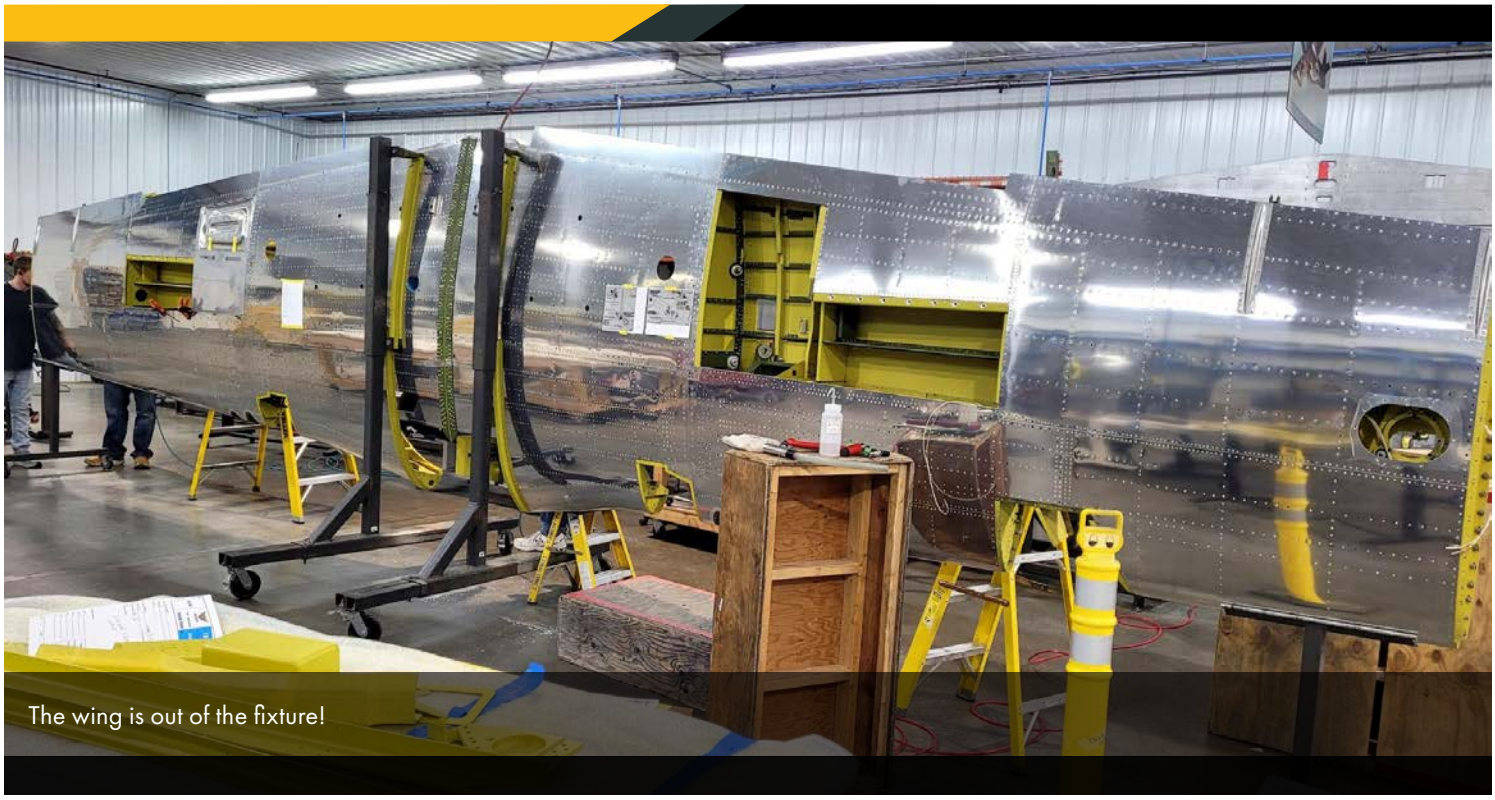
P-51B SHILLELAUGH WINTER UPDATE

Dakota Territory Air Museum's P-51B Mustang

by Chuck Cravens

AIRCORPS AVIATION



The wing is out of the fixture!

There has been great progress since the Fall update. The nose section is coming together, and probably most significantly, the wing has reached the stage in its assembly where it has been removed from the structural assembly fixture.

The color and marking schemes have been decided upon. The restored Mustang will carry the markings that were in place during the D-Day invasion.

