### So You Want to Get Into Flying Here's How

Opportunities for powered light sport flying in Northern Virginia





Steve Beste stephen.beste@gmail.com

February 27, 2020

Me





- I've been flying this "trike"
- Out of Front Royal
- Since 2006
- The trike:
   \$15,000
- Annual cost: \$5,000
- 40 hrs/year
  - I'm president of Flying Club 1



## Agenda

- What you can do
- What you can fly
  - 4 kinds of aircraft
  - 3 sizes
- Where you can fly
- What's next for you
- Discussion

# GoPlaces Tangier Island





# GoPlaces Williamsburg





# Go Places The \$100 hamburger





## Go Places B&B, land on their lawn





### What You Can Do GoPlaces Oshkosh





# GoPlaces Idaho back-country





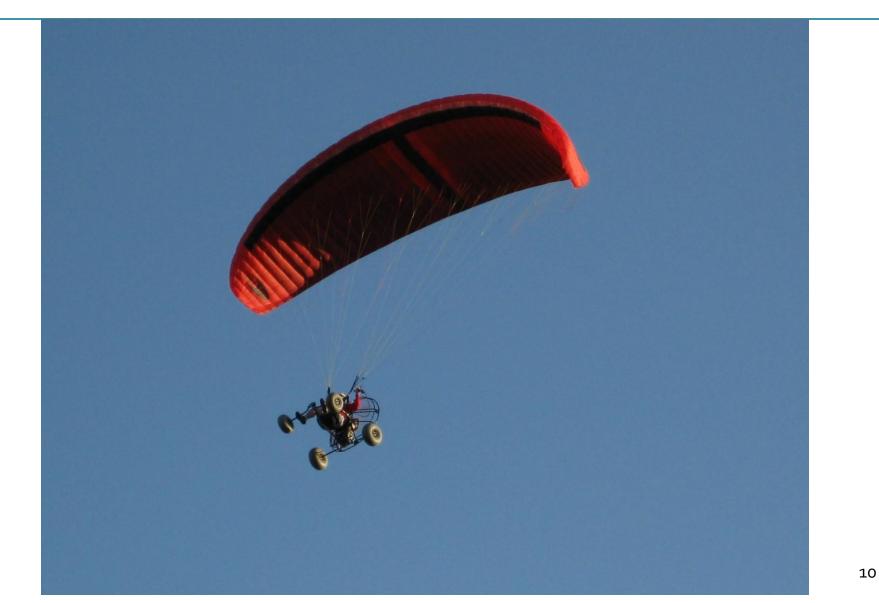
Ramona Cox - SkyChick.com





Go <u>UP</u>





### What You Can Do Make Road Trips Small airplane & trailer www.FlyingClub1.org



## Make Road Trips Trike & trailer





## Make Road Trips Powered paraglider





# Learn New Skills



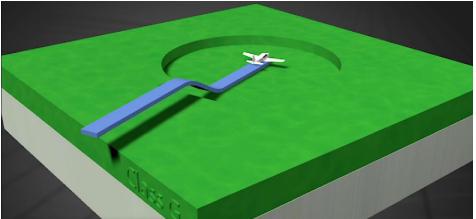
Credits: Airspoce is from Airspace & Law for Ultralights, © Jeff Goin, FootFlyer.com. Weather from Windy.com. Navigation from SkyVector.com.

