

# WINGS



# THINGS

## GREAT PLAINS WING - COMMEMORATIVE AIR FORCE

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### 1st Quarter 2023

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Photo: Bruce Mundie



...Well, The ad said "Some Work Needed"....

Hmmm.....GPW Members... nighttime... very quietly rolling an airplane down the street... does this look in any way suspicious?

## **"Lest We Forget"**

**Actually, this is the Great Plains Wing Ercoupe Update #1**  
*Text and Pictures from Bruce Mundie*

On 3 December 2022, our wing acquired a “barn find” 1949 Ercoupe. With an asking price of free, we could not pass up the deal of a century. We loaded up into two vehicles with two flatbed trailers and headed to Hastings, Nebraska.



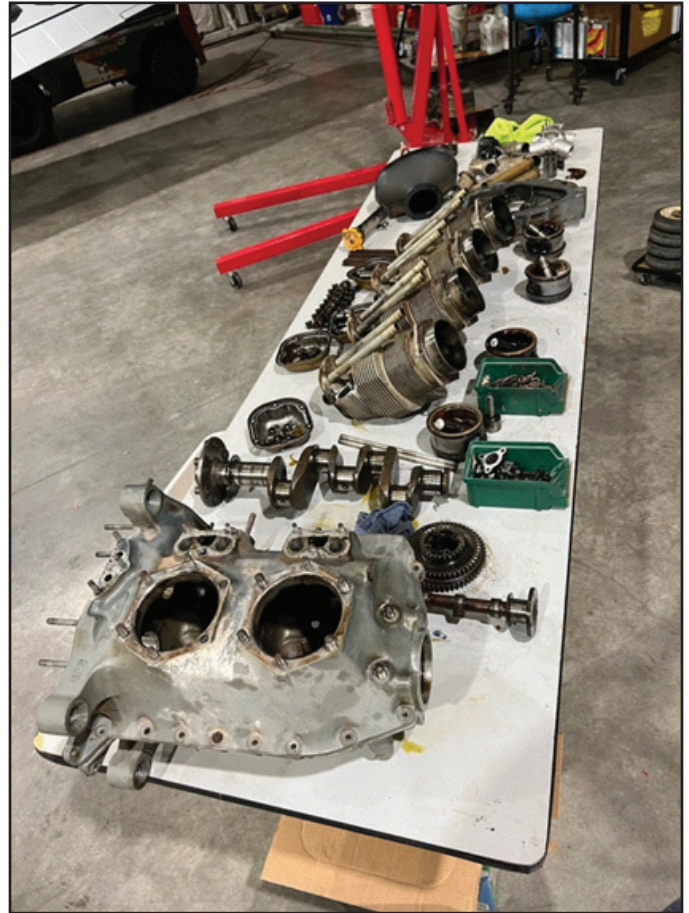
The forgotten Ercoupe, last noticed in the early 1980s, had already been disassembled and stripped of most of its original paint. We had to remove years of grime, animal infestation, and make a path through a warehouse full of made in China swag to load up our new acquisition. It did not take long when the Ercoupe was fully loaded, and the recovery crew sported new work gloves, ice scrapers and multi tools.



With the project safely back at the Council Bluffs airport, disassembly and assessment started in earnest. The Continental C-90 engine was in great shape save some minor wear and a cracked valve lifter body while the fuselage and associated components were all present and for a 1949 aircraft, in excellent condition.

The ERCO/Sanders Ercoupe had a small WWII service record. Three aircraft were obtained by the USAAF and were designated either YO-55 or PQ-13. One of the PQ-

13 aircraft was used to test Jet Assisted Takeoff (JATO) at March Field in 1941. A fourth Ercoupe was tested with the RAF in 1947 as a VX 147. It saw service in polished metal and RAF roundel markings.



As of January 2023, our Ercoupe’s disassembly is mostly complete. Up next will be the long and careful process of restoring and rebuilding our Ercoupe back to its World War II service standards.



Please come join us as we rebuild and restore this iconic aircraft back to its former glory, except without JATO bottles...maybe....

