



Spring 2025

Piper L-4H Grasshopper

44-79780 Restoration, Spring Update



AIRCORPS AVIATION

by Chuck Cravens



The L-4H is on its wheels!

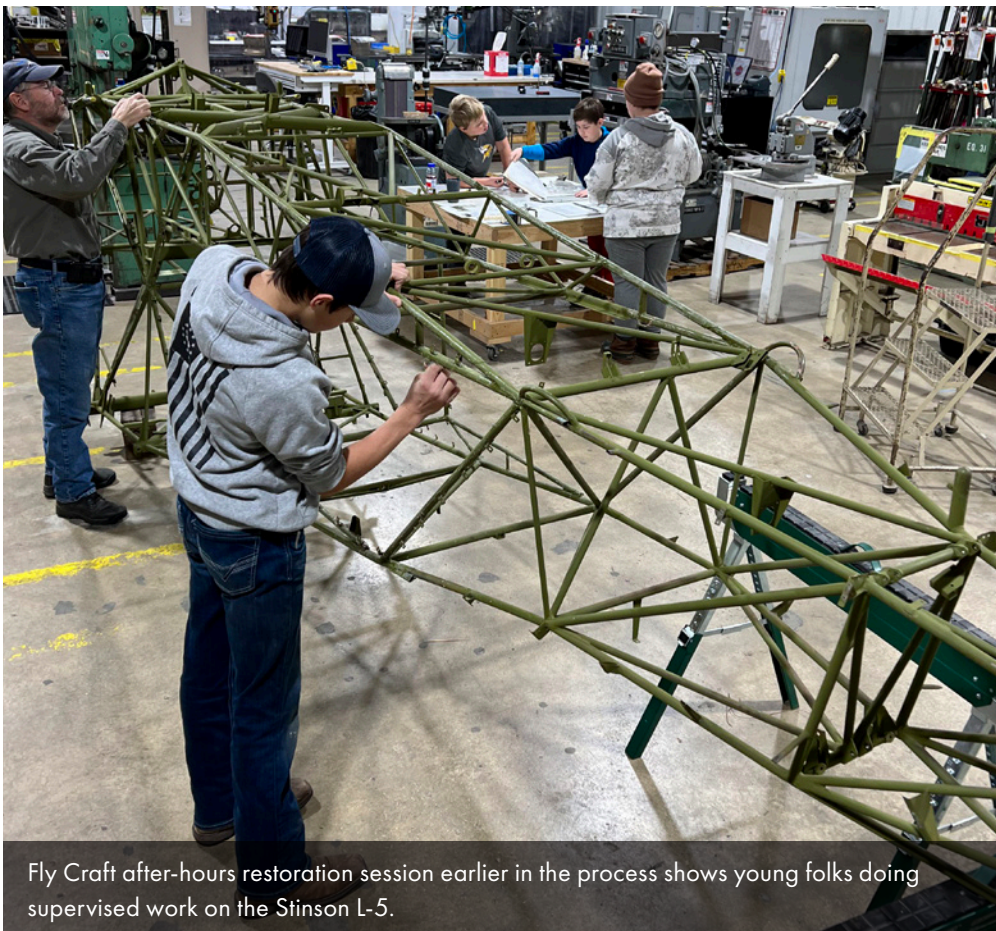
Recent restoration work on the L-4H resulted in the fuselage sitting on its main gear, always a milestone in any plane's restoration. Work also continues on control systems.



Left side view of the L-4H fuselage on the gear.



This front view of the L-4 shows another AirCorps liaison aircraft project in the background



Fly Craft after-hours restoration session earlier in the process shows young folks doing supervised work on the Stinson L-5.

The Stinson in the background is known as the Fly Craft L-5 project. The Sentinel is owned by AirCorps managing partner Erik Hokuf. The restoration is being done by volunteers with a special emphasis on exposing young people in the area to aircraft maintenance and restoration by involving them in hands-on work on this Stinson L-5.



Returning to the L-4, the landing gear cabane vee was mounted before the main gear legs could be installed.



The engine mount, firewall, and boot cowl have all been added since the last update.



The cowl sections and the "eyebrows" await their turn to be test-fitted to the airframe.



The bare instrument panel as it is test-fitted.



