



Sept/October 2022

SEPTEMBER/OCTOBER



Dakota Territory Air Museum's P-47 Update

by Chuck Cravens

AIRCORPS AVIATION



The P-47 has been moved to the AirCorps Aviation hangar at Bemidji Regional Airport. It looks spectacular sitting outside in the sun! Aaron Prince photo



www.dakotaterritoryairmuseum.com



Update

The major news this month is the P-47's move out to the airport hangar. Work on the wings, cowl, and fuselage continued as the restoration neared completion.

Fuselage

This month details were added to the instrument panel. The restoration guys continued work on the underside of the fuselage and fuel system.

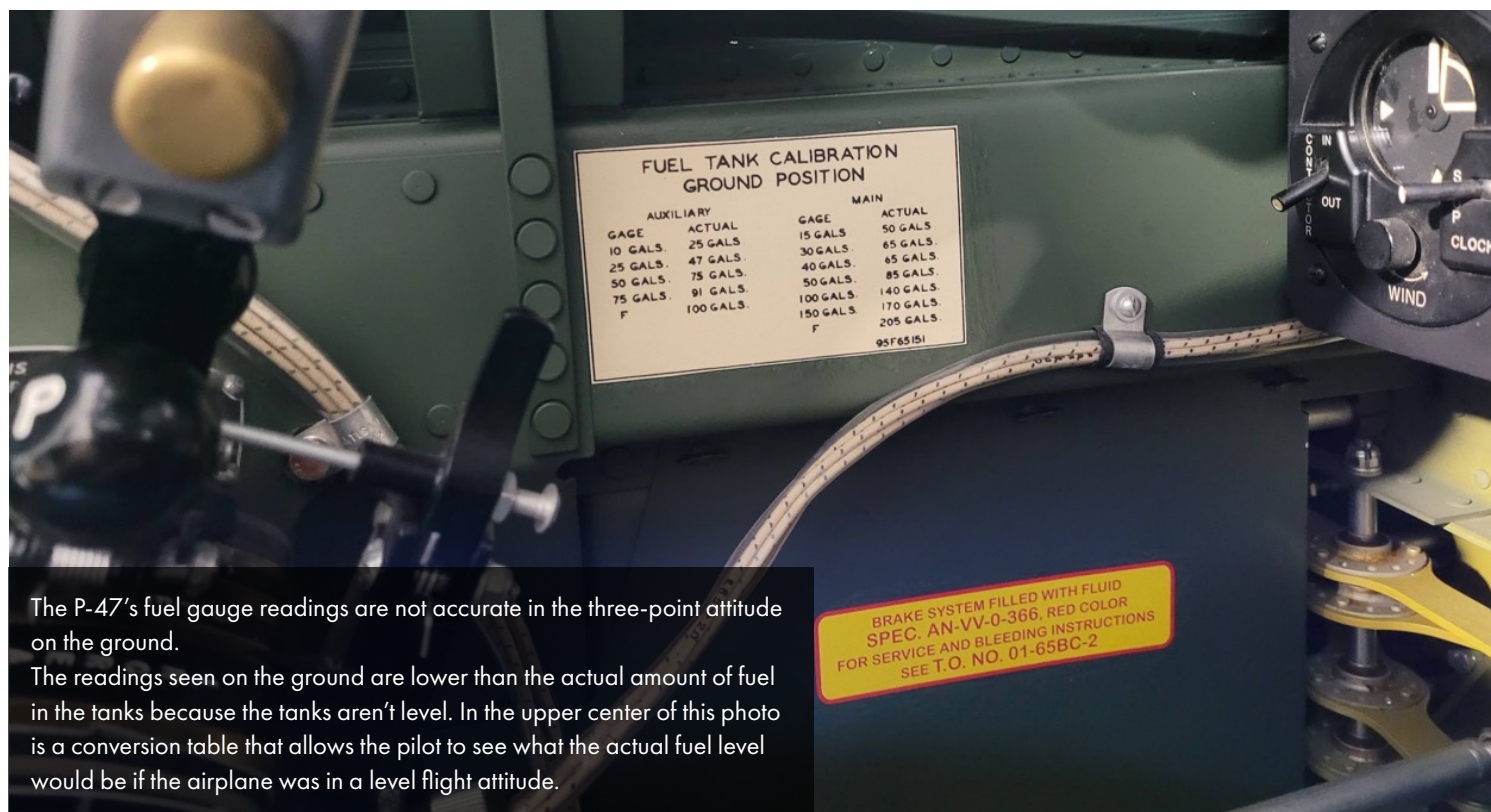


Aaron has added instrument limit markings (colored bands around the circumference of the gauges).

For example, the red arrow on the airspeed indicator (left edge, center) marks the airspeed of 500 mph that should not be exceeded in flight (the P-47 would have to be diving to exceed that speed). The yellow arrow on the turbosupercharger rpm gauge (slightly right of center, bottom) shows the rpm limit of the turbosupercharger. The green, yellow, and red arcs mark safe, caution, and unsafe RPMs respectively.



Some other limit markings shown here are those on the oil temperature and pressure gauge (center right), the cylinder head temperature (lower right), and the tachometer (center).



The P-47's fuel gauge readings are not accurate in the three-point attitude on the ground.

The readings seen on the ground are lower than the actual amount of fuel in the tanks because the tanks aren't level. In the upper center of this photo is a conversion table that allows the pilot to see what the actual fuel level would be if the airplane was in a level flight attitude.



The gunsight is lit up.



These are the fuselage crash skids.



Here is another view of the fuselage crash skids.