## Safety Article CAF January 2023

### Safety and Liability

Safety and liability are inextricably linked. If we lack a safety culture, then we are more likely to have mishaps, and mishaps can lead to potential lawsuits. Most think that with safety protocols, more safety is better; but to what end goal? In aviation, risk is inevitable. Aviation ground and flight safety needs to focus on the freedom from accidental harm, not the freedom from all harm.

Does the difference between accident harm versus all harm make our organization more liable? For lawyers to sue, liability due to negligence needs all four of the following elements:

1. Duty to Act. Some where in our hangar or operations there might be some unsafe condition or situation. Did we know about it? Did we act to make this situation safe?
2. There needs to be actual harm. Was an individual or someone's property actually harmed?
3. There needs to be a breach of Duty. Did a member see or know of the unsafe situation and did that member choose to ignore the situation?
4. The breach of Duty needs to cause the harm. Simply put, the unsafe situation, that was not addressed, caused the harm.

The four items above are interesting and provide context to our overall liability, but I believe that our safety program should not focus on liability avoidance. It should focus on mishap prevention.

You as a member of Commemorative Air Force, Great Plain Wing, have the responsibility to look after all reasonable and prudent safety situations in our spaces and operations, and to adopt a safety culture for our operations and events.

These broad steps will help minimize mishaps and help keep our CAF wing operating safely and efficiently. Remember aviation is inherently dangerous. We endeavor to run safe operations where members are encouraged to identify, evaluate, and correct potential hazards.

Our safety culture and preventative actions will ensure members and guests are free to enjoy the living history experience that our facility and events offer.

Fly Safe..

Bruce

**Fun ErcoupeFacts:** Total production of the Ercoupe from 1938 through 1952 was 5,140 (according to Smithsonian Magazine) and about 2,000 still exist with around 1,000 Registered with the FAA. They were sold after the War in major Department Stores and often held a place on the showroom floor.

### Ercoupe production history:

#### ERCO 310

Appearing in 1937, this two-seat low-wing monoplane was the origin of the Ercoupe dynasty, powered by a 40 hp (30 kW) Continental A40.

#### ERCO 415

Initial production aircraft powered by 65 hp (48 kW) ERCO IL-116 engines. The -A and -B suffixes were never used; the company's official records use only the -C suffix, which stood for "Continental", once the IL-116 was no longer used. 10 aircraft were built from 1939 to 1940.

#### Wooden Ercoupe

Two aircraft were built using birch and plywood in 1941 to demonstrate use of non-strategic materials, but no further aircraft were built and the test articles were scrapped

#### ERCO 415-C Ercoupe

The prewar 415-C Ercoupes were powered by 65 hp (48 kW) Continental A65-8 engines. The postwar Ercoupes were powered by 75 hp (56 kW) Continental C75 engines. One Ercoupe was built in 1946 with a retractable undercarriage but no production followed. These models were built under type certificate A-718, giving them a maximum gross weight of 1,260 pounds, making this model light sport compliant.

#### ERCO 415-D Ercoupe and 415-CD Ercoupe

From 1947, further refinement introduced a 9° elevator up-travel restriction, stainless steel front fuselage skin and increased gross weight (1,400 pounds under type certificate A-787), powered by the 75 hp (56 kW) Continental C75. One consequence of the increased gross weight was to make these models ineligible to be flown by light sport pilots.

One ERCO 415-D was modified under a Supplemental Type Certificate to fit a 108 hp (81 kW) Lycoming O-235-C2C powerplant.

During 1947, pilots complained that it was too difficult to land with the limited elevator travel. Some of the aircraft produced in 1947 had the 9° elevator up-travel restriction of the 415-D removed and the gross weight lowered. These were designated as model 415-CD Ercoupes. This model used the A-718 type certificate, giving it a gross weight of 1,260 pounds, making this model light sport compliant.

### ERCO 415-E Ercoupe

From 1948 the -E model, powered by an 85 hp (63 kW) Continental C85, introduced the split elevator with 20° of up-elevator travel. The -E elevator restored the landing characteristics of the -C model, while having the 1400 lb. gross weight

### ERCO 415-F Ercoupe

415-F aircraft had fuel injection.