Shillelaugh has been spelled several ways on David O'Hara's various Mustangs and marking variants. I will use the spelling "Shillelaugh" from now on because that is the spelling used on the chosen scheme.

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Fuselage

The radiator was checked for proper fit, and much progress was made on the cowl skin panels. The carburetor air duct installation is beginning.

The radiator is test-mounted.

The windshield and the openings for access covers. The panel for the lower opening is where Shillelaugh's pilot and crew names were painted.

The lower cowl panel is clecoed on for fitting.

The lower right side cowl panels with the clecoes replaced with permanent rivets.

The forward section of the carburetor air duct is test-fitted.

The Mustang's nose is taking its familiar shape as cowl panels are added to the right side.

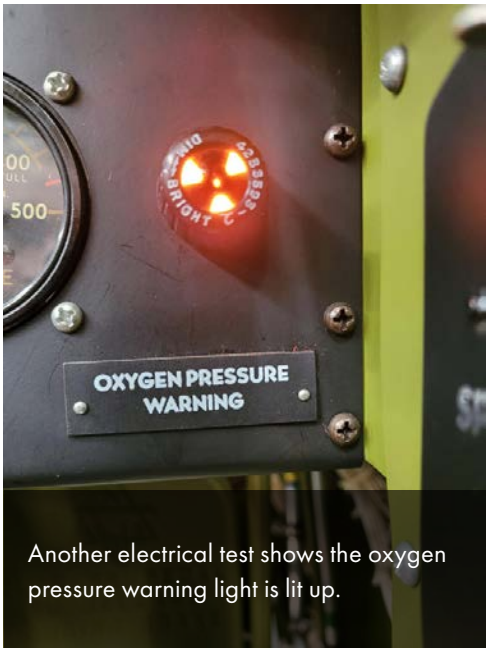
Cockpit

Systems installation and testing were important areas of effort in the cockpit. The instruments were installed in the panel. The electrical system was powered up, and lights and instruments were tested for proper functioning.

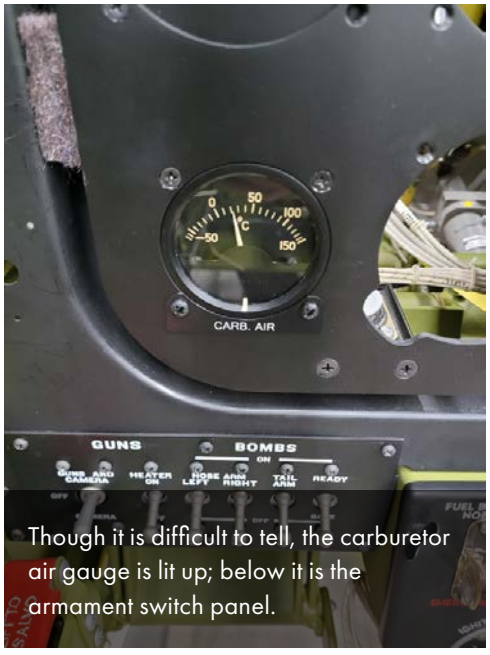
This wartime photo of a P-51B cockpit is in the same configuration as Shillelaugh's was.

Aaron works on fitting instruments to the panel.

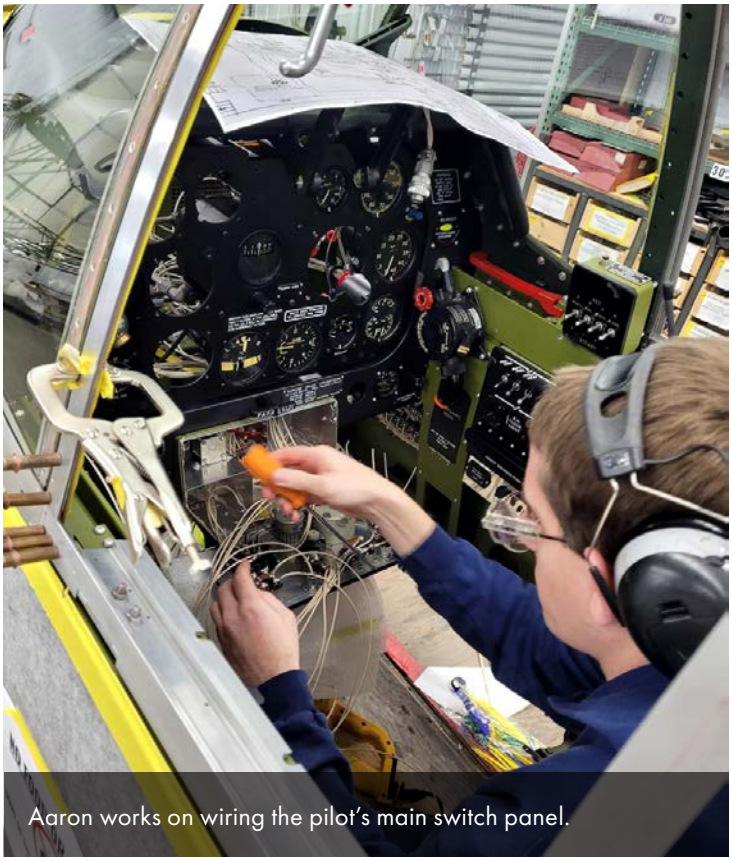
In this photo, Aaron has powered up the electrical system, and the formation light is lit. Also visible is the cotton webbing seal for the window.



