P-51C THUNDERBIRD PART 6

Dakota Territory Air Museum's P-51C Thunderbird

by Chuck Cravens

AIRCORPS AVIATION

Thunderbird has its engine!

DAKOTA TERRITORY AIR MUSEUM

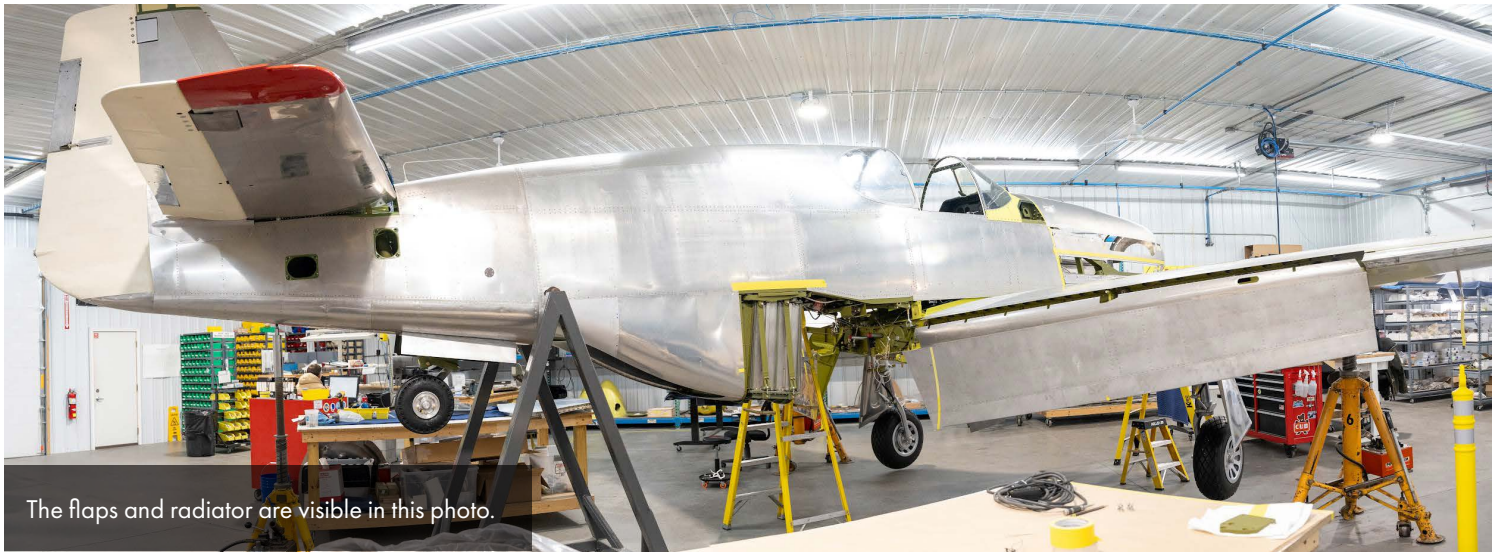
www.dakotaterritoryairmuseum.com

This month the dash to completion was the theme for Warren Pietsch and the AirCorps Aviation restoration crew. The overhauled Merlin came in not too long after the airframe was moved to the AirCorps hangar at Bemidji Regional Airport. Before the move, work on the airframe, scoop, radiator, various fillets, cowling panels, and cockpit had to be completed.

Here is the newly overhauled Merlin V-1650 in place.

