

The Indy-Flyer History

The original work on the Indy-Flyer started in the distant dawn of pre-Nieuport history after the successful completion of the Gypsy project. One of the major goals for the Gypsy was to serve as a proof of concept for the wing design planned for the Indy Flyer.



The Indy-Flyer

The early construction efforts resulted in the framework of the wings, empennage and fuselage completion and the empennage was covered and painted. When the Nieuports started, the Indy-Flyer was shelved to accommodate the need for hangar space. The Nieuports vacated the hangar in the Spring/Summer of 2003. The Flyer wings and fuselage were then covered and painted.

The Flyer then sat idle as several other planes (Aeronca, Luscombe, Hornet, etc.) were finished, refurbished, restored and sold. Finally, weekly work sessions commenced on Tuesday, February 17, 2009 and continued thru completion of the engine break-in during the summer of 2010.



1/2 VW Engine

Each work day started at 10 AM and ran for 5-6 hours. We had a special Friday session to run the 1/2 VW engine and do a little tweaking. Ernie Moreno made some changes to the carburetor jetting and tinkered with the float bowls; the engine starts on the first or second flip of the propeller. The only oil leaks we experienced were at both valve covers — not bad considering all the machining that is done on a 1/2 VW case.

After being satisfied that all the major issues with the engine were resolved, it was removed from the test stand and installed on the airframe. Finish work on the airframe was nearly completed in March with the installation of elevator control stops, gap seals for the flight controls and final detail of wiring the engine installation.

The focus then moved to a thorough inspection of fastener and flight control attachments, finishing up some cosmetic items and weighing the aircraft. The Indy-Flyer was then ready for its first engine run in the airframe and the construction phase of the project was complete.

Near the end of construction we found out (SURPRISE!) Ethanol gasoline will dissolve the paint used on the aluminum parts. So a clear coat was found which can stand up to Ethanol gasoline; then the area around the gas tank cap and engine was covered. During the summer months we ran the Flyer around the airpark taxiways to break-in the engine.

The Call to Action

The Quest — January, 1997

Some members of Chapter 292 would like to propose an ambitious quest for your consideration. At least four of us have already committed ourselves to build a simple, economical, and comfortable ultralight for \$3,000 and fly them as a group to Oshkosh, and then finish a tour of each of the lower 48 United States of America in a summer in the not too distant future to demonstrate the worthiness of the craft, the joy of flying low and slow, and to just have one heck of a lot of fun. One of us is even determined to build a Grand Champion! We estimate a round trip to Oshkosh to be one month, the lower 48 would be three months.

The Design Principles

We call our craft The Independence Flyer for a number of reasons: We want to convince people that it doesn't require a huge pile of money in order to enjoy flying, and we target a budget of \$3,000 to define affordability and independence from debt. We want to demonstrate the safety, economy, and reliability of the design and the motor, and therefore have chosen a Half-VW derivative that is set-up to burn one gallon of fuel per hour after hour after hour and give us independence from fear. We want the design to include a comfortable and enclosed cockpit where we can avail ourselves of the surplus heat from the muffled engine that sends us on our way as quietly as possible and demonstrates independence from the noise and the cold usually associated with ultralight aircraft. And, lastly, we call our craft The Independence Flyer because this is our home, our chapter's headquarters, and the place where the dream was born.

Specifications

Weight: Absolutely Less than 254 pounds!

