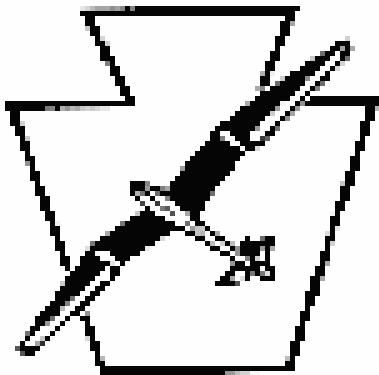


Beginning Cross Country



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Things you need to know.



- Speed To Fly.
- Off Field Landings.
- Farmer Relations.
- Assembly/Disassembly.
- Instrumentation.
- Navigation.
- Chart Reading.
- Weather.
- Crewing.
- Official Observers.

Things you need to know 2.



- Retrieving.
- Checklists.
- FAI Rules.
- Tasks..
- ABC/Bronze Badges.
- Final Glide Calculations.
- GPS / Cameras.
- Thermalling Techniques.
- Accident Prevention.

Reading Time



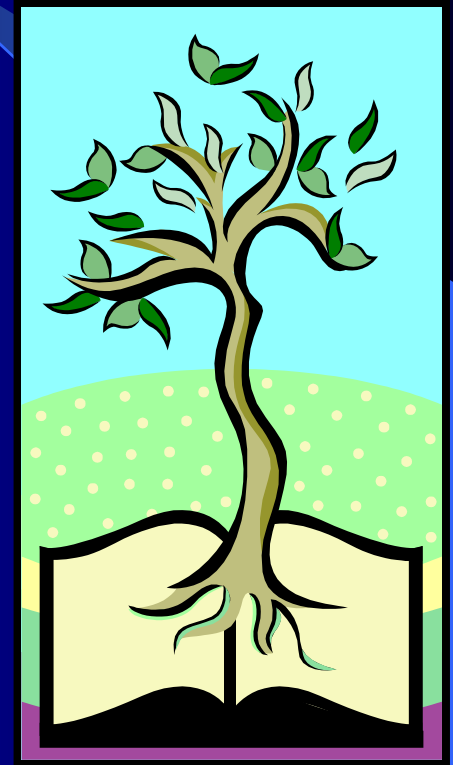
Total Required Reading
Time = 7 hours +.

This presentation
will cover the
simple basics &
give you a plan of
action.



Develop A Plan Of Action

- 1) Gain the Knowledge.
- 2) (What do I need to know?)
- 3) Develop Skills.
- 4) A Workable Flight Plan.



Where To Get The Info



Subject

- Thermalling.
- Final Glide.
- Off Field Landings
- Farmer Relations.

Textbook

- After Solo.
- Transition To Gliders.
- New Soaring Pilot.
- Cross Country Soaring.
- Soaring Cross Country.

You will need a small library of text books. These are my favorites, although there are others.

Each author has their own style and each book has unique information. The more information you have, the more efficient and safe you will be.

More book suggestions follow:

Where To Get The Info



Subject

- Navigation.
- Instrumentation.
- ABC/Bronze.
- Weather.
- Decision Making.

Textbook

- Understanding The Sky.
- Badge & Record Book.
- Accident Prevention Manual.