Airframe Work

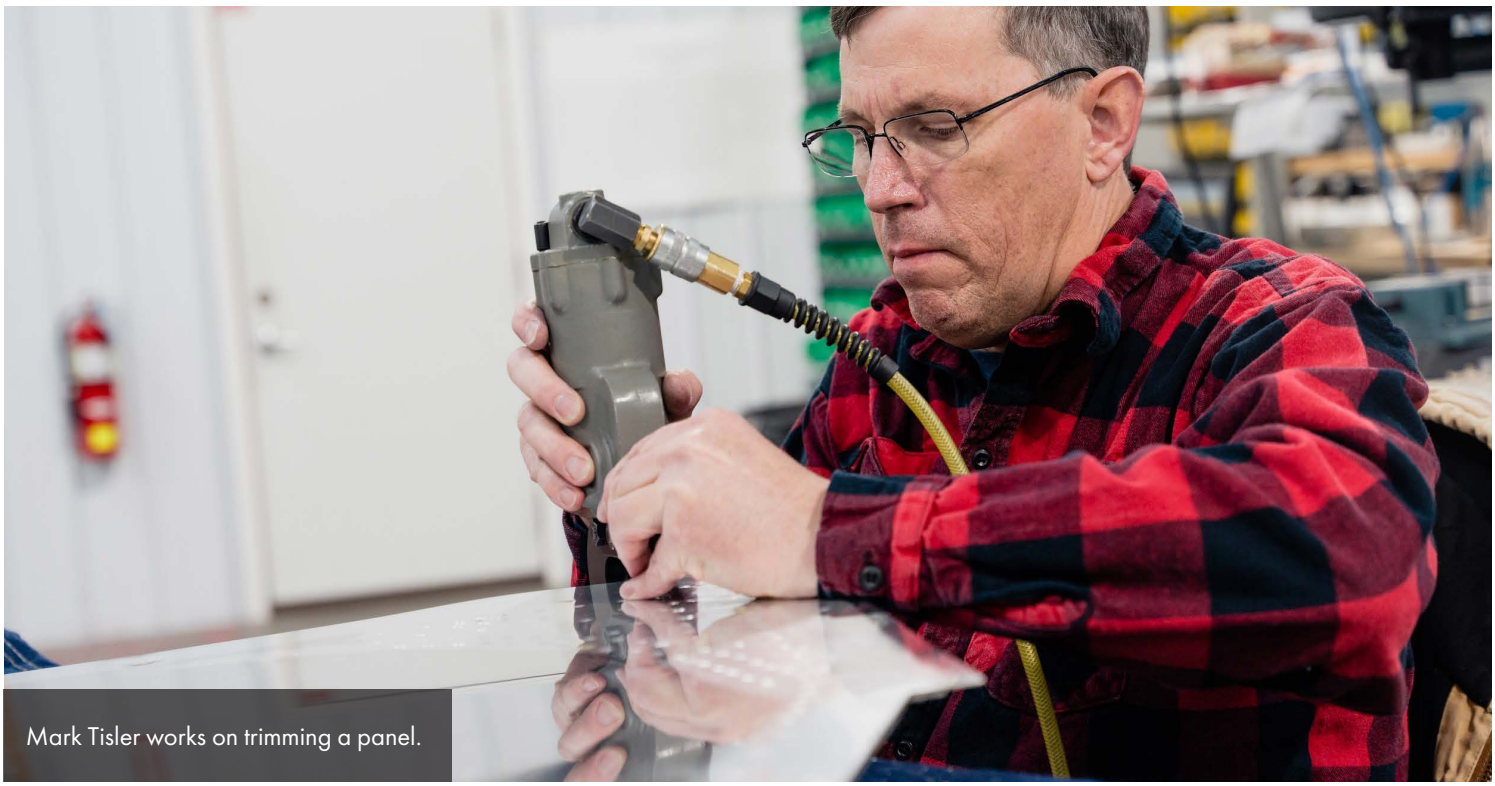
Many details were taken care of as the yet-to-do checklist was shortened before the move to the airport.



The flaps and radiator are visible in this photo.

Trim tabs and the control linkages to operate them were completed.

Another view of the tail surfaces shows the position of the rudder and elevator trim tabs.

