



Happy Thanksgiving!

We at Flight Expo, Inc., have a lot to be thankful for. Our Build A Plane program has become a recognized program in many communities in a 70 mile radius from Princeton, MN. We average 12—15 youth for each session. Our youth are like sponges always asking questions and discovering new talents while working on various aircraft.

The parents of our students help in various ways that add up to being huge to the program. Treats & beverage every program night/day. Volunteering with an extra set of eyes and hands when needed. Helping with various fund raising activities that require some leg work.

Flight Expo, Inc.'s Flying Club; after a two month hiatus due to an engine overhaul; is back up flying with a new CFI; Kai Lee. We have over 10 members on our roster that utilizes our aircraft for flight lessons, building hours or enjoying flight.

The Cessna 172 we have received the wings back from the paint shop (they look awesome). The tail surfaces and fuselage are now down at the paint shop getting ready for final paint. Once done the final assembly will be done at Kruse Aviation, Inc.'s location. We are currently looking into insurance for the aircraft—currently we have received a quote back for

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Special points of interest

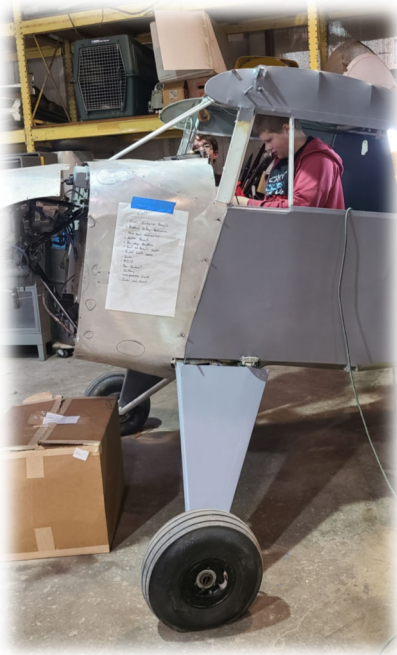
Piper colt History

Blow Pot

All Photos taken in this newsletter are from Cyndi Romuld or Sharon Sandberg

Article about the Blow pot was taken from The Epic of Flight, Time Life Series

The Piper Colt: Why was it built



The Piper Colt is often overlooked as a lower-powered, less-capable version of the more common Tri-Pacer, it's easily brushed aside by many shoppers. At first glance, its awkward-looking landing gear conveys an unbalanced, top-heavy presence. Further investigation reveals a capacity of only two people on board, with a baggage area in place of the Tri-Pacer's rear seats.

When Cessna introduced the Cessna 150 in 1958, Piper Aircraft realized in the early 1960's that the Piper Cherokee (built in Vero Beach, Florida) was falling behind in production and they needed an interim two-place trainer to compete with Cessna.

According to sources a meeting was called at the company's Lock Haven, Pennsylvania location, executive offices in late 1960, early 1961 to find a solution about a interim two-place trainer. The meeting started in the morning and lasted into the afternoon. After much discussion, Mr. Piper stated:

"We're going to make a two-place version of the Tri-Pacer. Tony (Thomas Piper), you have three weeks."

That was the end of the discussion. The company needed a two-place training aircraft that could be assembled quickly and cheaply. This need created

Be like the bird in flight... pausing a while on boughs too slight, feels them give way beneath her, yet sings, knowing yet that she has wings. Victor Hugo (1802-1885) premiere writer of the 19th Century.

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\$5000 per year. This will go into our flying club for members to rent, train in and build hours in the aircraft.

On October 18, at the Build A Plane session the Cuby was tied down and started. Both Duane & John felt good about the engine. Just a few minor tweaks and the engine is good to go.

The Wag-Aero Cuby will be pushed to another location on the airport by the end of November. Then this Spring it will go into Kruse Aviation, Inc.'s facility for final assembly and flight testing.

The Piper Colt's wings have been moved to Kruse Aviation, Inc.'s facility for safe keeping, until we can get them into the paint shop. The fuselage will also be moved by the end of November into another location on the Princeton Airport—and then go into the paint shop and then onto final assembly.

What is next on Flight Expo, Inc. Build A Plane's program? When Flight Expo, Inc. purchased several hangers of aircraft inventory a few years ago, we also received a Cessna 152 that will need the group to disassemble, clean, restore, paint and assemble. This will be the first aircraft in about 4 years that is not fabric. So, there will be a lot of new skills and techniques to be learned by the students.

Yes, We at Flight Expo, Inc. are "Thankful" for so much this season!

the Colt, which could be viewed as a flapless, two-seat version of the Tri-Pacer. Both the Tri-Pacer and the Colt did share type certificates and model designation. The Colt is powered by a Lycoming O-235. The cost of the aircraft in the early 1960's was \$4,995; just over half of the most recent PA-22 aircraft.

In addition to deleting the Tri-Pacer's flaps, the Colt was produced with no rear windows, the second wing tank and the rear door were removed. Though not as popular as its four-seat stablemate, the Colt nonetheless sold almost 2,000 units.