### Cool Technology

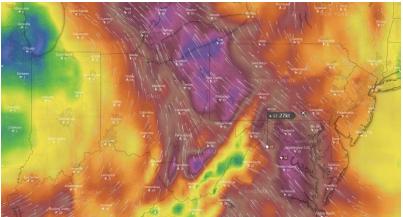




### Airspace



### Weather



## Learn New Skills Repairs





## Learn New Skills Maintenance





### **Explore** Wind turbines on the Eastern Divide





## Explore Horseshoe Curve near Altoona





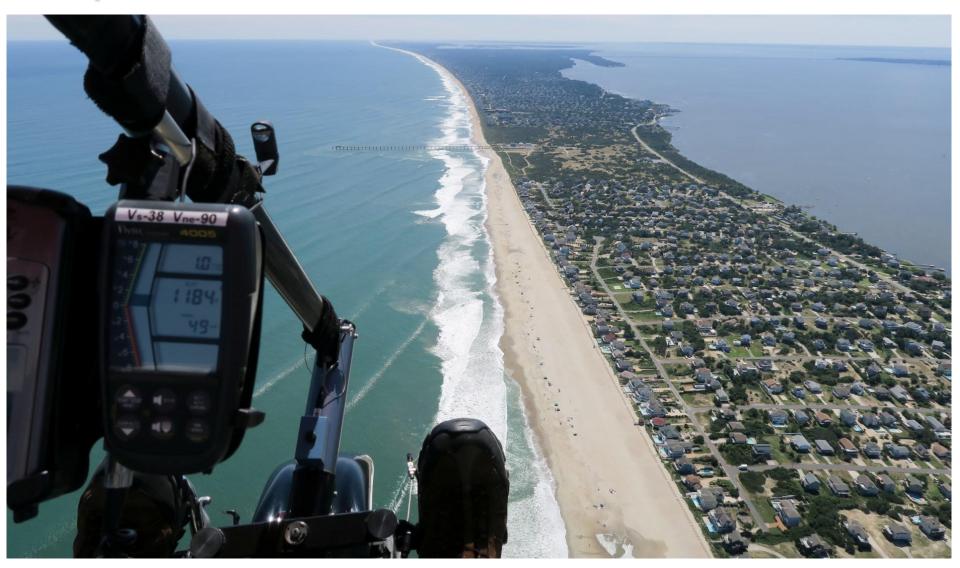
## Explore Statue of Liberty





### What You Can Do Explore Kitty Hawk





### What You Can Do Explore Harper's Ferry





## Explore Upper Potomac Morning





## Explore Shenandoah River





### What You Can Do Explore Interesting houses





# Take Pictures Beautiful Virginia





## Take Pictures 360° video





### Play the video

# Take Pictures Videos





### Play the video

## Share It With your kids





## Share It With EAA Young Eagles





## Share It With flying buddies





# Share It With friends





### What You Can Do Have Fun







## Agenda

- What you can do
- What you can fly
  - 4 kinds of aircraft
  - 3 sizes
- Where you can fly
- What's next for you
- Discussion

## What You Can Fly





Light Sport







Part 103







## GA – General Aviation



- Aircraft Limits
  - None
- Flight Limits
  - None
- License requirement
  - Private Pilot license. Extra training for:
    - Instrument flight
    - Aircraft > 12,500 lbs maximum takeoff weight
    - Seaplanes, helicopters, jets...
- Medical requirement
  - 3<sup>rd</sup>-class medical or Basic Med (For details see <u>aopa.org/FitToFly</u>)

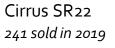
Light Sport

GA

Part 103

### 36

**GA** Airplanes









Ercoupe None sold since 1970

Cessna 172 84 sold in 2019



# **GA** Airplanes





Purchase Cost • New • Used	\$700,000 \$300,000+	\$350,000 \$50,000+	n/a \$20,000+
Capabilities • # of seats • Cruising speed	4 210 mph	4 140 mph	2 95 mph
Training <ul> <li>FAA license needed</li> <li>Medical?</li> <li>Training cost</li> <li>Demo flight?</li> <li>Nearest instructor</li> </ul>	Private 3rd-class/Basic Med \$10,000+ Easily Most airports	Private 3rd-class/Basic Med \$10,000+ Easily Most airports	Private 3rd-class/Basic Med \$10,000+ No Most airports
Can I Rent? • During initial training • To solo • After license	Yes, but not economical Yes Yes	Yes Yes Yes	No No No
Where to Store It	Hangar	Hangar	Hangar

# **GA** Airplanes

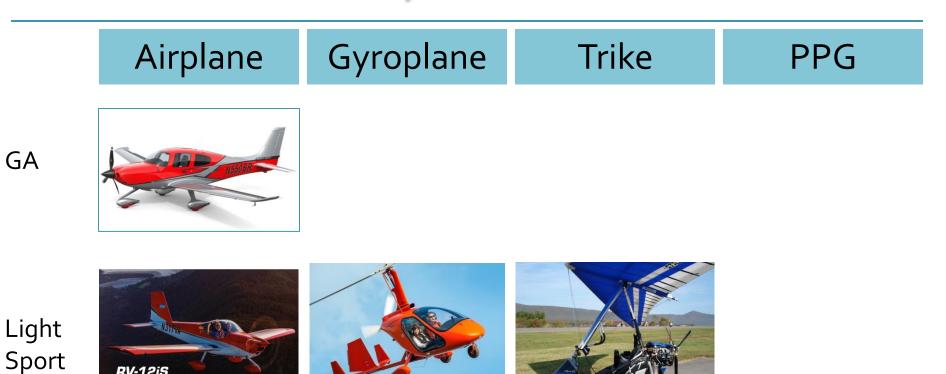




Pros	Cons
<ul> <li>Go fast</li> <li>Travel cross-country</li> <li>Take more than one passenger</li> <li>Rentals &amp; flying clubs available</li> <li>Leaseback possibilities</li> <li>Relatively low insurance cost</li> </ul>	<ul> <li>Expensive <ul> <li>To buy</li> <li>To maintain</li> <li>To house</li> <li>To train for</li> </ul> </li> <li>Private pilot license required</li> <li>3<sup>rd</sup>-class medical needed</li> <li>Limited visibility</li> </ul>