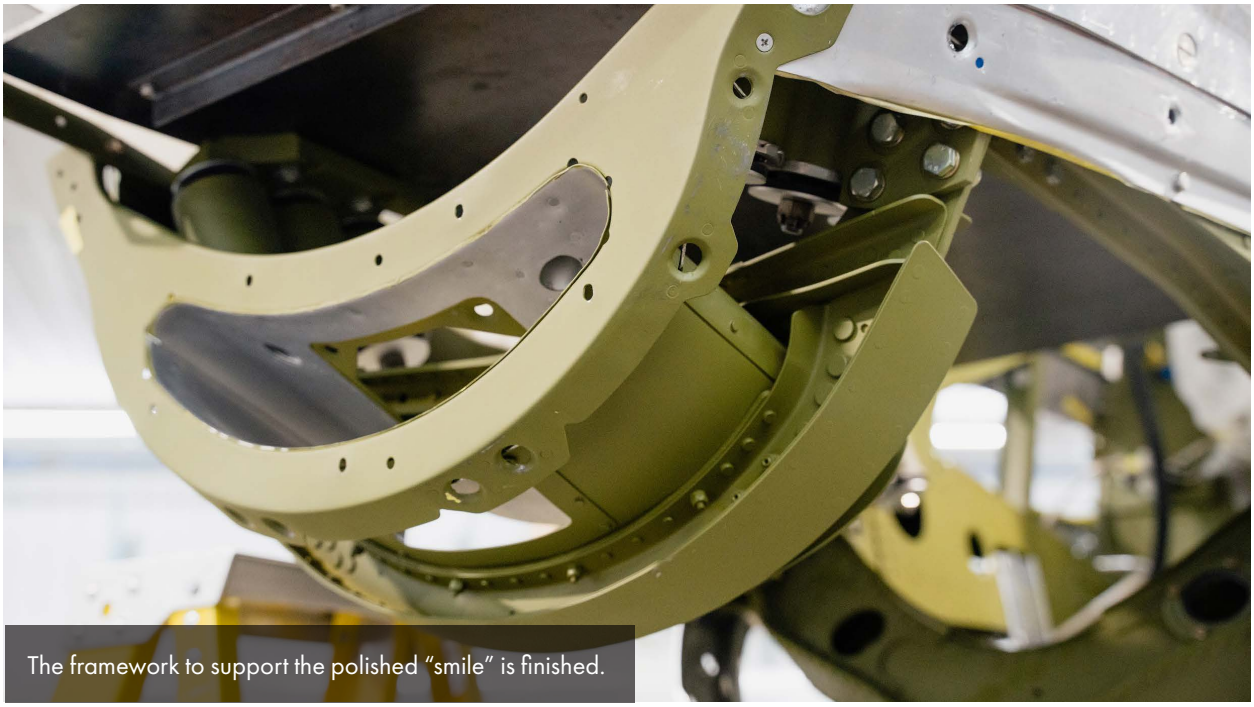


Mark Tisler works on trimming a panel.

The landing gear doors look good.

A hand pump was used to pressurize the landing gear hydraulics as gear swings were completed.

Here is a close-up of the hand pump.



The framework to support the polished "smile" is finished.

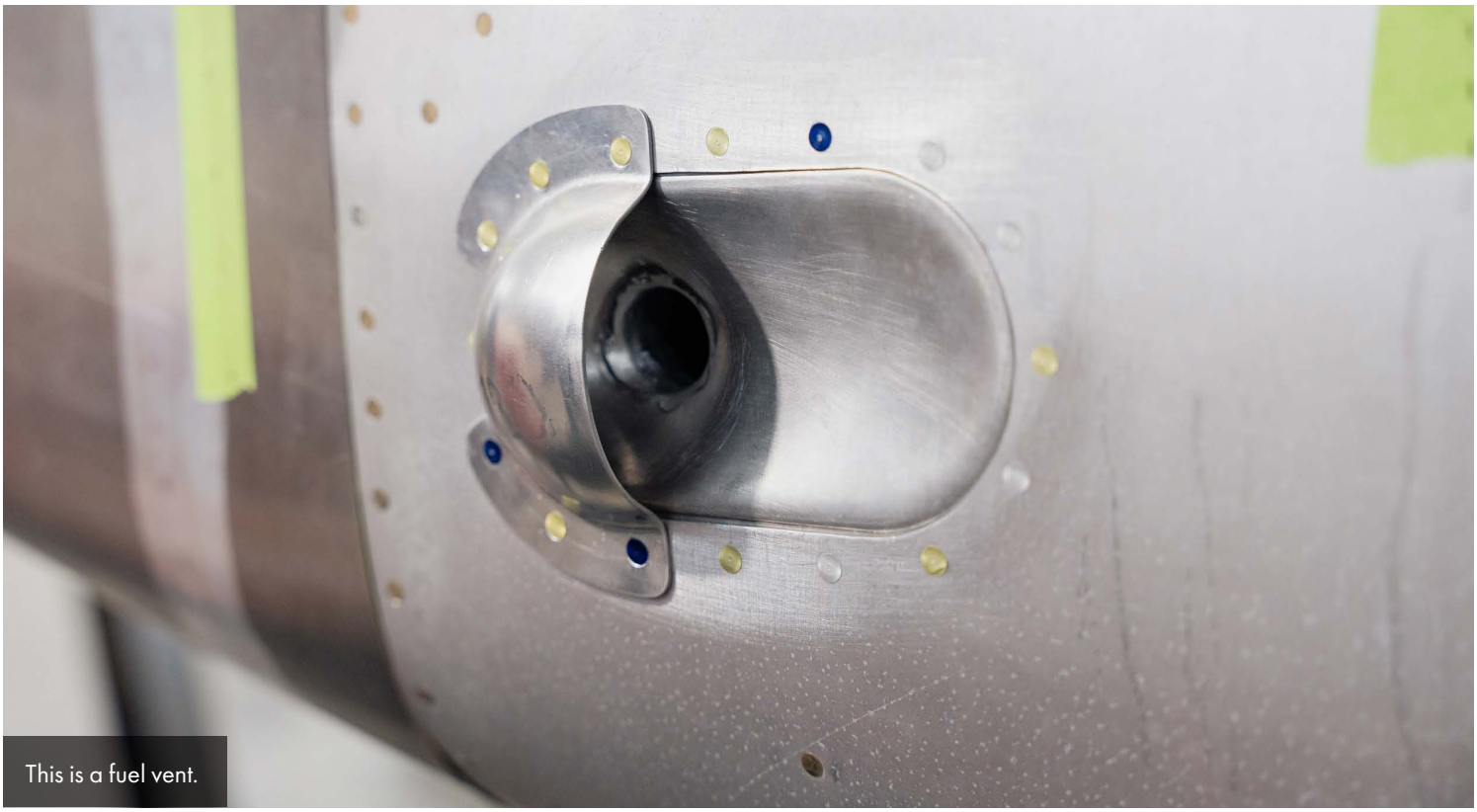
Mounts are in place and ready for the engine.

