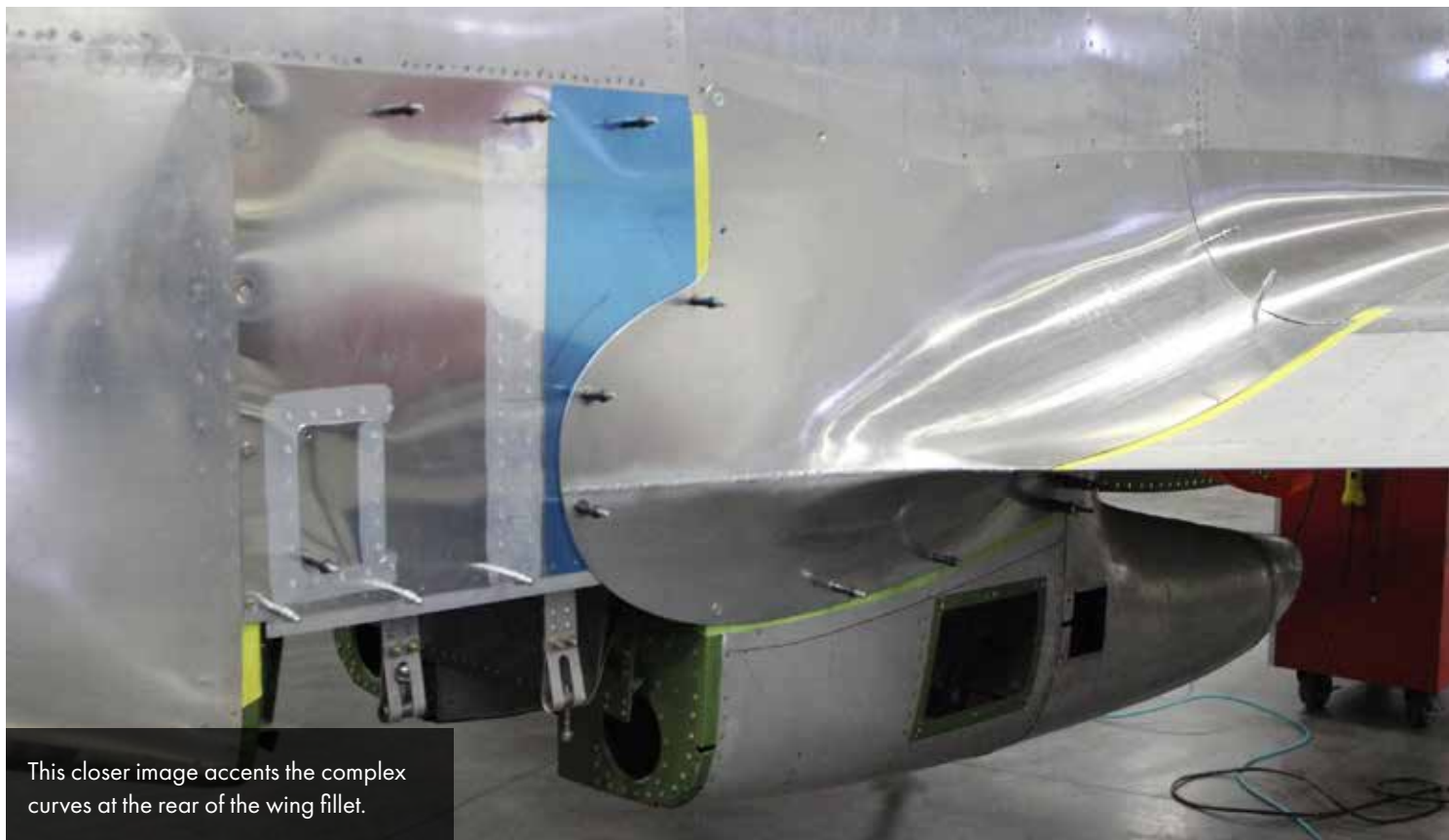


Wing Fillets

Randy Carlson of *Carlson Metal Shaping* has done outstanding work assisting us with wing fairings and complex metal shapes. He is a specialist in the complexity of forming these tightly compound curved pieces. This month we will highlight his work on the wing fillets that blend the shape of the wings into the fuselage for a decrease in interference drag.



The compound curves of wing filets are always a challenge to fabricate or restore on any WWII fighter.



This closer image accents the complex curves at the rear of the wing fillet.



Randy does a great deal of trimming and test fitting as the wing fillets are made.



Parts

Organizing parts so that restorers can easily find them and have everything they need for a particular assembly speeds the restoration process dramatically.



Work done in advance of wiring, kits for components, and rolling parts shelves dedicated to installations, helps expedite work on Thunderbird at the AirCorps Aviation hangar.





Aileron cable subassembly parts sit on a bench with the control stick torque tube they'll eventually be connected to.



An aileron cable pulley assembly awaits installation.