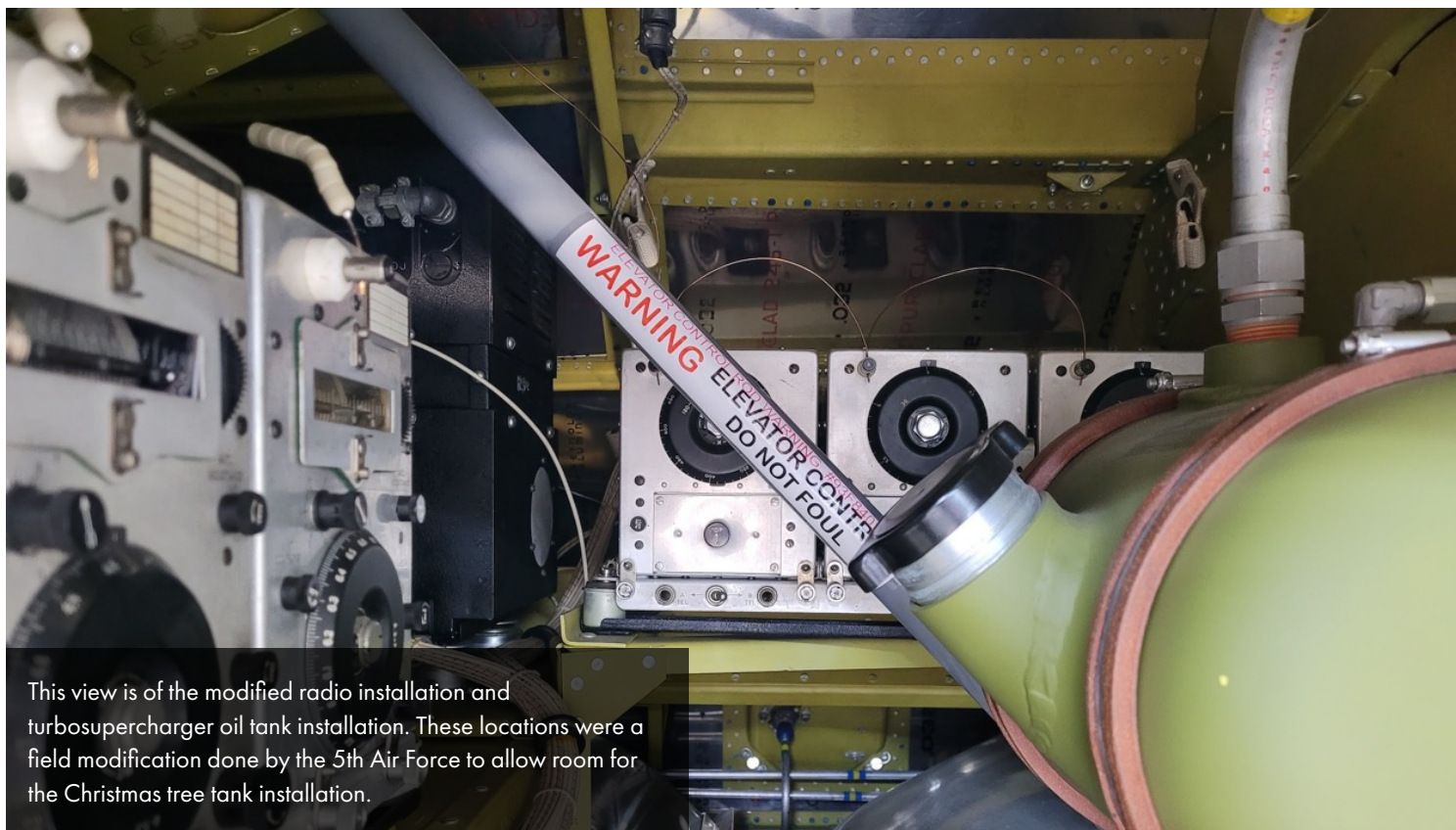
In the July/August Update, I wrote about the strength and damage resistance of the P-47. Part of the reason for that damage resistance was the crash skids built into the fuselage. The skids themselves were covered by skin sections at the time of the July/Aug update, so I included an engineering drawing at that time. This month it happened that the skids were clearly exposed for a good photo.



The rubber connections between air ducts and the intercooler and turbosupercharger have been installed.



Tail surfaces to fuselage fairings are installed permanently.



This view is of the modified radio installation and turbosupercharger oil tank installation. These locations were a field modification done by the 5th Air Force to allow room for the Christmas tree tank installation.

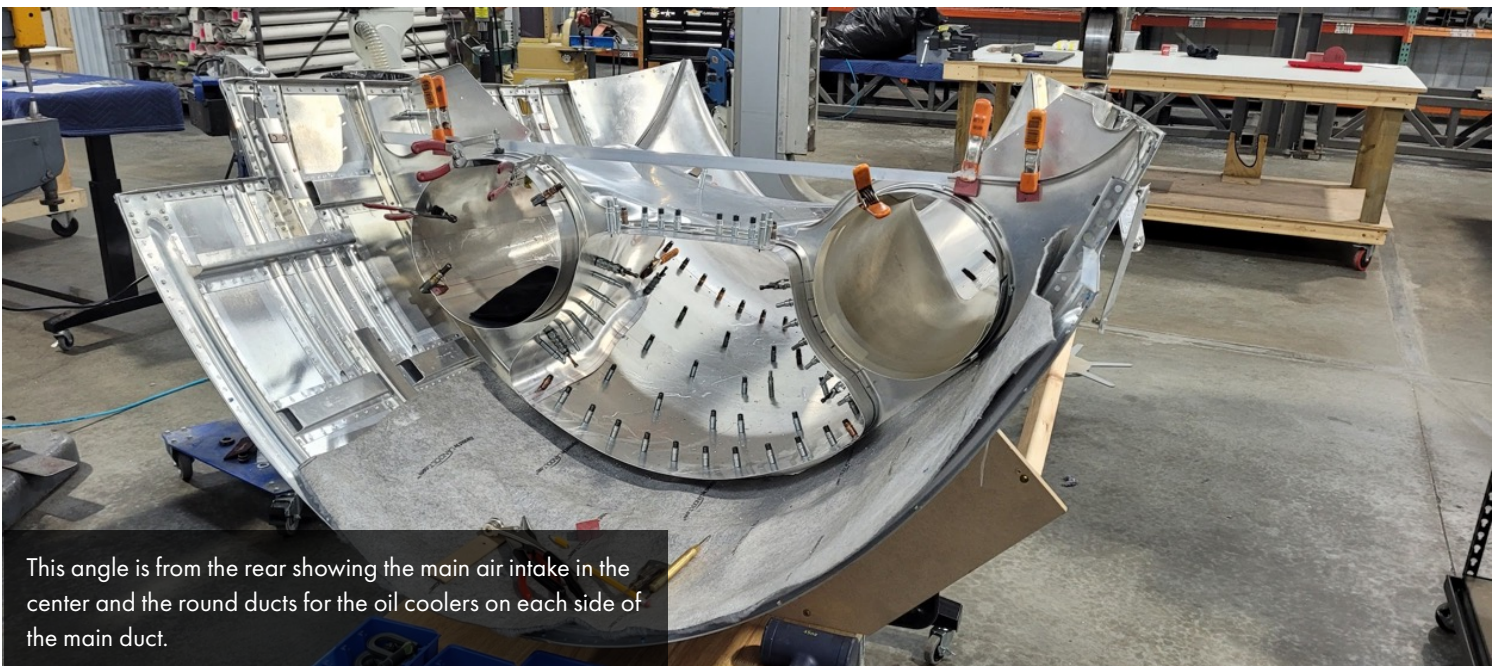


Cowl

The very complex P-47 cowl is getting closer to completion. It has been a challenging task!



This view shows how Mike is forming the main air intake ducting in the lower cowl.



This angle is from the rear showing the main air intake in the center and the round ducts for the oil coolers on each side of the main duct.



In this photo from last April, the round oil coolers and entry to the main air intake can be seen below the engine. The ducting in the lower cowl will connect to these openings.



Here is a close-up view of one of the cowl latches.



Completed cowl sections await their move to the hangar.



Fitting the cowl isn't an easy job.



One of the under-cowl components that the cowl must fit around is this bell-mouthed tube that carries cabin heat and defroster air.