Gear doors and linkages were finished.

The elbow directing intake air to the carburetor is shown here.

The pitot tube was installed in the right wing.

Aileron control cables were completed.

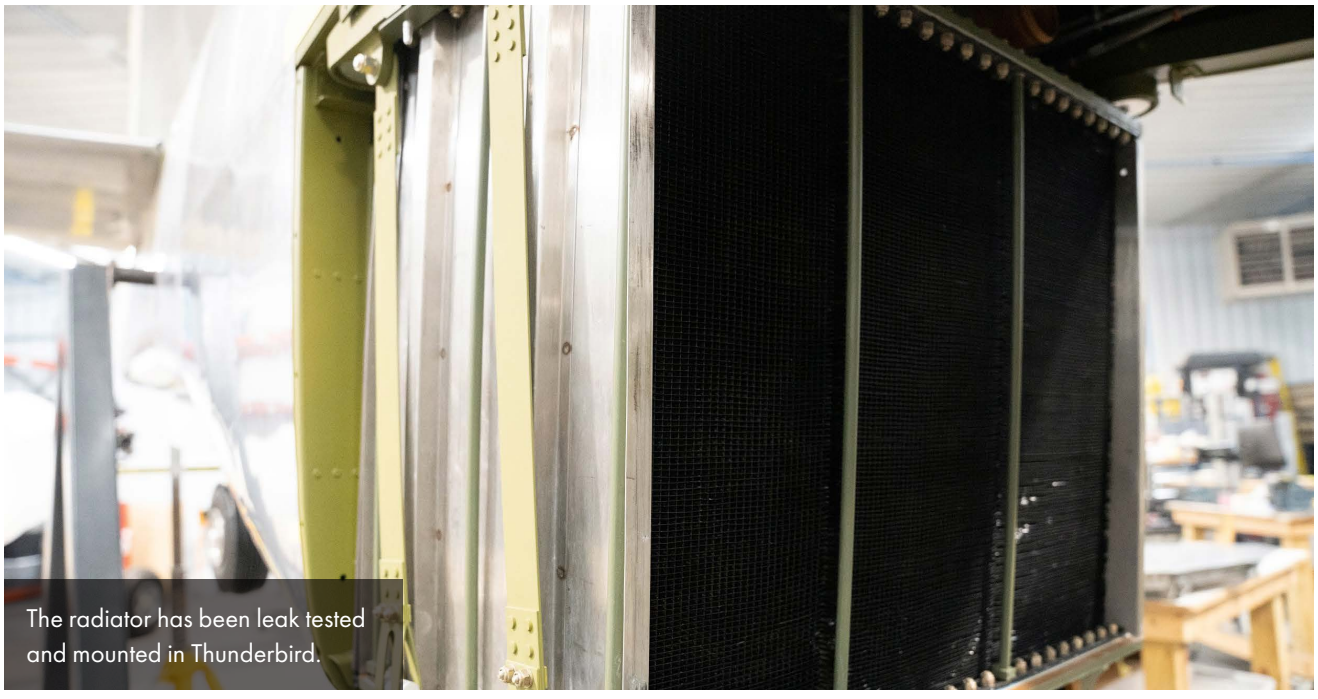


This is a fuel vent.