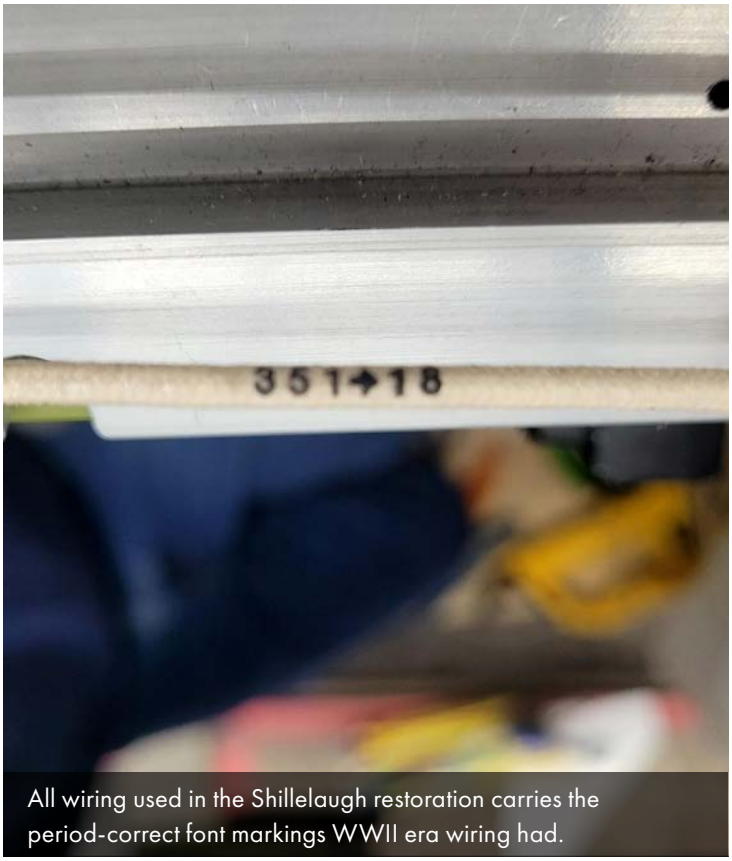
Another electrical test shows the oxygen pressure warning light is lit up.



Though it is difficult to tell, the carburetor air gauge is lit up; below it is the armament switch panel.



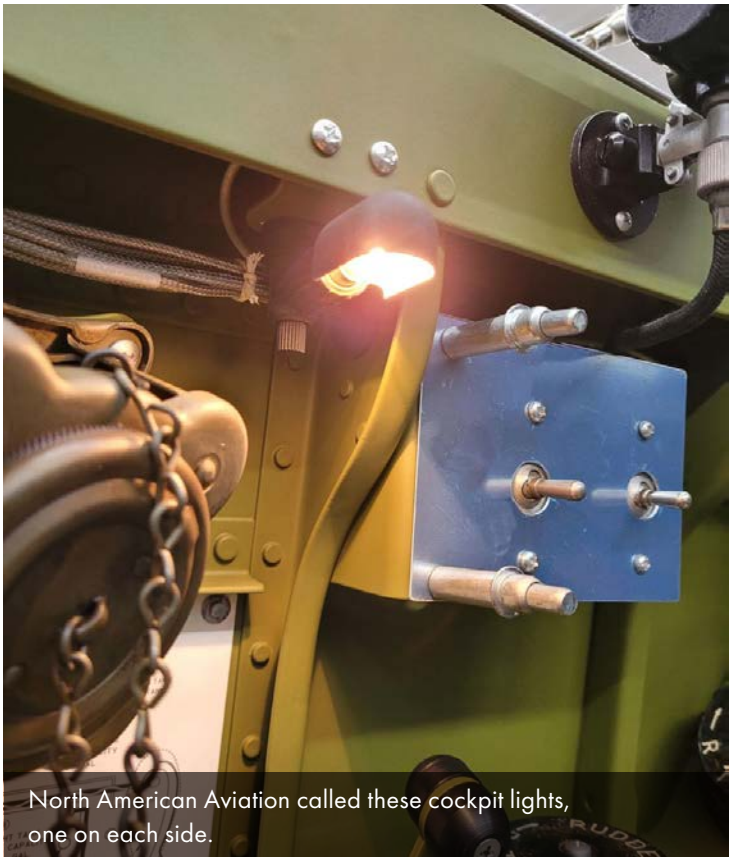
Aaron works on wiring the pilot's main switch panel.



