



April/May 2021

APRIL/MAY

Dakota Territory Air Museum's P-47 Update

by Chuck Cravens



AIRCORPS AVIATION



39th Fighter Squadron P-47s fly over Papua New Guinea in the later summer of 1944, USAF photo courtesy of Jeff Oerding collection



www.dakotaterritoryairmuseum.com



Update

After the exciting milestone of the wing attachment last month, the restoration moved on to work on the turbosupercharger and landing gear. The systems and components of the firewall forward area were also a focus this month.

Control Surfaces

With the wings, horizontal and vertical stabilizers installed, completing them requires control surfaces - so the elevators, ailerons, rudder, and flaps all were part of this month's work.

The first step was taking apart the original control surfaces. The parts were then evaluated for serviceability and parts that needed to be replaced were fabricated. Restoration of the elevators, rudder, ailerons, and flaps could begin after all the components were completed.



Aileron parts that have been disassembled for assessment of serviceability.



Flaps ready to be taken apart.



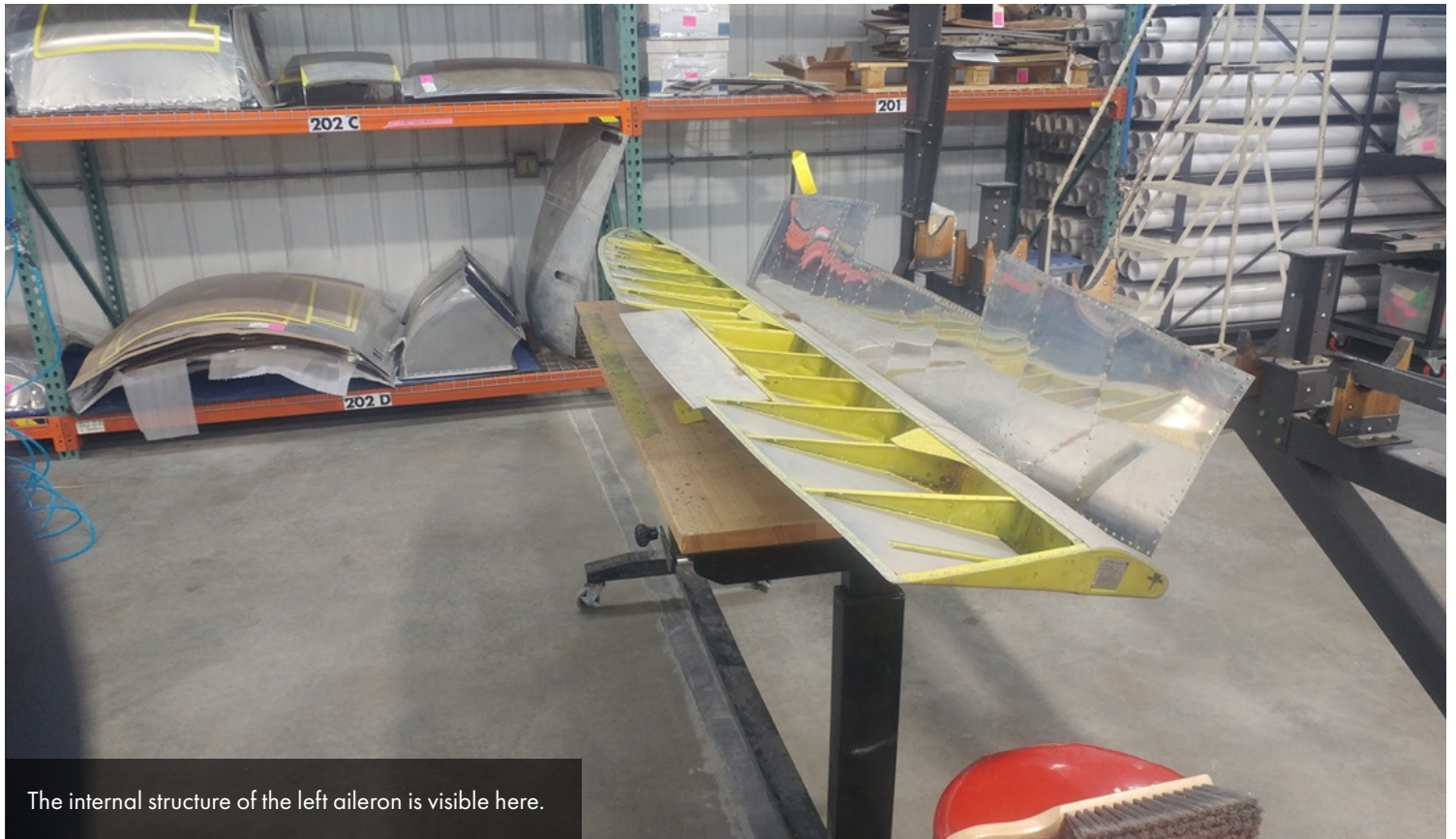
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Cory works on an aileron part.



