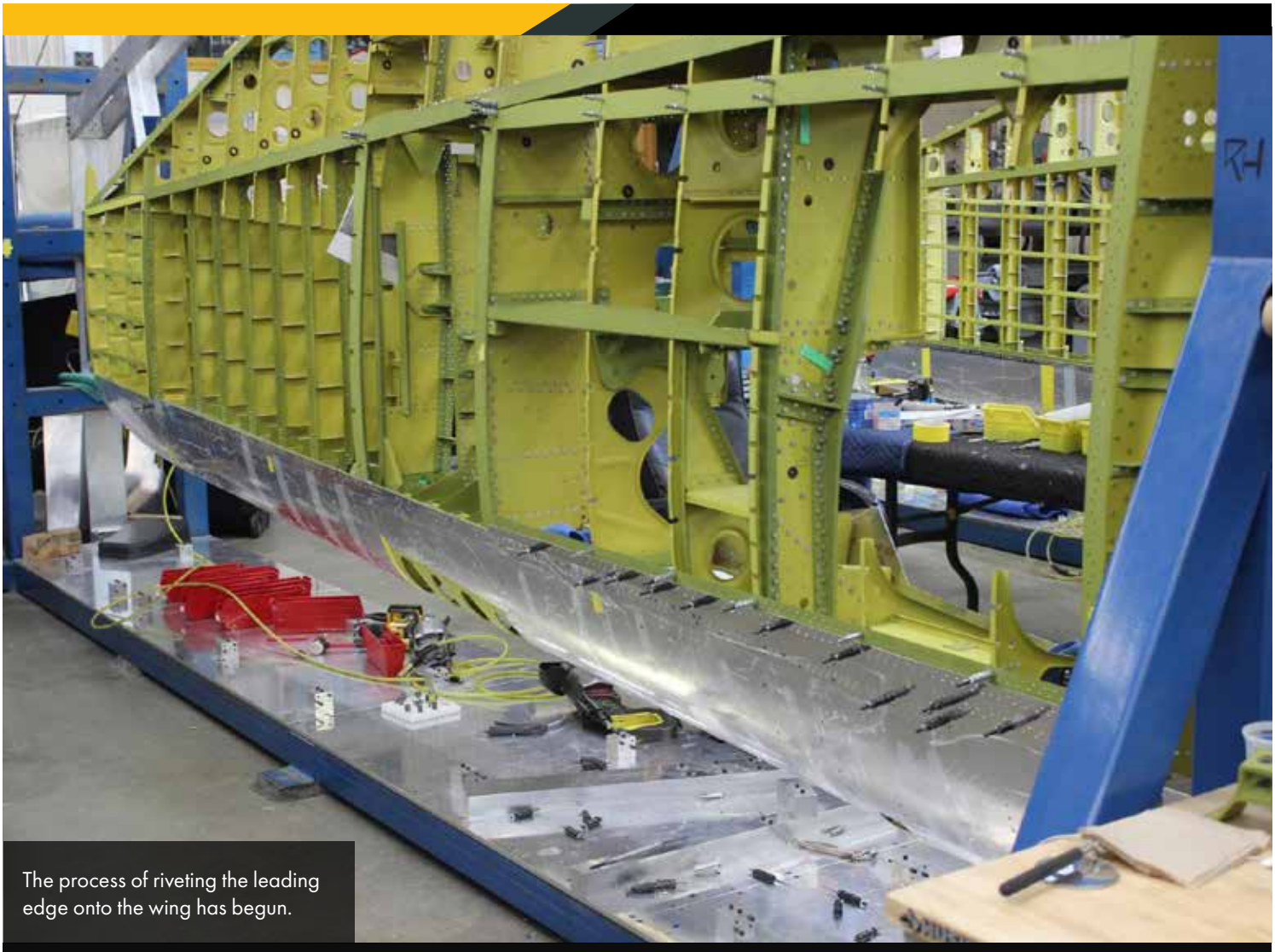
SEPT/OCT

Dakota Territory Air Museum's P-47 Update

by Chuck Cravens

AIRCORPS AVIATION



The process of riveting the leading edge onto the wing has begun.

