



May 2021

# P-51C THUNDERBIRD PART 2

Dakota Territory Air Museum's P-51C Thunderbird  
by Chuck Cravens



AIRCORPS AVIATION



Jackie Cochran and Thunderbird, (FAI)



[www.dakotaterritoryairmuseum.com](http://www.dakotaterritoryairmuseum.com)



## Update

On Thursday, December 29, 1949 the forecast in the Colorado Desert of California was for high 60's to low 70's F, and clear with variable high clouds. A shiny cobalt blue P-51C took off from the Thermal, California Airport into perfect weather for an attempt to set two air speed records. The first, a *Fédération Aéronautique Internationale* (FAI) Class C-1, and second, a U.S. National record over the 500 kilometer (310.7 mile) course from Desert Center, CA–Mt. Wilson in the southern California desert. The FAI required that the attempt had to be made at low altitude (500 meters above average elevation of start and finish points).

After the circuit bounded by Thermal airport and Mt. Wilson, the P-51C Mustang "Thunderbird" landed and a smiling woman climbed from the cockpit. She was Jacqueline Cochran, the most famous female aviator of the time.

Jacqueline (Jackie) Cochran (May 11, 1906 – August 9, 1980) was considered to be one of the most gifted racing pilots of her generation.

In December of 1949, after the triumph of that year's Bendix win, Jimmy Stewart (sole owner, for Joe De Bona Racing Co.) sold Thunderbird to Jacqueline Cochran of Indio, California, for "\$1.00 and other consideration.", and the FAI 500 km closed course record was the first of 3 world speed records Jackie set with the aircraft.

In addition to air racing and record setting, Miss Cochran was also well known for being the first woman to pilot a bomber, (a Lockheed Hudson) across the Atlantic. This flight was part of an effort to ferry American built aircraft to Britain before US entry into the war. However, her most notable accomplishment was perhaps her successful efforts to found and direct the Women AirForce Service Pilots (WASP) during WWII.



Miss Jacqueline Cochran, Director of WASP in her WASP uniform."  
Credit: Image Number 4A-23096-K1210, Record Group 342,  
National Archives and Records Administration at College Park,  
College Park, Maryland



The USAF website relates that “[Jackie] recruited more than 1,000 Women’s Airforce Service Pilots and supervised their training and service until they were disbanded in 1944. More than 25,000 applied for training, 1,830 were accepted and 1,074 made it through a very tough program to graduation. These women flew approximately 60 million miles for the Army Air Force with only 38 fatalities, or about 1 for every 16,000 hours flown. Cochran was awarded the Distinguished Service Medal for services to her country during World War II.”<sup>1</sup> Jackie was a pilot of many accomplishments who took advantage of each opportunity that befell her.

*“Capacity never lacks opportunity. It cannot remain undiscovered because it is sought by too many anxious to use it.”*  
– Jacqueline Cochran



Silhouette memorial to the WASP at the National WASP WWII Museum, Sweetwater, TX. AirCorps photo

She didn’t hesitate because of her gender, and proved that women had equity with men in piloting skills with every record she set.

*“It never dawned on me not to do something because I was a woman... I thought nothing of approaching men like Vincent Bendix, the airplane manufacturer for whom the transcontinental air race was named, to explain my position: ‘I can fly as well as any man entered in that race.’ I didn’t see it as being boastful so much as speaking the truth. I learned through hard work and hard living that if I didn’t speak the truth about myself, no one else would fill in the missing pieces.”* – Jacqueline Cochran

A contemporary article in the Colton Courier (Coulton, CA) dated December 30, 1949 reported: “The pretty blue eyed wife of financier Floyd Odlum streaked her P-51 Mustang along at approximately 438 miles an hour for a new

<sup>1</sup> Official Website of the USAF Jacqueline Cochran, accessed 4-21-2021 <https://web.archive.org/web/20090727145450/http://www.af.mil/information/heritage/person.asp?dec=&pid=123006481>



# Jackie Cochran Goes 438 mph In Record Flight

INDIO, Dec. 30 (AP)—Jacqueline Cochran, last of the colorful old-time women pilots, rested at her palatial ranch home today after adding another record to her long string of world speed marks.