Much of this original elevator may be usable in the restoration after each piece is examined.



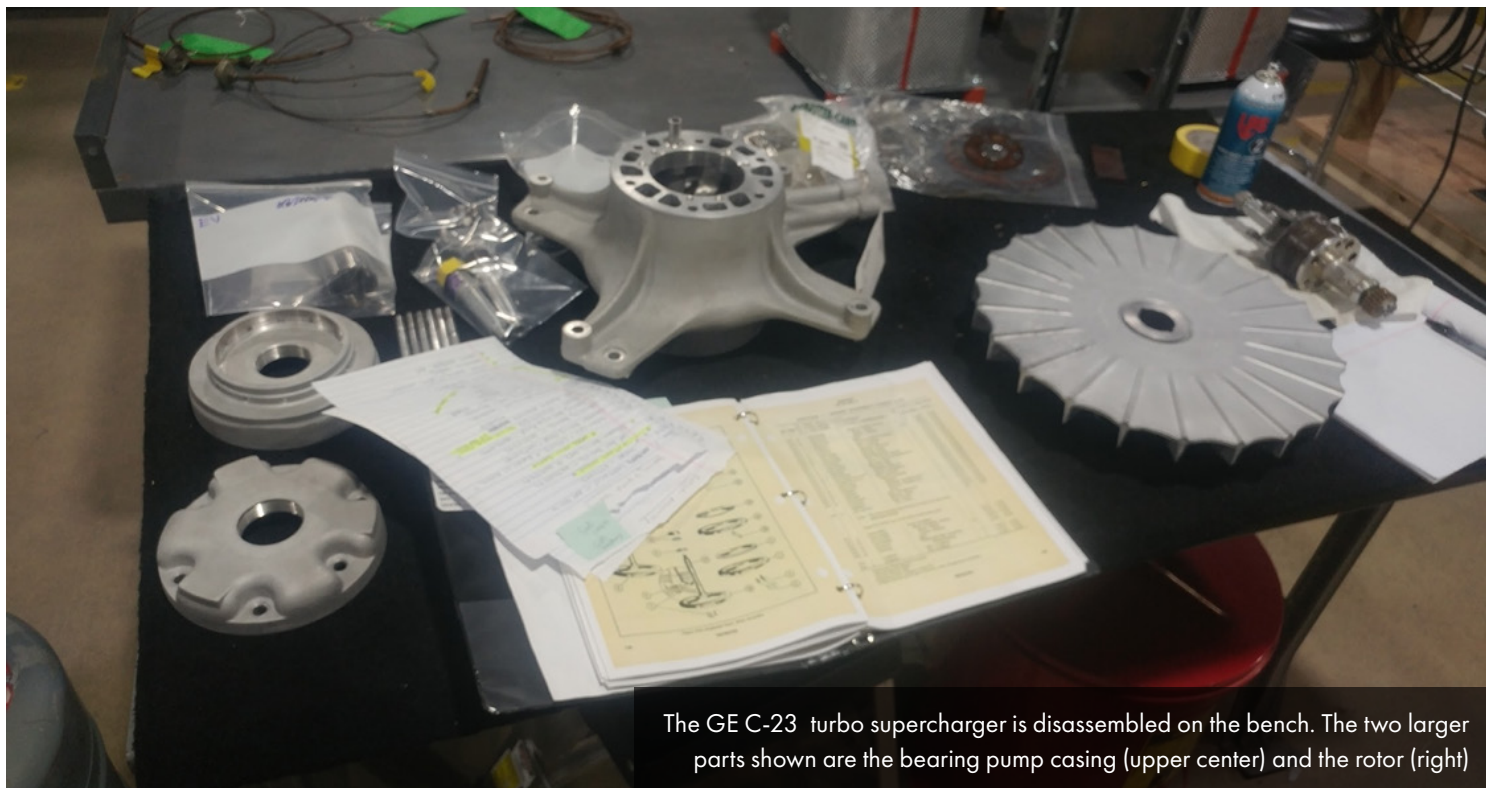
The internal structure of the left aileron is visible here.