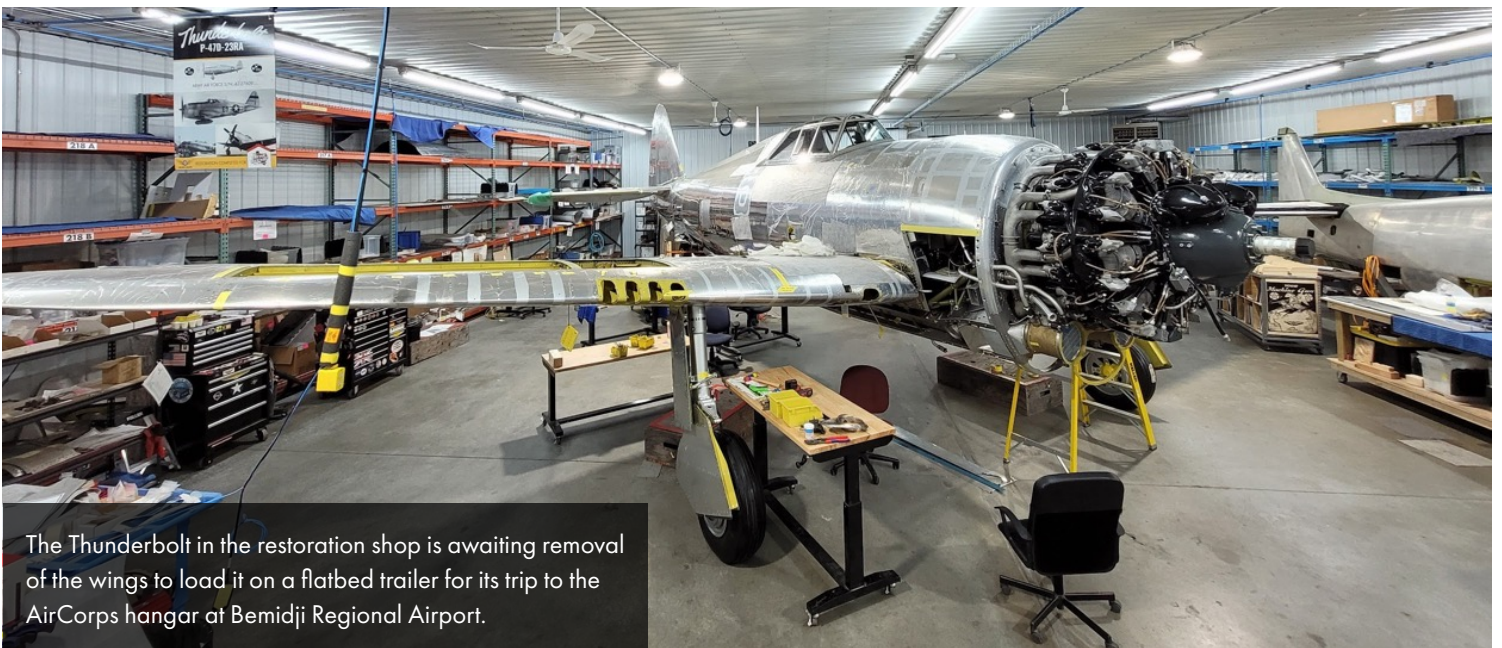
This is the intake end of the cabin heat/defrost air tube.



This notch in the lower cowl former allows clearance for the cabin air/defroster tube.

Wings

The primary work on the wings this month was finishing the gun installation.



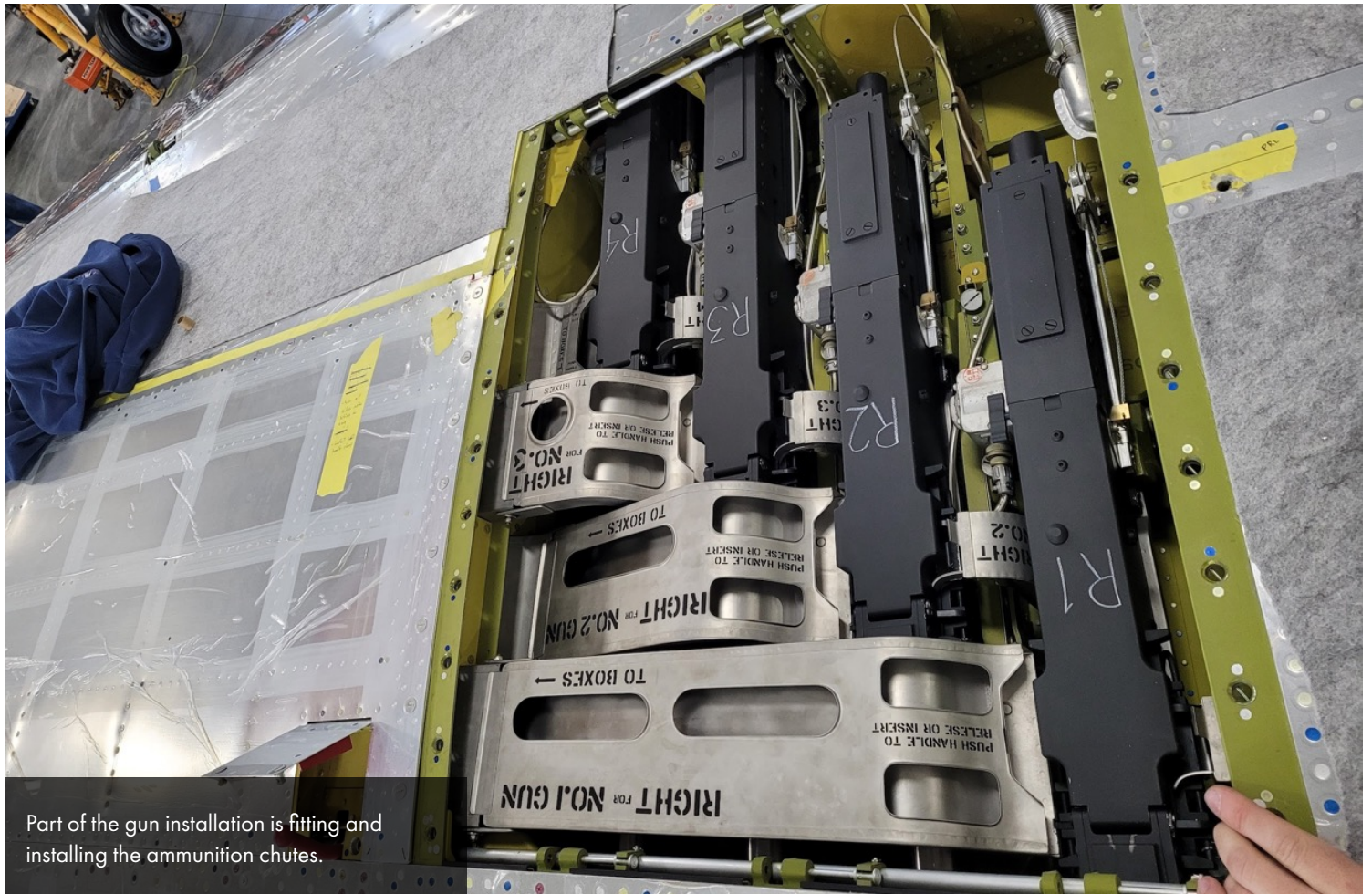
The Thunderbolt in the restoration shop is awaiting removal of the wings to load it on a flatbed trailer for its trip to the AirCorps hangar at Bemidji Regional Airport.