### ERCO 415-G Ercoupe

Also known as the Clubair, the 1949 model was powered by an 85 hp (63 kW) Continental C85 and featured deluxe interior with generator, starter, lights, radio, larger baggage area, bubble windshield, and *Kiddy-Seat*.

### ERCO 415-H Ercoupe

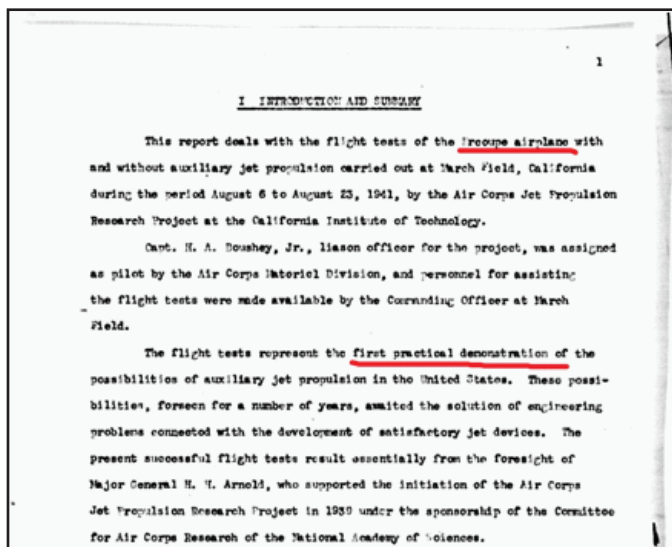
Seven aircraft built in 1949 powered by 75 hp (56 kW) Continental C75 engines with no electrical systems.

### ERCO YO-55

A single Ercoupe was acquired for evaluation for the military observation role.

### ERCO XPQ-13

In August 1941 the US Army Air Corps (USAAC) evaluated use of the Ercoupe as a man carrying aerial target. Similar to the pre-war 415-C. Erco provided two aircraft to Wright Field, Dayton Ohio for evaluation.



One aircraft was used for JATO testing, with modified extended rudders. Because of the modifications and damages from JATO testing the aircraft was not returned to civilian service. **The remaining aircraft continued to serve at the Army Mechanics training school at Lincoln Army Airfield, Lincoln Ne. then assigned from the Lincoln Army Airfield to the Nebraska Wing of the Civil Air Patrol, on 05/29/1944, ultimately returned to civilian service. In the end the military determined the Ercoupe was unsuited for use as an aerial target role**

### Take-off with auxiliary jet thrust from 6 units

	Distance	Time
Without Jet	580 ft.	13.5 sec.
With Jet	300 ft.	7.5 sec.

Copies of the Ercoupe JATO test films can be watched here:

Part 1 <https://vimeo.com/870933>

Part 2 <https://vimeo.com/875011>



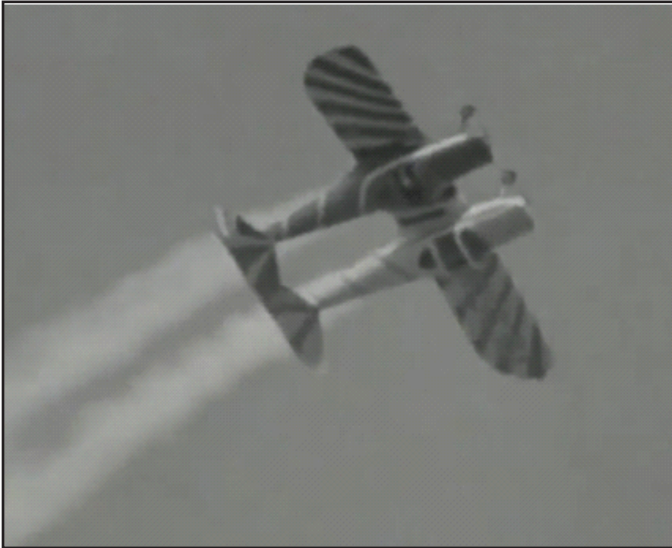
JATO testing in 1941

The solid propellant JATO produced 28 pounds of thrust for about 12 seconds. Six units were used in each test of the 750 pound plane. The Ercoupe tests led in 1942 to a U.S. Navy contract with GALCIT and the formation of the Aerojet Engineering Company.