### What You Can Fly





Part 103



RV-12iS





# Light Sport Aircraft



- Aircraft Limits
  - 2 seats max
  - 1,320 lbs max gross weight
  - 51 mph max stall speed
  - 138 mph max speed in level flight
- Flight Limits

GA

Light

Sport

Part

103

- Daylight hours (+ ½ hr dawn/dusk)
- VFR (Visual Flight Rules) only
- <= 10,000 ft
- License requirement
  - Sport Pilot license
- Medical requirement
  - Driver's license

- Fixed gear
- Fixed-pitch prop

• 150 models

# **Light Sport Airplanes**







Vans RV-12 59 sold in 2019

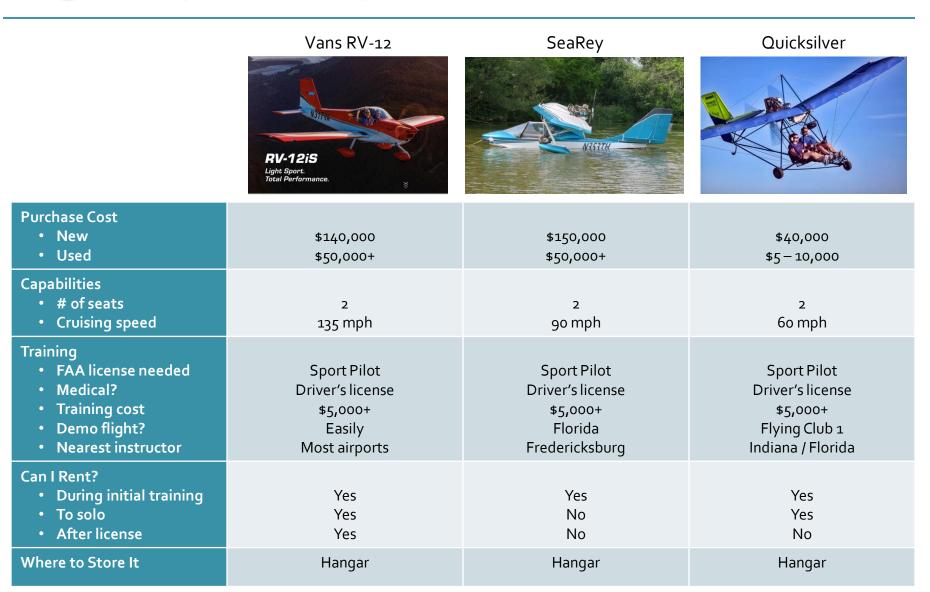


SeaRey 22 sold in 2019

Quicksilver 4 sold in 2019

# **Light Sport Airplanes**





# Light Sport Airplanes

**RV-12iS** Light Sport. Total Performance.



Analogous to



Vans RV-12

SeaRey

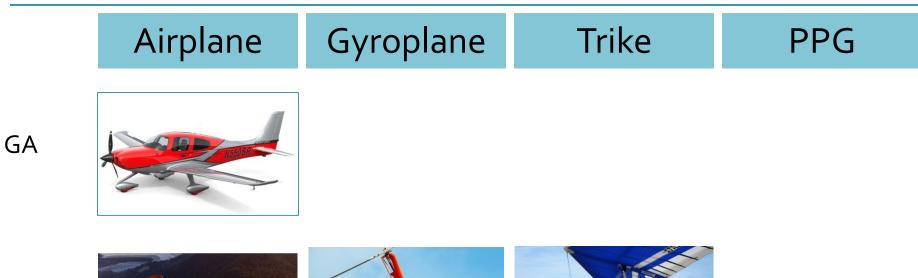


Quicksilver

Pros	Cons
<ul> <li>Travel cross-country</li> <li>150 makes &amp; models available</li> <li>Only a Sport Pilot licenses needed</li> <li>No medical exam needed</li> <li>Leaseback possibilities</li> <li>Relatively low insurance cost</li> </ul>	<ul> <li>Only 2 seats</li> <li>For unusual models: <ul> <li>Vendor support is thin</li> <li>You must own to solo</li> <li>No local instructors</li> </ul> </li> <li>Open models require heated clothing in the winter</li> </ul>