The pitot tube is positioned just outboard of the ammunition bay.



Theo has finished installing the non-functional replica Browning M2s. The four guns per wing gave the P-47 great firepower.



Part of the gun installation is fitting and installing the ammunition chutes.



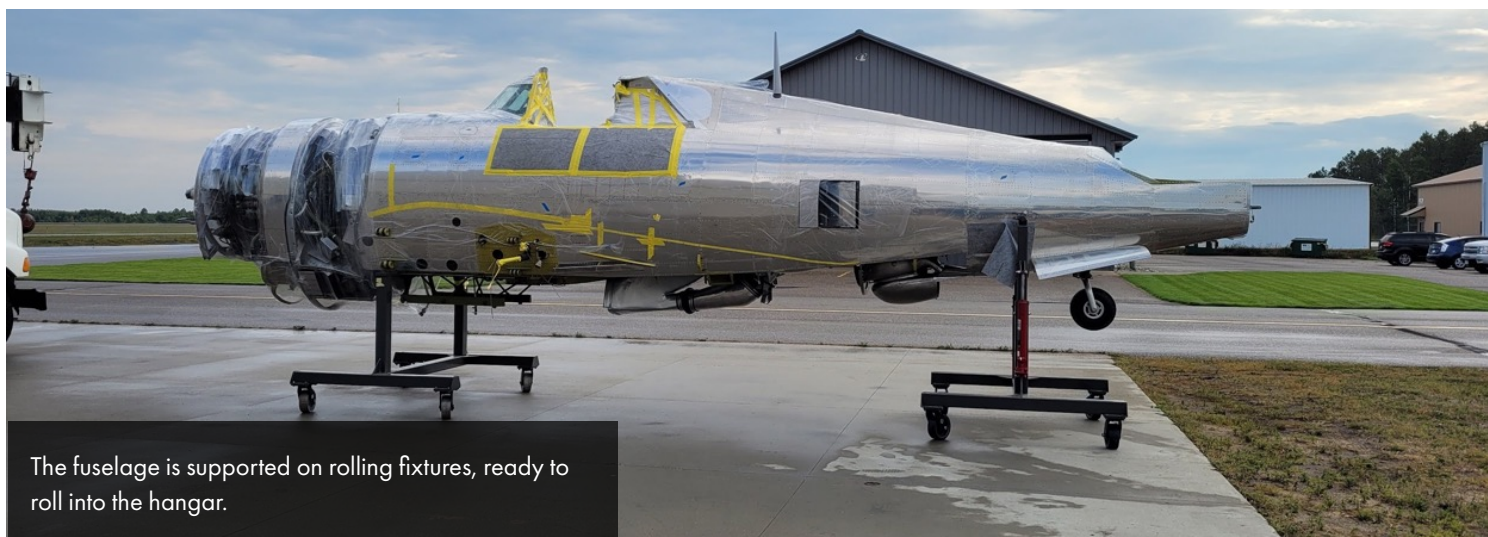
The gun barrels protruding from the P-47 wing look intimidating.



Jacob has been fabricating the leading edge skin sections that cover the gun port area.

Hangar Move

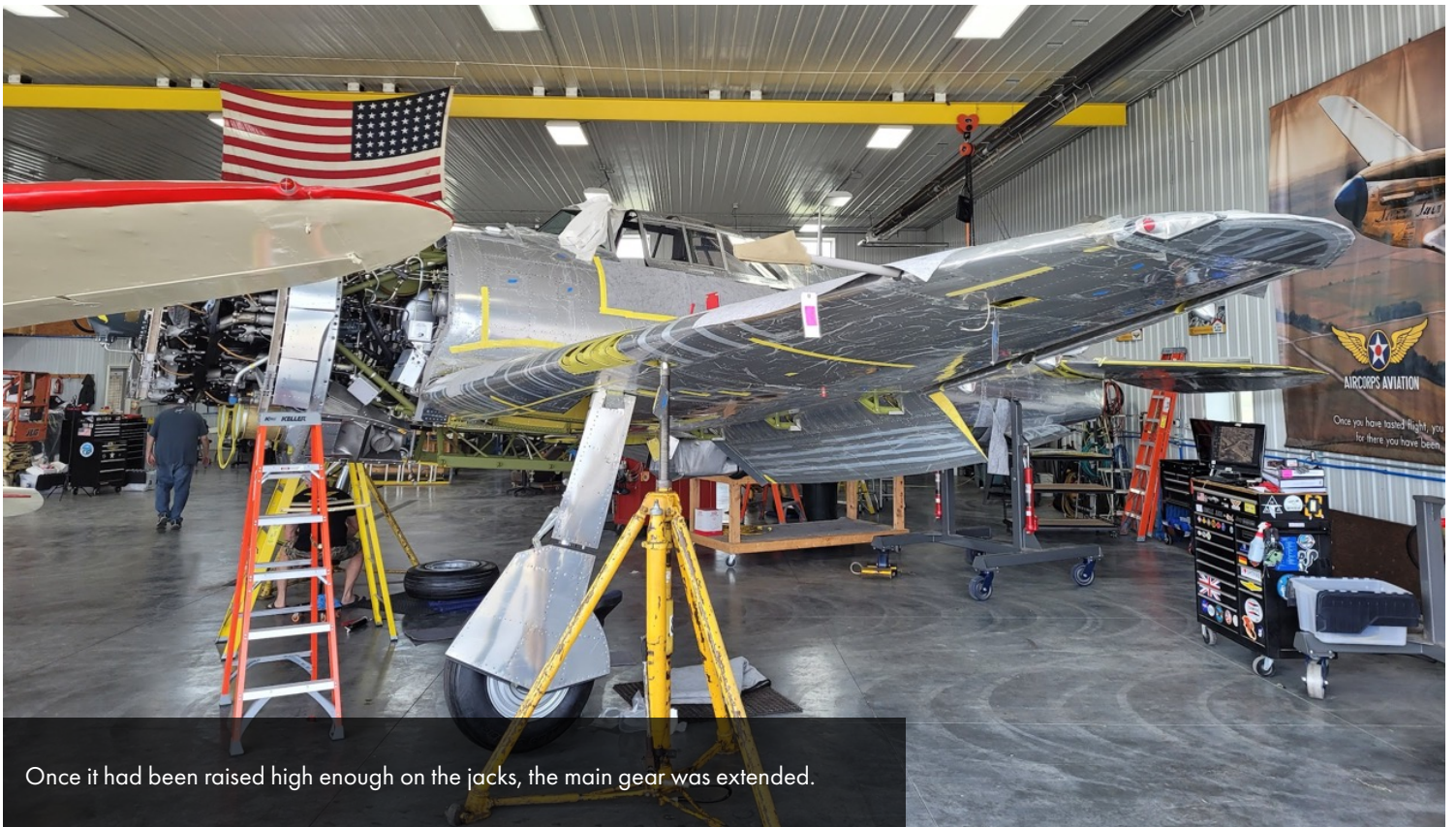
This month, a major milestone in the P-47 restoration was reached as the Thunderbolt was moved out to the AirCorps Aviation hangar to complete the final stages of the restoration.



