



May/June-2018

MAY/JUNE

Dakota Territory Air Museum's P-47 Update
by Chuck Cravens



AIRCORPS AVIATION



Skin sections are going on the P-47 forward fuselage.



Update

This month a lot of work was done on preparing the lower fuselage frame for skinning. The production of skins is a process involving cutting, trimming, many trial fittings, and finally riveting the new skin sections in place.

At the same time, the upper fuselage components are being prepared for the next step in restoration.

Also this month, the wings we have are being disassembled and prepared to be used as patterns. Wing parts are also being inspected and classified as reusable or for patterns.

Lower Fuselage Frame

After months of work, the lower forward fuselage frame has been permanently assembled and the last few steps before skinning took place.



Robb works at trimming one of the wing attachment doubler plates.



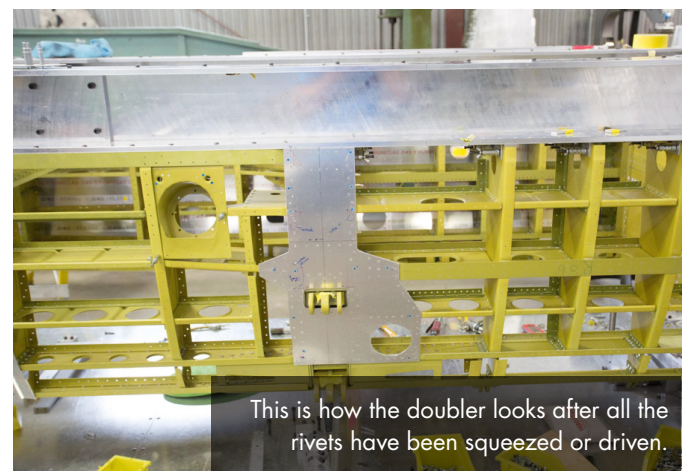
Here the doubler is clecoed in place; it reinforces the wing attach area.



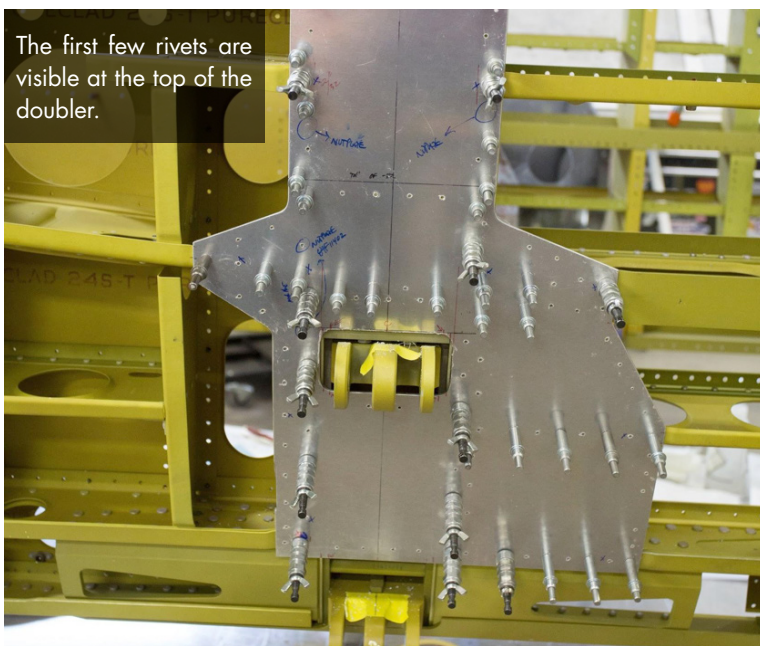
Randy works at finishing the riveting.