### What You Can Fly





#### Light Sport







Part 103









# Part 103 - Ultralights

#### • Aircraft Limits

- 1 seat max
- 254 lbs max empty weight
- 5 gallons gas max
- 63 mph max speed in level flight
- Flight Limits
  - Daylight hours (+ <sup>1</sup>/<sub>2</sub> hr dawn/dusk)
  - VFR (Visual Flight Rules) only
  - Not in the SFRA, the Washington-area security zone
  - Not at big airports (Class B, Class C)
- License requirement
  - None
- Medical requirement
  - None

Light Sport

GA

Part 103



### Part 103 Airplane



Aerolite 103



Kolb Firefly





47

### Part 103 Airplane

	Aerolite 103	Kolb Firefly Kolb Firefly (wings folded)
Purchase Cost		
• New • Used	\$21,000 \$12,000+	\$30,000 \$10,000+
	\$12,000+	\$10,000+
Capabilities <ul> <li># of seats</li> </ul>	2	2
Cruising speed	63 mph	63 mph
Training • FAA license needed • Medical? • Training cost • Demo flight? • Nearest instructor	None None \$2,590+travel No Florida	None None \$2,590+travel No Florida
Can I Rent? • During initial training • To solo • After license	Train in a Light Sport airplane n/a No No	Train in a Light Sport airplane n/a No No
Where to Store It • Set-up time from trailer	Hangar (wings don't fold)	Hangar / trailer 20 min

### Part 103 Airplane





Pros	Cons
<ul> <li>Fun!</li> <li>Inexpensive <ul> <li>To buy</li> <li>To maintain</li> <li>To house</li> <li>To train</li> </ul> </li> <li>No involvement with the FAA</li> </ul>	<ul> <li>Slow. (Not for x-country)</li> <li>Wind-limited</li> <li>Bouncy in mid-day thermals</li> <li>No local instructors</li> <li>None for rent. You must own.</li> <li>Open models require heated clothing in the winter</li> </ul>

### What You Can Fly





#### Light Sport







Part 103









## Gyroplanes





Magni M-24 Orion 12 sold in 2019



AutoGyro MTO 7 sold in 2019

Silverlight AR1 Convertible (canopy comes off) 9 sold in 2019

# Gyroplanes



	Magni M-24 Orion	AutoGyro MTO	Silverlight AR1
	0		
Purchase Cost • New • Used	\$97,000 (kit) \$80,000+	\$100,000 \$75,000+	\$78,000 (kit) \$93,000
Capabilities • # of seats • Cruising speed	2 90 mph	2 90 mph	2 90 mph
Training • FAA license needed • Medical? • Training cost • Demo flight? • Nearest instructor	Sport Pilot Driver's license \$5,000+ Missouri Frederick	Sport Pilot Driver's license \$5,000+ Frederick Frederick	Sport Pilot Driver's license \$5,000+ Florida Frederick
Can I Rent? • During initial training • To solo • After license	Yes No No	Yes No No	Yes No No
Where to Store It	Hangar	Hangar	Hangar

# Gyroplanes



Analogous to

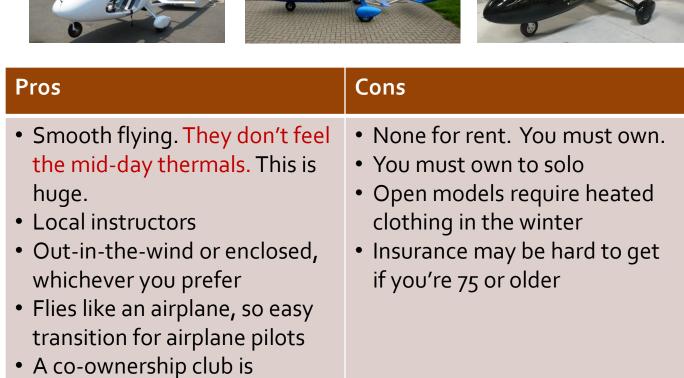


Magni M-24 Orion

available at Bay Bridge







### What You Can Fly





#### Light Sport







Part 103









# Light Sport Trikes





Airborne 912 XT 2 sold in 2019

Airtime Cygnet 5 sold in 2019

Trike in Trailer



# Light Sport Trikes



Airborne 912 XT



Airtime Cygnet



Purchase Cost • New • Used	\$55,000 ~\$29,000	\$80,000 ~\$20,000
Capabilities • # of seats • Cruising speed	2 75 mph	2 55 mph
Training <ul> <li>FAA license needed</li> <li>Medical?</li> <li>Training cost</li> <li>Demo flight?</li> <li>Nearest instructor</li> </ul>	Sport Pilot Driver's license \$5,000+ Amherst, VA Amherst, VA	Sport Pilot Driver's license \$5,000+ Ft. Walton Beach, FL Ft. Walton Beach, FL
Can I Rent? • During initial training • To solo • After license	Yes No No	Yes No No
Where to Store It • Set-up time from trailer	Hangar / trailer 30 - 80 min	Hangar / trailer 30 – 80 min