The fuselage is supported on rolling fixtures, ready to roll into the hangar.



Once inside, the P-47 was mounted on jacks positioned at the wing jacking points.



Once it had been raised high enough on the jacks, the main gear was extended.



With the main gear down, the jacks were removed and a tow bar attached.



While the Thunderbolt certainly gleams in the sun, the aluminum skins have not been polished. They are mill-run sheets just as they came from the factory rollers.



The cowling, prop, and a few skin panels on the secondary cowl and underside of the fuselage will bring the P-47 very close to its test flight.

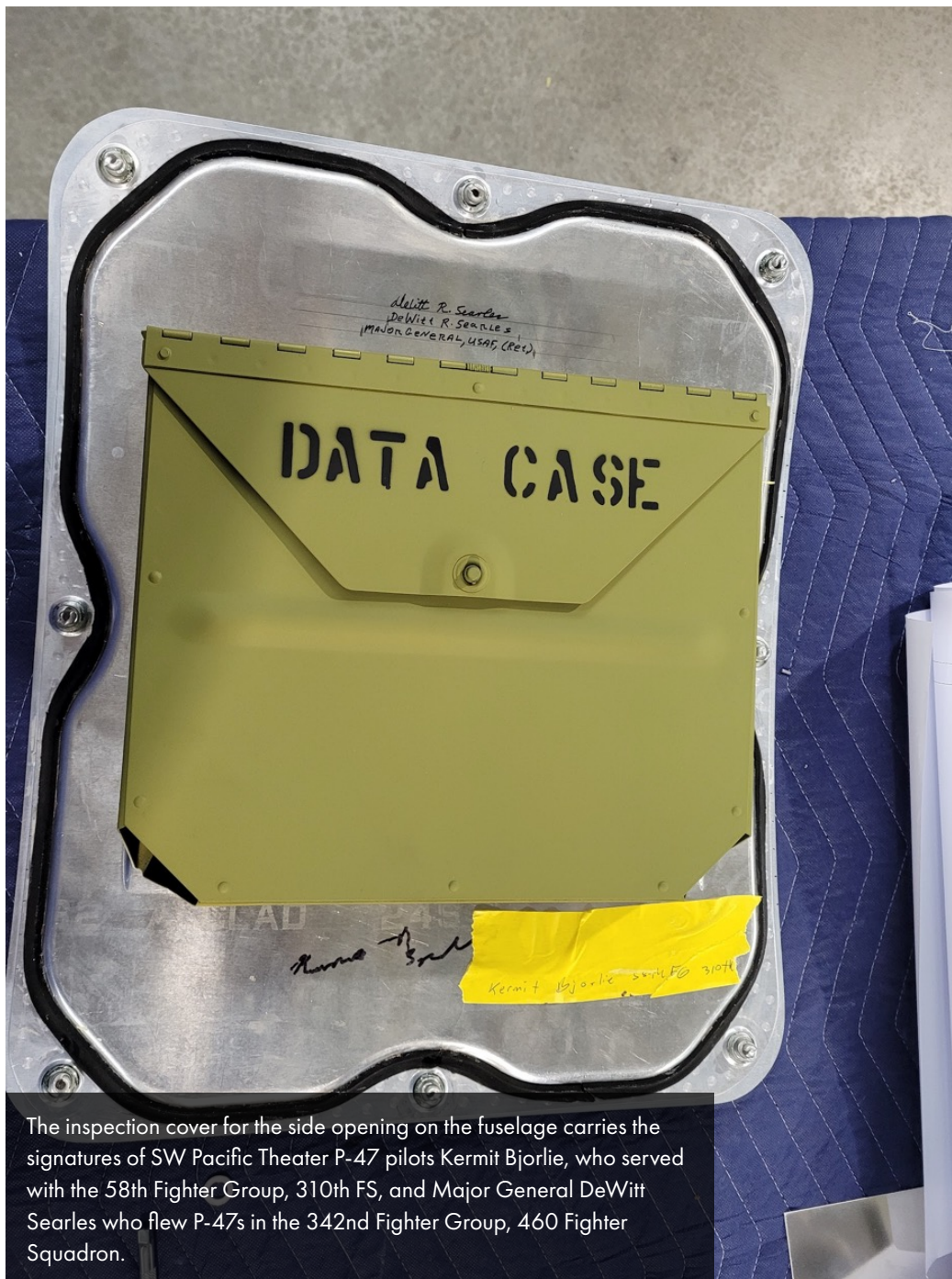


Viewed from inside the cockpit through the cockpit enclosure, Eddie fills the Christmas tree tank. It is very likely that no one has filled a P-47 Christmas tree tank since 1945!



Pilots' Impressions of the P-47

As the P-47 nears flight status, it is worthwhile to revisit the conversations we've had with some WWII P-47 pilots over the last six years. Two of these pilots signed the P-47's main access door, while the third signed inside an oxygen access panel. It was an honor and a privilege to speak with these veteran P-47 pilots, and it was very generous of them to sign a part of our P-47 restoration.



The inspection cover for the side opening on the fuselage carries the signatures of SW Pacific Theater P-47 pilots Kermit Bjorlie, who served with the 58th Fighter Group, 310th FS, and Major General DeWitt Searles who flew P-47s in the 342nd Fighter Group, 460 Fighter Squadron.



