The National FAA Safety Team Presents

25 Tips for Summer Flying

FAA
Safety Team

Presented to: <Audience>

By: <Presenter>

Date: < >

Produced by (Insert credit in master view here i.e. Joe Rep, Orlando Reps, etc.)

Welcome

- Exits
- Restrooms
- Emergency Evacuation
- Breaks
- Sponsor Acknowledgment
- Other information

Q1: What is the major contributing factor in fatal GA accidents according to the NTSB?

•*25 Things You Should Know for Safe Summer Flying*

A1: Loss of control due to flying into weather conditions.

•*25 Things You Should Know for Safe Summer Flying*

Q2: What should you do if you find yourself in a thunderstorm?

•*25 Things You Should Know for Safe Summer Flying*

A2:

- Keep your eyes on the flight instruments. Looking outside the cockpit can increase danger of temporary blindness from lightning.
- Don’t change power settings; maintain settings for the recommended turbulence penetration speed.
- Maintain a constant altitude but allow for fluctuations to both speed and altitude as conditions dictate.
- If going into thunderstorm is absolutely unavoidable, don’t turn back once in the thunderstorm. A straight course through the storm will most likely get the aircraft out of the hazards more quickly. Turning maneuvers also increase stress on the aircraft.

Q3: What are the four types of thunderstorms?

A3:

1. *Single Cell*

A single cell (or common) thunderstorm cell often develops on warm and humid summer days. These cells may be severe and produce hail and microburst winds.

2. *Thunderstorm Cluster (Multi Cell)*

Thunderstorms often develop in clusters with numerous cells. These can cover large areas. Individual cells within the cluster may move in one direction while the whole system moves in another.

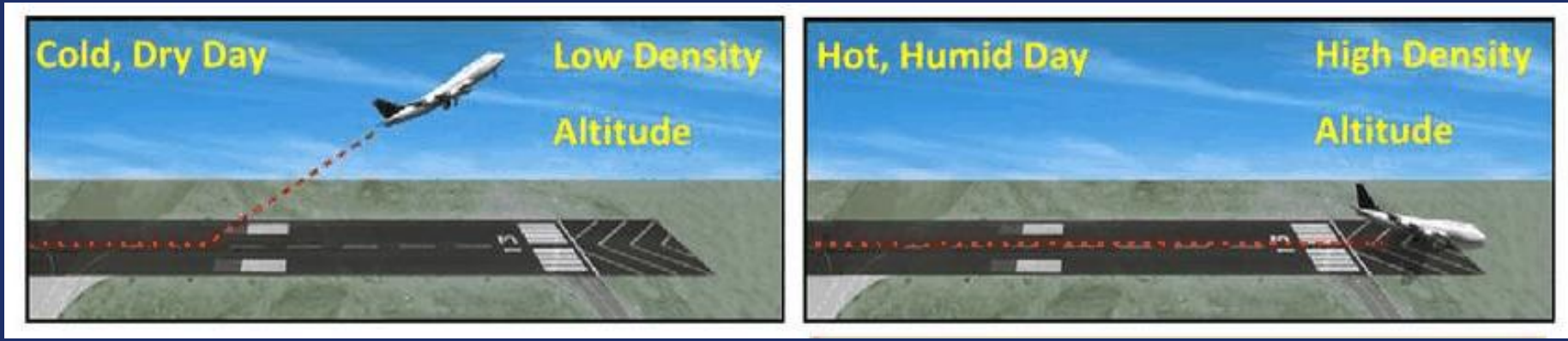
3. *Squall Line*

A squall line is a narrow band of active thunderstorms. Often it develops on or ahead of a cold front in moist, unstable air, but it may develop in unstable air far removed from any front. The line may be too long to detour easily around and too wide and severe to penetrate.

4. *Supercell*

A supercell is a single long-lived thunderstorm, which is responsible for nearly all of the significant tornadoes produced in the United States and for most hailstones larger than golf ball-size.

Q4: What is density altitude?