# Light Sport Trikes



Analogous to



Airborne 912 XT



Airtime Cygnet





Pros	Cons
• "The motorcycle of the air"	• None for rent. You must own.
Unsurpassed visibility	<ul> <li>You must own to solo</li> </ul>
• That out-in-the-wind	<ul> <li>Nearest instructor is in</li> </ul>
experience	Amherst, 3-hours away
• Trailerable	Cold in the winter without
• Fast enough to go x-country	heated clothing
Palativaly inavnanciva	5

• Relatively inexpensive

### What You Can Fly





Light Sport







Part 103







### Part 103 Trikes



Dragonfly

Rev



## Part 103 Trikes

Ρ

С

C

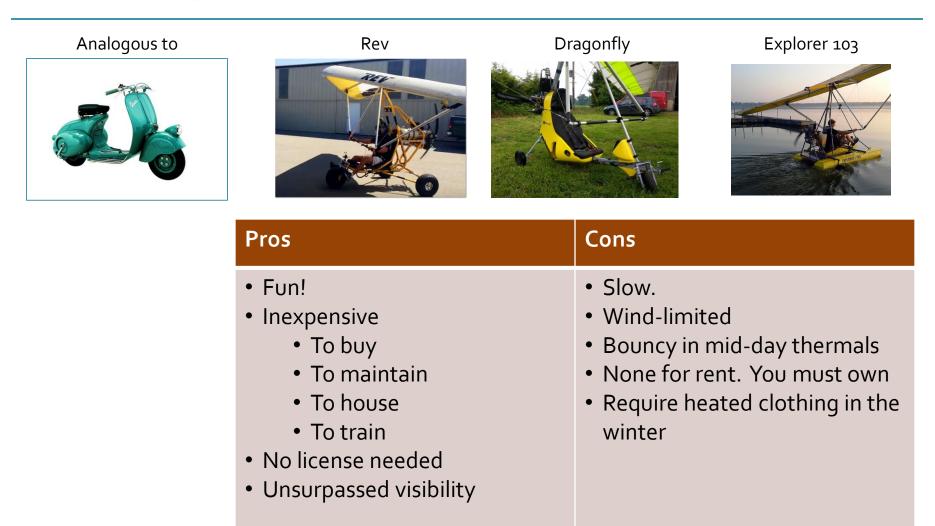
V



	Rev	Dragonfly	Explorer 103
Purchase Cost • New • Used	\$25,000 ?	\$16,000 \$16,000	\$30,000 ?
Capabilities • # of seats • Cruising speed	1 45 mph	1 58 mph	1 45 mph
Training <ul> <li>FAA license needed</li> <li>Medical?</li> <li>Training cost</li> <li>Demo flight?</li> <li>Nearest instructor</li> </ul>	None None \$4,000+ n/a Amherst, VA	None None \$4,000+ n/a Amherst, VA	None None \$4,000+ n/a Amherst, VA
Can I Rent? • During initial training • To solo • After license	Train in a Light Sport trike n/a No No	Train in a Light Sport trike n/a No No	Train in a Light Sport trike n/a No No
Where to Store It • Set-up time from trailer	Hangar / trailer 10 min	Hangar / trailer 10 min	Hangar / trailer 20 min

# Part 103 Trikes





### What You Can Fly





Sport

RV-12iS Light Sport.





Part 103







#### PPGs with Trike







### PPGs with Trike

#### Powered Paragliders

Purchase Cost • New • Used	~\$12,000 ?	
Capabilities • # of seats • Cruising speed	1 25 mph	
Training • FAA license needed • Medical? • Training cost • Demo flight? • Nearest instructor	None None \$3,600+travel Warrenton Florida	
Can I Rent? • During initial training • To solo • After license	Train in a tandem PPG trike Some schools Some schools No	
Where to Store It • Set-up time from storage	Garage / trailer 10 min	





### PPGs with Trike

• Lots of other PPG people

Organized travel events

**Powered Paragliders** 

• To buy

To maintain

• To house

To train

No license needed

• Transportable

Social

Least expensive way to fly

Pros

• Fun!