You can see the trim tab and the opening in the skin for it in this image.



Turbo Supercharger





On the lower right are the caps for the casing.



This turbo supercharger turbine is one of many that have been checked carefully and tested. This one looks good.



Pete works on the compressor rotor.



Here is a closer look at the compressor rotor.



This is the back side of the compressor rotor and the baffle ring.



Landing Gear

The landing gear is nearly ready for installation.

The P-47 landing gear is massive like the rest of the airplane.



The right gear scissors are visible in this image.





This is a close up of the axle and hub before the brake disks are installed.



The tailwheel assembly has been complete for some time.



Firewall Forward

Always one of the most complex areas of a restoration is the area forward of the firewall. The engine installation, along with all the accessories takes great attention to detail.



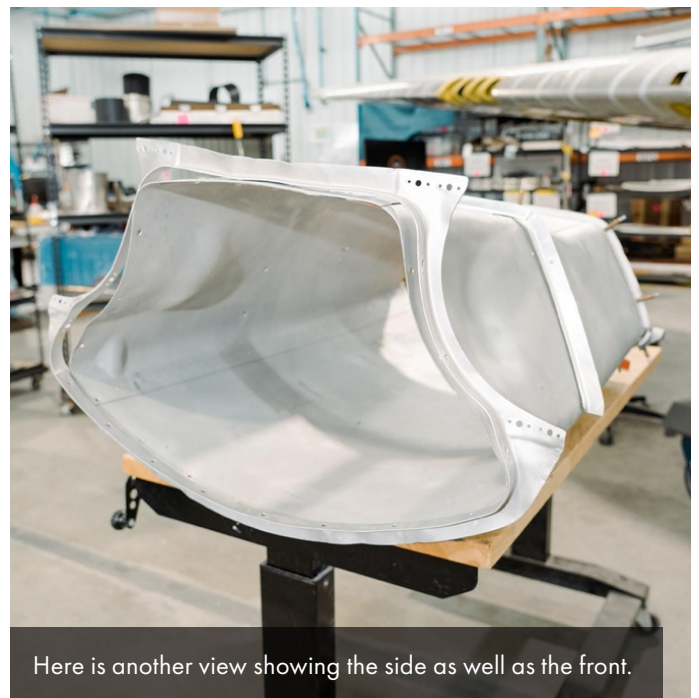


Just left of center, the lowest visible part of the fuselage is where the waste gate for the engine exhaust will be housed.

The housing is made of stainless steel to withstand the high temperature of the exhaust gasses. The gasses exit the airplane here when they are not directed through ducts to power the turbo supercharger. The blue box is the Curtiss Electric Propeller control relay box.



This is the main air intake duct.



Here is another view showing the side as well as the front.



Looking from the front of the aircraft, it is clear how crowded the accessory section becomes once all the components are installed.



Cowl assembly parts are arranged on shelves for the upcoming assembly.



The round (tan colored) oil coolers have been installed as firewall forward work progresses.



Here is a close shot of the left oil cooler.



The tan colored assembly atop the oil cooler is the oil temperature control valve.