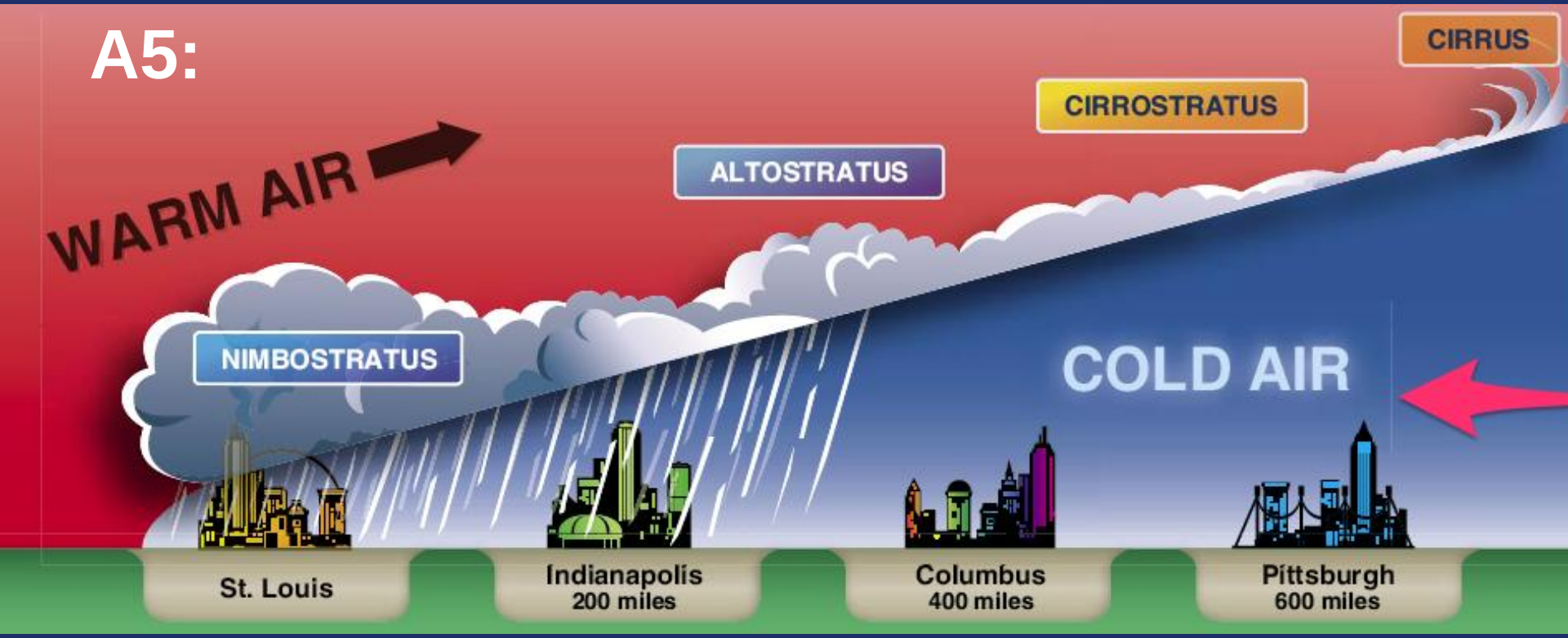
•*25 Things You Should Know for Safe Summer Flying*

A4:

- **Density altitude is pressure altitude corrected for nonstandard temperature.**
- **The higher the density altitude; the lower the aircraft performance.**
- **Stated aircraft performance data is based upon density under standard day conditions.**

Q5: What sky conditions are you likely to encounter as you fly into a warm front that is moving toward you?

A5:



•*25 Things You Should Know for Safe Summer Flying*

Q6: What makes you current to carry passengers VFR?

- *25 Things You Should Know for Safe Summer Flying*

A6:

- **During Day: 3 takeoffs & 3 landings in the last 90 days.**
  - Same category and class
  - To a full stop if airplane has a tailwheel

- **At Night: 3 takeoffs & 3 landings to a full stop at night in last 90 days.**

- **Flight review required every 24 calendar months.**

Q7: What are the first signs of dehydration?

A7:

- **Headache**
- **Fatigue**
- **Cramps**
- **Sleepiness**
- **Dizziness**

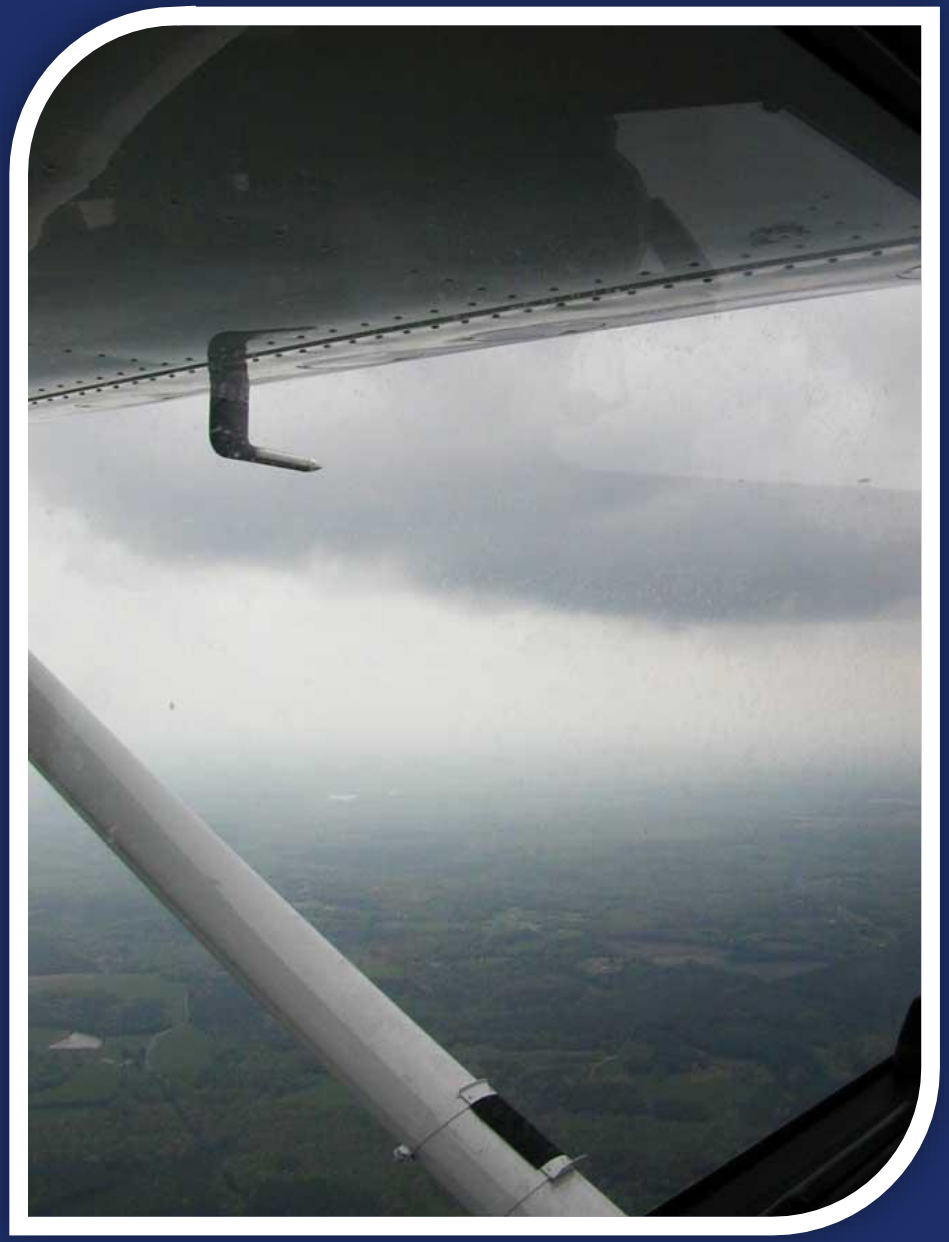
•25 Things You Should Know for Safe Summer Flying