Where To Get The Info

Subject

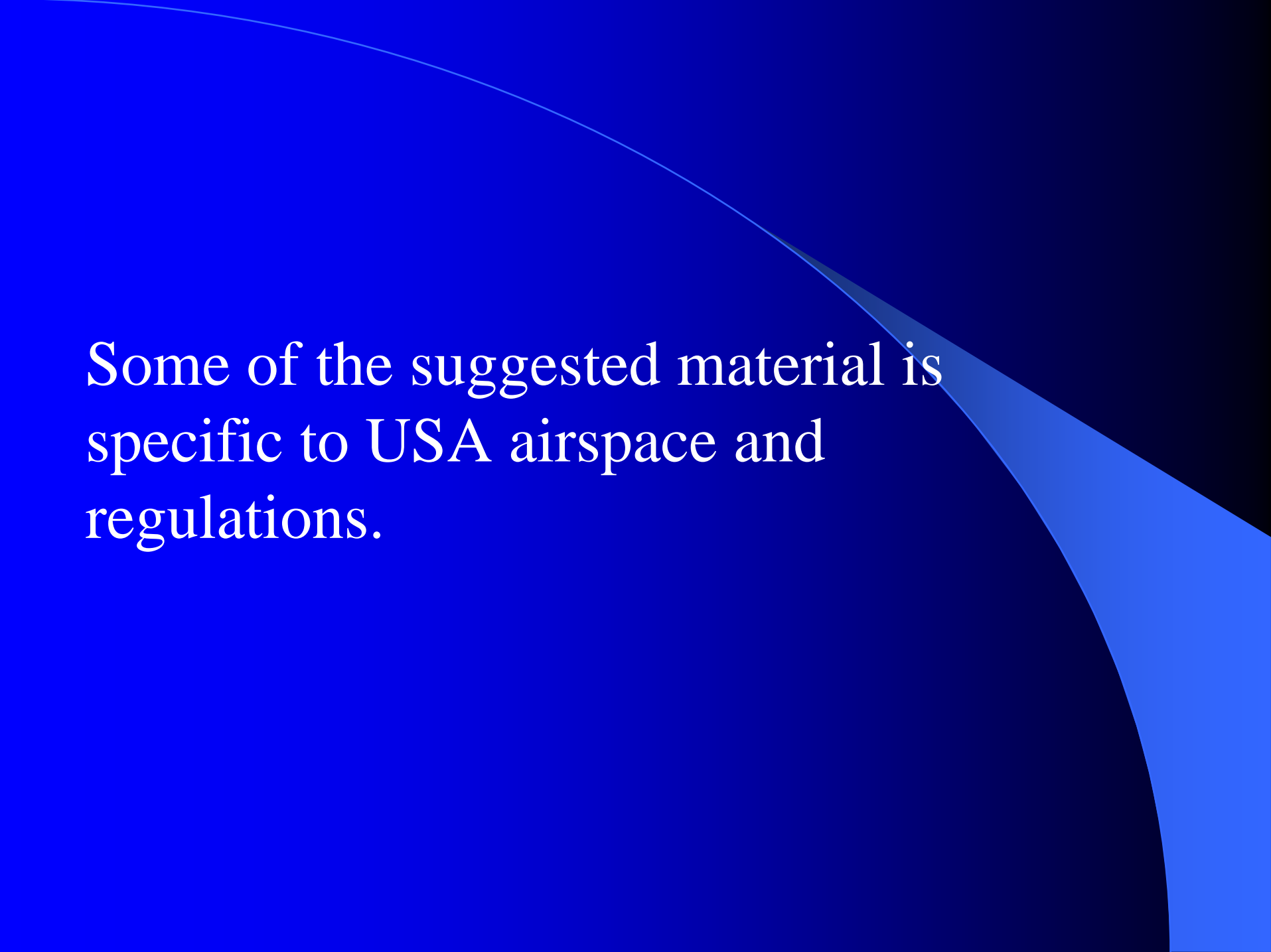


- Aeronautical Charts.
- Regulations.

Textbook

- Airspace For Glider Pilots CDROM.
- FAR's For Glider Pilots.
- Aeronautical Chart User's Guide.
- Pilot's Handbook of Aeronautical Knowledge.





Some of the suggested material is specific to USA airspace and regulations.

Armed With Knowledge You Are Ready For The Next Step.

- Develop Skills.



Developing Skills

- Earn the ABC & Bronze badges.
- Fly a single place glider.
- Prove you can stay up with several sustained flights of more than 2 hours.
- Prove you can accurately land in a restricted area with no reference to the altimeter.

Earn Your Badges

- A Badge = Solo Skills.
- B Badge = Soaring.
- C Badge = Cross Country Knowledge.
- Bronze Badge = Off Field Landing Skills.



The USA Bronze Badge requirements are different from other countries.

Specifically, the USA Bronze Badge targets off field landing skills.