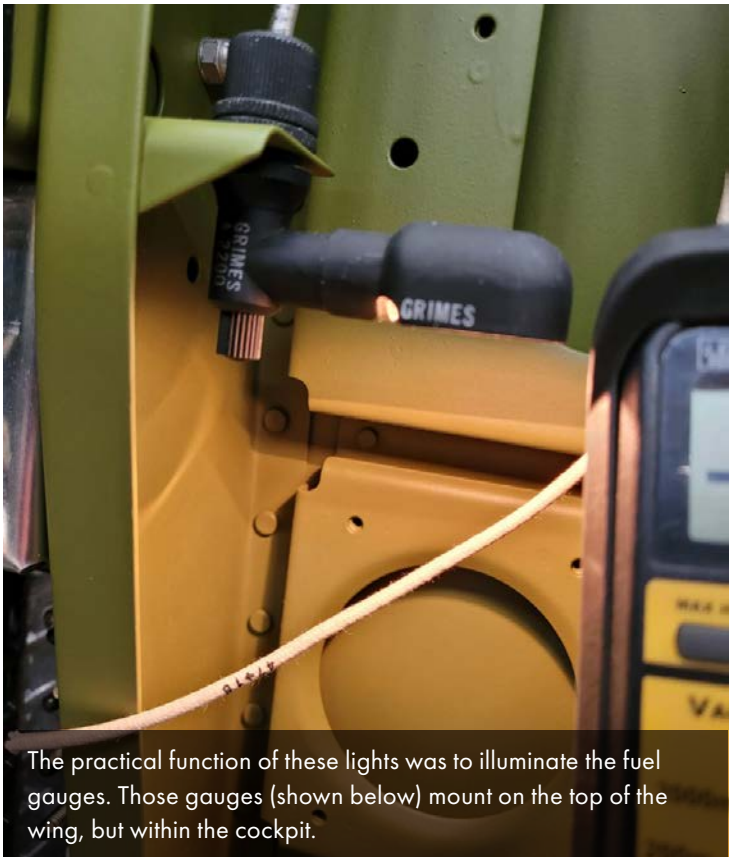
All wiring used in the Shillelaugh restoration carries the period-correct font markings WWII era wiring had.

The black cylindrical object slightly to the left and above the center of this photo is the map-reading light.

When not in use, the light can be stowed in a bracket against the left side of the cockpit.



North American Aviation called these cockpit lights, one on each side.



The practical function of these lights was to illuminate the fuel gauges. Those gauges (shown below) mount on the top of the wing, but within the cockpit.

When installed, this wing tank fuel gauge face is oriented horizontally and is visible to the pilot on his lower right or left. When the float is positioned as shown, the gauge indicates a full tank.

When the fuel in the tank is used up, the float drops to this position and the gauge indicates an empty wing tank.