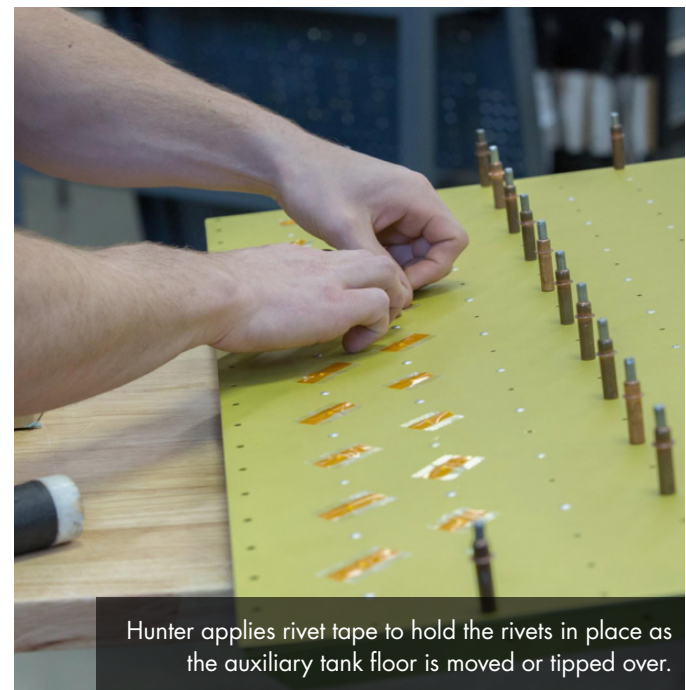
Randy uses a hand rivet squeezer to begin attaching the doubler permanently.



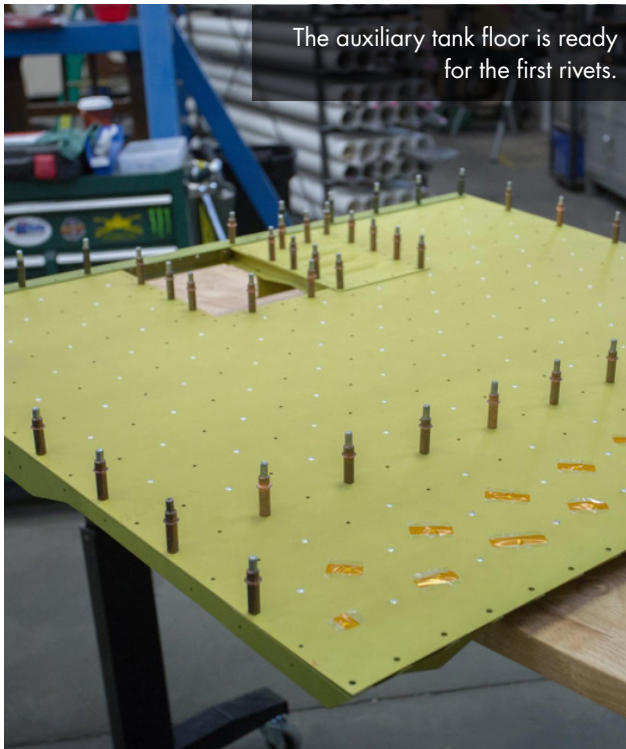
This is how the doubler looks after all the rivets have been squeezed or driven.



The first few rivets are visible at the top of the doubler.



Hunter applies rivet tape to hold the rivets in place as the auxiliary tank floor is moved or tipped over.



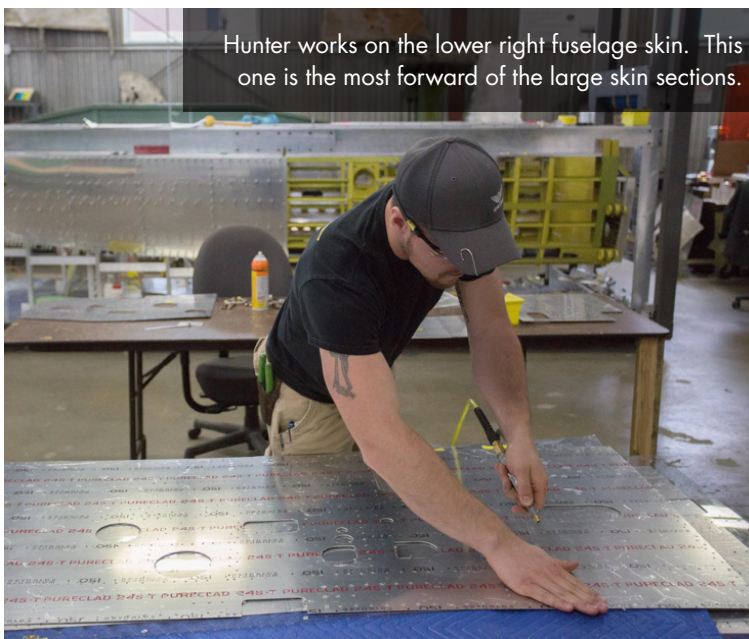
The auxiliary tank floor is ready for the first rivets.