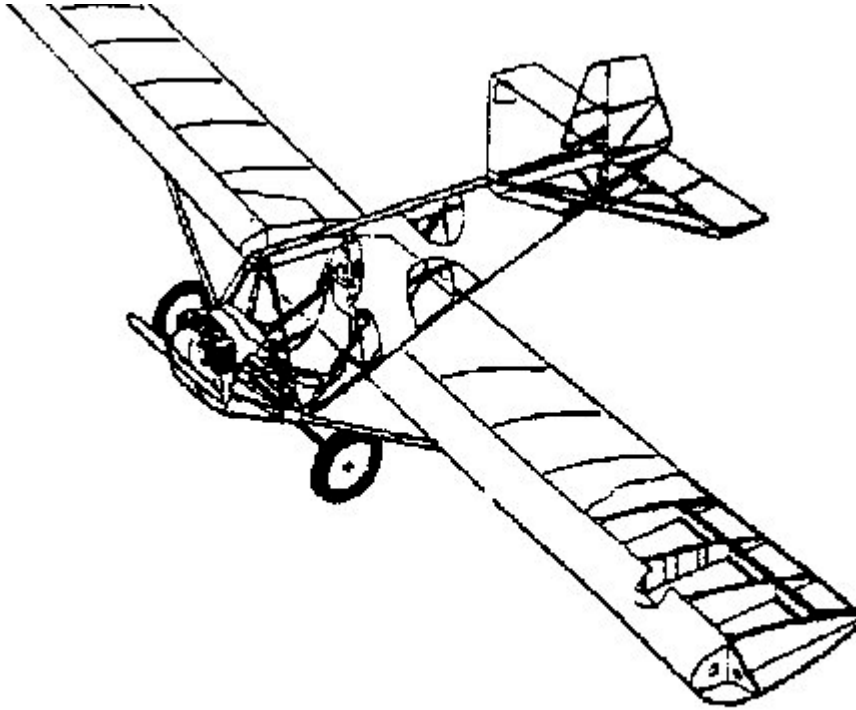
Wing Span: 29'4"

Wing Area: 132 feet

Glide Ratio: 13:1

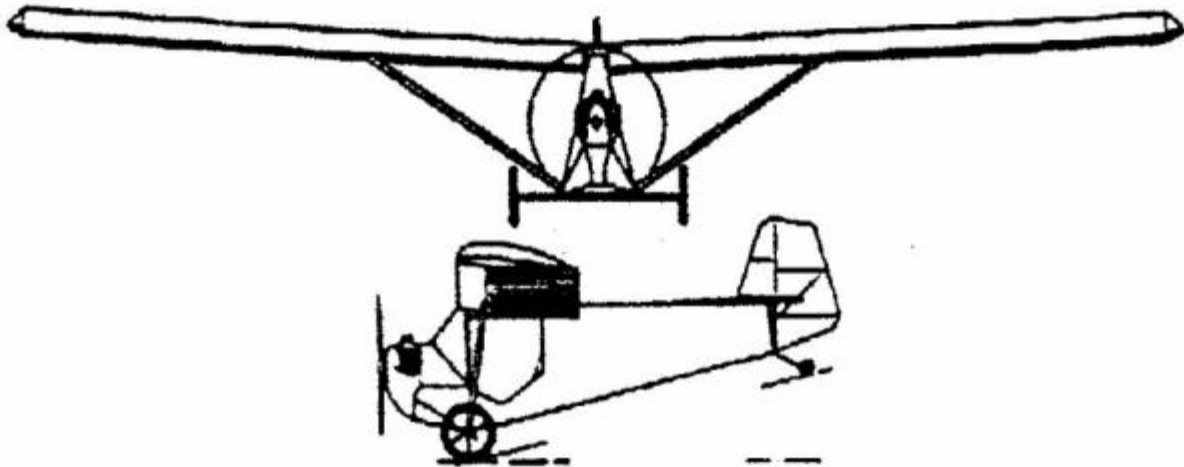
Stall: 27

Speed (Max): 62 mph
Speed (Cruise): 55 mph
Cabin Width: 31"
Fuel Capacity: 5 gallons
Ballistic Chute: Optional
Build time: 200 hours + fabric and paint
Power Plant: Half-VW Rated at 30 h.p. Carbureted w/ carb heat + cabin heat
Oil Capacity: 3 quarts w/ filter
Similar Airframe Designs: Le Pelican (c. 1984)



3/4 View

Le Pelican



Le Pelican Front and Side Views
In Conclusion

In order to realize our quest, we propose that the Chapter Builders Group change its meeting time to Saturdays, and devote itself to fulfilling this dream. Once we have collectively settled on the design, we could then theoretically manufacture as many craft as we like. Individuals might specialize in particular sub components in order to expedite the manufacturing process and increase productivity.