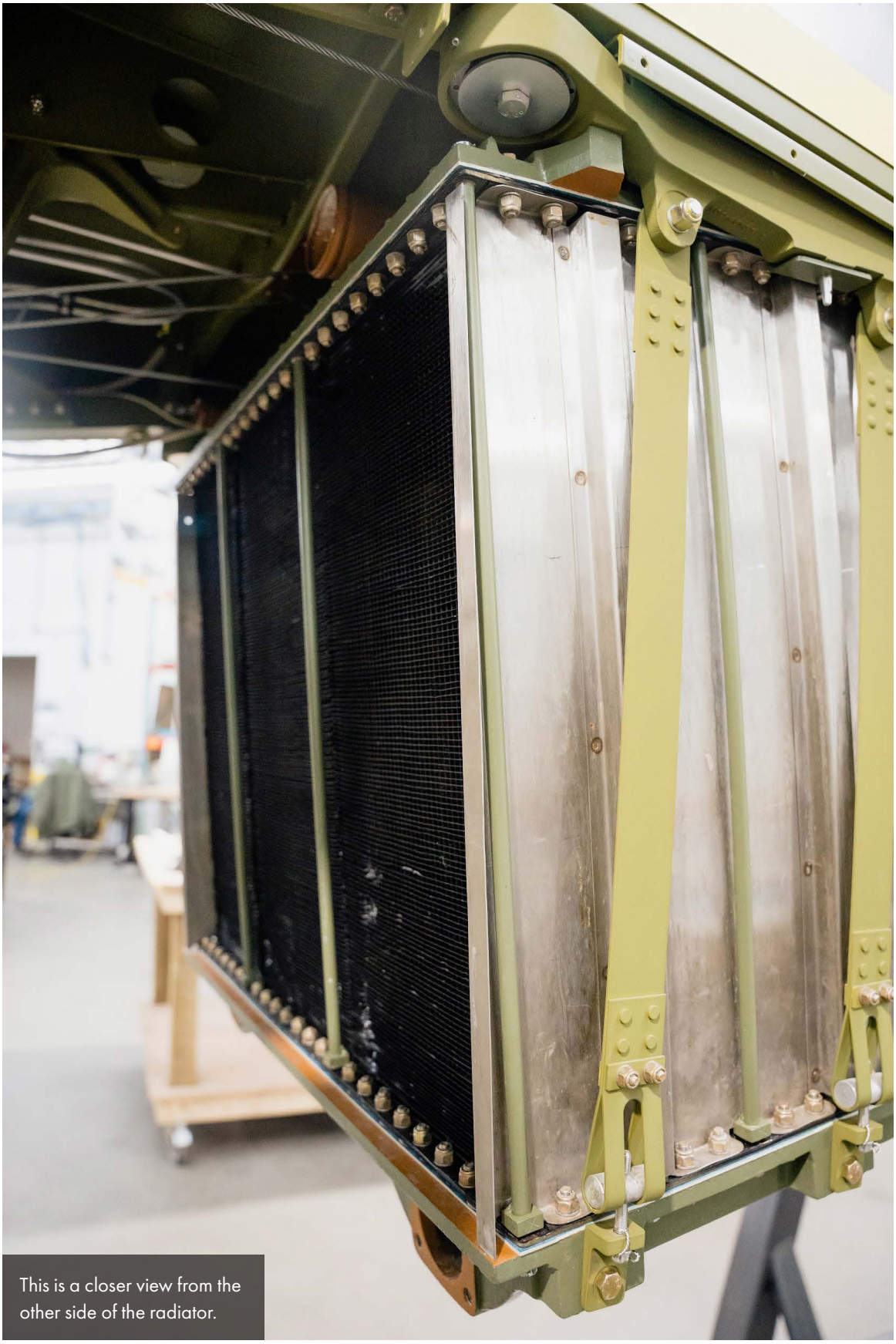
Scoop and Radiator

The radiator and the scoop that houses it are critical components for reliability in Mustangs.

The radiator section of the scoop sits on a bench before installation.



The radiator has been leak tested and mounted in Thunderbird.



This is a closer view from the other side of the radiator.

Fillets

The wing and tail fillets on a Mustang are true metal forming artistry and require intricate forming of complex curves in the aluminum skin. Randy Carlson came over from his shop, Carlson Metal Shaping in Fargo, to take care of this specialized work.

The wing root fillets look great.