The lower fuselage framework is ready for skinning.

Skins

The underlying frame of the lower P-47 fuselage is completely painted and reassembled. Next is the long process of producing skins. First, a clear plastic template is created using both the engineering drawings and test-fitting it in place on the actual fuselage. Then, once the template fits perfectly, an aluminum skin is cut, drilled, and fitted.



Hunter works on the lower right fuselage skin. This one is the most forward of the large skin sections.



The rectangular hole is where the intercooler cooling air exit doors will go.



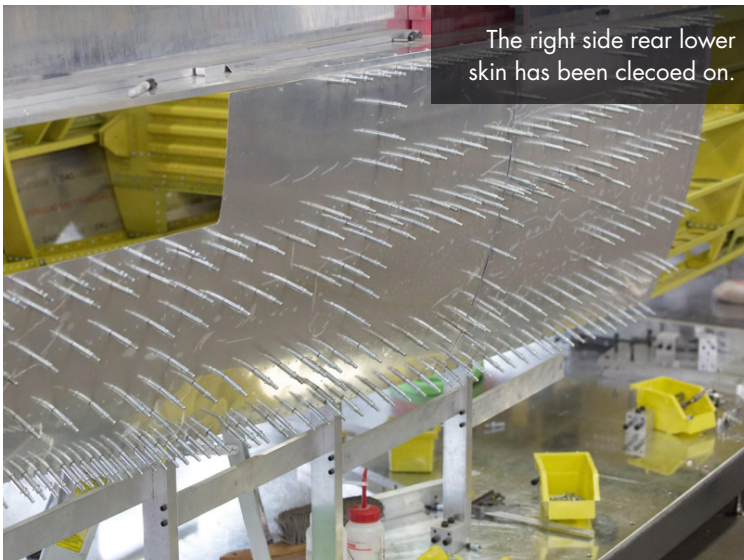
The left side, forward lower skin is clecoed on.



The right side rear framework is shown before skin fitting.



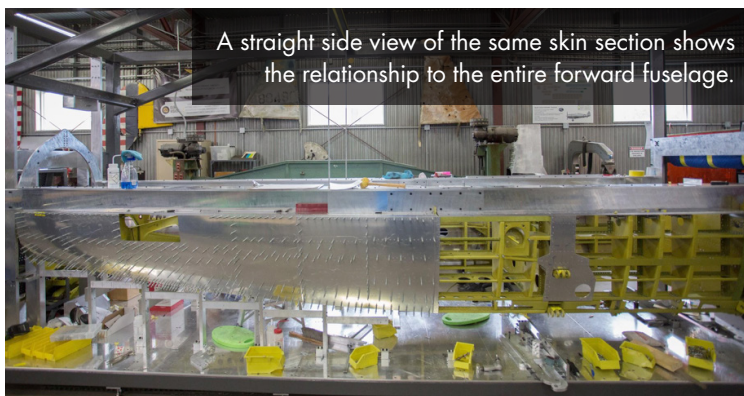
The left side rear fuselage framework is the mirror image of the right side before skins.



The right side rear lower skin has been clecoed on.



Robb duplicates the process on the left side of the rear lower fuselage.



A straight side view of the same skin section shows the relationship to the entire forward fuselage.