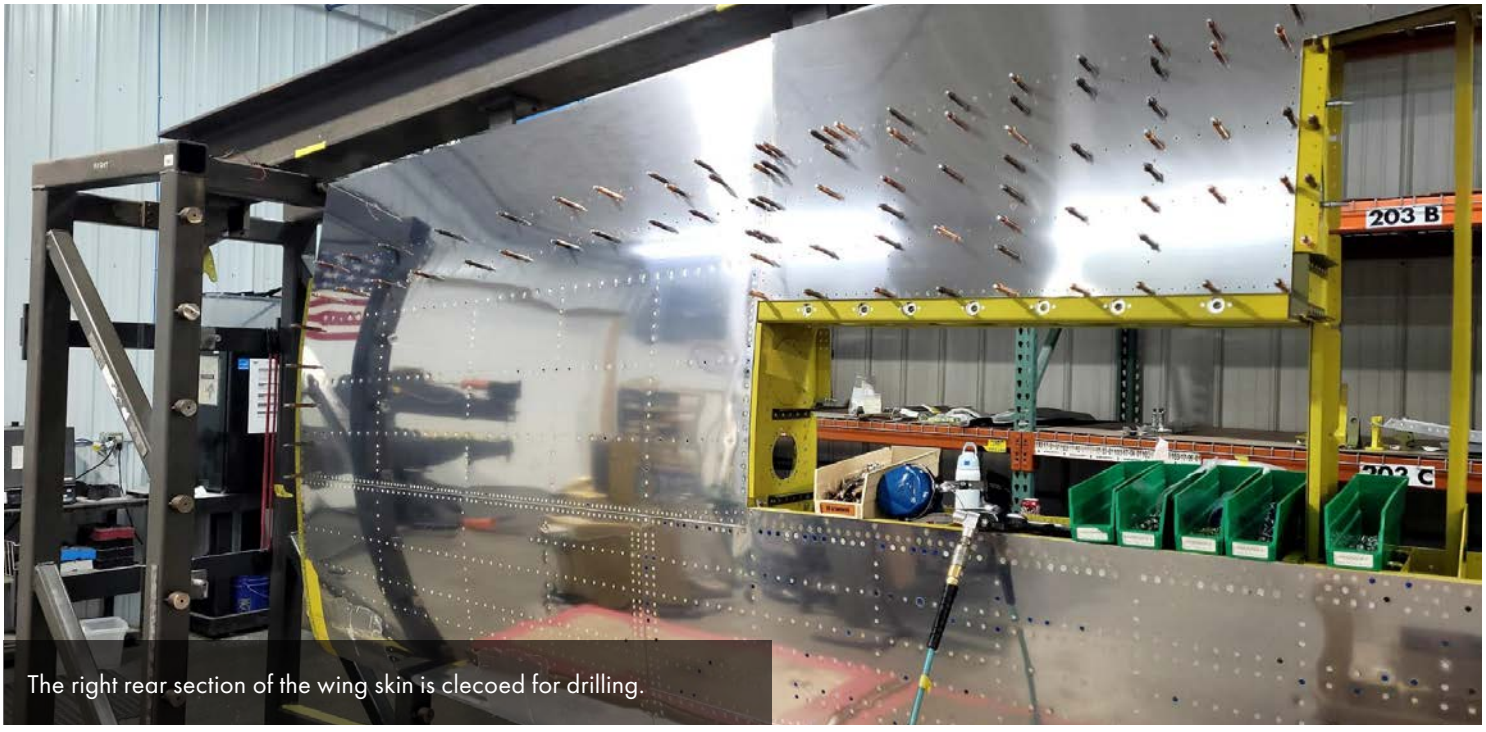
The two large holes in the upper wing skin are where the fuel gauges mount.

The cockpit floor has wells that extend down to the gauges, which make the gauges difficult to see because they are in shadow near the pilot's feet. The unfinished well is in Aaron's left hand.

Wings

The wings are progressing nicely; in fact, a major milestone was achieved when the wing was removed from the fixture and mounted on rolling dollies to add the final components and landing gear.

Brad places sections of wing skin in place as the process of trimming, drilling, and riveting begins.