One of the JATO tests in 1941

## ERCO Twin Ercoupe



*The Twin Ercoupe in a show.*



*The Twin Ercoupe, nose on.*

In 1948 J. B. Collie of Southeast Air Service produced a Twin Ercoupe for use in airshows by joining two Ercoupes together, similar to the North American P-82 Twin Mustang.



The Twin Ercoupe was flown by Grady Thrasher and his brother in the Thrasher Brothers AirCircus, who rolled, looped, and spun it. The aircraft had a smoke system for each engine, and could be flown from either cockpit.

## Forney

The Fornaire Aircraft Co. continued development of the ERCO Ercoupe 415-G, as the F-1 Aircoupe powered by a 90 hp (67 kW) Continental C90-12. They also built the Forney F1A that had standard three axis controls, to be sold as a basic trainer.

## Air Products Co

The rights to the Aircoupe passed from Fornaire, via the Carlsbad civil government, to Air Products Co. which marketed the air craft as the New Aircoupe.

## Alon

In 1962 the rights were purchased by Alon. Alon Inc modernized the Ercoupe with a new panel and sliding canopy and marketed it as the A2 Ercoupe, fitted with a 90hp Continental C90



## Mooney M10 Cadet

A single-tailed version of the Alon Aircoupe, powered by a 90 hp (67 kW) Continental C90-16F, aka **Mooney-Coupe**, with 59 aircraft built.

## Bryan Autoplane

Leland D. Bryan built a series of roadable aircraft using an Ercoupe fuselage, calling this line the Bryan Autoplane. Significant modifications included a double-articulated folding wing mechanism and a pusher engine. It still retained Ercoupe features, such as the twin tail and the



center section.

*The Bryan Autoplane, ready for flight*

The first flight was in 1953, and the model II flew 65 hours. The Model III with a single wing-fold mechanism crashed in 1974, killing Bryan.



*The Bryan Autoplane, folded for land travel*

### **Lasher Little Thumper**

C. W. Lasher built and flew a single-seat open-cockpit taildragger aircraft called "Little Thumper", using an Ercoupe center section and wing assembly and an Aeronca Champ aft fuselage.



**Emblem of the Alaska State Defense Force**

### **The Ercoupe Retires from Military Service.**

In 2012, the 491st Aviation Regiment of the Alaska State Defense Force (which is a volunteer unit in the Alaska National Guard chain of Command) stood down its 7 PQ-13 and one L-16 Aircraft. The PQ-13 is the military designation of the Model C or D Ercoupe aircraft.

The PQ-13 aircraft conducted Observation and Control missions, provided aerial communications for coordination of various ground units, PQ-13 aircraft also assisted the 49th Military Police Bde in moving National Guard Military Police personnel as needed in the State.

The 491st was trained and equipped for a variety of missions in logistical support, observation, emergency management, medical, chaplaincy and shelter management.

The aircraft were privately owned and maintained by the 491st. The last commander of the Brigade as it stood down in 2012 was Brig. Gen Holl, preceded by Brig. Gen

Westall. Most of the information in this piece was derived from an article written for the Ercoupe Owners Club in about 2007 by Col M.E. Reeves, who was the Commanding Officer of the Regiment at that time.

Col Reeves stated that the PQ-13s entered service with the Alaska State Defense Force in about 1998. The PQ-13s, which were 1946 C and D models, served for about 14 years, entering service some 52 years after they were manufactured and flying until 66 years after they were made.

The only aircraft I can think of with a longer service life is the B-52, still flying almost 70 years after entering service. And, as I come to think of it, The PQ-13 wins hands down, as it was in service for JATO testing some 12 years before the BUFF started active duty.