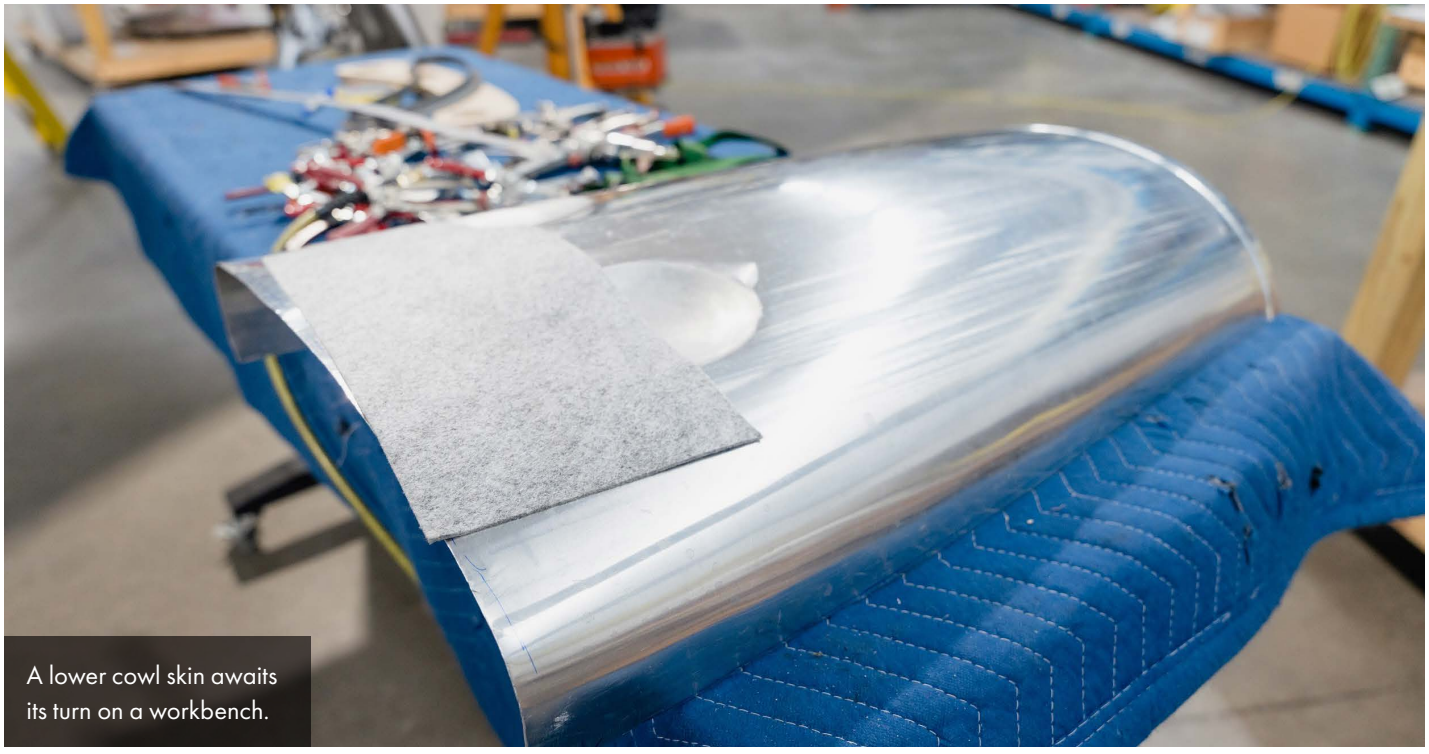
A rear angle shows the weld that joins the upper and lower left-wing root fairings.

Here we see the right-wing root fairings.

Cowling Panels

Another area that requires skilled metal-forming artistry is the fitting of the cowl panels.

Mike Izzo works on one of the upper cowl panels.



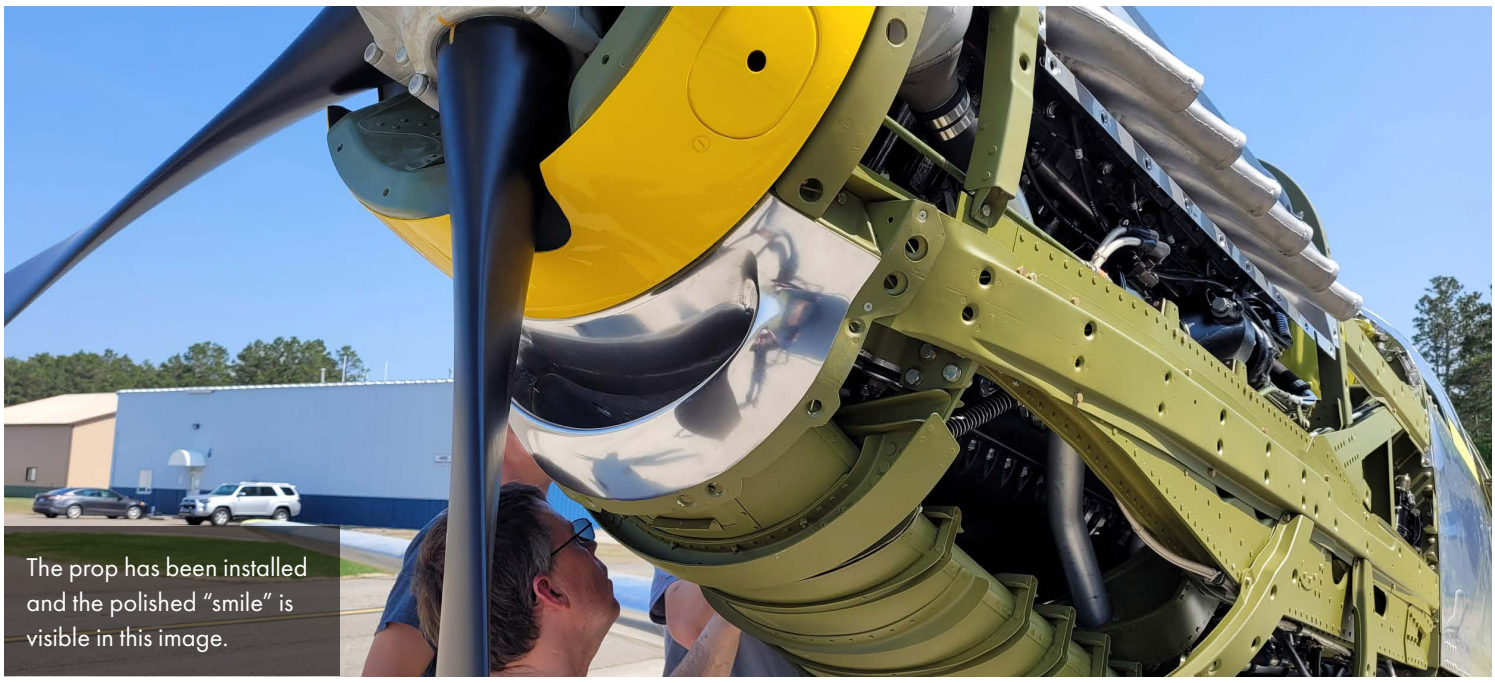
A lower cowl skin awaits its turn on a workbench.