Before Cross Country Flights Assumptions

- You have learned to identify, enter and climb in thermals.
- You can enter landing patterns from various directions.
- You have completed the “Accident Prevention Manual” workbook.
- You will choose a good soaring day.

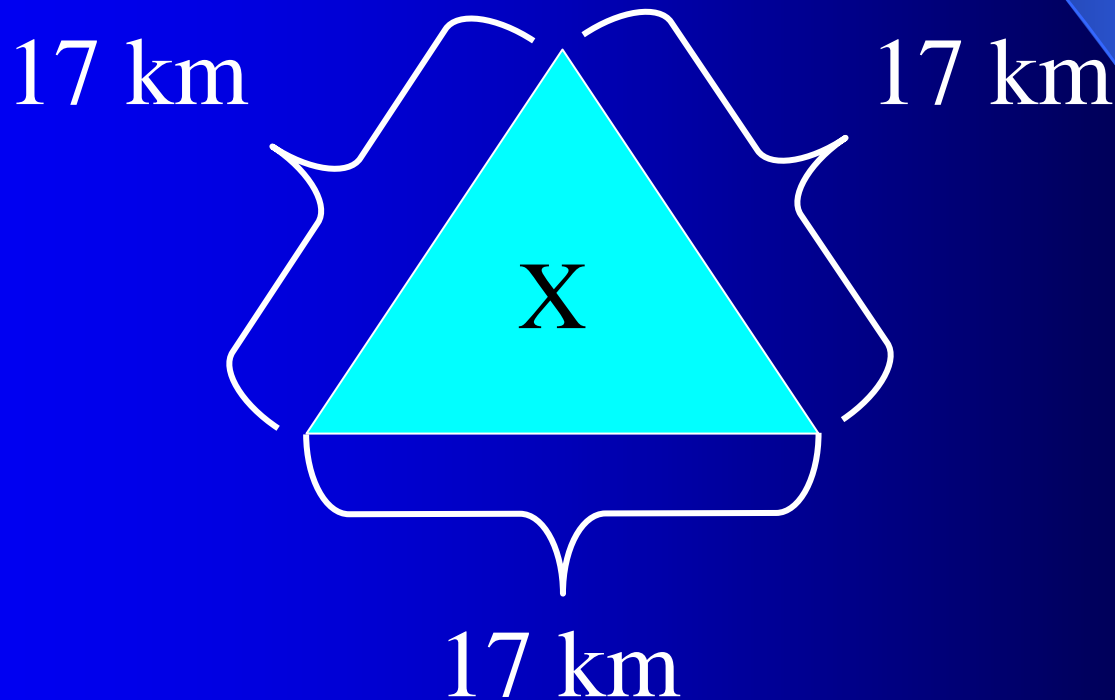
The “Glider Pilot Accident Prevention Manual” is an important judgment training concept developed by several agencies and colleges.

It helps all pilots fly safer by emphasizing important decision making concepts.

It is a workbook all pilots should be familiar with.