DAKOTA TERRITORY AIR MUSEUM

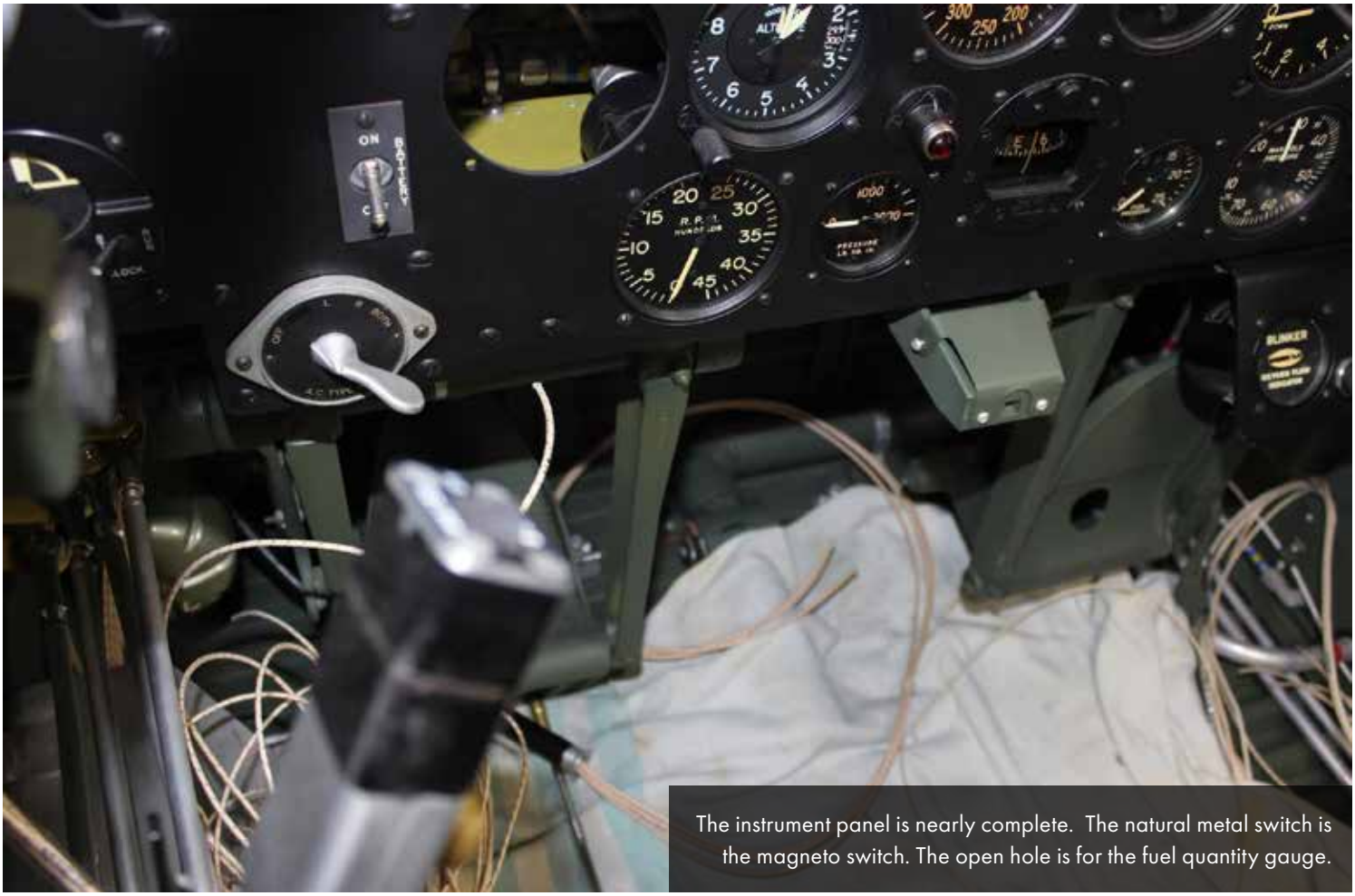
www.dakotaterritoryairmuseum.com

Update

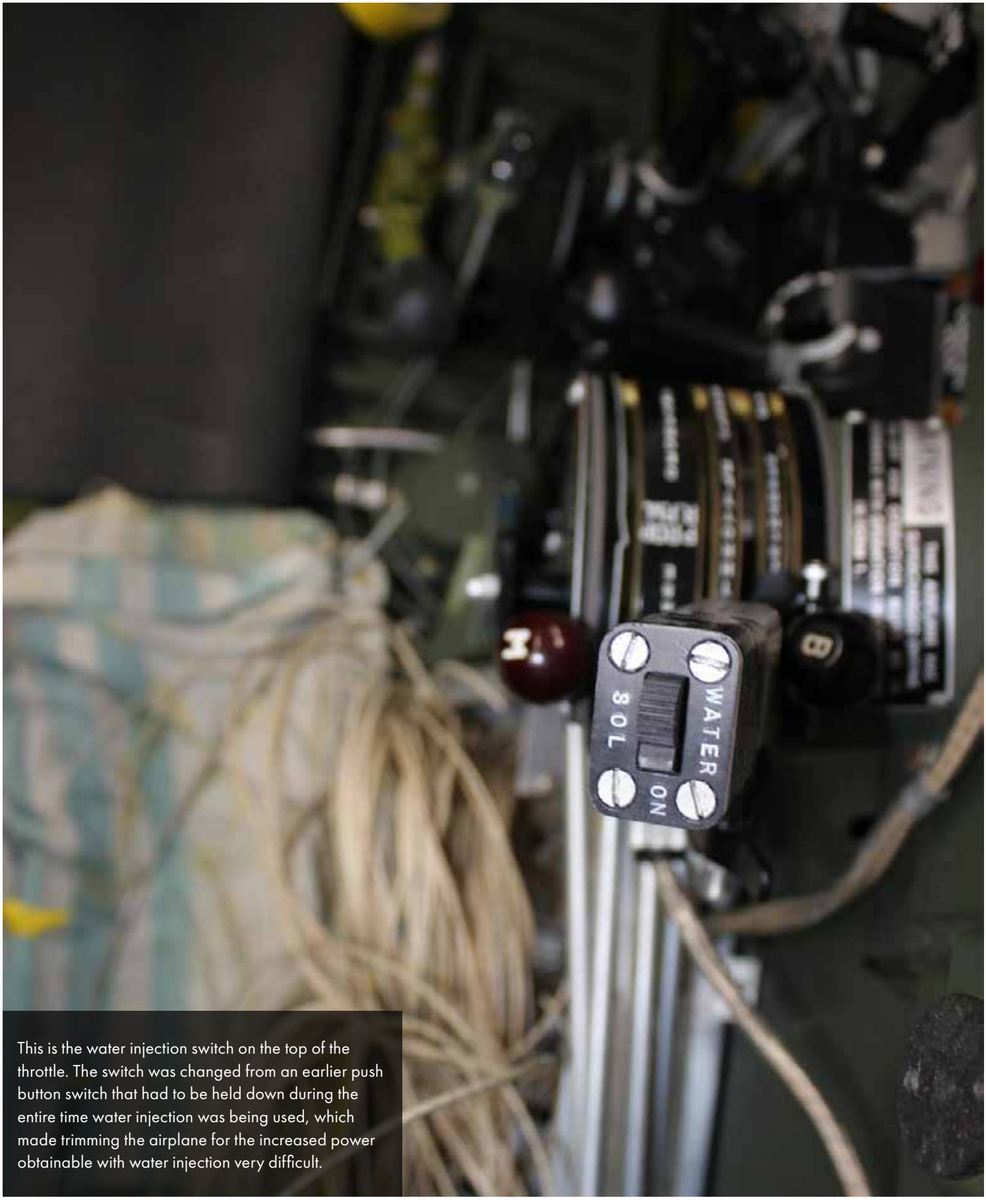
The work on the P-47 this month centered on the wings, as it has for a while. The leading edges are being riveted on permanently. Also progressing nicely are the cockpit installations. In another area of the restoration shop, main landing gear components are being inspected and restored to airworthiness.

Cockpit

Aaron has been working hard to install the various electrical components and instruments in the cockpit.



The instrument panel is nearly complete. The natural metal switch is the magneto switch. The open hole is for the fuel quantity gauge.



This is the water injection switch on the top of the throttle. The switch was changed from an earlier push button switch that had to be held down during the entire time water injection was being used, which made trimming the airplane for the increased power obtainable with water injection very difficult.

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. ATTEN: S-3.

1. In accordance with Memorandum 55-10, dated 29 Mar. 45 V Fi. 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., AAF,
Operations Officer.

A TRUE COPY:

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

The change to a switch that remained on when it was positioned is described in this combat evaluation report from the 35th Fighter Group. This change became a technical order applicable to all P-47D-23s and was incorporated at the factory for later versions.

The main switch box with all the wires led into it is ready for the switch panel.

This is the main switch panel, ready to be wired and installed in the main switch box.

The instrument panel is nearly completed.

The magneto switch is the large silver lever visible here. The bracket attached to the bottom center of the instrument panel will hold the parking brake handle assembly.

The fuel selector valve for the drop tanks is positioned to draw from the centerline belly tank in this photo, with left and right wing drop tanks as the other two options. This switch is located on the cockpit floor to the left of the pilot's seat.

Firewall Forward

The prop control box, ground power plug receptacle, and the generator relay junction box, were the firewall forward components installed this month.

This relay box is for the Curtiss Electric prop.