#### Cons

- Wind-limited. Can fly only at the edges of the day
- Very slow
- You'll get bored with the local scenery
- None for rent. You must own.
- Cold in the winter without heated clothing

#### Analogous to







# Recap – Your 7 Possibilities



Gyroplane Trike Airplane **PPG** Each is a different world as to: What you can do The skills you'll need Instructors The people you'll hang out with

- License requirements
- Cost

Light Sport

GA







Part 103

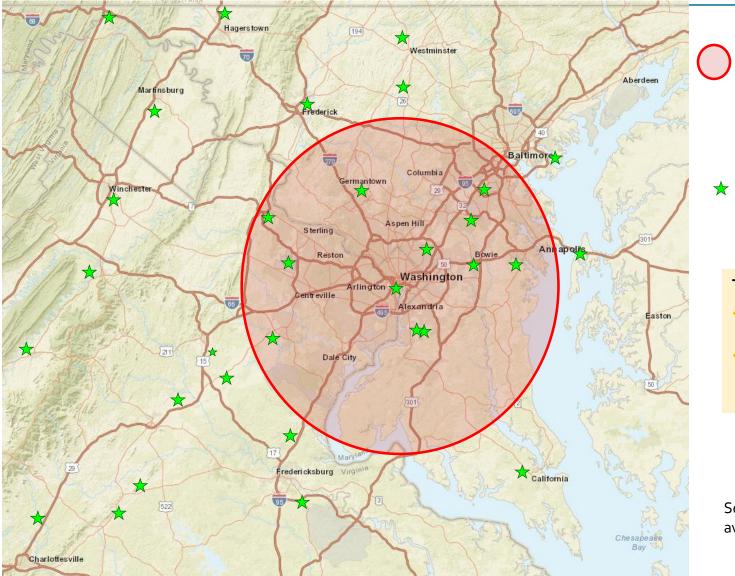






### Where You Can Fly





#### Washington SFRA (Special Flight Rules Area)

- Controlled flight only
- No wandering
- No Part 103

Airports (where you could maybe hangar a plane)

#### The upshot:

- Training is easier outside the SFRA
- Most of your flying will be outside the SFRA

See <u>SkyVector.com</u> for aviation maps online



# Your Next Move

- Create a vision for yourself:
  - Flying + your dreams
  - Flying + your spouse
  - Flying + your family
  - Flying + your job
  - Flying + your other interests
  - Flying + your budget
- Pick which of the 7 interest you
- Get a demo flight



# Flying Club 1

- About 45 members
- We meet monthly
- To promote powered light flying
  - Encourage
  - Give advice
  - Share skills
  - Share local news
- The club owns no aircraft
- \$20 year
- <u>www.FlyingClub1.org</u>







### This Could Be You





J.J. Campbell, 74, just got his Sport Pilot license He plans to buy a gyroplane

# **References - General**

- Envisioning Tools
  - <u>My picture stories</u>. See what I've done with my trike.
  - <u>Hedge Hoppers Video</u>. See what some Virginia folks have done with their PPGs.
  - <u>Dan Johnson blog</u>. Dan has flown everything, writes about them, and makes videos.
  - <u>Henry Trikelife's YouTube channel</u>. Henry has flown all over the West and made videos of it.
  - Paul Hamilton's website on <u>What Type of Aircraft Do You Want to Fly</u>. More to help you decide.
- **Organizations.** Join the appropriate one(s), read their magazine, use their support.
  - <u>AOPA</u> Aircraft Owners & Pilots Association. They focus on "large" aircraft with a nod to smaller guys. If you have medical concerns, join AOPA and talk to their advisors before doing anything official.
  - <u>EAA</u> Experimental Aircraft Association. Besides managing AirVenture, the huge annual fly-in and airshow at Oshkosh every summer, the EAA supports homebuilders and the whole lighter end of the sport.
  - <u>PRA</u> Popular Rotorcraft Association. Membership includes <u>Powered Sport Flying</u> magazine.
  - <u>USPPA</u> U.S. Powered Paragliding Association. The governing body for PPGs. A must if you're going PPGs.
  - <u>Flying Club 1</u> Your source of information about the local scene.
- What's popular? So many aircraft! Who are the major players, hence who will survive?
  - FAA registration data I maintain this for Dan Johnson. Slice and dice the data using Tableau Public online.
- What's legal?
  - <u>Airspace & Law for Ultralights</u>. Everyone, no matter what you fly, should watch this great DVD presentation of airspace.