*Look here for information on Ercoupes in Service in Alaska*  
<https://militaryaviationchronicles.com/wwii/ercoupes-still-flying-for-uncle-sam/>

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**Wanted Urgently!!!**  
 6 Aerojet 28lb thrust JATO Bottles  
 for Ercoupe Aircraft  
 (see picture below)



**We also need the mounting rack!**  
*We can find the AC Spark Plugs,  
 but we need any spare Tannerite you have..*  
**Please look through your barns and attics!**  
**Contact the Great Plains Wing of the CAF.**  
*We are ready to come pick them up any moonless night!*

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The picture used in the notice above is one of the first successfully flown JATO (Jet-Assisted-Take-Off) rockets in the U.S. It was used on an Ercoupe light aircraft in tests in 1941 at March Field, California. The motor was designed and made under the GALCIT Rocket Research Project (Guggenheim Aeronautical Laboratory, California Institute of Technology).

Possible Paint Schemes for the Ercoupe?



Although Ercoupe testing supposedly culminated in 1941, A recently discovered Top Secret continuation of the program continued at Groom Lake, at the infamous AREA-51. JATO Bottles and engines continued to be added to the Ercoupe, along with airframe modifications to accommodate the engines, resulting in an aircraft which closely resembled the subsequent B-47. Coincidence????

Great Plains Wing  
**COMMEMORATIVE AIR FORCE**  
 Council Bluff Iowa Airport  
 16803 McCandless Road  
 Council Bluffs, Iowa 51503

**2023 CALENDAR OF EVENTS**

**FEBRUARY**

Feb. 18 Wing Meeting 11:00 AM GPW Hangar

**MARCH**

Mar. 18 Wing Meeting 11:00 AM GPW Hangar

Mar. 28-31 Sun 'N Fun Fly-In Lakeland Linder Regional  
 Airport - Lakeland, FL

**APRIL**

April 1-3 Sun 'N Fun Fly-In Lakeland Linder Regional  
 Airport - Lakeland, FL

April 15 Wing Meeting 11:00 AM GPW Hangar

**MAY**

May 20 Wing Meeting 11:00 AM GPW Hangar

May 20 GPW Anniversary Banquet GPW Hangar

**JUNE**

June 17 Wing Meeting 11:00 AM GPW Hangar

**JULY**

July 15 Wing Meeting 11:00 AM GPW Hangar

July 24-30 EAA Airventure 2023 Whittman Regional  
 Airport - Oshkosh, WI

**AUGUST**

Aug. 5 GPW Open House & Fly-in/Walk-in Pancake  
 Breakfast - GPW Hangar

Breakfast 8:00 - 11:00 AM

Open House 8:00 AM - 4:00 PM

Aug. 19 Wing Meeting 11:00 AM GPW Hangar

Aug. 19-20 Kansas City Airshow New Century Air  
 Center - Gardner, KS

Aug. 26-27 Lincoln NE Airshow Lincoln Airport  
 Lincoln, NE

**SEPTEMBER**

Sept. 16 Wing Meeting 11:00 AM GPW Hangar

**OCTOBER**

Oct. 21 Wing Meeting 11:00 AM GPW Hangar

**NOVEMBER**

Nov. 18 Wing Meeting 11:00 AM GPW Hangar

**DECEMBER**

Dec. 16 Wing Meeting 11:00 AM GPW Hangar

**MONTHLY EVENTS**

*Council Bluffs Airport - Great Plains Wing hosts a  
 monthly cookout on the 3rd Wednesday of each month  
 from April to October - 5:30 - 7:00 p.m.*

*York, NE Airport: EAA Chapter 1055 hosts a fly-in  
 breakfast on the 1st Saturday of each month  
 from 8:00 to 10:00 a.m.(free-will offering)*

*Crete, NE Airport: EAA Chapter 569 hosts a fly in  
 breakfast on the 3rd Sat. of every month  
 from 8 to 10 a.m.*

*If you would like to put a event on this calendar,  
 please send an email with the necessary information to  
 Terry Helphrey at [terry.helphrey@outlook.com](mailto:terry.helphrey@outlook.com)*