Q8: Can you name all required daytime VFR instruments?

A8:

- Airspeed Indicator
- Altimeter
- Magnetic Direction Indicator
- Tachometer (for each engine)
- Oil Pressure Gage (for each engine using pressure system)
- Temperature Gage (for each liquid-cooled engine)
- Oil Temperature Gauge (for each air-cooled engine)
- Manifold Pressure Gauge (for each altitude engine)
- Fuel Gauge (indicating quantity of fuel in each tank)
- Landing Gear Position Indicator (if the aircraft has a retractable landing gear)

Q9: What factors cause the greatest atmospheric instability?



A9:

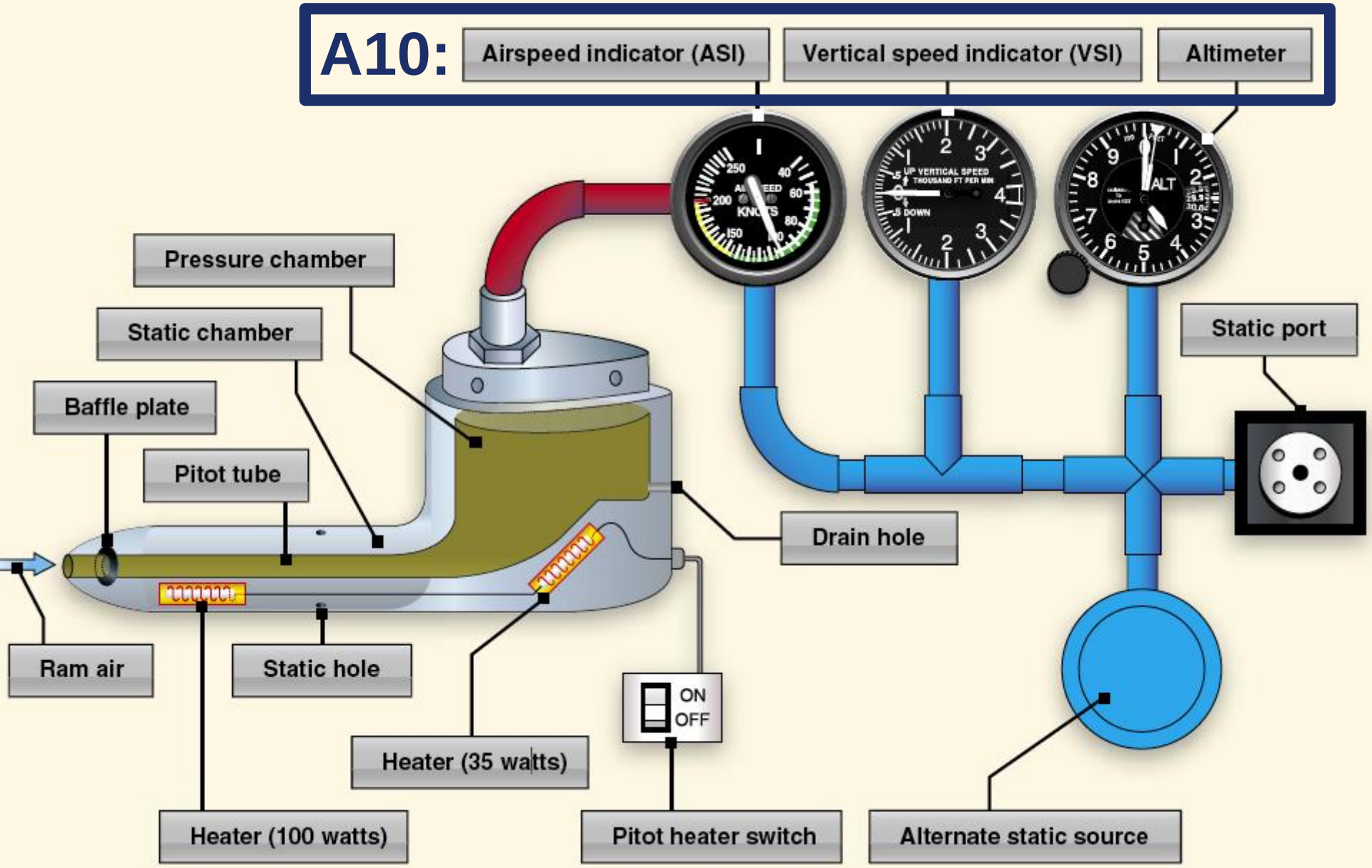
- Moisture