#### References – GA & Light Sport Airplanes

 Demo flight & training. 2- and 4-seat airplanes require either a Private Pilot or a Sport Pilot license from the FAA, depending on the size of the airplane. Either way, buy a demo flight Helen Woods at <u>Chesapeake Sport Pilot</u> at Bay Bridge Airport at the east end of the Chesapeake Bay Bridge. She's highly recommended by AOPA and others.

- **Aircraft.** Here are the most popular Light Sport Aircraft in 2019.
  - Regular-looking airplanes: <u>Vans RV-12</u> (56 registered in 2019), <u>Icon A5</u> (46), <u>Vashon Ranger</u> <u>R7</u> (19), <u>American Legend Cub</u> (17), <u>BRM Bristell</u> (11), <u>Czech Aircraft Works SportCruiser</u> (10), <u>Tecnam P2008</u> (9).
  - **2-seat ultralight-like airplanes:** The most popular of these in 2019: <u>M-Squared Breese 2 (</u>2).
  - <u>Barnstormers.com</u>. Online market for used aircraft, especially unusual ones
  - <u>Trade-a-Plane</u>. Their newspaper is now online.

#### • Further information

• <u>AOPA training guide</u>. This lays out the whole process of getting an FAA pilot's license for airplanes at either the Sport Pilot or Private Pilot level.







# References – Part 103 Airplanes



- **Demo flight.** Since Part 103 airplanes have only one seat, a demo flight consists of a flight in a similar 2-seat airplane. Those are plentiful. But very few are legal for instruction (that is, are Light Sport Aircraft). Fortunately, Flying Club 1 has a member with a 2-seat Quicksilver who loves to give demonstration rides. For free. Contact me: President@FlyingClub1.org.
- **Training.** You do not need an FAA license, but you most assuredly <u>do</u> need training. Part 103 airplanes do not fly like Cessnas and Pipers. They have much less mass, are slower, draggier, and require more rudder inputs. You can train in a larger airplane, but you will then need transition training before flying your Part 103 airplane. You might do better to learn in an ultralight-like Light Sport Aircraft from the get-go. For that you will have to travel out of Virginia.
  - <u>Russ Miley</u>. in Port Charlotte, FL offers a one-week intensive course that will get you ready to solo in your own airplane. If you bring your plane, Russ will finish by taking you through soloing in it. You'll fly morning and evenings when the air is calm in his <u>Eurofox</u>. Days are for ground school (navigation, airspace rules, weather, aeromedical...). \$2,590 for the week. Plus you pay for your travel, lodging, and food. Both Kolb and Aerolite highly recommend Russ.

#### • Aircraft

- <u>Aerolite 103</u>. From U-Fly-It in DeLand, FL. This is the most popular Part 103 airplane these days.
- <u>Kolb Firefly</u> (and Trifly, the tricycle-gear version of the Firefly). This is more expensive than the Aerolite103 but with faster performance. Also, it's wings fold in 20 minutes for trailerability. (See a <u>video</u> of this.) Kolb has been around for years with an excellent reputation.
- Videos
  - 14-year-old Henry Scott flew an Aerolite 103 from Warrenton, VA, to Oshkosh in the summer of 2019. His father and sister were ground crew. Here's <u>the story</u>.

# **References - Gyroplanes**



- **Demo flight & training.** Gyroplanes require a Sport Pilot license from the FAA with a gyroplane endorsement.
  - Frank Noe instructs in his AutoGyro MTO in Frederick, MD. Phone: 443-253-7681. Email: frankcanfly@yahoo.com.
     Website: <u>www.gyromojo.com</u>. For insurance reasons, you can't solo in Frank's gyro. You'll need to have bought your own when you reach that point.
- Aircraft
  - <u>AutoGyro</u>. This German company has built more modern gyroplanes than anyone. The U.S. distributor is based at Bay Bridge airport at the west end of the Chesapeake Bay Bridge.
  - <u>Magni</u>. This Italian company invented the modern gyroplane with the long tail. Magnis have heavy fiberglass rotor blades instead of aluminum ones, so they fly more stably than other gyros. See the videos below for comparisons. The U.S. importer is in Missouri south of St. Louis.
  - <u>Silverlight</u>. This Florida company is gaining on AutoGyro and Magni. Notice their convertible AR1: canopy on in the winter, off in the summer.
- Videos
  - <u>Video</u> in which a wild Scot explains how gyros work.
  - <u>Video</u> comparing AutoGyro and Magni flying characteristics.
  - <u>Video</u> on gyroplane landing techniques.
  - <u>The Gyro Slicer</u>! Do you like slicing onions? Of course not! Better than a Vegematic, the GyroSlicer will do the job! But wait, there's more. This fun video will persuade your spouse that you need to get a gyroplane today. Maybe two. As seen on TV!

