



**Safety Evening  
2 June 2019**

# **Raising Safety Awareness**

**Safety Officer  
John Thomson**

# How Safety Aware Are You?

- The following slides contain 30 safety-related questions
- A fully safety aware pilot should be able to get 100% correct!
- How will you do? (Scores will not be publicised!)

# Rules of the Air



# Rules of the Air

- Unless necessary for taking off or landing, you must not fly closer than 500 ft to any person, vessel, vehicle or structure. True or False?

- **True.** There are UK exemptions to this which apply to gliders when hill soaring or to tugs picking up or dropping off towing apparatus at an aerodrome.

# Rules of the Air

- When ridge flying, the glider with the ridge on its right has priority and a glider approaching it head on must turn off to the right to avoid a collision. True or False?

- **True.** This is consistent with the rules for flying when away from the ridge. When 2 aircraft are approaching head on they must both turn right – but the glider with the ridge on its right cannot turn right!

# Rules of the Air

- When one sailplane is overtaking another, the overtaking aircraft shall pass to the right, and keep clear of the other aircraft until the manoeuvre is complete? True or False?
- **False.** Sailplanes may pass to either the left or the right.

# Aircraft and Airframes



# Aircraft and Airframes

- On an airspeed indicator what is the significance of the slowest end of the yellow arc?
- It indicates the maximum rough air speed  $V_{ra}$  / maximum manoeuvring speed  $V_a$ .

Do not fly faster than this in turbulence and do not apply rapid or full control deflections above this speed.

# Aircraft and Airframes

- When washing a glider what should you watch out for?
- Do not allow water to enter the static vents.
- Do not allow water to enter the airbrake boxes.
- Do not allow water into the cockpit.

# Aircraft and Airframes

- What are the effects of operating with an under inflated main wheel?
- The wheel's ability to absorb landing shocks will be reduced.
- The inner tube and/or valve may be damaged.
- There will be increased rolling resistance during take off and landing.

# Winching



# Winching

- You are the wing tip runner, while waiting for “take up slack” you find that the wing tip has a significant force pulling your hand upwards. Do you?
- A) Stop the launch.
- B) Tell the pilot to level the wings.
- C) Push down on the wing tip to level it.

**A) STOP the launch**

# Winching

- Between 1974 and 2005, how many airworthy gliders have been damaged by excessive speed on a winch launch?
- Choose from 0, 10, 50
- **0** There have been no instances of damage to airworthy gliders caused by excessive speed on a winch launch. Winch accidents overwhelmingly arise from being too SLOW!

# Winching

- A K21 rotating into a 45° climb in 2.5 seconds will stall at which speed?
- Choose from 40, 45, 50 kt.
- **50 kt.** If the airspeed is low and the rate of rotation is high the glider can stall and spin while still attached to the cable. These are rare accidents but usually fatal because the glider lands inverted

# Aerotowing



# Aerotowing

- On aerotow it is advisable to retract the undercarriage of the glider after the glider has reached 100-200 feet. True or False?

- **False** Current BGA advice (via the Safe Aerotow initiative) is to leave the undercarriage down until the glider has released from tow.

# Aerotowing

- During an aerotow you notice the tug's rudder is moving from side to side. What does this mean?
- The tug pilot has noticed a problem at the glider end.
- Check first that the airbrakes are closed.
- Then consider other possibilities (including is your radio switched off!)

# Aerotowing

- Approximately how long does it take to go from normal tow position to complete a “slingshot” tug upset?
- Choose from 1 second, 3 seconds 5 seconds.
- **3 seconds.**

# Ground Operations



# Ground Operations

- You are taking the winch cable across to the K21, you are approaching the glider from its right hand side, what do you have to remember when attaching the cable?
- Feed it through between the nose and main wheels. Otherwise the strop may catch on the nosewheel and pull the nose rapidly to the right as the take-off starts.

# Ground Operations

- It is a busy flying day and everyone is either flying or assisting at the launch point. A visitor's car arrives in the car park. Who is responsible for ensuring that the visitors are met and kept safe?
- **Everyone.** (Anyone who is in a position to do so.) We have a duty of care to all visitors to the site, to ensure their safety.