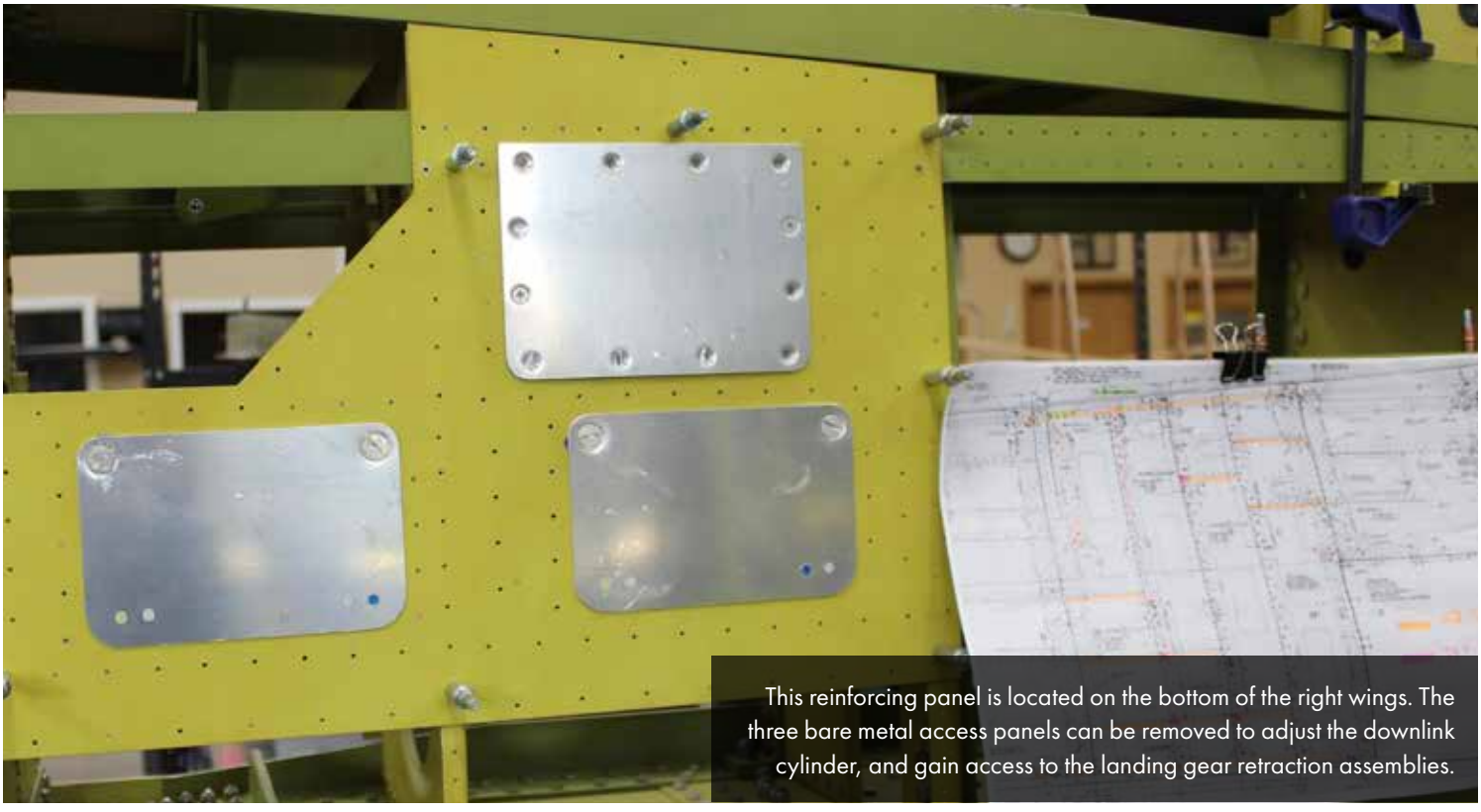
The ground power unit plugs into this receptacle.

This is the generator relay junction box.

Wings

Various reinforcement panels were assembled and riveted on this month, but the main item of progress was riveting on the leading edges. They are the first portion of outer wing skin to be completed.

Corey assembles the reinforcing panel for the spent cartridge ejection ports.

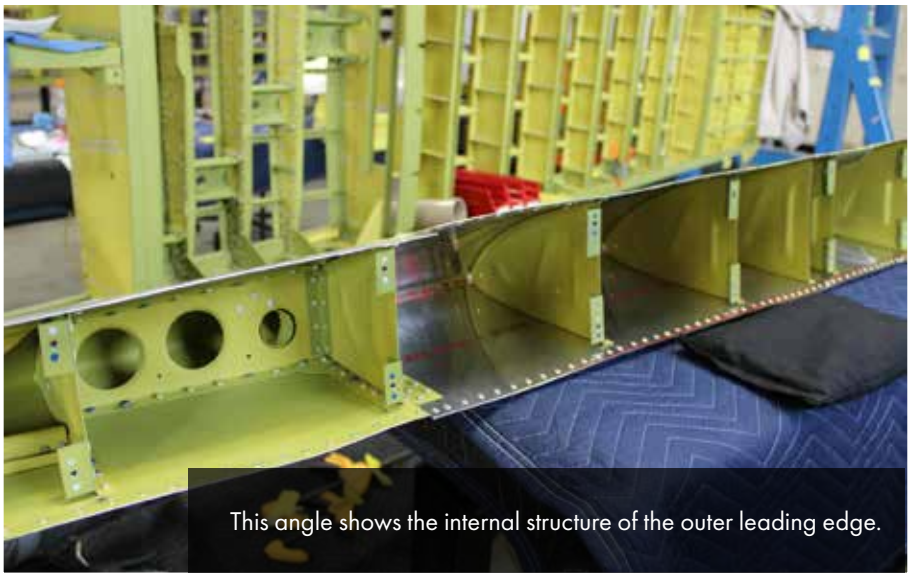


This reinforcing panel is located on the bottom of the right wings. The three bare metal access panels can be removed to adjust the downlink cylinder, and gain access to the landing gear retraction assemblies.

The panel on the left wing is similar except it has an opening for the landing light assembly.

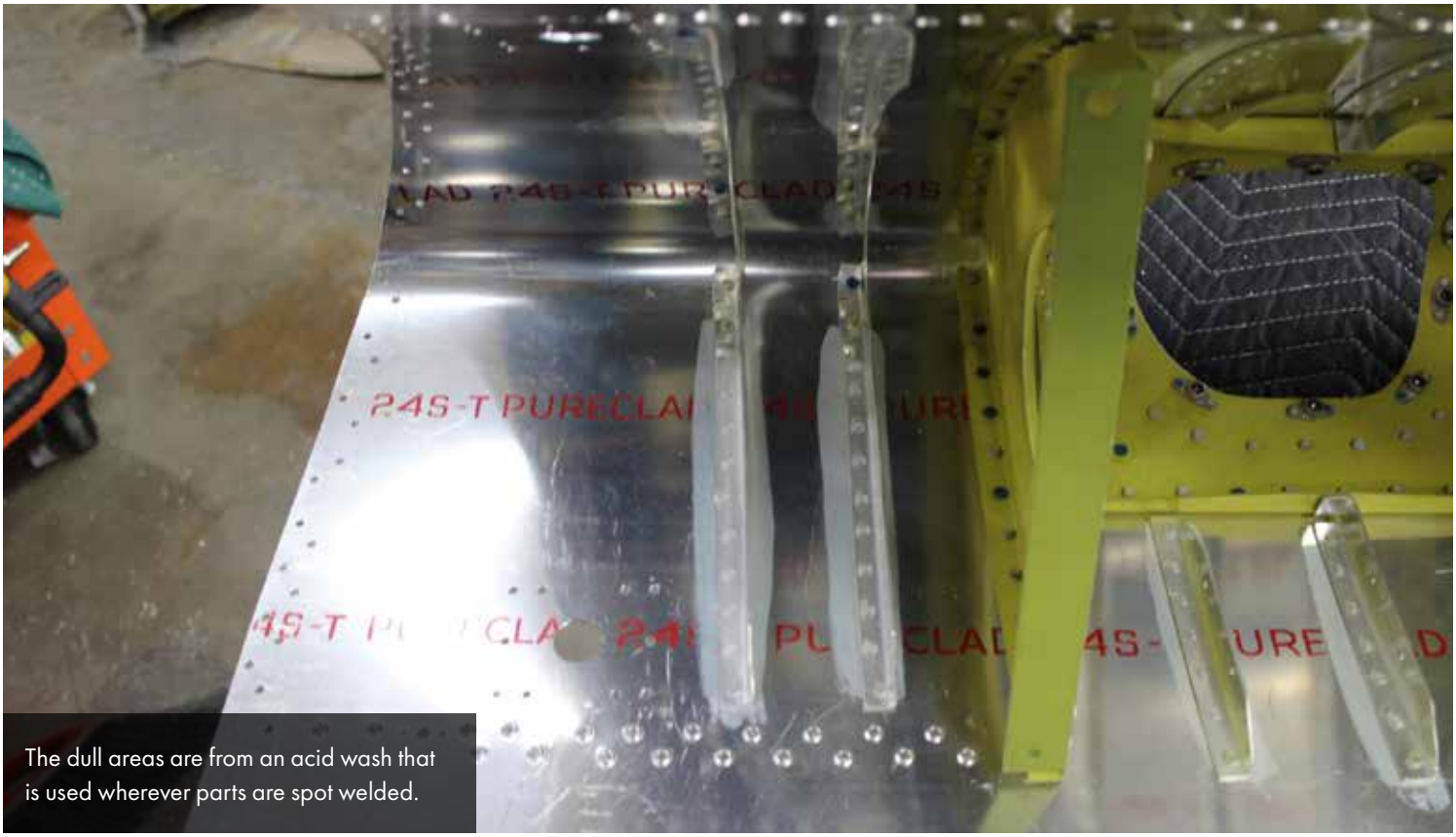
The gun bay is complete up to the point of actual gun installation.