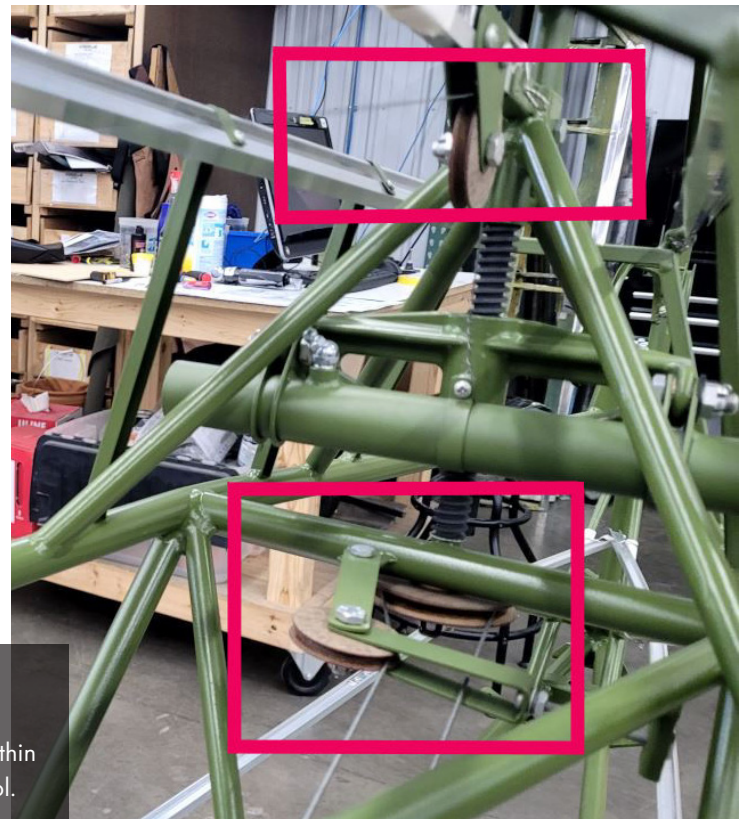


This view of the right side from the tail shows the classic Cub/L-4 lines of the fuselage.



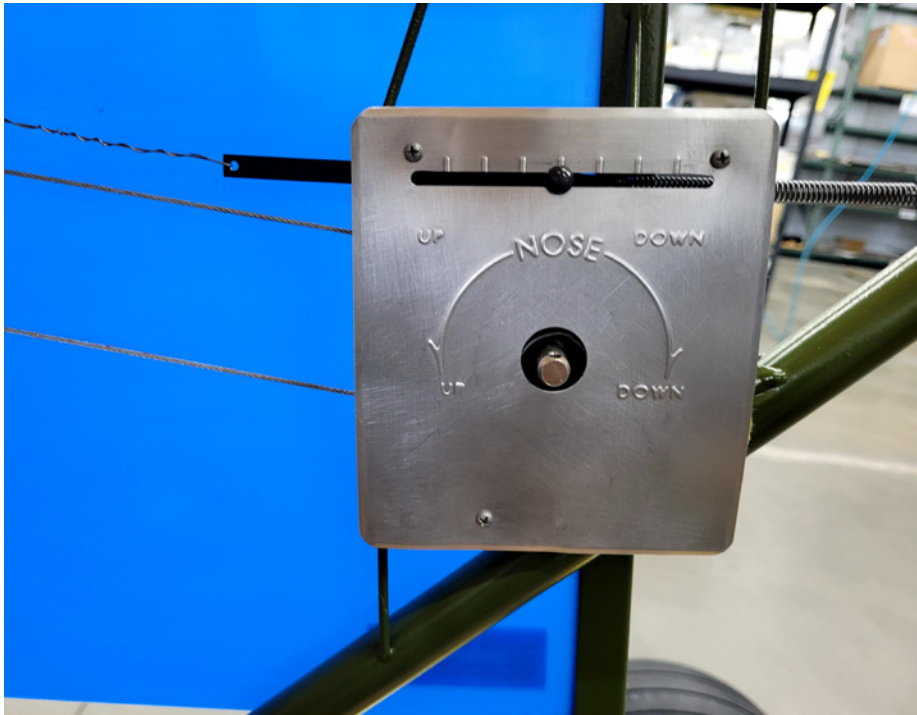
This assembly is the jackscrew adjustment for the angle of incidence of the horizontal stabilizer.