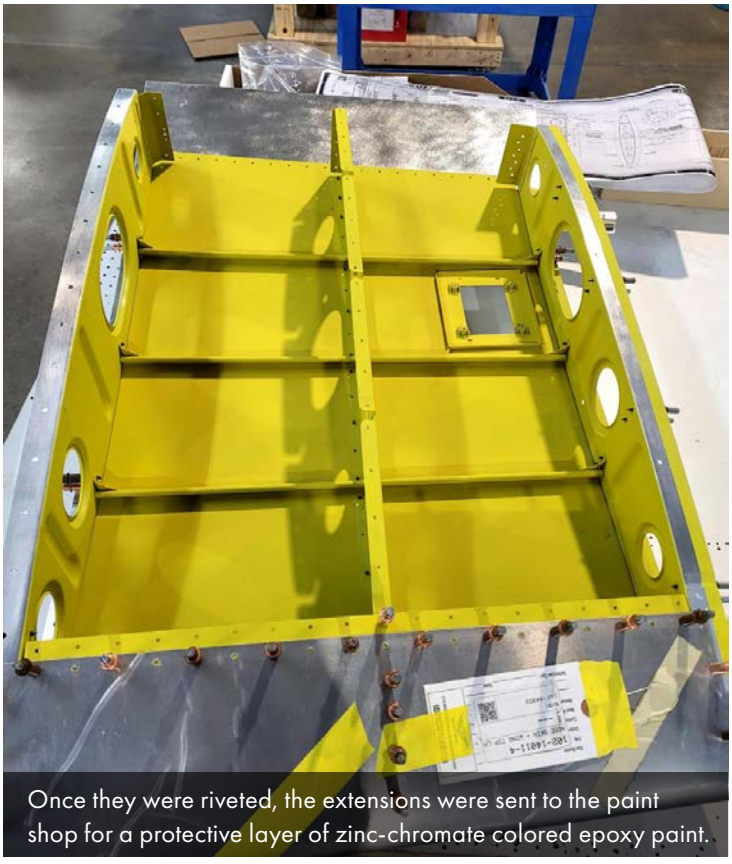
The right rear section of the wing skin is clecoed for drilling.

The left-wing skins are progressing in parallel to the right.

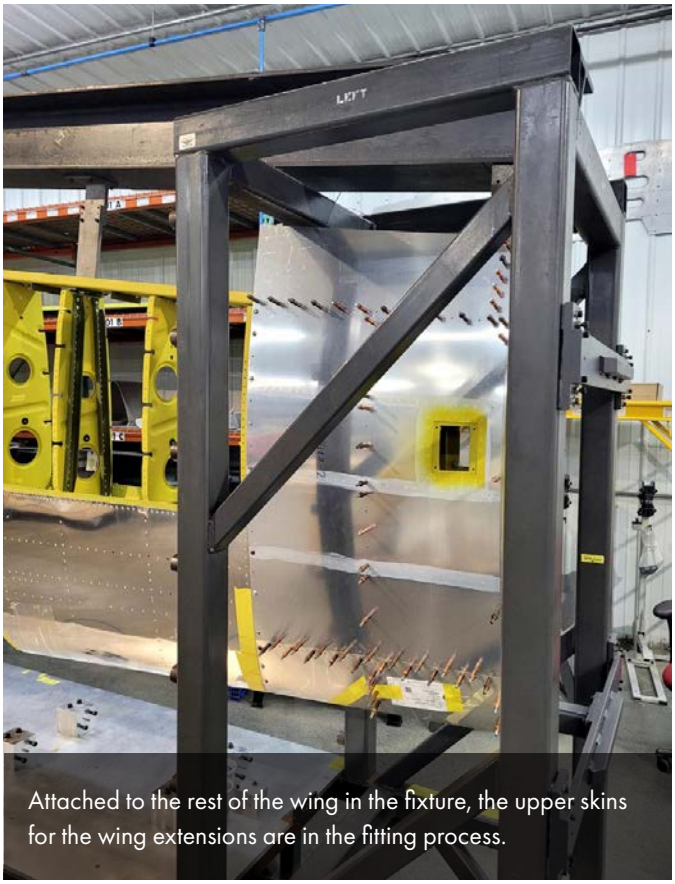
Clecoes have been replaced with rivets on the left wing.

Steve works on the wing fuel tank.