#### Further information

- Typical <u>Pilot Operating Handbook</u> (AutoGyro MTO Sport 2017). Educate yourself on performance and maintenance items.
- <u>Flying a New Generation Gyrocopter</u> A guide for converting pilots by Phil Harwood. Free online as a PDF.
- <u>Article</u> on building a Magni gyro at the factory near Milan, Italy. Instead of building it here, spend two weeks in Italy.
- <u>Many technical articles</u> about gyroplanes from Greg Gremminger, past head of the gyroplane ASTM committee, past president of the Popular Rotorcraft Association, and longtime Magni distributor.

## **References - Trikes**



- **Demo flight & training.** 2-place trikes require a Sport Pilot license from the FAA with a "weight-shift" endorsement.
  - Ron Dixon is a senior trike instructor who teaches out of his own grass flight park 45 minutes south of Charlottesville.
     Phone: 434-841-0074. Email: BuffAir@outlook.com. Website: <u>www.buffair.com</u>. However, for insurance reasons, you can't solo in one of his trikes. You'll need to have bought your own when you reach that point.
  - <u>Airtime Aircraft</u> in Ft. Walton Beach, FL, makes the Cygnet and Explorer 103 amphibious trikes. They can teach you to fly amphibious trikes. You cannot solo in their trikes. You'll need to have bought your own when you reach that point.

#### Aircraft

- <u>Evolution Trikes</u>. This Florida company is the most innovative trike company in the world and the largest U.S. builder. They build trikes in all sizes, Revo / Revolt / Rev.
- North Wing. North Wing has been in business for many years building trikes and hang glider wings. They build the wings for Evolution and other vendors. Ron Dixon teaches in a North Wing Apache. They build trikes in all sizes.
- <u>Airtime Aircraft</u>. They build the amphibious Cygnet and Explorer 103 trikes.
- <u>FlyLight</u>. This British company makes the tiny Dragonfly trike pictured in this presentation.
- <u>Air Creation</u>. Although no longer a force in the U.S. market, their high-quality Pixel is a solid Part 103 entry.

#### Videos

- Henry TrikeLife flying over Arches National Park (5:37). Video
- Henry Trikelife flying a Rev ultralight trike in an Idaho morning. (4:23). Video
- Flying with the birds. French triker Christian "Birdman" Moullec flies with geese over Mont St. Michel. (4:19). Video
- Also see the many trike videos at Evolution Trikes.

#### Further information

• Explore Paul Hamilton's extensive <u>website</u>. He's an instructor and prolific author operating out of Reno, NV.

### **References - PPGs**



#### • General

- <u>FootFlyer.com</u>. Jeff Goin's superb PPG site. He writes for <u>Powered Sport Flying</u> magazine, usually about safety.
- <u>Airspace & Law for Ultralights</u>. Everyone, no matter what you fly, should watch this great DVD presentation of airspace from Jeff Goin.
- <u>SkyDriving</u>. Eric Dufour seems to be the grand old man of PPG training, especially for PPG trikes. He has invented a PPG trike that substitutes a steering wheel for the usual pull-down handles. Watch <u>SkyDriving video</u>.

#### • Demo flight

- Warrenton, VA. Contact Mark Barron. He has a tandem PPG trike and FAA approval to teach in it. Although he can give you a demonstration flight, Mark does not yet have his instructor's rating from the USPPA, so you'll have to look elsewhere for instruction. Phone: 703-629-9606. Email: mhbjeep@gmail.com
- **Training.** PPGs fly under Part 103 rules, so a license from the FAA is not required. The USPPA has a <u>series of ratings</u> (PPG1, PPG2...) that serve the same purpose. To fly at most gatherings you'll need to have a PPG2 rating.
  - <u>AviatorPPG.com</u> in Lake Wales, FL, runs the most professional school in the business. They also have affiliates who teach their way.
    - 14 days required.
    - 18-month waiting list
    - Very thorough training
    - U.S. Powered Paragliding Association PPG1 & PPG2 syllabus
    - Both foot-launch and trike
    - All gear rental included
    - \$3,640. Food, housing, and travel not included
    - 250lb weight maximum
  - <u>SkyDriving</u> with Eric Dufour in Grant, FL.
    - \$3,000. Food, housing, and travel not included
    - All gear rental included



# Your Next Move

- Create a vision for yourself:
  - Flying + your dreams
  - Flying + your spouse
  - Flying + your family
  - Flying + your job
  - Flying + your other interests
  - Flying + your budget
- Pick which of the 7 interest you
- Get a demo flight