# Ground Operations

- Vehicles towing trailers must never use the outside lane of a 3 lane carriageway. True or False?
- **False.** Vehicles towing trailers CAN use the outside lane BUT ONLY to overtake an exceptional load spanning 2 lanes.

# Before Flight



# Before Flight

- 'IM SAFE' is a common mnemonic for self assessing fitness before flight, what does it stand for?
- Illness
- Medication
- Stress
- Alcohol
- Fatigue
- Eating

# Before Flight

- According to the BGA Currency Barometer you are not current if you have flown less than 3 launches and landings in the last how long?
- Choose from 30 days, 60 days, 90 days.
- **90 days**

# Before Flight

- Before they fly a glider for the first time that day, each prospective pilot is expected to review entries in the aircraft's log. True or False?
- **True.** This is a new requirement for HGC pilots but has always been common practice in power flying.

# In Flight



# In Flight

- If there are several gliders sharing a thermal and they are circling in different directions, there is no preferred direction for a glider joining the thermal to turn. True or False?
- **False.** The joining glider must turn in the same direction as the glider with the least vertical separation.

# In Flight

- What are the components of the “6S” mnemonic for field selection if looking to land out?
- Size
- Slope
- Surface
- Stock
- Surface Wind
- Surroundings

# In Flight

- What are the HASSLL checks?
- Height
- Airframe
- Straps
- Security
- Location
- Lookout

# Landing



# Landing

- What is the current BGA recommended pre-landing (pre-circuit) checklist?
- WULF
  - Water
  - Undercarriage
  - Loose Articles
  - Flaps

# Landing

- There are 2 gliders simultaneously on the downwind leg. The lower glider has right of way and can overtake the upper aircraft. True or False?

- **False.** Although the lower glider does have right of way, it must not take advantage of this to overtake. What would happen if the upper glider opens its airbrakes?

# Landing

- The final turn onto the approach should be completed by what minimum height?
- Choose from 200ft, 250ft, 300ft.
- **300ft**. Turns below 300' can be dangerous, due to:  
The different effects of any wind gradient on the raised and lowered wings; High workload; Reduced time on the approach; Visual effects regarding ground movement.

# Human Factors



# Human Factors

- You are flying as P2 with a more experienced pilot who has control and makes a decision you consider unsafe. Do you:
  - A) Say nothing so as not to distract them
  - B) Voice your concerns
  - C) Take over control immediately

**B)** is the correct answer in most situations.

# Human Factors

- Which of the following is BGA advice on pilot currency and experience?
- A) Experience is more important than currency.
- B) Basic errors such as poor pre-flight checks decrease as a pilot becomes more experienced.
- C) If it is more than 2 months since your last flight, see an instructor.

C) Is correct

# Human Factors

- You have been flying for over 5 hours in warm weather and begin to feel tired and irritable, you also have a headache. What is the minimum you should do?
- A) Eat something for low blood sugar.
- B) Drink something for dehydration.
- C) Eat and drink something.

C) Is correct (drinking without eating will lose vital electrolytes over a long flight).

# Emergencies



# Emergencies

- During recovery from a failed winch launch, why is it important to avoid yawing in the direction of any turn?
- A) To avoid excess drag and thus height loss
- B) To avoid spinning
- C) To maintain a good view of the landing area

**B)** Even a small amount of “into turn” rudder will encourage entry to a spin.

# Emergencies

- You are pulling out of a steep dive but you are approaching both  $V_{ne}$  and the G limit for the glider. Do you: Pull harder and exceed the G Limit or Do not pull harder and exceed  $V_{ne}$ .
- **Pull Harder**. The G Limit is an elastic deformation limit and slightly exceeding it may damage the glider but allow the flight to be completed. Above  $V_{ne}$  flutter may cause catastrophic failure of the glider structure.

# Emergencies

- You are pulling out of a steep dive but you are approaching both  $V_{ne}$  and the G limit for the glider, do you open the airbrakes. Yes or No?
- **No**. Opening the airbrake will significantly reduce the tolerable G loading of the glider (often by  $\sim 30\%$ ). The time to open the airbrake is as soon as a potential overspeed situation is recognised.

# ● The END

- How did you do?
- 10 Categories, 3 questions each = 30 Questions
- The BGA Website has a host of safety related information, go to:
- <https://members.gliding.co.uk/bga-safety-management/>



- Have fun, fly safe!