The pretty blue-eyed wife of financier Floyd Odum streaked her P-51 Mustang along at approximately 438 miles an hour yesterday for a new 500-kilometer closed course record.

"I had just bought the Mustang Joe De Bona used in the last Bendix race," Miss Cochran said. "I got it from Jimmy Stewart, the actor, and I was anxious to try it out."

She said the international federation in France recently reinstated the 500-kilometer closed course after it had not been used for several years in speed flying. The old record of 225 miles an hour was set in 1939.

The veteran aviatrix took off from Thermal, on the desert near here. She streaked from Desert Center, her official starting base, to Mt. Wilson and then swung back to Desert Center to complete the round trip.

Miss Cochran's past records include the international and U.S. women's 2,000 kilometer; international and U. S. women's 1,000 kilometer; international and U.S. women's 100 kilometer; international and U. S. women's three kilometer; U. S. women's trans-continental west-east record and U. S. women's altitude record.

She has been flying in international competition since 1935.

Colton Courier of December 30, 1949

500 kilometer closed course record." It is interesting that the article's first characterization of the famous women pilot related to her appearance. While statements like these were common for the times, and as an owner and founder of her own cosmetics company, Jackie Cochran certainly took great pains to maintain her appearance, the accomplishment of setting a world speed record would likely have been foremost in her mind.

"I had just bought the Mustang Joe De Bona used in the last Bendix race," Miss Cochran said. "I got it from Jimmy Stewart, the actor and I was anxious to try it out."

The FAI had just reinstated the 500 kilometer closed course that had not been used in several years. The previous record closed course record was set in 1939 at 225 miles per hour.<sup>2</sup> The 500 kilometer close course record was just one in a string of records that Jackie Cochran held, and a precursor to many that would follow.

Thermal Airport where Miss Cochran took off from for her successful record attempt was later renamed Jacqueline Cochran Regional Airport, and the weather station she checked before the flight also now carries her moniker: Jacqueline Cochran Regional Weather Station, Thermal, CA.

By the time Jackie purchased Thunderbird and set her speed record in December 1949, she already held a remarkable number of flight records, including the U.S. and international women's 3 kilometer, 100 kilometer, 1,000 kilometer, 2,000 kilometer, U.S. and international trans-continental women's west-east record, and the U.S. women's altitude record.

The international record certificate for her flight in Thunderbird, now held in the San Diego Air & Space Museum collection reads "*International and Feminine International Speed Record for Five Hundred Kilometers in a Closed Circuit, Without Payload. Average Speed was 436.995 Miles Per Hour*"<sup>3</sup>. So for the first time, Miss Cochran set a closed course record that was not only the fastest for women but also fastest of all time for any pilot. This same flight also set a U.S. national speed record.

The third record set by Cochran in Thunderbird was another *Fédération Aéronautique Internationale* record on 9 April 1951, this time over a straight 16 kilometer course at Indio, California. Her average speed was 747.338 kilometers per hour (464.374 miles per hour) over the 9.942 mile course.

<sup>2</sup> Colton Courier, Colton CA. December 30, 1949

<sup>3</sup> National Aeronautic Association Certificate of Record in the San Diego Air and Space Museum Archive. (Bryan R. Swopes)



THE NATIONAL AERONAUTIC ASSOCIATION  
REPRESENTING IN THE UNITED STATES OF AMERICA  
THE FEDERATION AERONAUTIQUE INTERNATIONALE

CERTIFICATE OF RECORD

*The flight named hereon, having been witnessed by qualified observers, recorded by registered instruments and otherwise carried out in accordance with the official rules and regulations governing record trials, has been recognized as an official record of the class and for the category indicated, and has thus been entered upon the record lists of the Federation Aeronautique Internationale.*