The outer leading edge has been riveted together.



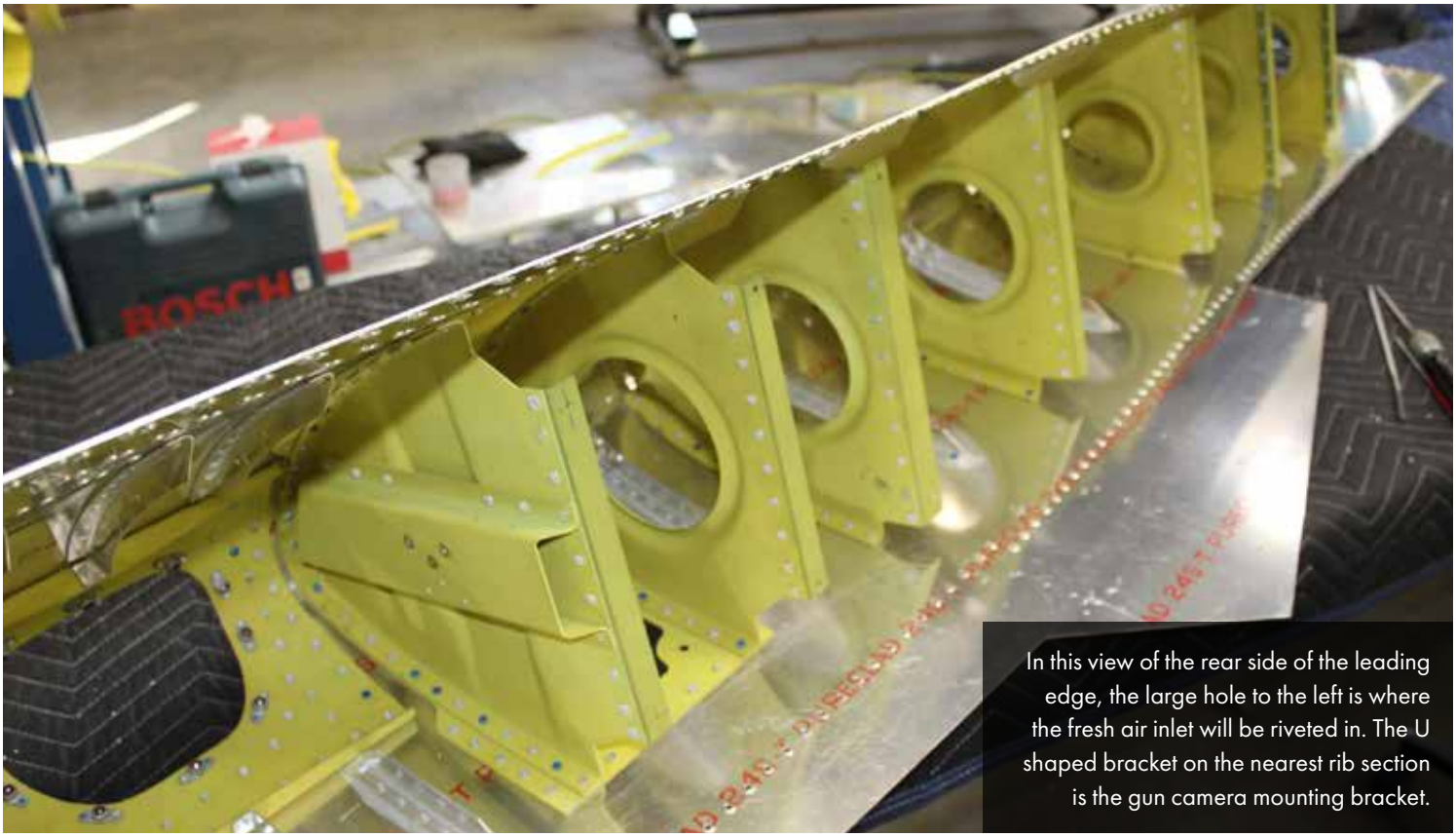
This angle shows the internal structure of the outer leading edge.

The inner section of the leading edge has also been permanently riveted together.



The dull areas are from an acid wash that is used wherever parts are spot welded.

This is the cabin fresh air inlet, which will be installed in the leading edge of the right wing.

