



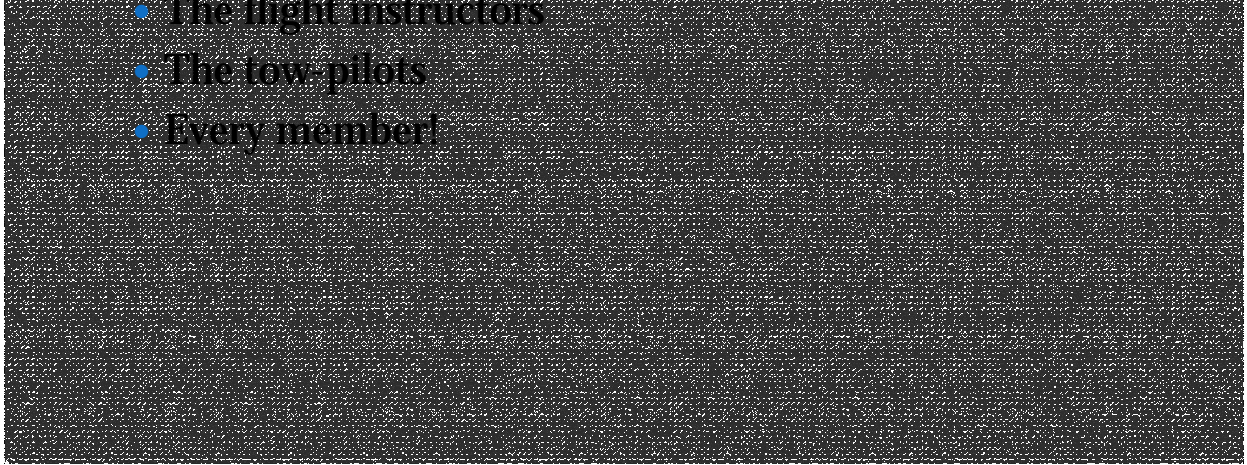
# **SPRM\* for the rest of Us**

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\* Single Pilot Resource Management



# A Club Safety Culture

- Who is responsible for the Club's safety culture?
    - The Board
    - The OD
    - The flight instructors
    - The tow pilots
    - Every member!
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# Background

- In 1978 a United Airlines DC-8 crashed near Portland OR after it ran out of fuel. An analysis of the accident showed:
  - Captain didn't listen to other crew members
  - Flight crew was not empowered to question the captain's actions/inactions



## Underlying Principles

- Making good decisions is a learned skill
  - Explicit training using available resources
    - Books, pamphlets, AC's
  - Implicit training by example
    - what you do vs what you say
    - what do your peers do



# Current Thinking

- Decisions are based on
  - Experience
  - Knowledge of multiple facts
  - Expected outcome
  - Evaluation of changing events
  - Known or expected risks
  - Known or expected rewards





# Scenario Based Training

- Start by generating a scenario
  - 2-3 sentences that sets the stage
  - A single event per scenario
  - Make it plausible
- Then list a set of discussion points
  - What would the pilot/crew member do
  - List several options and discuss the pros and cons for each



## ADM\* Scenario

You are flying a club glider and you have just been informed that you have 3 minutes left before your hour is up. Descending thru 1300 ft AGL you hear these radio calls:

- Fairfield traffic, 1 India 2 minutes finishing from the NE, Fairfield
- Fairfield traffic, 9 X-Ray 2 minutes finishing from the N, Fairfield
- Fairfield traffic, Golf 1 2 minutes finishing from the N, Fairfield

What should you do now?

\*aeronautical decision making



## ADM Factors

- How long/wide is the runway?
- What other landing options are there?
- If you open the spoilers can you safely land before those gliders get here?
- If you just flew through a thermal, can you 'wait them out'?
- How is the person waiting / club going to respond if you are late getting back?
- What other actions can you take?