Jacqueline Cochran

*flying a North American P-51 low wing monoplane powered with a Packard "Merlin" 1450 H.P. engine, over the Desert Center, Mt. Wilson, California, course, on December 29, 1949, established thereby International and Feminine International Speed Records for Five Hundred Kilometers, in a Closed Circuit, Without Payload. Average speed, was 436.995 Miles Per Hour.*

*Done at Washington, D.C. on the sixteenth  
day of December, Nineteen hundred fifty.*



*R. E. Heverone*  
President

*R. E. Heverone*  
For the Central Committee

National Aeronautic Association Certificate of Record for the December 29, 1949 record. San Diego Air & Space Museum Archive.



When Jackie began training on jet aircraft in late 1952, she sought out the best instructor she could find for a planned attempt on the speed of sound. Major Charles “Chuck” Yeager was the natural choice.

Jackie boldly told Yeager, “I’m a damned good pilot. If I were a man, I would’ve been a war ace like you.” Over the years, Yeager was forced to agree. In fact, Yeager has been quoted describing Jackie as “a damned Sherman tank at full steam,” adding that “she was tough and bossy and used to getting her own way.”

Despite his initial appraisal, Major Yeager and USAF Reserve Lieutenant Colonel Jackie Cochran became lifetime friends. “We liked each other right off the bat ... Cochran was tough as nails ... (and) she could fly anything. She was always excellent at landings,” he said.<sup>4</sup> “She was as good as the guys were, and being a woman, that didn’t make any difference,” Yeager has said.

Cochran worked with Yeager until the successful attempt on Mach 1 was made on May 18, 1953.<sup>5</sup>



USAF Reserve Lieutenant Colonel Jackie Cochran stands on the wing of a Canadair F-86, while talking to Major Charles “Chuck” Yeager (left) and Canadair’s chief test pilot Bill Longhurst (right). (Photo courtesy Air Force Flight Test Center History Office)

<sup>4</sup> Dr. Raymond Puffer, Air Force Flight Test Center historian, Love of flight unites Cochran, Yeager, USAF Website a <https://www.af.mil/News/Article-Display/Article/139209/love-of-flight-unites-cochran-yeager>, accessed 4/21/2021,

<sup>5</sup> Kali Martin, Wings to Beauty: Aviation Pioneer Jacqueline Cochran, National WWII Museum website <https://www.nationalww2museum.org/war/articles/aviation-pioneer-jacqueline-cochran>, accessed April 21, 2021



Jackie later went on to set a world speed record of 1,429 mph (2,300 km/h) in 1964, flying the Lockheed F-104 Starfighter, and would set no fewer than eight speed records in 1967, when she was over 60 years old!

According to the Smithsonian Institution National Air and Space Museum, *“At the time of her death in 1980, Jacqueline Cochran held more speed, altitude, and distance records than any other male or female pilot in aviation history.”*

No brief article like this one can cover the inspirational life of Jacqueline Cochran comprehensively. Her role in the historic tale of Thunderbird is the purpose here. However, her life is a testament to persistence and determination and that, regardless of a person’s beginning background, station in life, or gender, that person can realize their dreams.



Jackie Cochran and Chuck Yeager walk away from a T-38 talon at Edwards AFB in 1962. The remained friends until Cochran’s death in 1982, photo from USAF website, accessed 4-21-2021: [https://web.archive.org/web/20090727150026/http://www.af.mil/news/story\\_media.asp?storyID=123006481](https://web.archive.org/web/20090727150026/http://www.af.mil/news/story_media.asp?storyID=123006481)



## Restoration Progress



The fuselage rests in the fixture.



This later photo shows the Lord mounts and some lower formers have been installed on the engine mount.





These are the forward engine mounts.



The rear mounts are also in place.



Cowl former parts on the bench at the restoration shop.



Robertshaw actuator, one of several that are being inspected for use in Thunderbird.