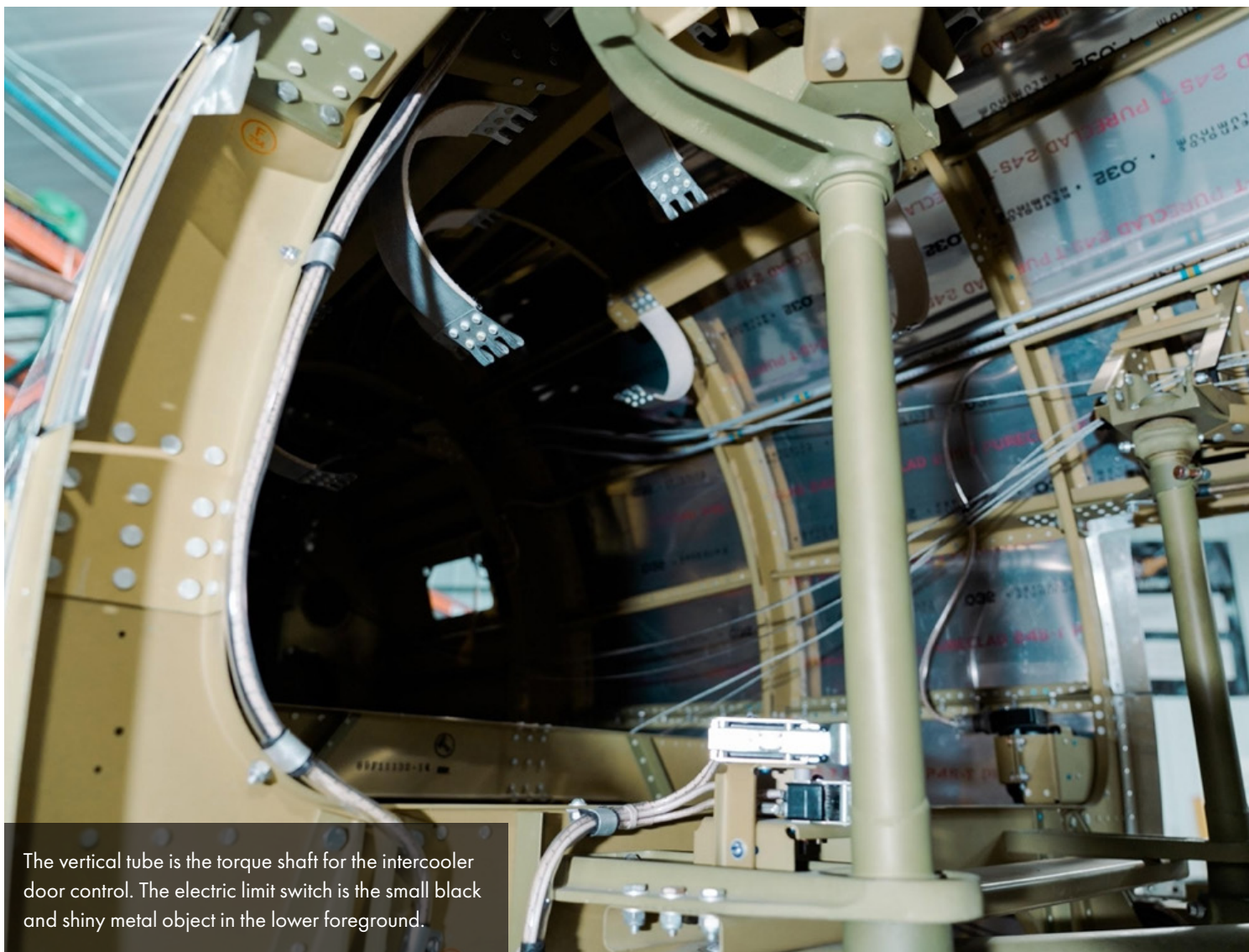


The rectangular part below the engine mount tube and just behind the cowl preheater ring is the external power receptacle.