- Warm Temperatures

•25 Things You Should Know for Safe Summer Flying

Q10: What are the 3 main instruments that operate via the pitot static system?

•*25 Things You Should Know for Safe Summer Flying*

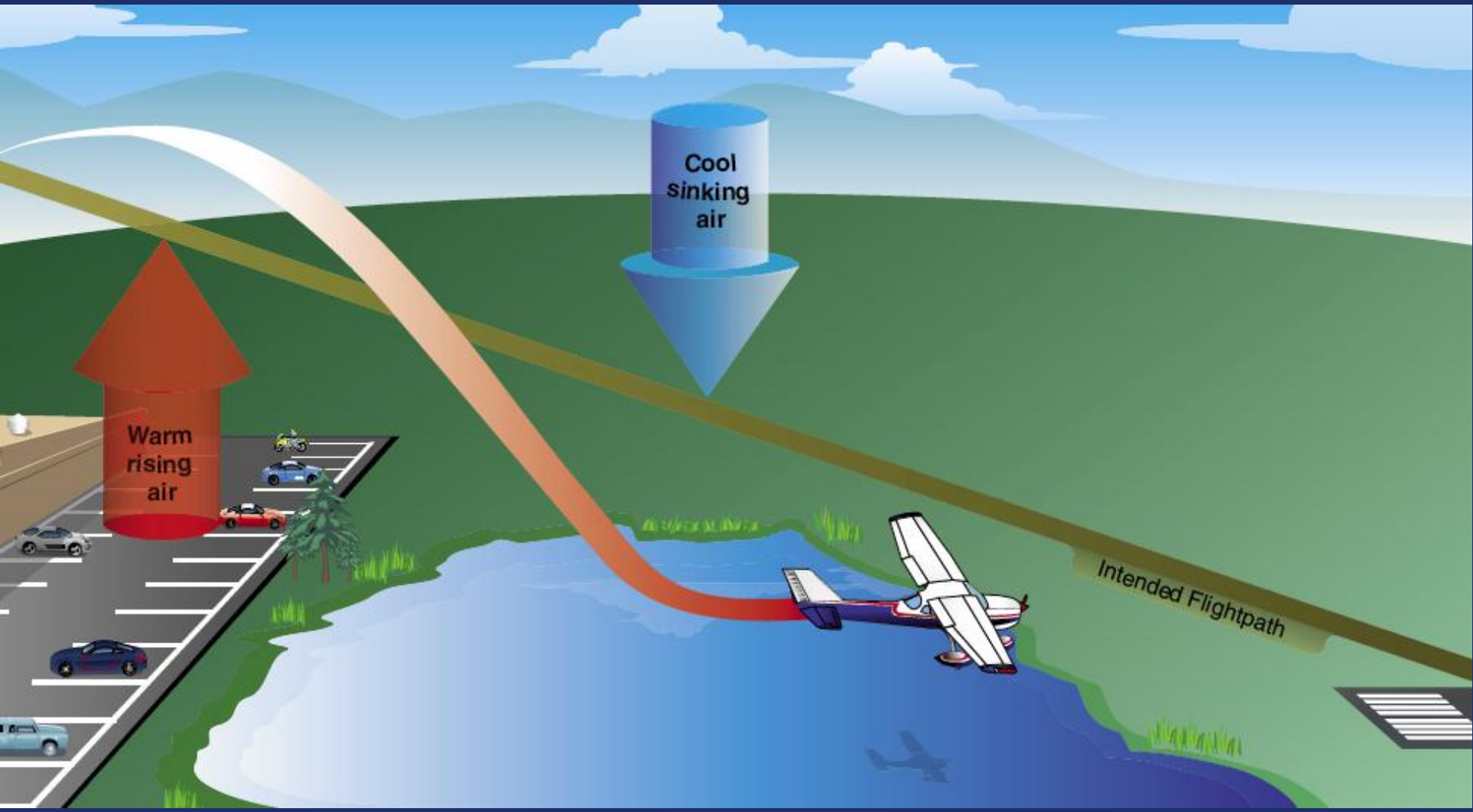
A10:


Airspeed indicator (ASI)
Vertical speed indicator (VSI)
Altimeter
Pressure chamber
Static chamber
Baffle plate
Pitot tube
Static port
Drain hole
Ram air
Static hole
Heater (35 watts)
ON
OFF
Heater (100 watts)
Pitot heater switch
Alternate static source

Q11: On a hot day, can objects on the ground affect your approach to an airport?

•25 Things You Should Know for Safe Summer Flying

A11: Yes!