This actuator is an electrically driven, reversible, thermostatically controlled device. Its function is to open and close air outlet flaps for the oil and coolant radiators during flight for control of the engine operating temperatures. It is remarkable to note that this small component has the ability to use its jackscrew to retract an outlet flap 10.5 inches, against a load of 1600 lbs.



Part number 83-310127 is the cowl assembly, top windshield access.

This part number prefix 83 tells us that the part was first changed during the run of Mustang Is for the RAF. It is the access panel just in front of the windshield on the top of the fuselage. This part was used on all subsequent P-51s until the D model bubble canopy was introduced.



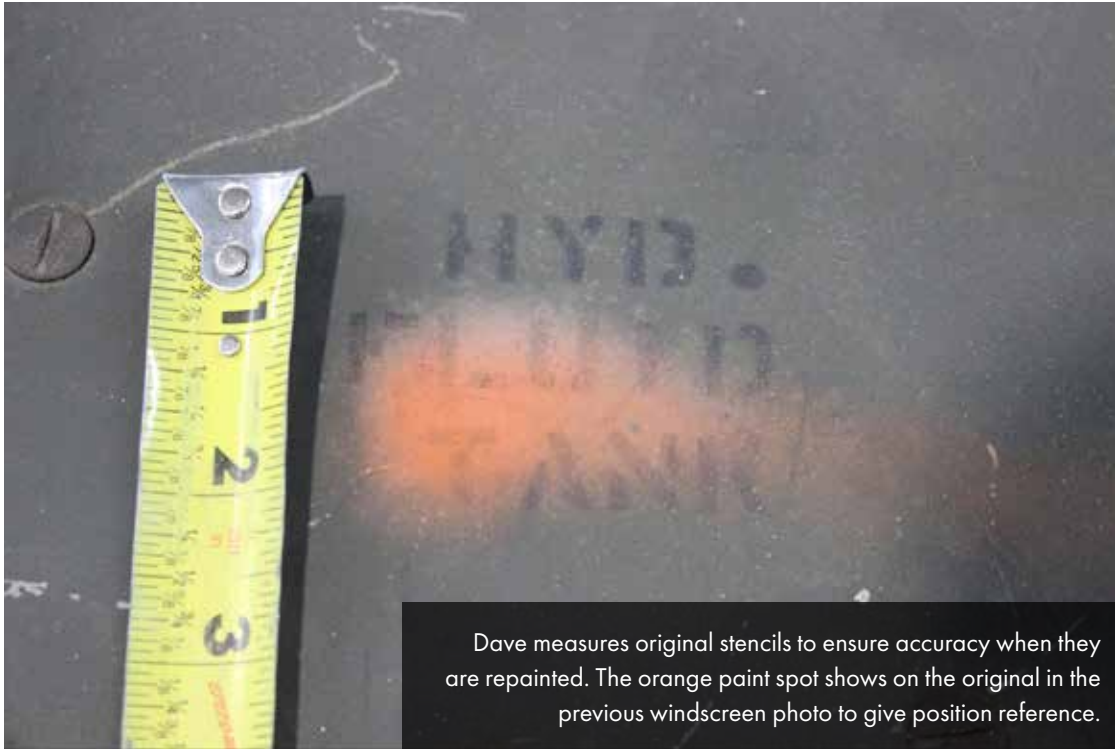
Windscreen  
frame shown  
from the front.



Windscreen  
frame shown  
from the rear.



Side view of  
the windscreen  
frame.



Dave measures original stencils to ensure accuracy when they are repainted. The orange paint spot shows on the original in the previous windscreen photo to give position reference.



The windscreen frame after priming.



MDF particle board bucks have been installed to help form and fit the cockpit enclosure bows.



Here is another view of the forming bucks for the cockpit enclosure bows.



The rudder is progressing nicely in the jig.



A wing tip sits atop the right wing, ready for installation.





The wings are leveled on their gear and a jack to make working on them easier.