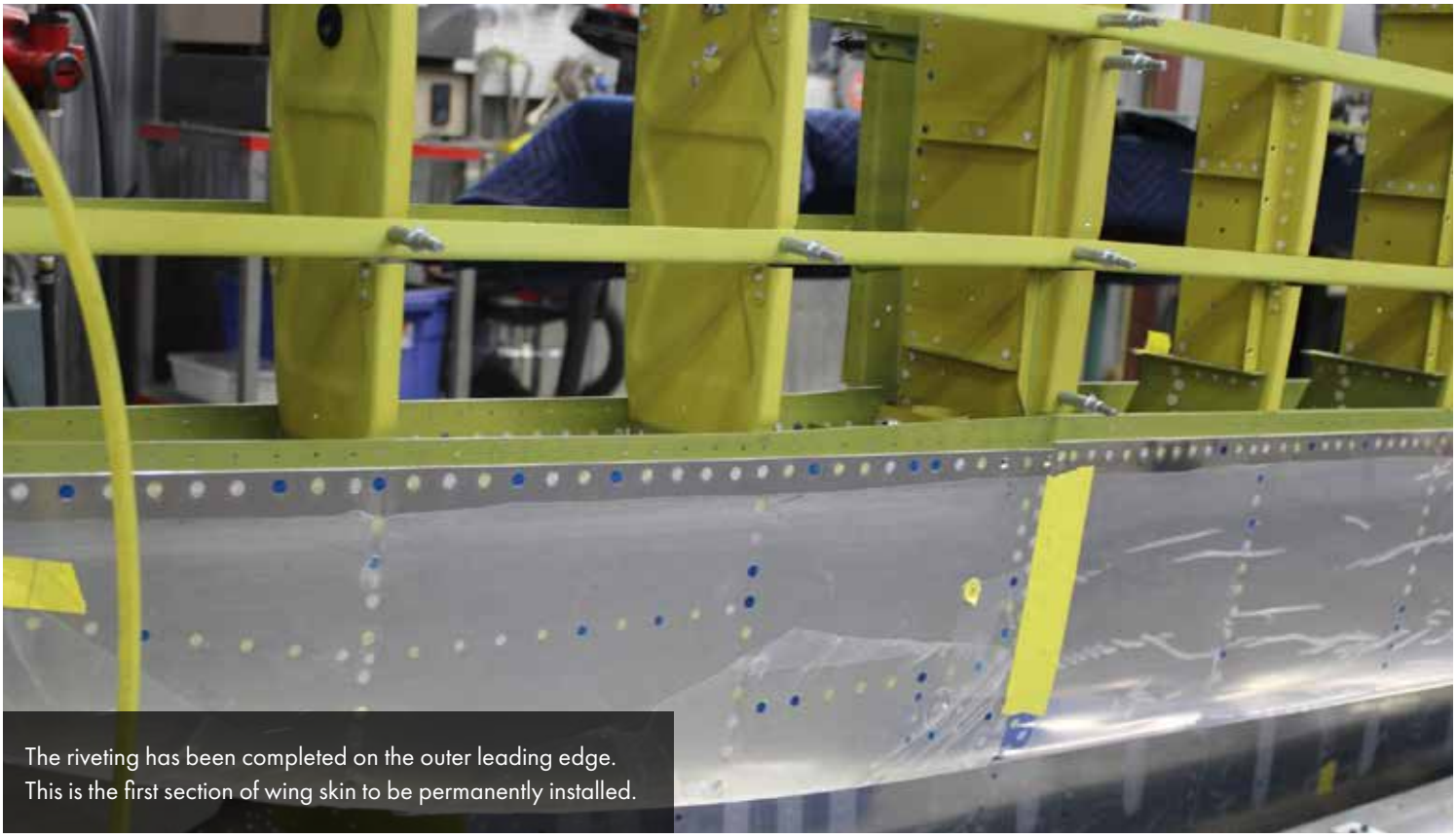


In this view of the rear side of the leading edge, the large hole to the left is where the fresh air inlet will be riveted in. The U shaped bracket on the nearest rib section is the gun camera mounting bracket.

The final skin trimming of this inner leading edge section has been done and the assembly is ready for permanent installation on the wing.

The outer end of the leading edge section is clecoed in place, ready for riveting.

The entire leading edge is clecoed in place.



The riveting has been completed on the outer leading edge. This is the first section of wing skin to be permanently installed.

The inner leading edge is clecoed in place, ready for rivets.

Landing Gear

Lance has inspected several original landing gear strut assemblies and selected the best examples for restoration.

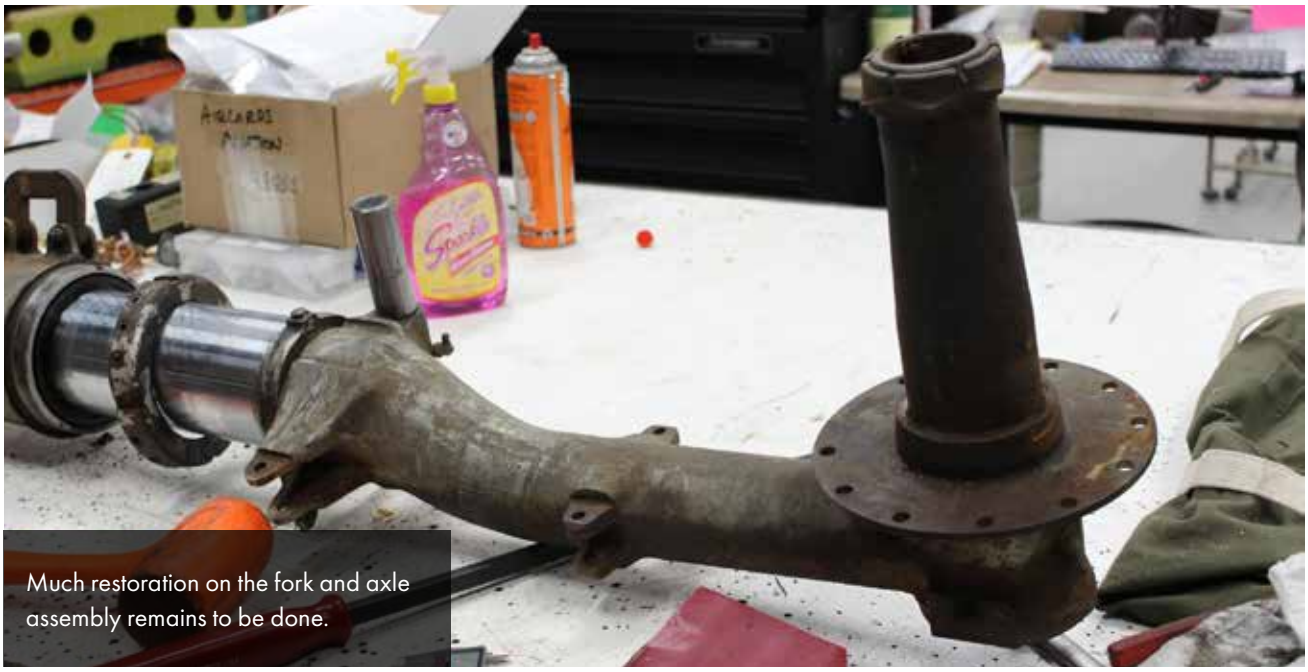
The P-47 main landing gear strut is almost as long as this eight foot table.

The fitting on this end of the main landing gear is the transfer valve. When the P-47 main gear is retracted, it compresses to fit in the wheel wells. A cam inside the gear strut actuates this transfer valve, which allows the hydraulic fluid to be released into the upper chamber of the strut.

This part of the upper landing gear has the pivot shafts that the gear rotates on as it retracts.

The large lever (far left) above the pivot shaft is for the landing gear downlock. The downlock cylinder pushes a large pin into the hole on the upper end of the lever in this image. The pin locks the landing gear in the down position.

The inner and outer cylinders are being disassembled in this image.



Much restoration on the fork and axle assembly remains to be done.

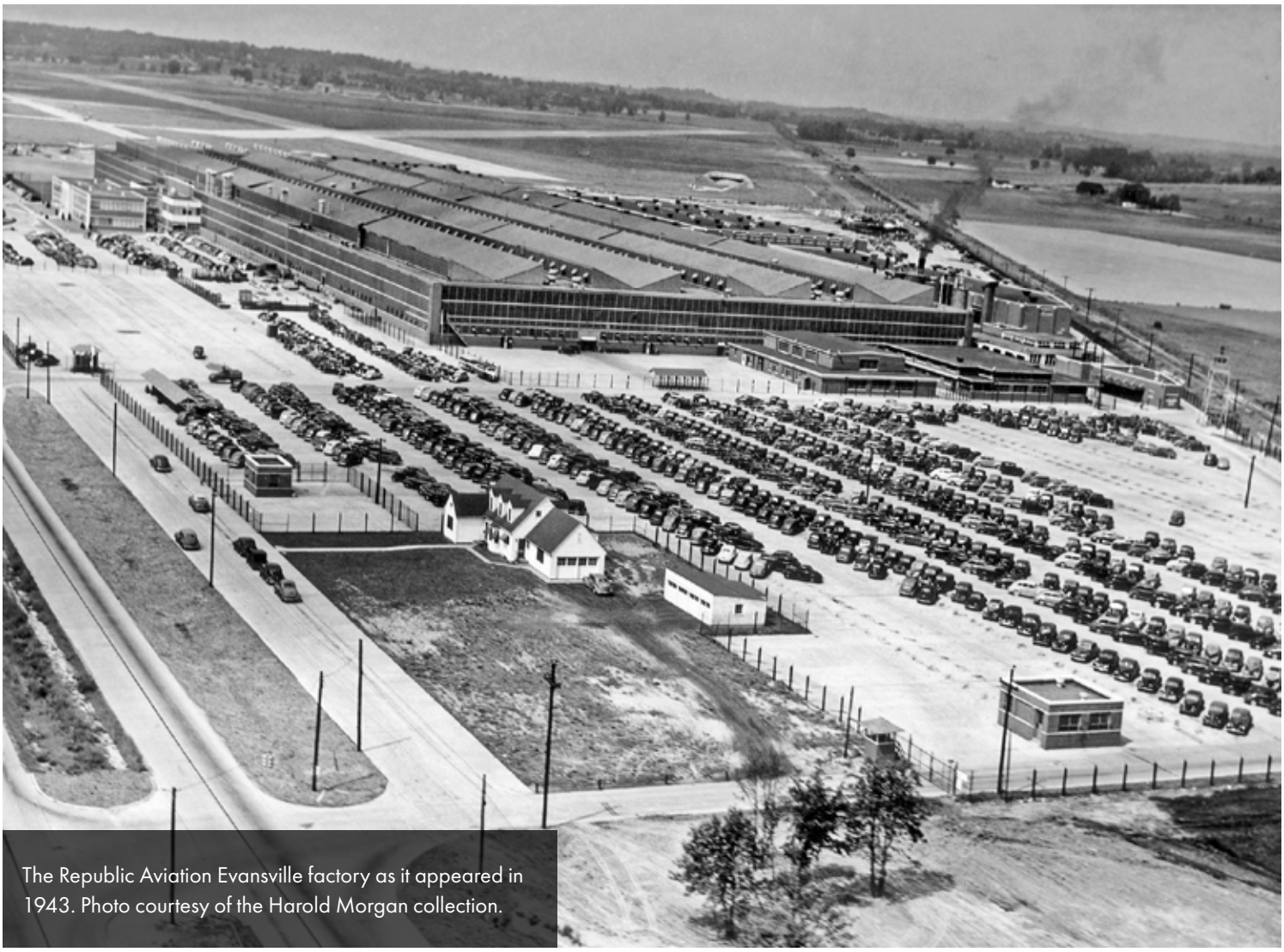
Republic Aviation Factory, Evansville, Indiana