•*25 Things You Should Know for Safe Summer Flying*

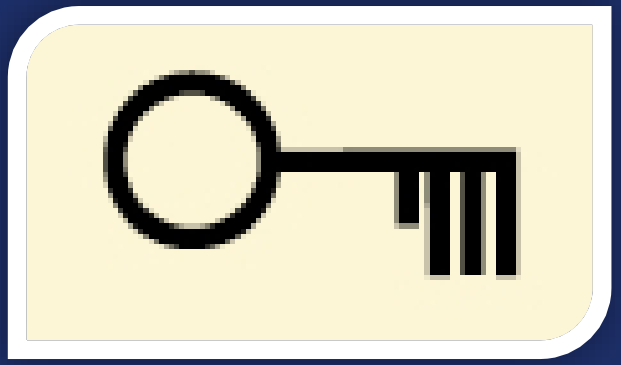
Q12: What weather conditions are normally associated with low-level wind shear?

•*25 Things You Should Know for Safe Summer Flying*

A12:

- Passing frontal systems
- Thunderstorms
- Temperature inversions with strong upper level winds (greater than 25 knots)

Q13: On a surface weather chart, what does this symbol mean?



A13:

- **Wind is coming from the east**
- **Wind speed is 35 knots**

Q14: What happens when the air temperature decreases to the dew point?

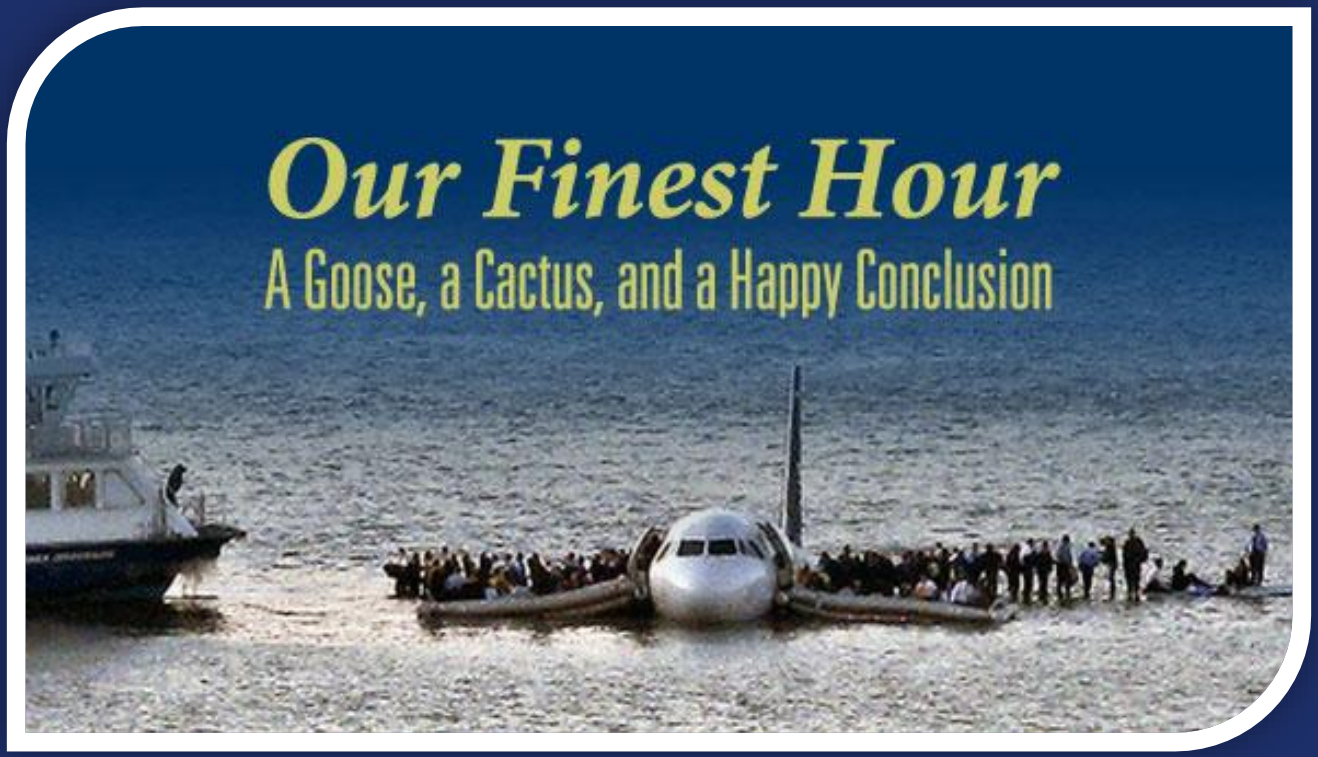
•25 Things You Should Know for Safe Summer Flying

A14:

Moisture begins to condense out of the air in the form of:

- **Fog**
- **Dew**
- **Frost**
- **Clouds**
- **Rain, Hail, or Snow**

Q15: What is the most important thing to do if you experience an engine failure inflight?