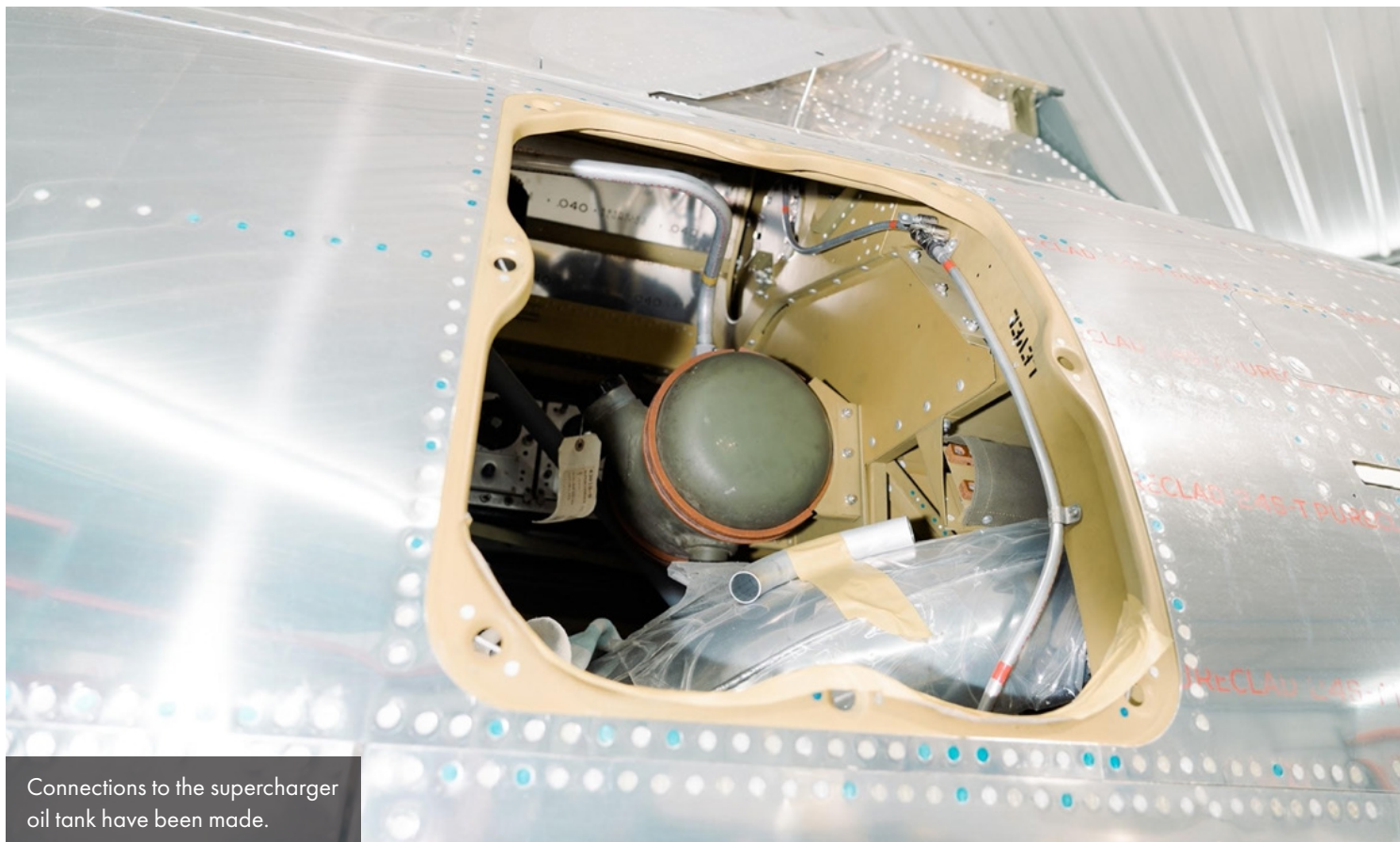


Rear Fuselage

Further back in the fuselage, system work is being wrapped up.



The vertical tube is the torque shaft for the intercooler door control. The electric limit switch is the small black and shiny metal object in the lower foreground.



Connections to the supercharger oil tank have been made.



The flap fairing is being fitted to the left wing.



39th Fighter Squadron, Summer 1944



A spectacular photo of a formation of nine 39th Fighter Squadron P-47s over Papua New Guinea in the later summer of 1944, USAF photo courtesy of Jeff Oerding collection.

The 39th fighter Squadron was still getting used to their new P-47D-23RAs that they had received in late June and early July 1944. In fact the pilots had logged no combat hours in July 1944. But that changed rapidly in August when they flew 1,181 combat hours.

As the pilots became more familiar with the new D-23, adaptations were made to better suit the conditions in the SW Pacific. Testing how much fuel could be carried in various drop tank configurations, a change in the location of the microphone, and bomb switches were all important. Perhaps most significant was a change in the position of the water injection switch. A combat evaluation report explains:



THIRTY NINTH FIGHTER SQUADRON
OFFICE OF THE OPERATIONS OFFICER
APO 713, Unit 1.

July 15, 1944.

SUBJECT: Combat Evaluation Report.

TO : CO, 35th Fighter Group, APO 713, Unit 1. ATTN: S-3.