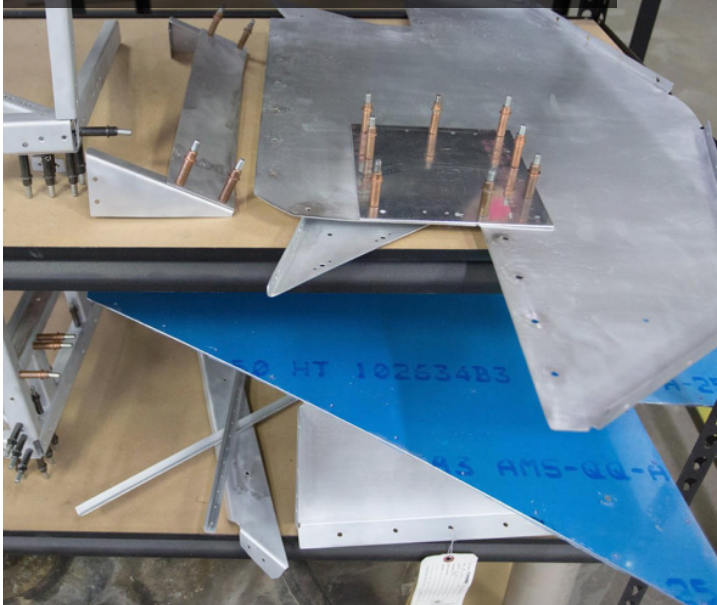
The right side has the same opening.



Upper Fuselage Components

Permanently skinning the lower forward fuselage signals the impending completion of this step so parts for the next step of assembling the upper fuselage are being prepared. That ensures the restoration will continue without delays once the lower forward fuselage is done.

Christmas tree tank parts await assembly on a shelf. The Christmas tree tank is a unique feature of this P-47; they were installed in some P-47s in the SW Pacific theater in an attempt to increase the P-47's range.



Lance presses out an old bearing from the P-47 control stick.



Parts that will make up the top fuselage frame await completion of the lower fuselage.



Here is a closer view as the bearing is pressed out.



Wing Disassembly and Inspection



Here Denzil is stripping paint from flap hinge fittings. The large hole would contain a bearing that the flaps rotate on as they are extended and retracted.



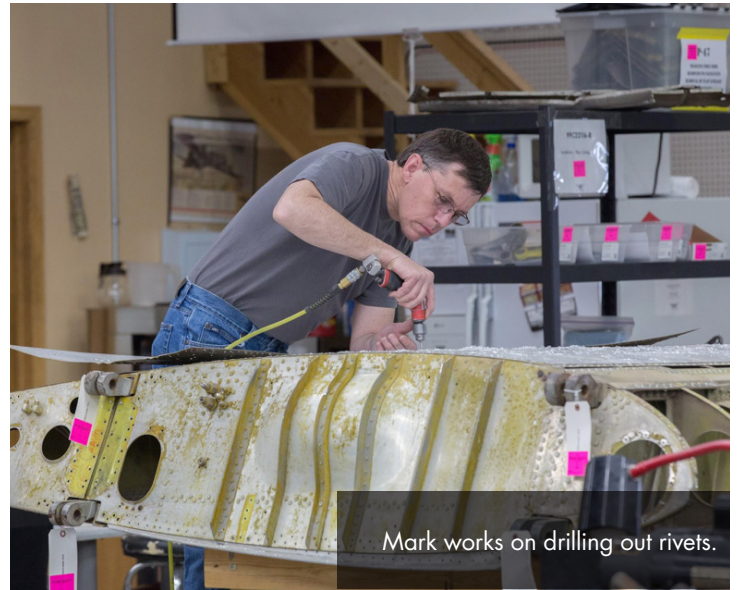
The plastic helps do the job without wasting too much stripper.



In this shot we can see the rear section of a wing rib and flap linkage.



The rivets have been drilled out and the skin removed from this wing section.



Mark works on drilling out rivets.

Restoration Shop Manager: Ryan Underwood



Ryan Underwood is our restoration manager. He has been with AirCorps almost from the day the doors opened in 2011. He is a Bemidji native and a great example of the available workforce in this part of the country where many folks still have skills working with their hands.

Ryan has a Bachelor of Science in industrial technology and his early career was in the field of construction management. His attention to detail and efficient management of the restoration workflow are big reasons for the quality reputation AirCorps Aviation's warbird restorations have earned.

Ryan is a licensed private pilot. He is really looking forward to working on one of the projects coming up after the P-47 - that project is the P-38 Lightning, his favorite warbird.