Major General DeWitt Searles

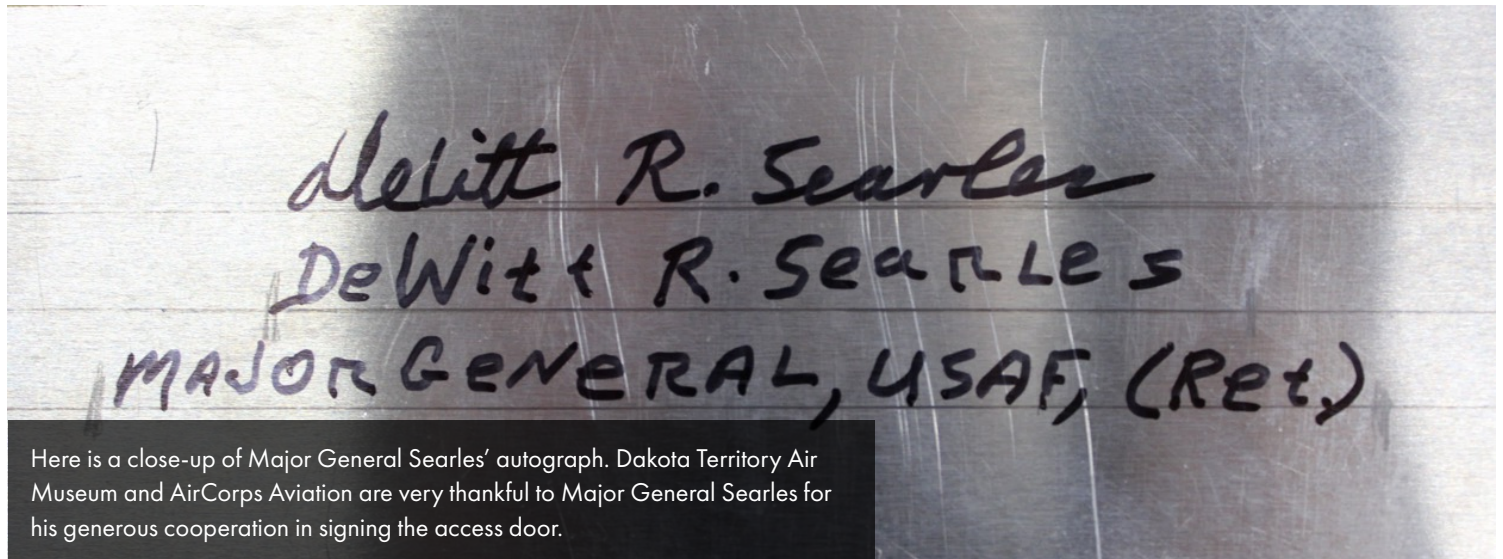


Lt. Dewitt Searles in one of his P-47s, a D-21 RE, in the Southwest Pacific.

Major General Searles was extremely generous with his time and he corresponded with me on several occasions via email and telephone.



In an email on May 12, 2016, Major General Searles provided his opinion of the P-47 as a fighter. He was 98 at the time of the correspondence and didn't feel up to traveling, but he suggested we send a removable panel from the P-47 to him so he could sign it.



Here is a close-up of Major General Searles' autograph. Dakota Territory Air Museum and AirCorps Aviation are very thankful to Major General Searles for his generous cooperation in signing the access door.

When Searles recalled flying the P-47, General Searles stated: "I remember it fondly and preferred it to any other fighter in the war - including the P-51's that were assigned to us during my last few months in the Pacific."

"I do remember escorting B-25s when flying with both the 342nd and the 460th squadrons. My first mission escorting B-25s was to Wewak. The B-25s flew directly down the airstrip dropping parachute retarded fragmentation bombs. We provided top cover. We also joined B-25s during attacks on Japanese shipping in Ormoc Bay. We provided top cover during their bomb run and then followed up with strafing attacks after they were done. Unfortunately, I have no recollection or record of the Group or Squadron numerical designations.

Yes, I remember the in-theater installation of the fuel tanks behind the pilot to give us a little better range. We were warned to avoid high G maneuvers until the tank was completely empty as the weight of a full tank would upset the aerodynamic balance which could lead to a loss of control.

The P-47 was the sturdiest and most stable propeller-driven aircraft that I have ever flown. It had an almost unlimited diving speed. I don't recall a single incident of one breaking up in flight because of aerodynamic stress. And it could absorb more hits by enemy fighters or ground fire, and keep flying, than any other fighter plane that I know of.

Its versatility was not fully exploited until late in the war, in Europe and the Pacific, after enemy fighter strength had been severely reduced or eliminated. Then we found out that we had the most rugged and effective fighter bomber ever built. With eight fifty caliber machine guns and a 2000-pound bomb loads, it was unmatched as an air-to-ground fighter aircraft."



Major General Searles was also kind enough to send me a written summary of his war experiences which I will reproduce below in his words:

“BRIEF SUMMARY OF THE WORLD WAR II EXPERIENCES OF DEWITT R. SEARLES, A FIGHTER PILOT, IN THE UNITED STATES ARMY AIR CORPS DURING THE 1943-45 TIME PERIOD”

In February 1941, with flying school completed, I began an accelerated training course in the combat aircraft I would fly when assigned to a unit overseas. It was my great good fortune to be sent to Dale Mabry Army Airfield, Tallahassee, Florida, to begin training in the Republic P-47 Thunderbolt. Nicknamed the “Jug,” the P-47 was the biggest, most powerful, and arguably the best multi-purpose fighter aircraft employed in World War II. After completing transition training in July we traveled by train to Hamilton Field, California for further deployment to the Southwest Pacific Area and assignment to the recently formed 348th Fighter Group commanded by Col. Neel E. Kearby, soon to become a leading fighter ace and recipient of the Congressional Medal of Honor.

I was assigned to the Group’s 342nd Fighter Squadron and flown across the Pacific in the bomb bay of a modified B-24 bomber. We departed San Francisco and touched down at Hawaii, Canton Island, and on into the air base at Townsville, Australia where our aircraft awaited us - in crates. So our first mission was to uncrate the aircraft, put them together, test fly them, and then head across the Coral Sea to an airstrip 5 miles from Port Moresby, New Guinea.

There we lived in canvas communities with tents on the bare ground for just about everything: sleeping, eating, supplies, maintenance and operations, flight line alert shack, field hospital, recreation, and even privies. Purified drinking water was delivered in water trailers and dispensed from huge canvas “lister” bags suspended from six-foot high tripods.

Our two greatest and most lethal challenges during my 22-month tour in New Guinea and the Philippines were the weather and mosquitoes. We lost more to them than we did to the Japanese. Just about every fighter pilot who flew in that area had a bad weather story to tell. The reason is that we had received little or no instrument flying training in any aircraft before being shipped overseas. “Needle, ball and airspeed” was about it, and that wouldn’t hack it in an area famous for massive, towering cumulus clouds and torrential rains. The worst weather experience for the Fifth Air Force - and perhaps the worst in aviation history - was on 16 April 1944: “Black Sunday.” On that one day, we lost 37 aircraft to weather or weather-related causes including A-20s, B-25s, P-38s, B-24s plus a P-39, a P-47, one F-5A, and one F-7A. To my knowledge, there has never been a comparable one-day, noncombat, military aviation loss.



As for mosquitoes, they were our constant companions. They brought us Malaria and Dengue Fever. We fought them with Atabrine, DDT, and mosquito nets. Daily Atabrine tablets turned the skin and the whites of the eyes yellow. DDT was the most effective and widely used killer/repellent but it came with harmful side effects, and mosquito nets were essential for a good night's sleep. Used religiously, all three kept most of us fever free but mosquitoes got to enough of us to keep the hospital tent busy. DDT was banned for use in the United States, and in the military, in 1972, but it kept a lot of us going some 40 years ago in New Guinea'.