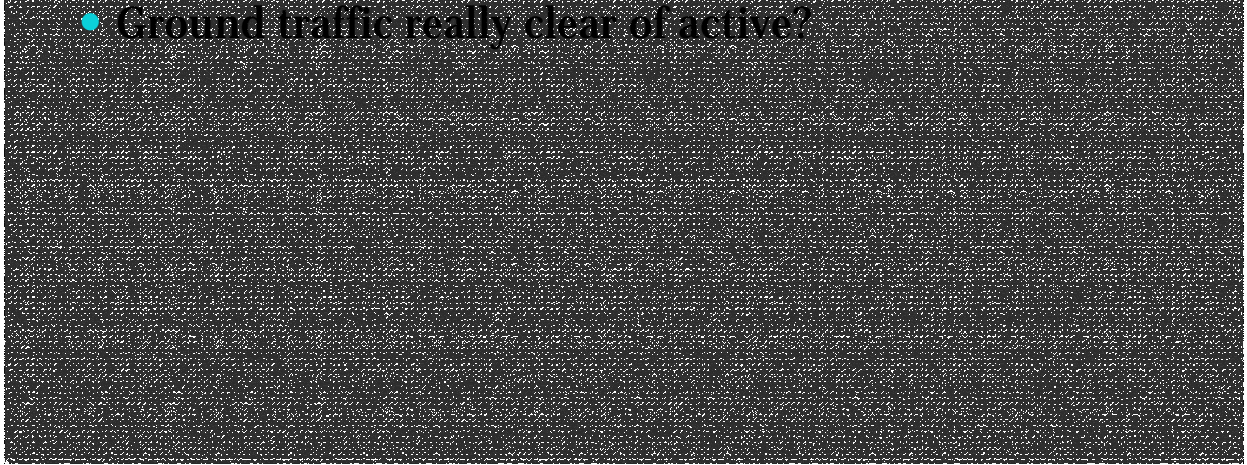
## SPRM\* Scenario

You are the wing runner, the glider is hooked up and slack has been removed and you are leveling the wings when the launch is delayed due to a runway incursion. The glider pilot opens and closes the canopy during this delay. What actions should you take before giving the launch signal?

\*single pilot resource management



## SPRM Factors

- Pilot/Wing runner communications?
  - Confirmation that canopy is close and locked?
  - Other traffic?
  - Ground traffic really clear of active?
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## Checklist Scenario

You are giving rides to a group of friends. As you are getting settled in for the 4<sup>th</sup> launch, the wing runner says “another glider is on downwind.” You expedite this launch so the runway will be clear for that landing. During the ground roll you realize that your shoulder straps are not fastened. What actions do you take?



# Checklist Factors

- Checklist item – belts and straps on and secure
- What other checklist items did you miss?
- Is the lap belt secured?
- Can you abort now?
- Where will the landing glider go?
- Where will the tow plane go?
- What will your friend say if you release?





## PT3 Scenario

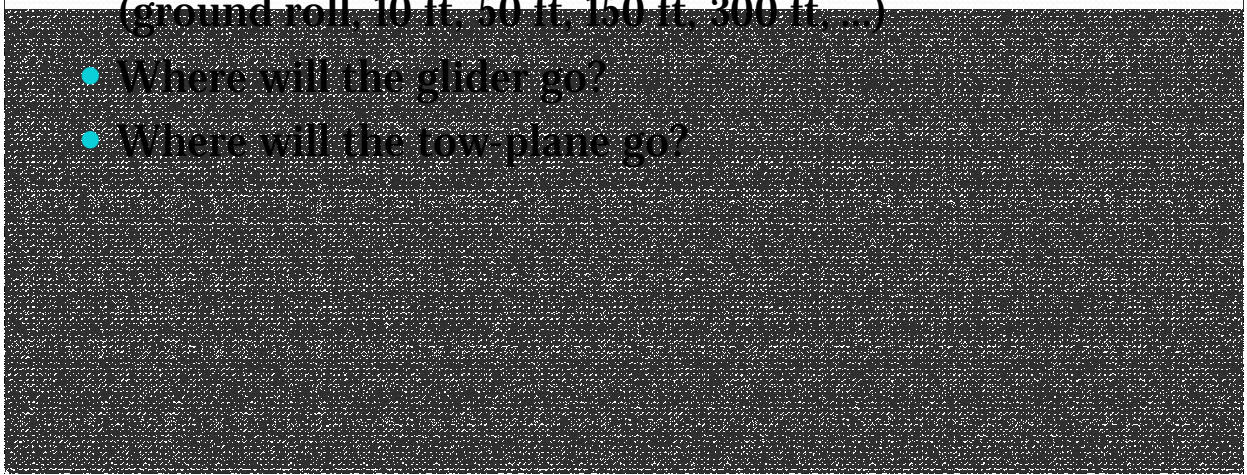
You and your instructor decide to practice a simulated emergency where you lose sight of the tow-plane during the tow. At an appropriate altitude you will tell your instructor, "I am beginning the simulation", once the instructor agrees, you will pull the release and complete the pre-planned action.