The Colt was the last in the line of short-wing Pipers. The last PA-22-108 Colt, was completed on March 26, 1964. The Colt was replaced on the Vero Beach production line by the PA-28 Cherokee 140. The only tube-and-fabric Piper remaining was the Super Cub. The last production of the Super Cub was in December of 1994.

Some PA-22s have been converted to a tailwheel configuration, (**which is Flight Expo, Inc.'s Colt; we have a STC (Supplemental Type Certificate)**) resulting in an aircraft that is very similar to a PA-20 Pacer, but which retains the model refinements and features of the PA-22 Tri-Pacer.

These conversions are often referred to by owners as **PA-22/20s** and are often listed in classified aircraft ads as such, although officially such converted aircraft continue to be designated by the FAA as PA-22 Tri-Pacers. When this conversion is accomplished, a disc brake conversion is usually installed in place of the original drum brakes, and the Lycoming O-360 180 HP engine is the preferred upgrade engine. Some PA-22s have a Hartzel constant-speed controllable propeller or Koppers Aeromatic propeller. Each of these installations improves performance and economy at the sacrifice of payload.

Fortunately, there is a group that realizes the role of the short-wing Pipers. This group is, called the Short-Wing Piper Club. It produces a bimonthly newsletter that is a veritable gold mine of parts and advice. More and more of these aircraft are being restored, and they continue to increase in value. But the short-wing Pipers are more than just good investments. They stand now to remind pilots and history buffs alike that – Cub lore notwithstanding – these were the aircraft that helped bring Piper Aircraft back from the brink.

Performance Summary:

The Piper Colt is a two-place (side by side), high wing, single engine airplane equipped with tricycle landing gear, (or tail wheel) constructed of welded steel tubing covered with Grade "A" fabric and finished with fire resistant butyrate dope. (Flight Expo, Inc.'s Build A Plane used Stewart System which is eco friendly)

This airplane is certified in the normal and utility category. In the normal category all aerobatic maneuvers including spins are prohibited. See the aircraft's P.O.H. (Pilots Operating Handbook) for approved maneuvers when in the utility category. The airplane is approved for day and night VFR/IFR operations when equipped in accordance with F.A.R. 91 or F.A.R 135. (Federal Aviation Regulations)

The aircraft is powered by a Lycoming O-235-C1B or C1 and is rated at 108 horsepower. It is a four cylinder, normally aspirated, direct drive, air cooled, horizontally opposed, carburetor equipped engine.

The fuel for the Colt is carried in an 18-gallon fuel tank located in the inboard end of the left wing. As optional equipment, an auxiliary tank, located in the right wing, provides an additional 18 gallons of fuel. The auxiliary tank must be used in level flight only. An electric fuel gauge for each tank is located on the instrument panel.

Electrical power for the Colt is supplied by a 12 volt, direct current system. For all nor-



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mal operations, power is provided by a 12 volt, 25-ampere generator. A 12-volt, 24 ampere battery is used in the system to furnish power for starting as a reserve power source.

1962 PA-22-108 PIPER COLT

Engine:

Model:	Lyc. 0-235-C1B or C1
No. Cylinders	4
Displacement	233.3 cu.in.
HP	108
Carbureted or Fuel Injected	Carbureted
Fixed Pitch/Constant Speed Propeller	Fixed Pitch

Fuel:

Fuel Capacity	18 Gallons/Long Range Tanks: 36 gallons
Min. Octane Fuel	80 Octane
Avg Fuel Burn at 75% power in Standard conditions per hour	6 gallons

Weights and Capacities:

Takeoff/Landing Weight Normal Category	1650 lbs
Takeoff/Landing Weight Utility Category	1500 lbs
Standard Empty Weight	940 lbs
Max. Useful Load Normal Category	710 lbs
Max. Useful Load Utility Category	560 lbs
Baggage Capacity	100 lbs
Oil Capacity	6 quarts



Performance

Do Not Exceed Speed	120 KCAS
Max. Structural Cruising Speed	96 KCAS
Stall Speed Clean	49 KCAS
Stall Speed Landing Configuration	Unknown
Climb Best Rate	610 FPM
Wing Loading	11.1 lbs./sq. ft.
Power Loading	15.2 lbs./sq. ft.
Service Ceiling	12,000 ft.



Community Out Reach!

Flight Expo, Inc expresses our deep gratitude for all who donated money and labor to help get Flight Expo's flying club's Cessna 150 aircraft back the air!

Back in August we had to take our Cessna 150 off line to overhaul the engine. Thanks to supporters like you, we were able to get in enough donations to cover the nearly \$20,000 needed for parts and labor (at a much reduced rate) Duane Kruse of Kruse Aviation donated the majority of the labor along with some time from two board members, John Bjornstad and Wally Johnson.

Flight Expo, Inc. relies on donations from our fundraising efforts to cover the majority of our costs to run the Build-A-Plane Program (youth 12-18), the flying club (youth and adults—keeping rental rates low), and restoration project of Tsunami, S2F and other various aircraft we own (adult volunteers).