Food was the third thing that we found a little discouraging: powdered things like milk and eggs; canned things like C-rations and spam; dehydrated things like lemonade and coffee; and experimental things like tropical butter that wouldn't spread or melt and that stuck to the roof of your mouth. And the lack of things like fresh fruit and vegetables added to our dietary problems. All of these point toward the thing we enjoyed most: combat flying.

The Jug was a devastating combat machine: eight .50 caliber machine guns, a 2000 horsepower supercharged engine with a four-bladed prop; an unmatched high altitude capability that enabled us to gain speed while diving down into a fight instead of losing speed climbing up into one. We flew with confidence that if we used our heads we could survive just about anything that the Japs had to offer. And, surprisingly, was also the best fighter bomber in either theater of the war. We could easily handle a 1000 pound bomb load. A favorite configuration was two 500-pound bombs, a belly tank, and a full load of .50 caliber ammo. Jettison the tank, bomb the target and then follow up with a strafing attack more deadly than any other fighter plane could deliver. "

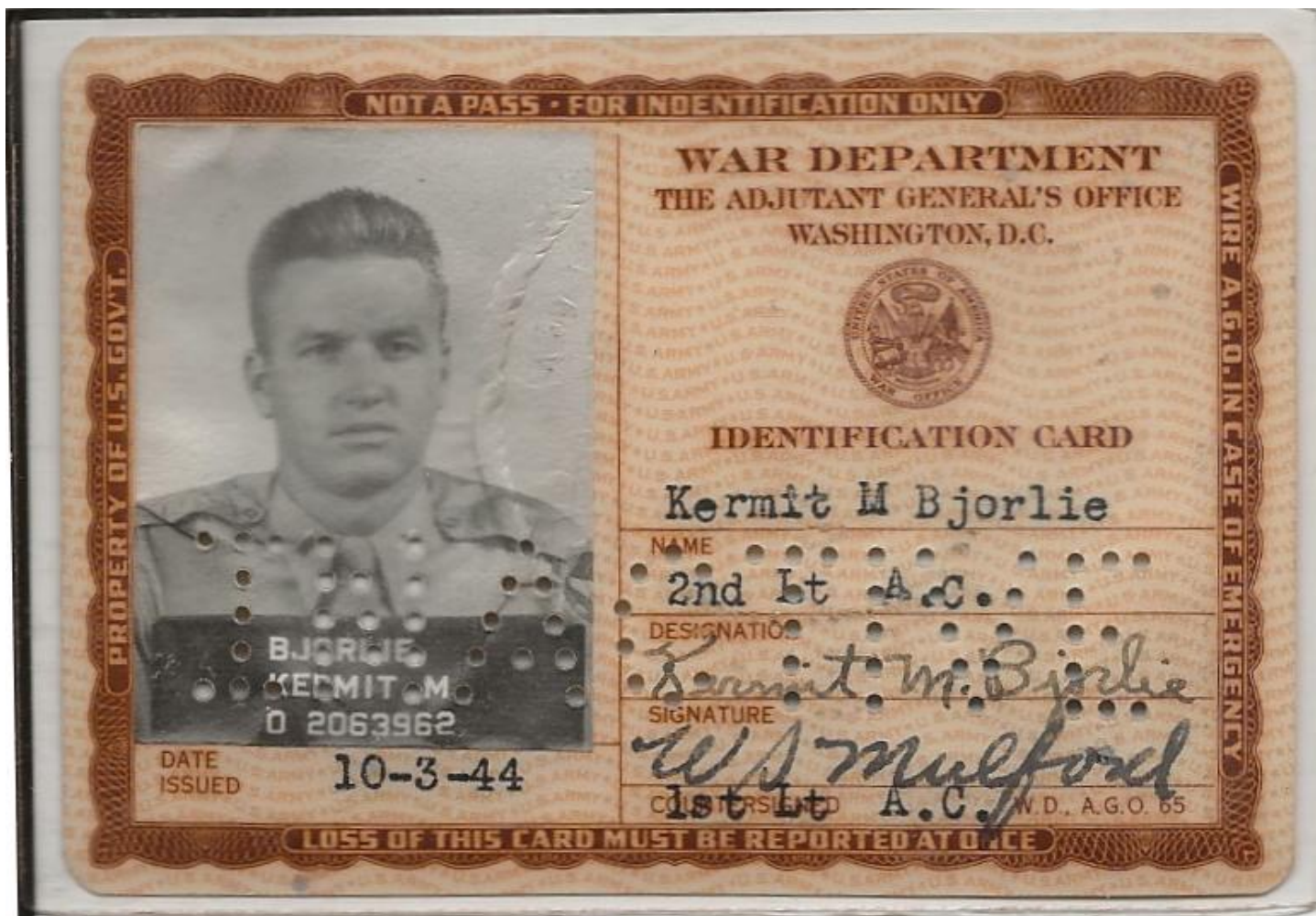
Major General Searles lived to be 100 years old and passed away attended by his children on Saturday, February 27, 2021.

First Lieutenant Kermit Bjorlie

I met Kermit Bjorlie and his son, Jon, at the Wings of the North Air Museum AirExpo at Flying Cloud Airport in Eden Prairie, MN on Saturday, July 13, 2019.



Kermit Bjorlie Meets Lyle Bradley,
two WWII vet fighter pilots!



Kermit Bjorlie's wartime ID card.

At the time, Kermit was 100 years old and a veteran of the SW Pacific Theater in WWII. Kermit flew P-40s, P-47s, and P-51s during his training and his combat tour.

Lt. Bjorlie told me his favorite of the three fighters he flew was the P-47 because it was large, strong, and carried a heavy load of fuel, ammunition, and bombs. In fact, he credits the P-47 with saving his life on a mission from Okinawa to Kyushu.



Kermit Bjorlie's signature on the large access door.



Kermit and his later model P-47D-28.

Bjorlie recounted the mission where he had to attack a Japanese destroyer making fast "S" turns tight against a coastal cliff.

He dived bombed the destroyer and as he pulled out of the dive-bombing run, he passed low over the top of the cliff where an enemy anti-aircraft battery was camouflaged in a shack near the cliff's edge.

Lt. Bjorlie heard the AA fire hit the bottom of the plane and then shortly after, he saw shrapnel holes appear in his wing. He turned and flew back toward the water, not wanting to end up crashing on land occupied by Japanese troops. He figured his odds of survival were better on the ocean, and that he might be picked up by the Navy.

As he evaluated the condition of his Thunderbolt, he determined that the self-sealing tanks had worked as advertised and the plane was handling normally. He would try to make it back to Okinawa with his squadron mates.



It had to be a great relief to spot his home air base after the long overwater flight in a battle-damaged P-47, but he did and landed successfully. In his Forest City Summit interview, Kermit stated "I never did see the airplane again. I think it was taken into the repair depot because it had too much damage." He also observed that this was the closest call in his military flying career.¹

Sadly, like Major General Searle and so many WWII veterans before him, Kermit Bjorlie, age 102, died peacefully in his sleep in Zumbrota, MN on December 1, 2021.