Fly A Local Task

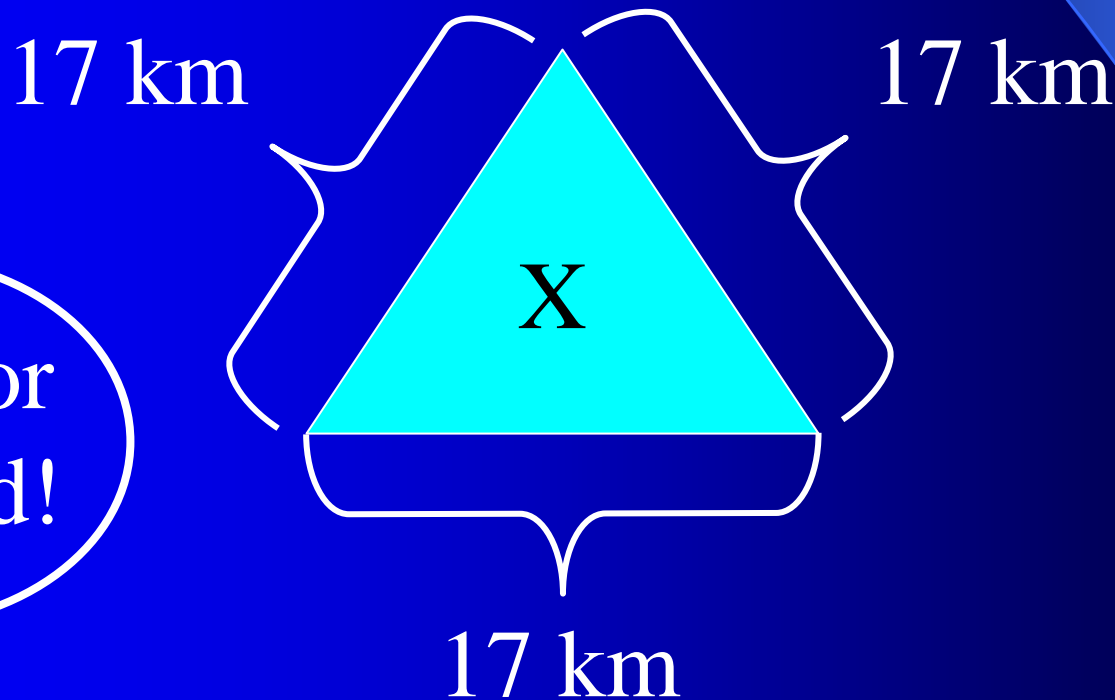
Plan a 50 km triangle with equal legs with the gliderport in the center of the triangle.



You can use a camera or GPS data logger for flight analysis.

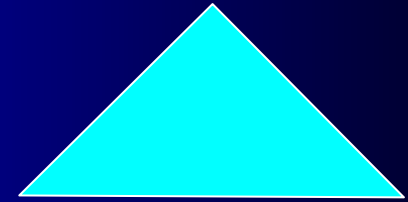
Fly Local Task

You are never more than 10 km
(6 Miles) from the gliderport.



Little, or
no wind!

Local Task



Assuming a 30:1 glider (Schweizer 1-34.)

$$\frac{5280}{30} = 176 \text{ ft per mile} \times 6 = 1,056 \text{ feet.}$$

1,056 feet, plus pattern altitude (1,000 feet)
plus safety margin (1,000 feet) = 3,056 feet.

Flying A Local Task

If you are a reasonable person, you would not consider flying cross country if you could not maintain a minimum height of 3,056 feet AGL.

As you fly the task, if you lose altitude to 3,100 feet, return to the gliderport!

If There Is Wind

You must do the computation.

However, would you reasonably fly in a strong wind? No!

10 kt wind computation

$$GAG = GAA \left[\frac{\text{Airspeed} \pm \text{wind}}{\text{Airspeed}} \right]$$

$$GAG = 30 \left[\frac{50 - 10}{50} \right] = 24$$

$$\frac{5280}{24} = 220 \text{ feet per mile}$$

6 X 220 = 1,320 feet.

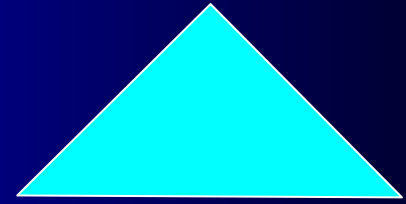
264 feet higher during the task.

GAG = Glide Angle over the Ground.

GAA = Glide Angle in the Air.

LOCAL TASK

With 10 Knot Wind



Assuming a 30:1 glider (Schweizer 1-34.)

220 ft per mile X 6 = 1,320 feet.

1,320 feet plus pattern altitude (1,000 feet) plus safety margin (1,000 feet) = 3,320 feet minimum.

What You Will Learn

- Task setting.
- Entering Thermals.
- Thermalling.
- Speed To Fly.
- Cloud Reading.
- Confidence.
- Navigation.
- Turnpoint Photos.
- GPS Logger Use.
- Cockpit management.

Judgment!

Get Help

- Ask flight instructor to help with task area.
- Fly over friendly terrain.
- Have “What if,” plans of action.

“What If” Plans of Action.