1. In accordance with Memorandum 55-10, dated 29 Mar. 45 V Fl. Com, the following report is submitted for period ending July 15, 1944.

a. The P-47-D-23 airplane is equiped with a push button water solenoid switch on top of the throttle. This type of switch is undesirable since it must be depressed during the entire period in which water injection is employed. It is therefore virtually impossible to trim the airplane for the increase in power obtained. A toggle switch as installed on P-47-3 and P-47-4 airplanes is more practical and has been substituted in the airplanes of this Squadron.

b. A toggle switch has been installed in the water pump circuit to prevent continuous operation of the pump. Thus the life of the pump is increased and a means is provided to prevent the water pump from freezing after the system has been run dry.

For the Squadron Commander:

/s/ William L. Urquhart
/t/ WILLIAM L. URQUHART
Capt., AAP,
Operations Officer.

A TRUE COPY:

Russell C. Brizius
RUSSELL C. BRIZIUS
1st Lt., Air Corps,
Adjutant.

39th Fighter Squadron, 35th Fighter Group
Combat Report detailing modifications to the
water injection control switch.



The 39th squadron history is sketchy on details of this period, or just so faint as to be illegible. But an idea of pilots' reaction to the new machine can be found in a sister squadron, the 41st's history.

"The squadron air echelon was stationed at Nadzab airbase while being re-equipped with the new P-47D-23 series aircraft. The campsite was formerly occupied by the 8th Fighter Group. As practically all the squadron's equipment was aboard ship with the ground echelon, camp facilities (lighting, showers, etc.) were at an absolute minimum.

The great majority of pilots were enthusiastic over the performance of the new D-23. Among the few skeptics were the old P-39 pilots who had seen no brilliance displayed by the old D11 and D18 series. Their first love was still the "finger tip" controlled P-39. It was here that Joe Parker, the Republic representative, demonstrated and taught to our pilots the techniques involved in obtaining maximum flying range from this new "Thunderbolt". They were amazed to find that it was possible to fly a single engined fighter for seven plus hours without refueling."



Mechanics of the 333rd FS 318th FG fill 165 gallon tanks, originally designed for the P-38 with napalm. These are the same tanks used in long range experiments with the P-47 in the SW Pacific. Photo World War Pilots

That increased range with maximum drop tanks loaded was important as noted in this excerpt from an unofficial squadron history.

"The History of the 39th Pursuit Squadron. Volume One", by Colonel Frank R. Royal and S/Sgt Roy Seher for the 39th Squadron Association, gives us an idea of the locations and combat activity in late summer of 1944.



"A few new airplanes were coming in, the new D-23 series of the P-47 and they were unpainted, no longer the dull olive drab that we were used to. As the war front moved forward the 39th moved from Nadzab to Owi Island and then to Noemfoor Island in quick succession. These are small islands near Biak Island in Geelvink Bay, way up near the Vogelkop (eagle head) Peninsula of New Guinea. The squadron still flew many low level bombing and strafing (interdiction) assignments, but they now had the capability to protect the bombers over their targets."

Protecting the bombers all the way to their targets was a critical step to air superiority, as the fighters and bombers of the 8th Air Force had already demonstrated in the European theater.

On August 23rd of 1944, the squadron sustained its first operational combat fatality, when First Lieutenant Billy Richards was shot down by enemy anti-aircraft fire over Jefman.¹

In correspondence with his great nephew, Dave Elliot, a retired naval aviator and graduate of the Naval Academy, I found out Lt. Richards was flying P-47D-23RA, AAF serial number 42-27620. This P-47 is only 9 numbers in the Evansville sequence after our restoration, and it arrived in Townsville, Australia on the same day. Both aircraft were shipped to the SW Pacific on the same carrier with 42-27609, the Prince William, CVE 31.

Dave Elliot is working on gaining top priority for a search for his great uncle. He posted in social media:

"His P47 shot in the belly crashed 3 miles North of Jefman Island Indonesia landing in the water as recorded in the "39th Fighter Squadron Daily Logbook" maintained by their Maintenance Chief during the war."

"Jon Kreitz Joint POW/MIA Accountability Agency called me and said he is working with Indonesia to gain approval for a new search for my Great Uncle 1st Lt Billy E Richard's and 7 other MIA/KIAs in the Jefman area and many others across Indonesia.

All of us here at AirCorps Aviation and Dakota Territory Air Museum wish him the best of luck in his important efforts to find MIA pilots.

¹Air Force Historical Research Agency, microfilm Reel AO737m, 39th FS history frame 572