- *25 Things You Should Know for Safe Summer Flying*

A15:

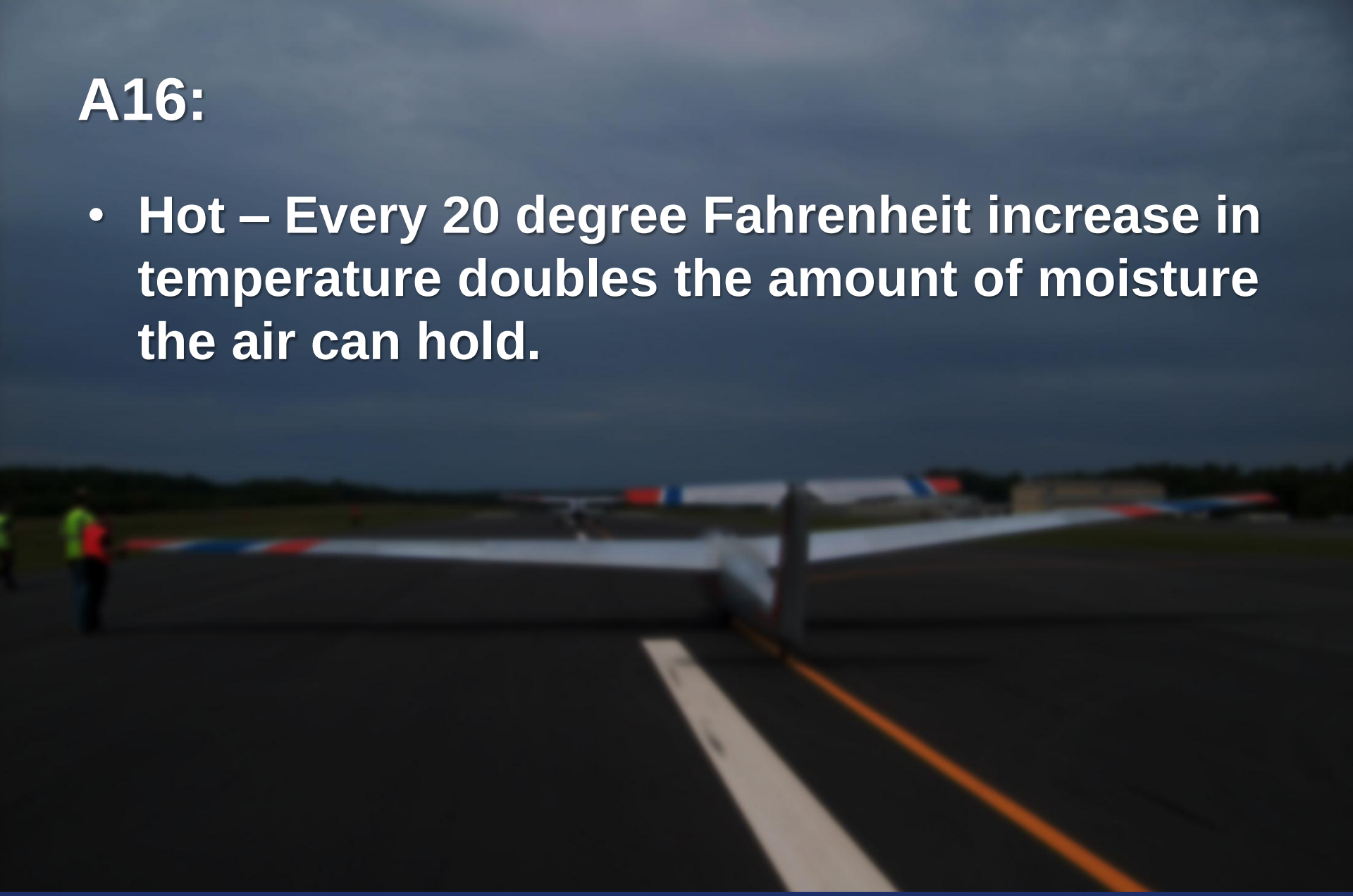
- **Maintain control of the aircraft.**
- **Avoid a stall spin accident even if it means an emergency landing off-airport.**

Q16: Can air hold more water when it’s cold or hot?

•*25 Things You Should Know for Safe Summer Flying*

A16:

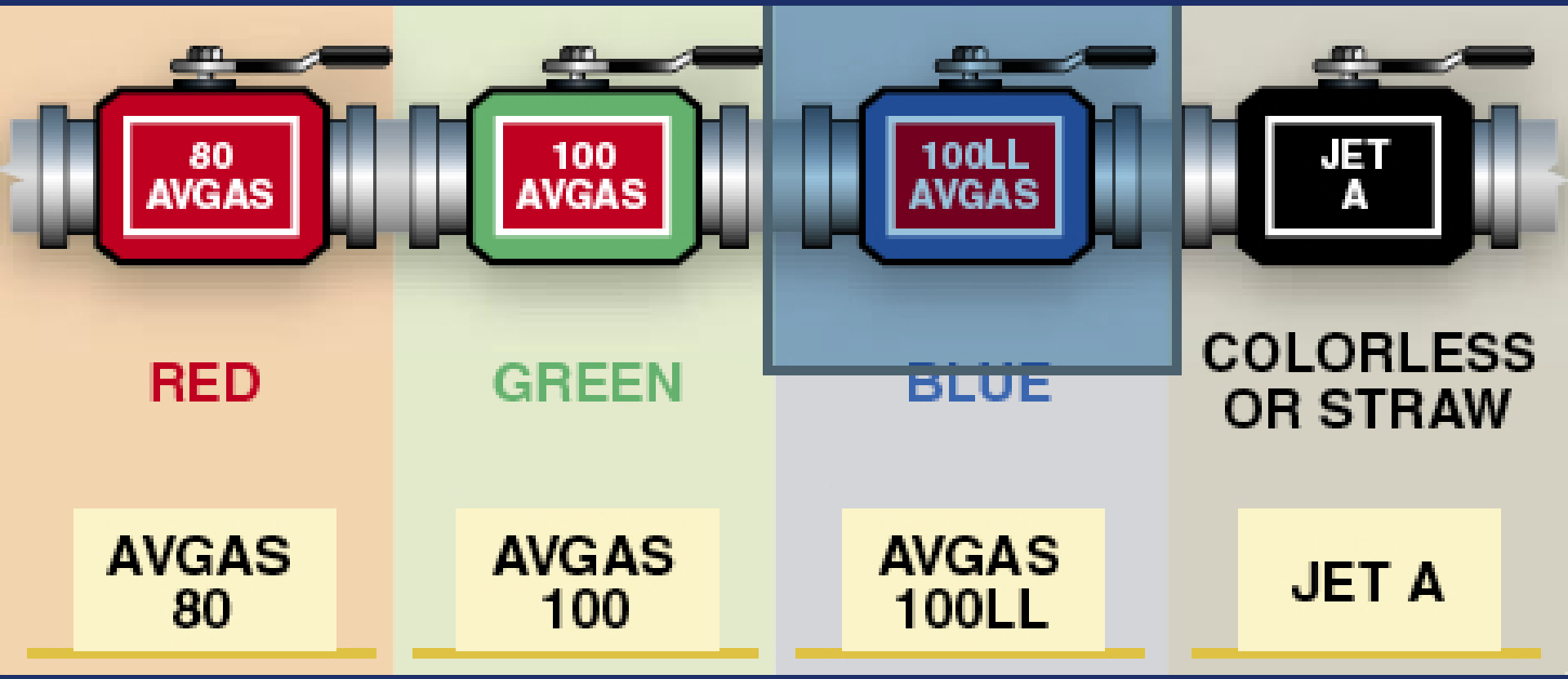
- **Hot – Every 20 degree Fahrenheit increase in temperature doubles the amount of moisture the air can hold.**



Q17: What are the different grades/colors of aviation fuel?

•25 Things You Should Know for Safe Summer Flying

A17: 100LL (blue) is the most commonly used aviation gasoline.



•*25 Things You Should Know for Safe Summer Flying*

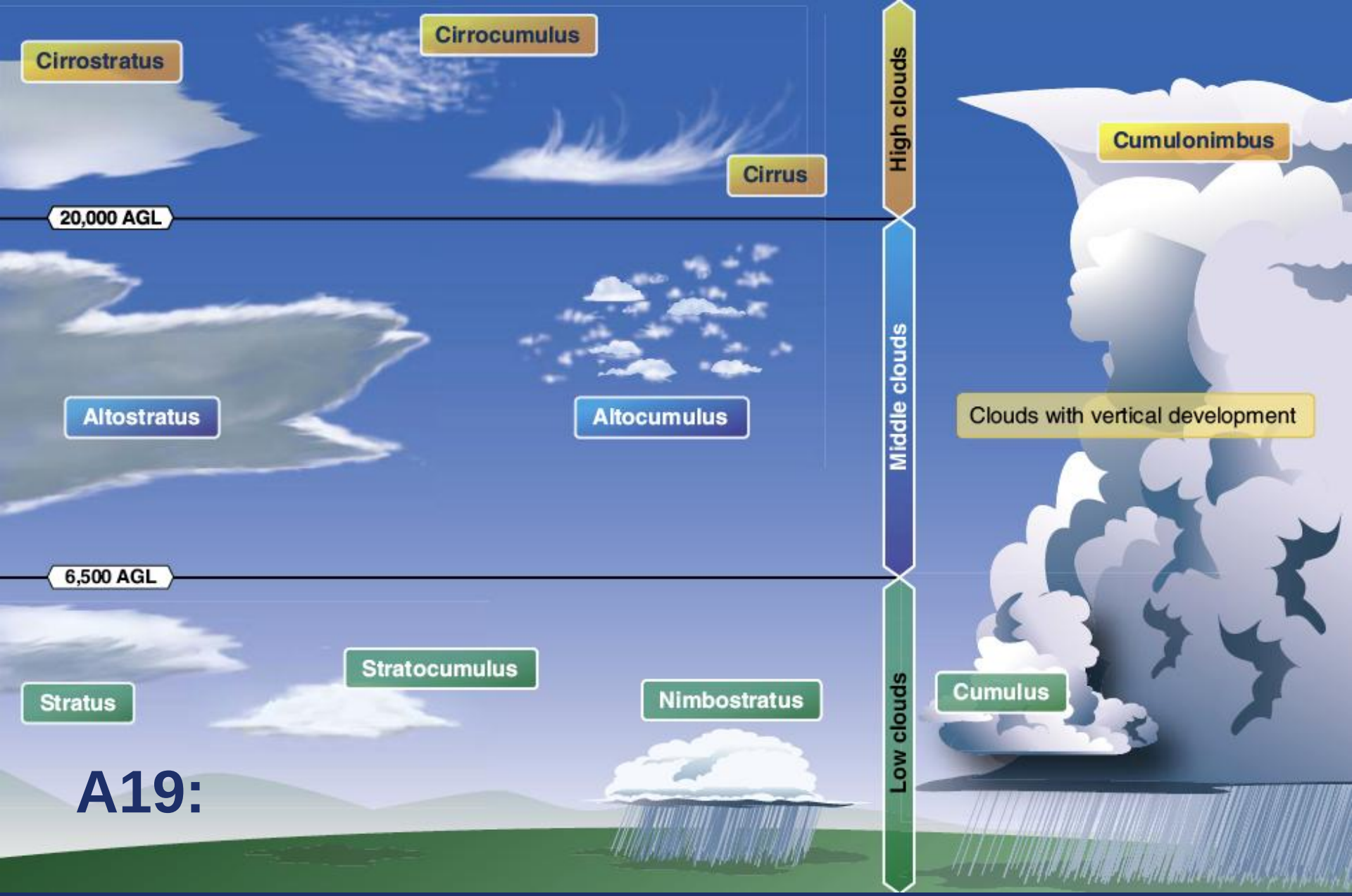
Q18: What's the conversion from knots to miles per hour (mph)?