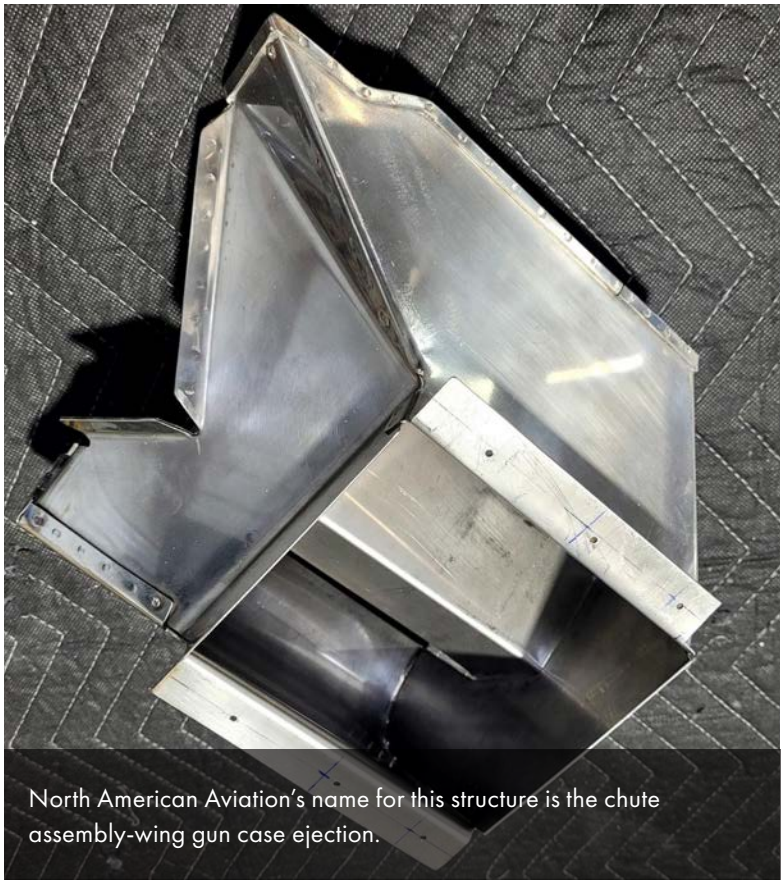
The ribs and other frame pieces for the wing extensions are assembled in the wing fixture.



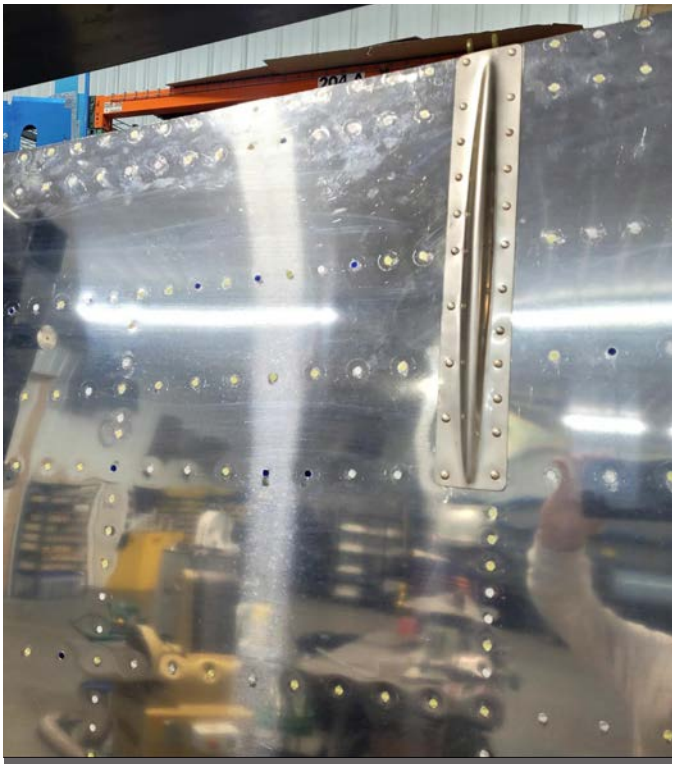
Once they were riveted, the extensions were sent to the paint shop for a protective layer of zinc-chromate colored epoxy paint.



Attached to the rest of the wing in the fixture, the upper skins for the wing extensions are in the fitting process.