- Abandon attempt.
- Return to gliderport.
- Go to other nearby airport.
- Go to known good landing field.

Next Task



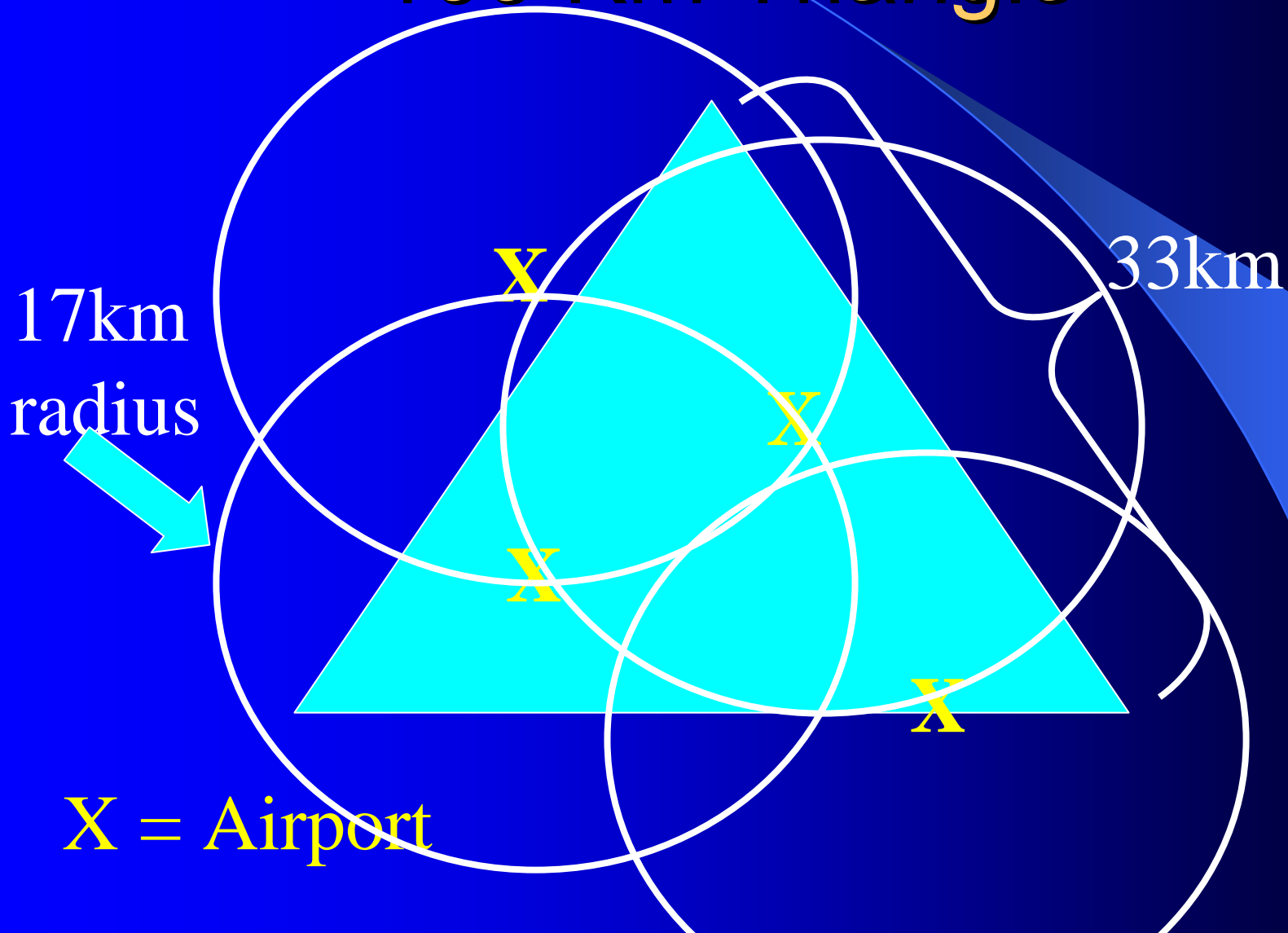
- Larger Triangles.
- A 100 km equilateral triangle has the apex some 17 miles away.
- Using the same formula with a 10 knot wind, you would have to maintain a minimum altitude of 5,740 Ft AGL.