This month, the Evansville P-47 Foundation has been successful in their quest to return an Evansville built P-47 to its home city. P-47D-40RA Tarheel Hal was built in the Evansville factory and accepted by the USAAF on May 7, 1945. The foundation obtained the Thunderbolt from the Lone Star Flight Museum after many years of searching. Fundraising efforts to make the move permanent continue.

To learn how to contribute, visit the Evansville P-47 website: http://www.bringevansvillep47home.org/?fbclid=IwAR3QS06XSnImLmY3EOQQ2ToRNPG3gX5XoVNpYKQFX6uxHzMUJYnwBjIR8dM

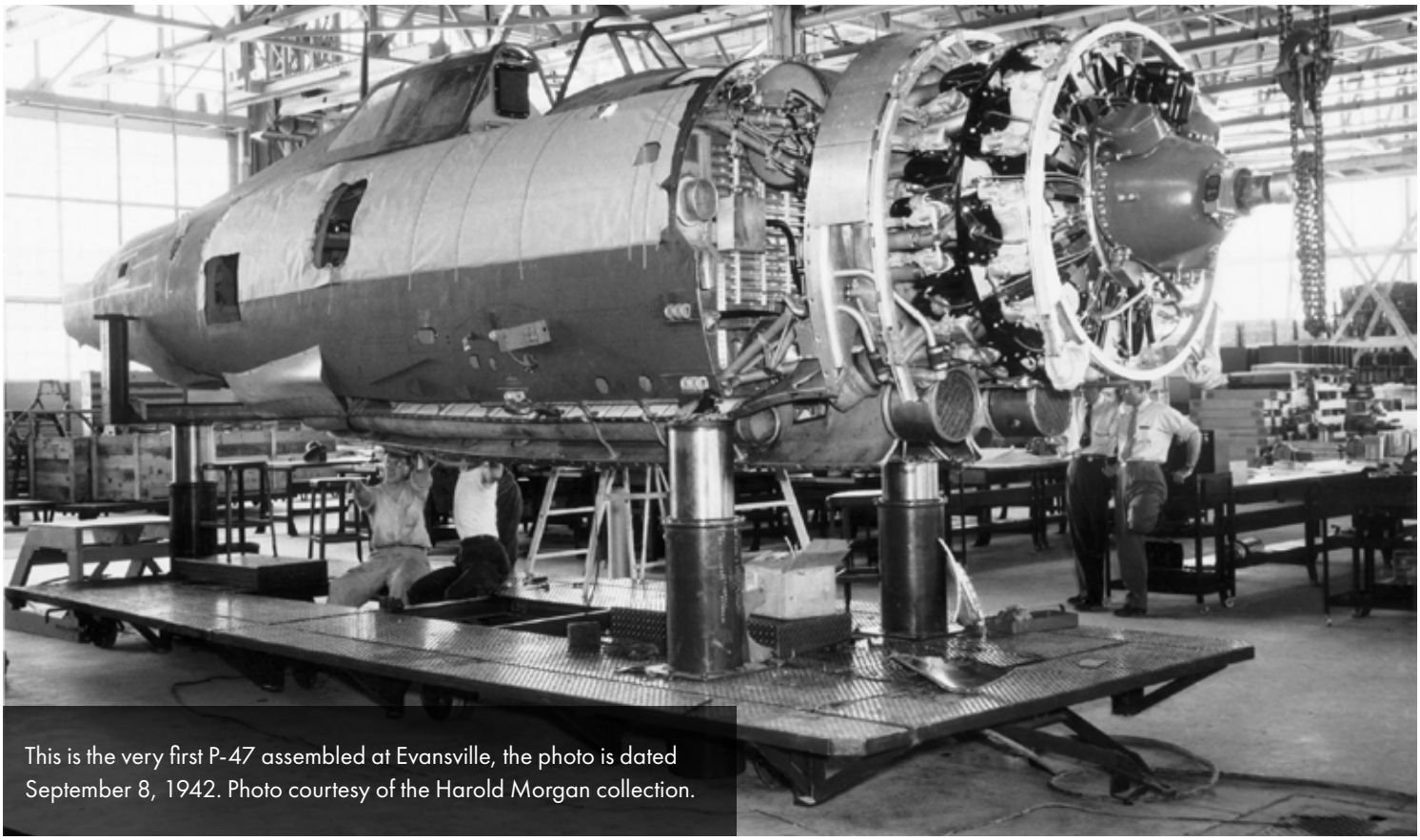
In light of their successful effort, I thought some photos from inside the Evansville factory would be appropriate.

The following photos were generously supplied by Harold Morgan of Evansville. Many were used in his highly recommended book *Home Front Warriors: Building the P-47 and the LST Warship in Evansville, Indiana During World War II.*