You'll notice that this isn't April Fool's Day. This is a serious quest, and one that we think is worthy of our pursuit and concerted efforts. If there are any other members who are of a similar persuasion, then let's begin discussing the possibilities at the next meeting. We would like to film the experience, and so have need of chase planes (and maybe chase cars with spares parts), and those who would help document the quest and commit themselves to that end. What do you say? Would you like to share a dream? Would the Summer of 2001 be too early?

Sincerely, from Independence, Oregon, January 1, 1997,
Ernie Moreno, Ken Hazlett, Mike Pongracz, Ron Carroll



Indy Flyer Dreamers

The Gypsy Jokers Flying Circus?

Over a month ago, when my computer wasn't working, I wrote a couple of pages on what kind of airplane would be appropriate for our next building project. Those pages, lost for now, will probably turn up when I am looking up some sort of brochure on welding equipment. To a considerable extent, they parallel the recent article on "The Independence Flyer Project."

The key is that rather than beginning with an airplane, we are beginning with design criteria that reflect our specific needs. Approaching the problem as a corporation would, we are no longer shopping by chance.

Clearly identifying our purpose in this project is the first step to take (see our boilerplate in The Taledragger). We promote interest in aviation by attracting and assisting in the aeronautical education of motivated individuals. Our approach is a hands-on one, and the experience is much more intense and valuable as one learns best by doing. We both use and increase our most precious resource: the collective skills of our members. To my mind, this goal is best served by building airplanes because the level of involvement is so much higher. (I will think of the Munch Bros. whenever I see the Gypsy tail surfaces.) It goes without saying that some airplane building projects are more appropriate than others as club building projects. So what are our criteria?

First, the project must attract participation to insure its completion. Our mutual support is an enormous advantage, especially in problem solving when the going gets rough. And it must be as fun as a Shriner convention!

As a group project, it must be attractive to many individuals. "The Quest" (an excellent idea for which I claim no credit) is a remarkable step in that direction. Enormous interest has been generated by the idea of a "gypsy" tour of the 48 states. (A defined and desirable goal that excites the imagination.) The airplane itself must have sufficient "sex appeal" to attract participation. We should seek planes which are aesthetically pleasing. Size is important in both authenticity and flying qualities. Scaled projects have many advantages as long as the scale is reasonable and a believably authentic product results. Some WWII replicas are so tiny as to evoke thoughts of a big model rather than a "real" airplane (a Zero with a twelve foot span or a twenty-foot Boeing 747 would be another example).

Wing loading and power loading bear directly on safety and indeed, the ability to fly. As long as everything can be made to fit, a reduced-size airplane can have flying qualities very close to its full-sized counterpart. The choice of proper wing loading for safe flying qualities is paramount. Indeed, safety must be our first consideration. It has often been said that the best safety device is a low wing loading. Low wing loadings also produces uncomfortable flight in mild turbulence. Our airplane will need to sit on the ground to wait out problematic weather. Even then though, the structure should be able to withstand several g's in flight, and even more on impact. As a number of pilots are likely to fly it, it must be stable and easily controllable in flight. Stalls must be gentle. Stall speed must be low.

Even the most dedicated builder will find his attention severely compromised by a 3,000 hour build-time airplane. The building process must be planned to proceed at a steady pace without bottlenecks. Provision must be made to make use of the talents of five extra members who show up unexpectedly. The design must lend itself to be broken up into sub-assembly construction operations. The method of construction must be forgiving so that mistakes can be easily spotted and corrected. Variety of technique and pace is valuable to combat fatigue and is also a valuable teaching tool. Choosing to build another ultralight would have the advantage of self-regulation. We are fortunate in having among us many skilled individuals to guide us in building safe aircraft. The "Gypsy Tour" is a superb idea as we want to have a good time with it also. It has my full support.

What kind of airplane would comply with the above criteria? One along the lines of those built between 1914 and 1940. I know people who dress up in period costume and drive around in antique cars. We could be like that also, it might be fun. What would we be? The Gypsy Jokers Flying Circus? Right now EAA 292 is a number, but we have no name.

Dennis Gwynn