Some of the ways we do this is through our "Man Cave" sales, Written Fund Raising campaigns, sales of aircraft parts, our store, E-bay sales and various fundraisers by our Build-A-Plane students.

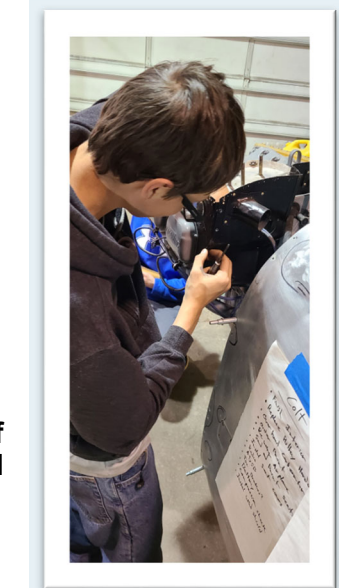
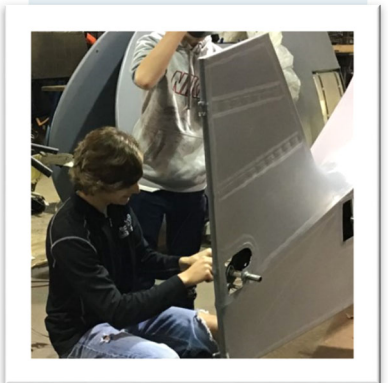
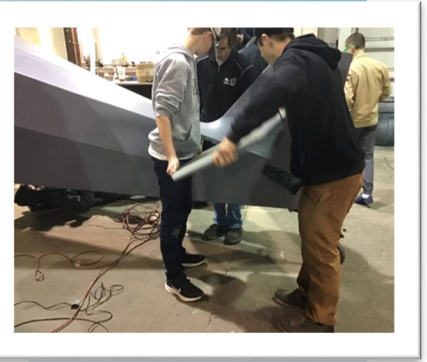
In past years, our students have sold raffle tickets, hosted spaghetti dinners, worked at the Light Up Princeton Holiday light show, and Pizza Ranch providing drink refills and bussing tables and more. This year, we are starting our fall session off with the **Kwik Trip Car Wash** fundraiser and **Heggies Pizza** fundraiser! Who doesn't need a car wash or love pizza? These are great fundraising opportunities to help keep the cost of our Build-A-Plane Program down for families.

The Kwik Trip Car Wash fundraiser is one we hope to keep going year round and will be available year round from Flight Expo, Inc. online at www.flightexpo.org under "shop/fundraisers". Students are selling the Ultimate Car Wash Cards which have 5 car washes on them for \$36. The Ultimate Car Wash retails for \$10 each. This is like buying 4 car washes and getting 1 for free PLUS another \$4 dollars off for a total savings of \$14! AND, students earn \$16 on each car wash they sell! Car wash cards can be used right at any Kwik Trip.

Our students are also taking orders for Heggies Pizzas. Pizzas will be delivered the night of our annual Build-A-Plane Christmas Party in mid December. All orders need to be in by November 29, 2022. You can also order these online at: www.flightexpo.org. **We will not ship the pizza's.** You must make arrangements with the student or with Sharon, Duane, Cyndi, John, Wally or Owen to get your pizza's.

This year, Meta is providing matching funds for recurring donations made through Facebook from November 15th - December 31st of 2023! Watch for emails and posts on Facebook for an opportunity to partner with Flight Expo, Inc. to help cover our monthly expenses!

Being a small non-profit, Flight Expo, Inc. could not make it without all of our faithful supporters like YOU! Thank you for all of your donations and support!



Some Fun facts that were used to cope with Winter's cold!

Winter in the far north— where boiling water tossed into the air would instantly freeze—elevates the simple chore of starting a plane's engine from a routine to a ritual. Even before a pilot landed he took special measures to ensure he could take off again, tapping the throttle during his approach to keep the engine from cooling. On the ground the pilot drained the oil tank and rushed the oil indoors before it has time to freeze.

To bring his aircraft back to life, a flier had to preheat the engine oil on a stove and warm the engine inside a nose hangar—often nothing more elaborate than a canvas shroud draped over the cowling. Heat for the engines came from a gasoline burner, called a blowpot, positioned just below the engine. The pilot then poured the hot oil into the tank, and with a little luck, the engine would start.

Because arousing an airplane from its frigid slumber could consume up to two hours, it was usually done in the darkness before sunrise; this allowed the pilot to cram as many flying hours as possible into the abbreviated arctic day. By first light the engine was warmed up and idling, and the aircraft stood ready once more to take off.



Blow Pot for engine oil in the 1920/1930's for Bush Pilots or Cold weather



pair of Fokker Universals confront each other as they undergo maintenance while shielded by a glorified double nose hangar



My Dad and Mom used something like this in the 60's/70's before we had a hanger for our aircraft



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*“Rising Above for Education”
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	White		Woodland Brown				

**Check out these
Great gift items at
Flight Expo, Inc.'s Store**