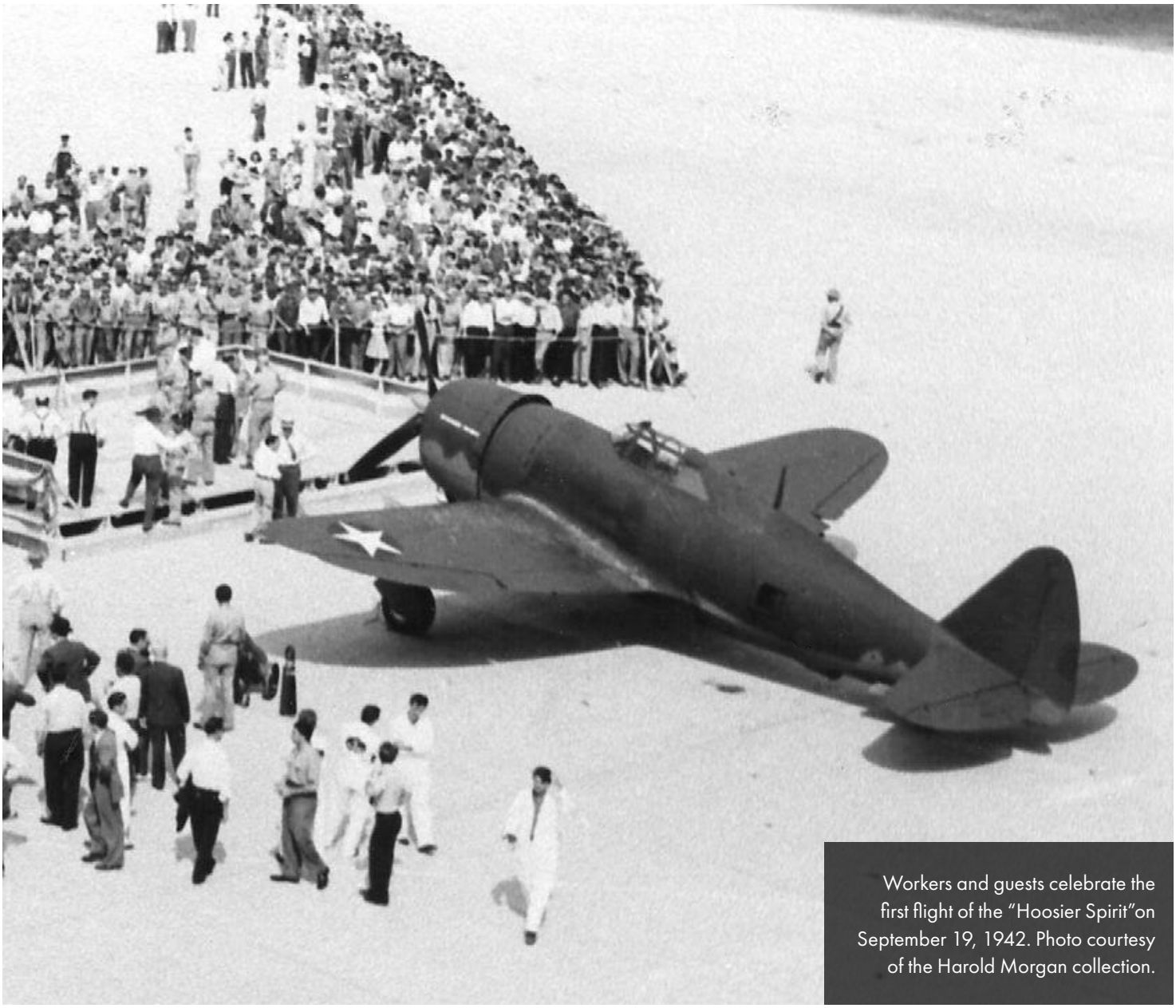
The Republic Aviation Evansville factory as it appeared in 1943. Photo courtesy of the Harold Morgan collection.

Before the Evansville production line was started, the first five P-47s were hand assembled.

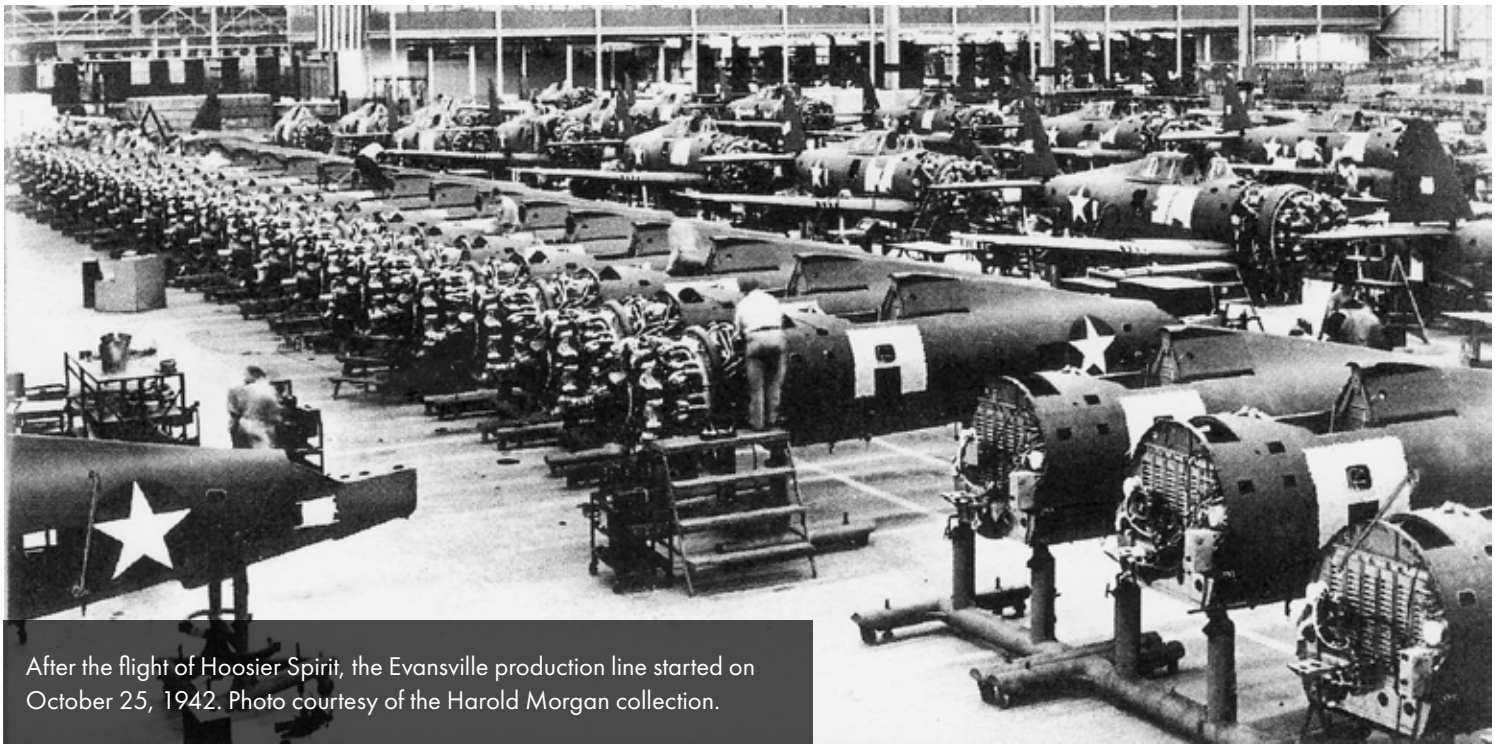


This is the very first P-47 assembled at Evansville, the photo is dated September 8, 1942. Photo courtesy of the Harold Morgan collection.

The first Evansville P-47 was christened "Hoosier Spirit". Photo courtesy of the Harold Morgan collection.