The tight and intricate curves required to fit the cowl skins to the front structure are clear in this shot.

The lower right side of the cowl has been completed in this shot with the stainless panel that surrounds the exhaust stacks is clecoed in place for fitting.

The skin panel that covers where a Mustang ordinarily has air vent holes leading to the air filters has been completed. The lack of air holes was part of the effort to reduce drag on this Bendix racer.

There's more fitting work for Mike as the upper nose skin is finished.



The prop has been installed and the polished "smile" is visible in this image.

Cockpit

A great deal of wiring, hydraulic work, and detailed installation of instruments and controls has to be completed to ready the Thunderbird for flight testing.

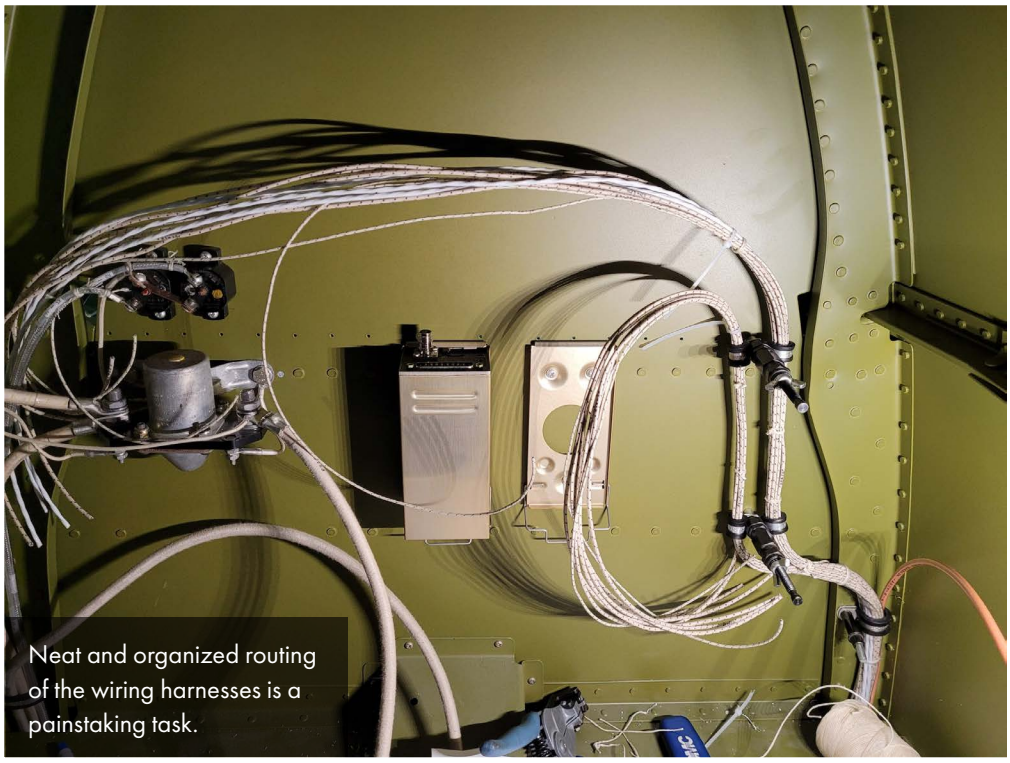
Aaron spent a lot of time inside Thunderbird's cockpit this month.