- You must pre-determine how you would respond at several different altitudes.
- You must brief the tow-pilot on this maneuver before launching.



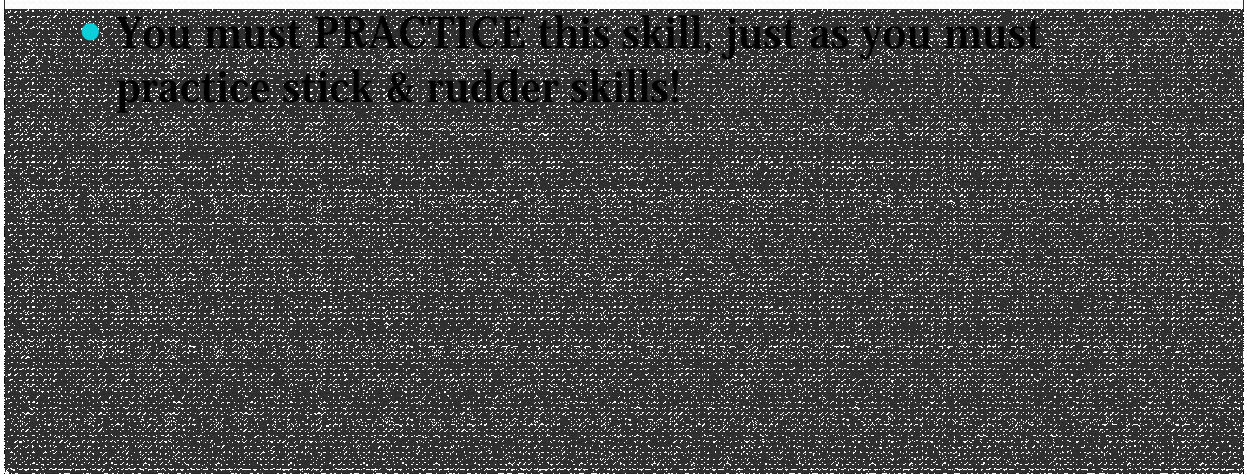


## PT3 Factors

- Runway length, wind, weather, density altitude, traffic considerations.
  - Possible actions at various stages in the launch (ground roll, 10 ft, 50 ft, 150 ft, 300 ft, ...)
  - Where will the glider go?
  - Where will the tow plane go?
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# Conclusions

- SPRM is a learned skill
  - It engages ALL members of the flight 'crew'
  - Scenario based training can aid in learning this skill
  - You must PRACTICE this skill, just as you must practice stick & rudder skills!
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# A Changing Landscape

- Improve Pilot skill level
- Improve Pilot support system
- Many names
  - Aeronautical Decision Making
  - Judgment Training
  - CRM/SPRM
  - Risk Management



# Regulatory Requirements

- **FAR 61.97 Aeronautical Knowledge**
    - (b)(11) Aeronautical Decision Making and Judgment
  - **Practical Test Standard (PTS)**
    - Crew Resource Management
    - Single Pilot Resource Management
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