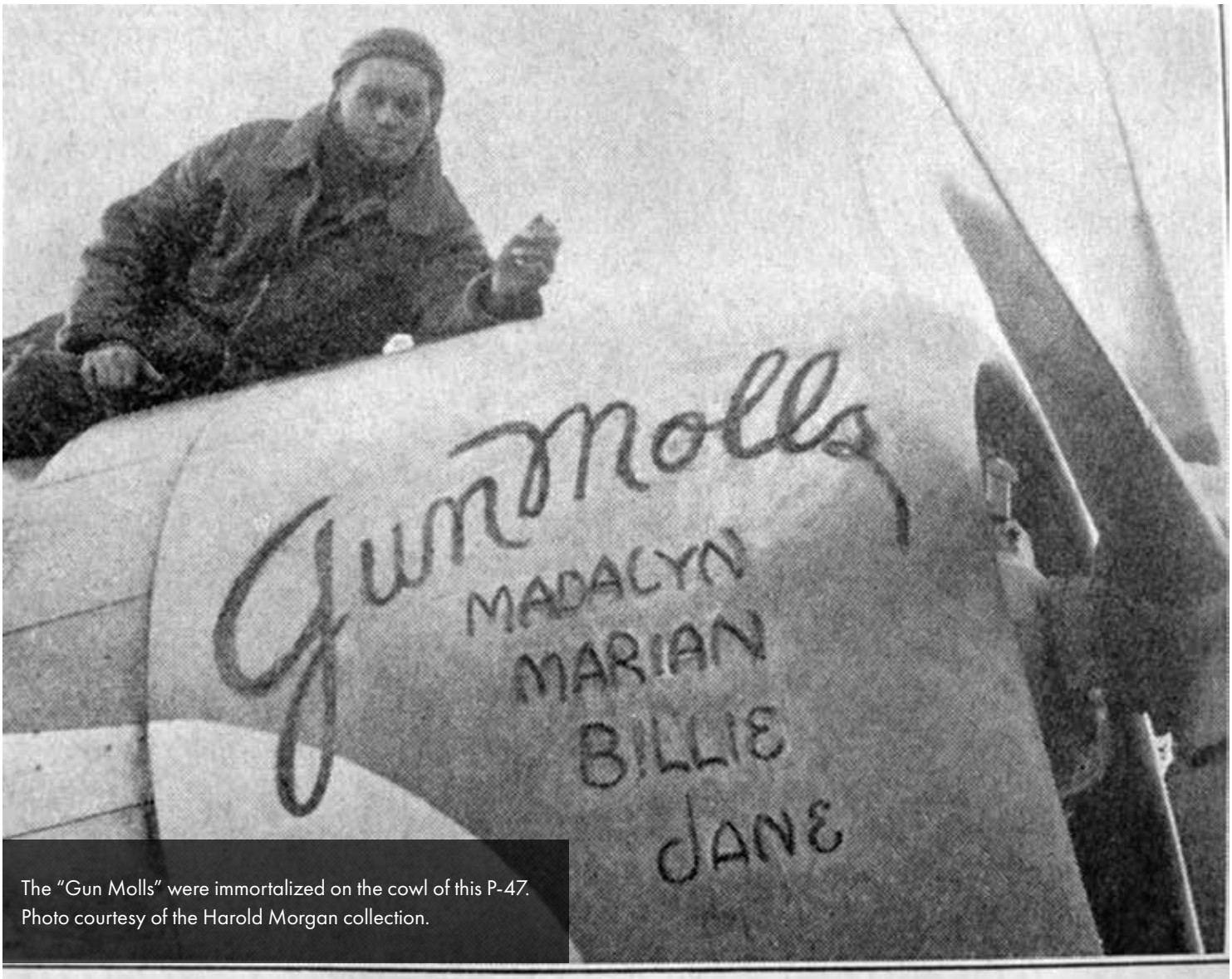


Workers and guests celebrate the first flight of the "Hoosier Spirit"on September 19, 1942. Photo courtesy of the Harold Morgan collection.



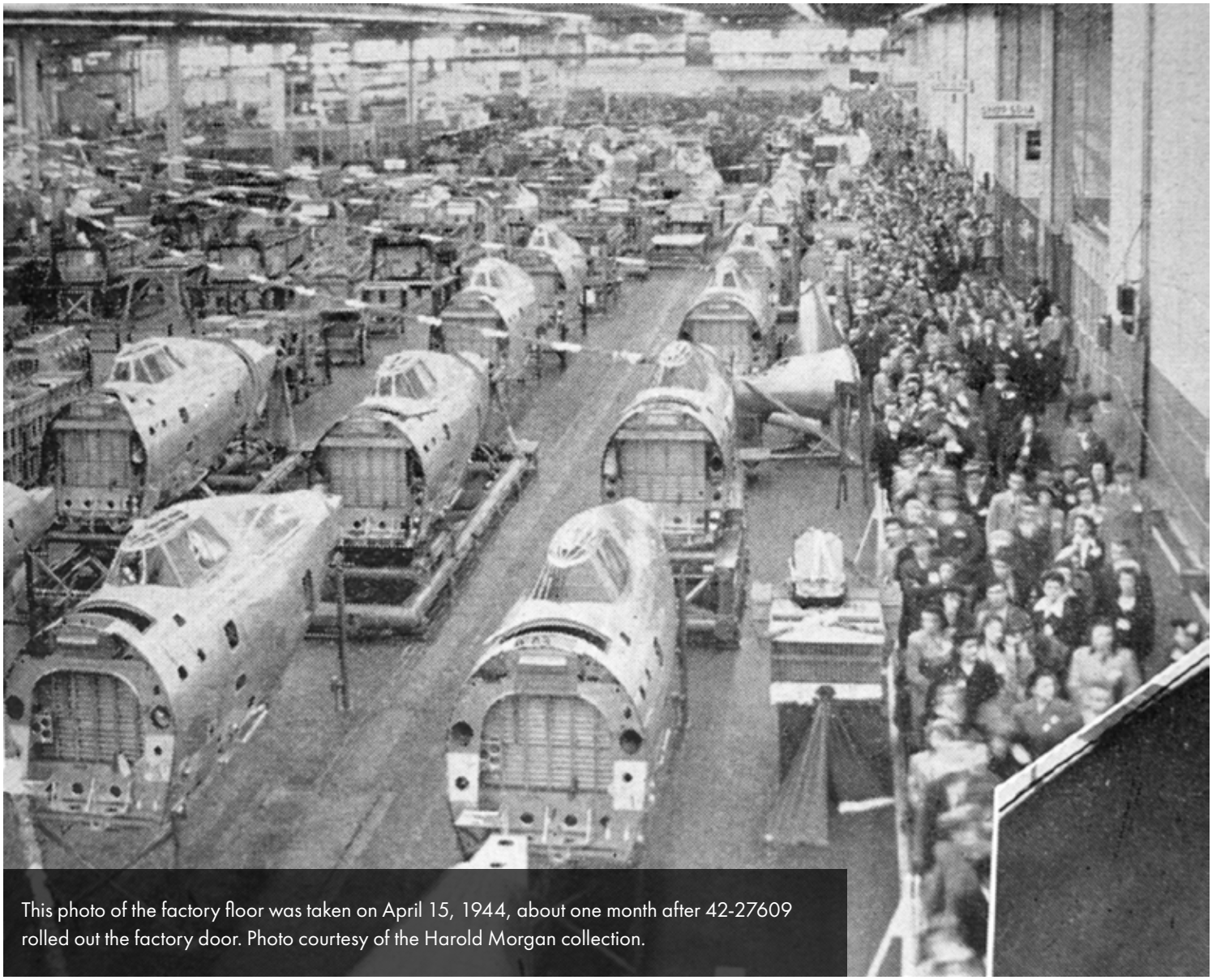
After the flight of Hoosier Spirit, the Evansville production line started on October 25, 1942. Photo courtesy of the Harold Morgan collection.

The women who worked as P-47 gun assemblers were nicknamed the "Gun Molls". Photo courtesy of the Harold Morgan collection.



The "Gun Molls" were immortalized on the cowl of this P-47. Photo courtesy of the Harold Morgan collection.

Sgt. Gertz and P-47 named for Raider armament girls.



This photo of the factory floor was taken on April 15, 1944, about one month after 42-27609 rolled out the factory door. Photo courtesy of the Harold Morgan collection.

The early P-47s required 22,927 man hours of labor and cost $68,750. By September of 1944, the man hours had been reduced to 6,290 and the cost to $45,699 per Thunderbolt.

The Evansville factory produced 6,242 P-47 Thunderbolts during WWII.

Indiana designated the Republic Aviation P-47 Thunderbolt as the official state aircraft in 2015.

[1] Harold Morgan, *Home Front Warriors, Building the P-47 and the LST Warship in Evansville, Indiana During World War II.* (Publisher Harold Morgan, 2011) Mount Vernon, Indiana