Lt. Col. Huie Lamb

Huie Lamb, from Abilene Texas, flew 61 combat missions (167:40 combat hours in a P-47, 107:50 in a P-51) with the 8th Air Force, 78th Fighter Group, 82nd Fighter Squadron. He shot down 2 and a half aircraft in the air and was responsible for the destruction of three aircraft on the ground. His victories included two German jets. On 29 December 1944, his P-51 suffered a mechanical failure and crashed into the channel. He was picked up by Air Sea Rescue from Martlesham Heath.²

In a video phone interview that Huie Lamb was kind enough to grant us, he talked about the comparison between flying the P-51 and P-47 in combat. Asked which he preferred, Mr. Lamb said that it depended on the mission. For an aerobatic air-to-air fight, he felt the P-51 had the edge. For ground attacks and for combat over 25,000 feet of altitude he preferred the P-47.

¹Personal Interview, July 13, 2019

²American Air Museum in Britain, <https://www.americanairmuseum.com/person/98855>, accessed 10-5-2022



John Childs (left) and Huie Lamb (right). Huie's face is bandaged following his ditching in the North Sea when he hit the gunsight. It was the first mission he flew in the P-51. Lt. Childs led the Air Sea Rescue Supermarine Walrus to Huie. Image courtesy of Huie Lamb. American Air Museum in Britain, photo courtesy of Huie Lamb, <https://www.americanairmuseum.com/media/6608>

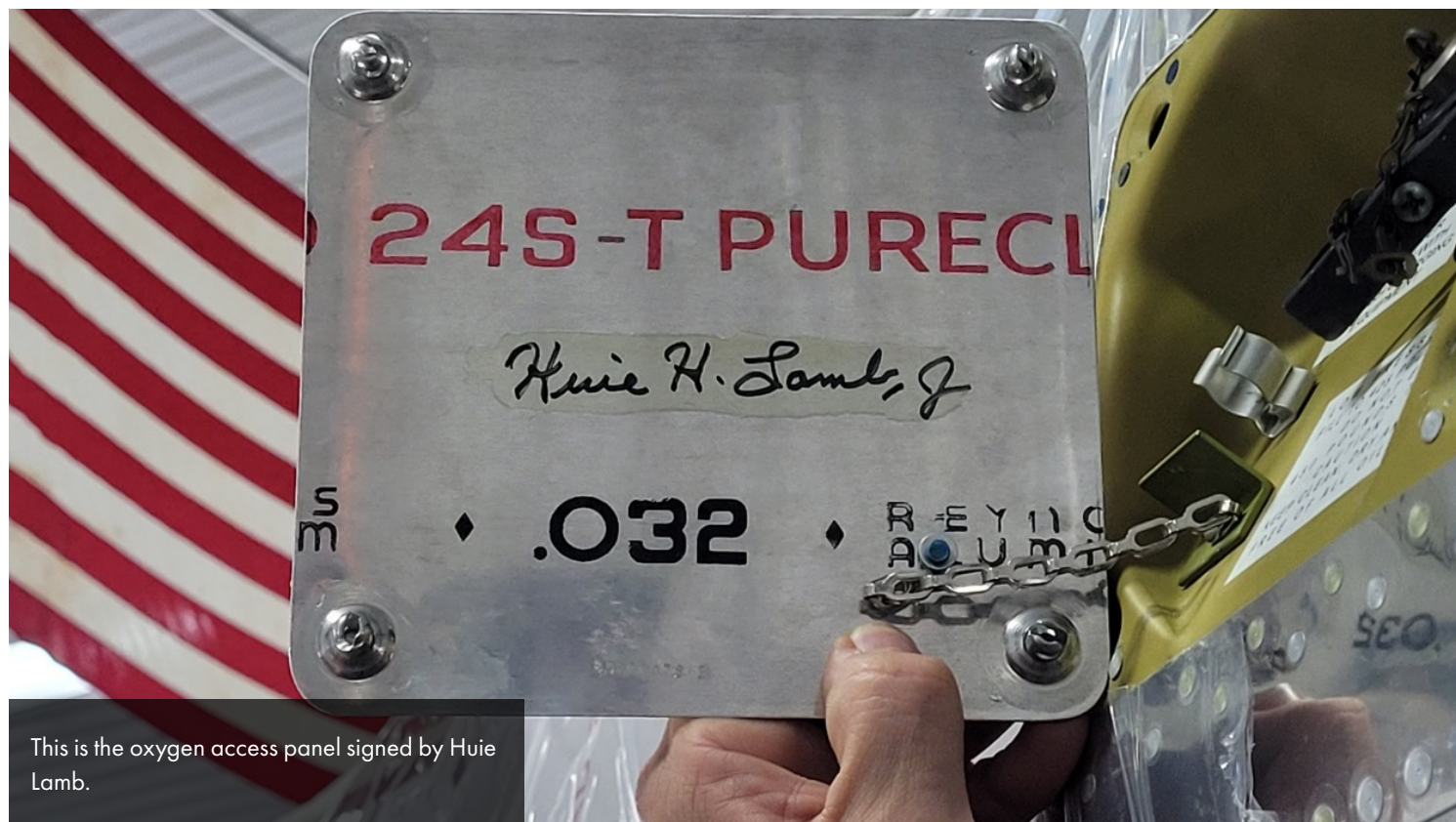
In a combat report from October 15, 1944, Lt. Lamb describes how he became one of the first Allied fighter pilots to shoot down the German's revolutionary jet fighter, the ME 262.

"Capt Brown and I were returning from the Hannover Area after strafing ground targets. Near Osnabruck, I spotted a Jet Aircraft at about 4,000 ft. at this time. I started a steep dive and was indicating about 475 [IAS] and closing very fast. When I closed to about 1,000 yds., he must have seen me, as he started to pick up speed and pulled away a little. I gave my plane full power and water and started to close on him again, but very slowly. As I got within range and started shooting, he started to turn to the left. I easily turned inside of him and kept shooting during the entire turn, noting many strikes. The E/a, aN ME-262, made a 180-degree turn and then leveled out. He started back and led me over an airfield that had been shooting flak at me as I chased the jet. I saw the intense curtain of flak coming u[p at me, but followed him and got right on his tail, almost dead astern, and noticed more strikes. I felt myself being hit several times, but opened fire on him again, from dead a stern, and noticed more strikes. He threw off his canopy and then the plane caught fire. The E/a flipped over on its back and exploded. The flaming wreckage crashed into the ground and again exploded. I claim one ME-262 destroyed."

³American Air Museum in Britain, <https://www.americanairmuseum.com/person/98855>, accessed 10-5-2022



Huie Lamb is one of the few WWII veteran pilots still with us and he enjoys riding in a P-51 as frequently as he can. In fact, in his video call, he mentioned that “he gets to fly in the Mustang every couple weeks.”



This is the oxygen access panel signed by Huie Lamb.

³ Ray Merriam, *Fighter Combat Tactics in the Southwest Pacific Area*, Merriam Press Bennington, Vermont, 2012.p. 86