By raising or lowering the stabilizer's leading edge, the jackscrew adjusts the pitch of the entire horizontal stabilizer, relieving control pressures and allowing for better trim at various speeds.



The cables from the jackscrew run forward to the trim control.

The heavier two in the lower red box turn the jackscrew, and the very thin wire one in the upper box moves the black indicator on the trim control.



This is the stabilizer adjustment control, more commonly called the stabilizer trim.

The crank hasn't been attached yet, but turning the crank clockwise lowers the nose and counterclockwise raises it.



The rudder is restored, painted, and ready to cover.



Windows

The largest difference between Mr. Piper's J-3 Cub and the military L-4 is the larger glazed area of the L-4 to facilitate observation.



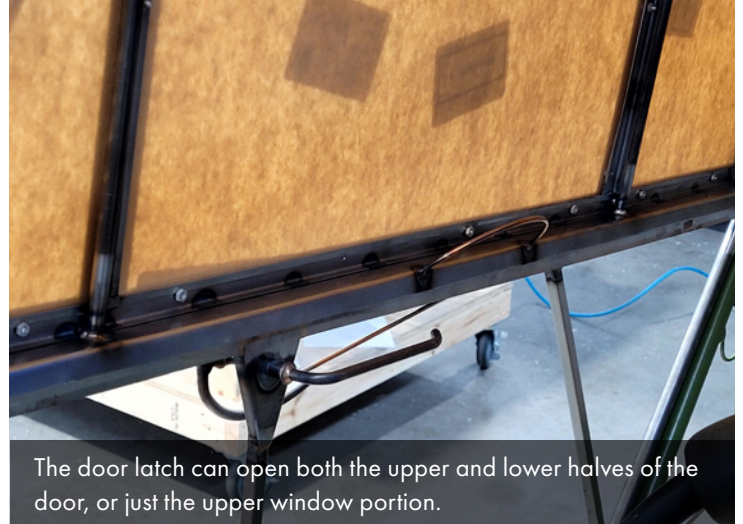
The rear right side window is one of the attributes that is different on an L-4 from a standard J-3



Here is a view of all of the right side windows covered in protective paper, and the doors.



This is a closer view of the upper, glazed door and the lower door that will be covered in fabric.



The door latch can open both the upper and lower halves of the door, or just the upper window portion.



The left side is similar but has no door.



Radio Equipment

The L-4Hs that were built after June of 1943 did not have permanently mounted, factory installed radios, batteries or wind generators. This came about because of a Classified Technical order.

“According to CTI-1359 (CTI = Classified Technical Instruction), transmitters and receivers were deleted from the L-4H series. The order also included deletion of batteries and wind generators, but antennas were mounted and the engines were still shielded and bonded to prevent RF interference for whatever equipment might eventually be installed. CTI-1359 also specified these changes for all the L-4As delivered after June ‘43.”¹

“By 1943 a low powered frequency modulated (FM) radio set, the SCR-609, was in use with the Army for short range communications. A vehicular version, the SCR-610, became the standard set for Field Artillery L-4s. Operating in the frequency band 27.0 to 38.9 megascycles per second, this equipment had a range of about five miles.”

“Powered by a rechargeable battery and a replaceable internal subsidiary battery, the SCR 610 consisted of a BC-659 transmitter/ receiver and a PE-120 power supply unit.”²

The radio was mounted on an observer’s table and had an eighth foot two inch antenna run through a hole in the cabin roof. The set with batteries weighed over 60 pounds. Loaded with the portable set, batteries, full fuel, and two crewmen, the L-4

was actually over the permissible take off weight, but when flown solo, only carrying a pilot, the rearward weight of the SCR 610 set made it possible to fly the L-4 from the front seat with the center of gravity remaining within acceptable limits.

This SCR-610 radio, headset, and antenna was used by an observer to radio reconnaissance reports or spotting for artillery fire from an L-4 Grasshopper of the 37th Infantry Division on Bougainville, 28 January 1944. (National Archives)



¹ James Gray, personal email 11/7/2024

² Ken Wakefield, Lightplanes at War, Tempus Publishing, Charleston, SC, 1999, p237