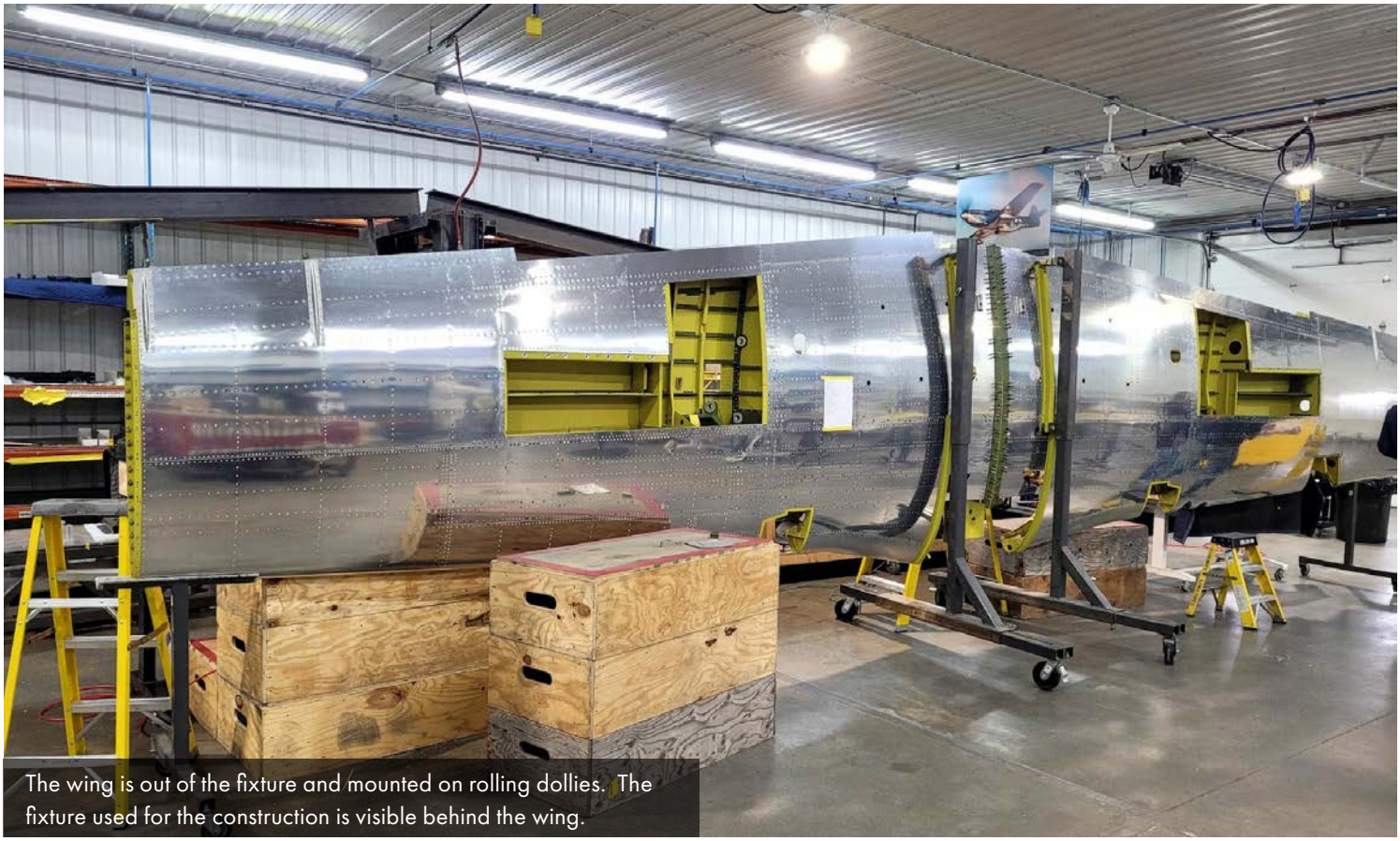


North American Aviation's name for this structure is the chute assembly-wing gun case ejection.



Stiffeners have been added to both wings, just inboard of the wing extensions.

The part number for this one is 102-61111-1. The final dash 1 indicates that this assembly is for the right wing. The assembly that would go in the left wing would not have the dash 1 at the end, (102-61111)



The wing is out of the fixture and mounted on rolling dollies. The fixture used for the construction is visible behind the wing.

Neil works on the underside of the wing.

Colors and Markings

This photo is an important resource in determining the final appearance of the Shillelaugh restoration.

One of the most challenging and also enjoyable tasks in any restoration is deciding upon and documenting the final color and marking scheme. For WWII fighters, it is critical to know what precise time period will be represented, because markings like invasion stripes and victory symbols change more frequently than most would imagine. Sometimes the paint is refreshed and changed at the depot level, which happened to Shillelaugh/ Shillelagh. From August 7 through August 10, there were 5 days when FT-P did not fly in combat; this period is the most probable time for Shillelaugh to have been sent to a repair depot for maintenance, and to have had the noseart changed and the upper invasion stripes removed from the wing and fuselage.

The color and marking schemes have been decided upon for the Shillelaugh P-51B restoration. As mentioned earlier, the restored Mustang will carry the markings that were in place during D-Day and immediately afterward until the invasion stripes were removed on the upper surfaces (Late June/Early July '44): On July 7, 1944, the first order appeared directing the removal of the stripes from the upper surfaces to reduce enemy spotting from above. It took some time to comply, but by the time Shillelaugh was lost on August 16, 1944, the majority of US European theater fighters had the upper stripes removed.

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Artist rendering by Gaetan Marie