It Can Be Easy!



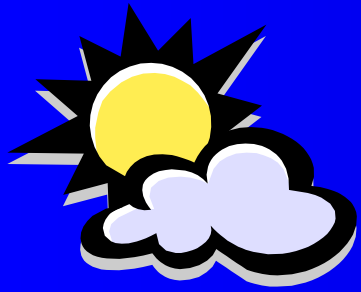
- At many soaring sites, a 6,000 ft cloud base is common on good soaring days.
- If there are other airports along the route, the minimum altitude required may not be so high as long as you are willing to commit to a landing at another airport.

100 Km Triangle

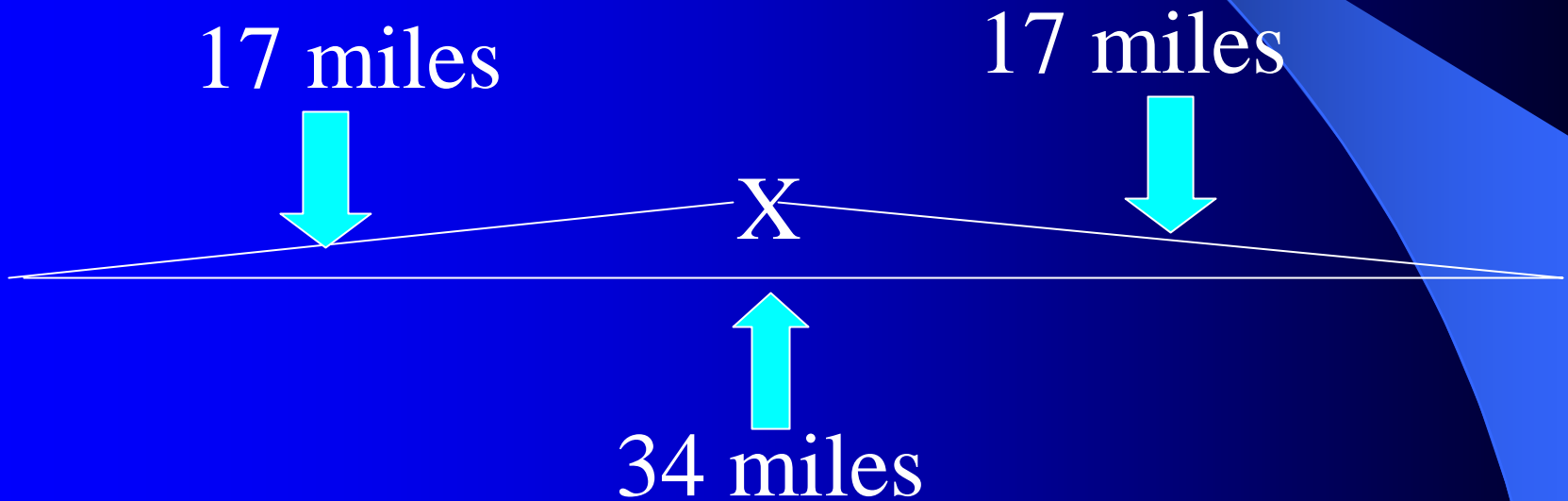


Look At This!

- If you can get to 6,000 feet, and the winds are ten knots or less . . .
- You need 5,740 feet to travel 17 miles into a 10 knot headwind.
- S O O O O



Silver Distance On A 6,000 Ft Day.



34 miles = More than Silver Distance!

Silver distance (50 km) can be straight out, out & return, or the long leg of a triangle as shown.

Be Reasonable

- Few people care if you have your badges or fly cross country.
- It's only important to you.

However

- Should you have an accident because of foolish, immature behavior, you will lose respect of others.

The background is a gradient of blue, transitioning from a lighter shade on the left to a darker shade on the right. A thin, light blue curved line starts at the top left and arcs towards the center. A larger, semi-transparent blue triangular shape is positioned on the right side, pointing towards the center.

THE END