His hard work shows in this image of the partially completed panel.

The bracket and jacks for the rear seat intercom are a custom installation.

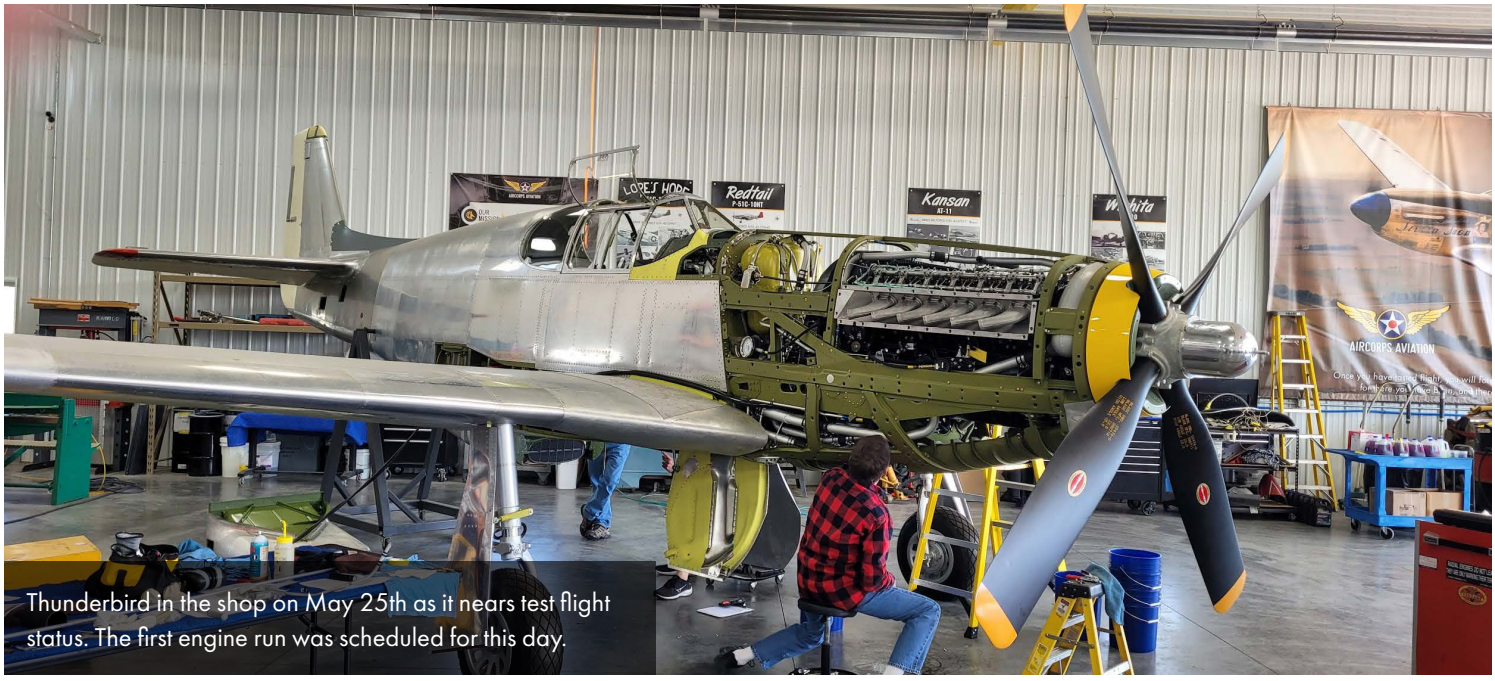
The battery box has been readied for installation.

The two batteries are a tight fit in the new box.



Neat and organized routing of the wiring harnesses is a painstaking task.

Here is the same area after the wiring has been completed.



Thunderbird in the shop on May 25th as it nears test flight status. The first engine run was scheduled for this day.

Engine Test Run

The first run of the engine in a new restoration is always exciting. It is like the airplane coming alive.

Final preparations are made in the hangar before the test run.

Thunderbird is ready.

Thunderbird has been rolled outside for the engine test run.

Aaron tops off the coolant tank.

Mark climbs aboard.

The Merlin comes alive in a very successful test run.

Warren Pietsch gets ready to climb into the cockpit to run Thunderbird himself.

Warren starts the Merlin.

Warren looks pretty pleased with the engine test.