A18:

- Multiply the speed in knots by 1.15 to get mile per hour.
- 100 knots = 115 mph

Q19: Name 3 cloud types.

•*25 Things You Should Know for Safe Summer Flying*



A19:

•*25 Things You Should Know for Safe Summer Flying*

Q20: What is the average search time to find a missing aircraft?

•25 Things You Should Know for Safe Summer Flying

A20:

- **If crash location unknown, the average time for rescue personnel to reach you:**
  - IFR flight plan = 13 hours, 6 minutes
  - VFR flight plan = 37 hours, 18 minutes
  - No Flight Plan = 42 hours, 24 minutes
- **Be sure to file a flight plan and, if it's VFR, provide position reports!**
- **Search begins immediately if 406 MHz ELT detected; 121.5 MHz ELT *not* monitored by satellites nor continuously monitored.**

Q21: What should you brief your passengers on before a flight?

A21:

S	Seat belts fastened for taxi, takeoff, landing. Shoulder harnesses fastened for takeoff, landing. Seat position adjusted and locked in place.
A	Air vents (*location and operation*). All environmental controls (*discussed*). Action in case of any passenger discomfort.
F	Fire extinguisher (*location and operation*).
E	Exit doors (*how to secure; how to open*). Emergency evacuation plan. Emergency/survival kit (*location and contents*).
T	Traffic (*scanning, spotting, notifying pilot*). Talking (*"sterile cockpit" expectations*).
Y	Your questions? (*Speak up!*).

•*25 Things You Should Know for Safe Summer Flying*

Q22: What does a green light gun signal mean?

A22:

Color and Type of Signal	Movement of Vehicles, Equipment and Personnel	Aircraft on the Ground	Aircraft in Flight
Steady green	Cleared to cross, proceed or go	Cleared for takeoff	Cleared to land
Flashing green	Not applicable	Cleared for taxi	Return for landing (to be followed by steady green at the proper time)

•*25 Things You Should Know for Safe Summer Flying*

Q23: How high can you fly without using oxygen?

•25 Things You Should Know for Safe Summer Flying

A23:

- **12,500 ft. – May only exceed this altitude (up to 14,000 ft.) for no longer than 30 minutes at a time.**
- **14,000 ft. – Pilots and crew have to be supplied with oxygen to fly above this altitude.**
- **15,000 ft. – In order to exceed this altitude, everyone on board has to be supplied with oxygen.**

Q24: Name 5 strategies to avoid a runway incursion.

A24:

1. **Read back all taxi instructions.**
2. **Review airport diagram before taxi out or landing.**
3. **Know the meaning of each airport sign.**
4. **Request progressive taxi instructions if unsure.**
5. **Write down taxi instructions.**

•25 Things You Should Know for Safe Summer Flying

Q25: For Class E airspace, what are the requirements for flight visibility and distance from clouds?

•25 Things You Should Know for Safe Summer Flying

A25:

- **At or above 10,000 ft. MSL**
  - 5 statute miles VFR minimum visibility
  - Cloud Clearance = 1,000 ft. above & 1,000 ft. below; 1 statute mile horizontal
- **Less than 10,000 ft. MSL**
  - 3 statute miles VFR minimum visibility
  - Cloud Clearance = 1,000 ft. above & 500 ft. below; 2,000 ft. horizontal

Final Thoughts & Questions?

Proficiency and Peace of Mind

- **Fly regularly with your CFI**
- **Perfect Practice**
- **Document in *WINGS***

Safety Management Systems (SMS) Coming to General Aviation

The Certificate Holder's documented commitment to safety, which defines its safety objectives and the accountabilities and responsibilities of its employees regarding safety.

describing the system, identifying the hazards, and analyzing, assessing, and controlling safety risk.

systematically to ensure the performance and effectiveness of safety risk controls and that the organization meets or exceed safety objectives through col analyzing, and assessing info

communicating safety inform support an organization's saf performance and safety cultu

[Safety Management System (SMS) | Federal Aviation Administration (faa.gov)]

Thank you for attending

- **You are vital members of our GA safety community**