

# Coastal Soaring Association

Private Pilot Checkride Oral Examination  
Preparation Guide



What documents are required  
to be on the glider?

# FAR 91.

- **DOCUMENTS ON BOARD AIRCRAFT: [91.203(a)(1), 91.293(a)(2), FCC, 91.9(b), .91.103, Aircraft Flight Manual]**
- **"A-R-O-W"**
- **1. Airworthiness Certificate — 91.203(a)(1) (The Airworthiness Certificate remains valid as long as the aircraft is maintained and operated as required by the FAR's)**
- **2. Registration papers — 91.203**
- **3. Operating Limitations — 91.9(b) and Aircraft Flight Manual. (14 CFR 23.1581)**
- **4. Weight & Balance data — 91.103, 135.185 and Aircraft Flight Manual. (14 CFR 23.1581)**



What documents are you required  
to carry?

# FAR 61.3

- **CERTIFICATES REQUIRED IN PILOT'S POSSESSION: (61.3)**
- **1. Pilots certificate** — in your personal possession or readily accessible in the aircraft — the original only
- — a copy will not do — and a **PHOTO IDENTIFICATION** such as driver's license, Government or State ID card, U.S. Armed Forces ID, Passport, Airport Security Badge, or “other form of identification that the Administrator finds acceptable”.  
(61.3)



What Inspections are required for  
the glider?

# FAR 91.403

## • INSPECTIONS

FAR 91.403 places primary responsibility on the owner or operator for maintaining an aircraft in an airworthy condition.

Aircraft need to be inspected at least once every 12 calendar months.

### **Annual Inspection.**

Any aircraft flown for business or pleasure is required to be inspected at least annually by an FAA certificated A&P mechanic holding an Inspection Authorization (IA), by an FAA certificated repair station that is appropriately rated, or by the manufacturer of the aircraft. The aircraft may not be operated unless the annual inspection has been performed within the preceding 12 calendar months. However, an aircraft with the annual inspection overdue may be operated under a special flight permit issued by the FAA for the purpose of flying the aircraft to a location where the annual inspection can be performed.

### **100-Hour Inspection.**

Aircraft used to carry passengers for hire or used for flight instruction shall be inspected within each 100 hours of time in service by an FAA certificated A&P mechanic, an FAA certificated repair station that is appropriately rated, or the aircraft manufacturer. An annual inspection is acceptable as a 100-hour inspection, but the reverse is not true.

### **Transponder Inspection.**

14 CFR section 91.413 requires that before a transponder can be used under 14 CFR section 91.215(a), it shall be tested and inspected within the preceding 24 calendar months.

### **Preflight Inspection.**

The CFR's require a pilot to conduct a thorough preflight inspection before every flight to ensure that the aircraft is safe for flight.



Who determines if the glider is  
airworthy?



# FAR 1.1

- **PILOT IN COMMAND (1.1)**
- Means the person who:
  - (1) Has final authority and responsibility for the operation and safety of the flight;
  - (2) Has been designated as pilot in command before or during the flight; and
  - (3) Holds the appropriate category, class, and type rating, if appropriate, for the conduct of the flight.



What the requirements for towrope strength?

# FAR 91.309 Tow Rope Strength Requirements

Minimum Strength = 80 percent of the glider maximum certificated operating weight  
Maximum Strength = twice the maximum certificated operating weight

- Note: Maximum certificated operating weight can be found in the glider POH and may be the Maximum certificated gross weight at takeoff.
- If the towrope has a breaking strength more than twice the maximum certificated operating weight of the glider being towed, a safety link has to be installed at the point of attachment of the glider and the tow plane with the following breaking strength requirements.
- **Safety Link (Weak Link) Requirements**
- Safety link (Weak Link) at the glider end:
  - Minimum Strength = 80 percent of the glider maximum certificated operating weight  
Maximum Strength = twice the maximum certificated operating weight
  - Safety link (Weak Link) at the tow plane end:
    - Strength Requirements = Greater, but not more than 25% greater than that of the safety link on the glider end, and not more than twice the maximum certificated operating weight of the glider



What are the six types of  
Airspace?

# Class A

- **CLASS A Airspace:** (FAR 71.1, 71.31, 71.33, 71.75, 71.133, 91.135, 91.155, AIM 3-2-1, 3-2-2, 3-2-3)
- 1. All airspace from 18,000 feet up to and including FL 600 within the 48 contiguous States here is no Class A airspace over Hawaii and the Victor airways have no upper limit in Hawaii.
- 2. All aircraft **MUST** be IFR unless otherwise authorized. No VFR.
- 3. Altimeter setting for all aircraft — 29.92

# Class B

- **CLASS B Airspace:** (FAR 71.41, 91.117, 91.126, 91.127, 91.129, 91.130, 91.131, 91.155, 91.215, AIM 3-2-1, 3-2-3, 3-5-6)
- 1. . Individually tailored upside-down wedding cakes — contain all instrument approaches.
- 2. Clearance into Class B required. (91.131)
- 3. VFR operations — 3 miles — Clear of Clouds and at least a 1,000 ft ceiling (or Special VFR).
- 4. Mode C veil — All aircraft operating within 30 NM of a Class B airport, from the surface to 10,000 feet
- must have Mode C (unless the aircraft was originally certified without an electrical system and still does not have one).

# Class C

- Class C Airspace is the airspace from the surface to 4,000 feet above the airport elevation. Class C airspace will only be found at airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations. Although Class C airspace is individually tailored to meet the needs of the airport, the airspace usually consists of a surface area with a 5 nautical mile (NM) radius, an outer circle with a 10 NM radius that extends from 1,200 feet to 4,000 feet above the airport elevation and an outer area. Pilots must establish and maintain two-way radio communications with the ATC facility providing air traffic control services prior to entering airspace. Pilots of visual flight rules (VFR) aircraft are separated from pilots of instrument flight rules (IFR) aircraft only. Anchorage International airport, located in Anchorage, Alaska, has a Class C airspace.

# Class D

- Class D airspace only surrounds airports that have an operational control tower. Class D airspace is also tailored to meet the needs of the airport. Pilots are required to establish and maintain two-way radio communications with the ATC facility providing air traffic control services prior to entering the airspace. No separation services will be provided to pilots of VFR (Visual Flight Rules) aircraft. Pilots operating under VFR must still use "see-and-avoid" for aircraft separation.



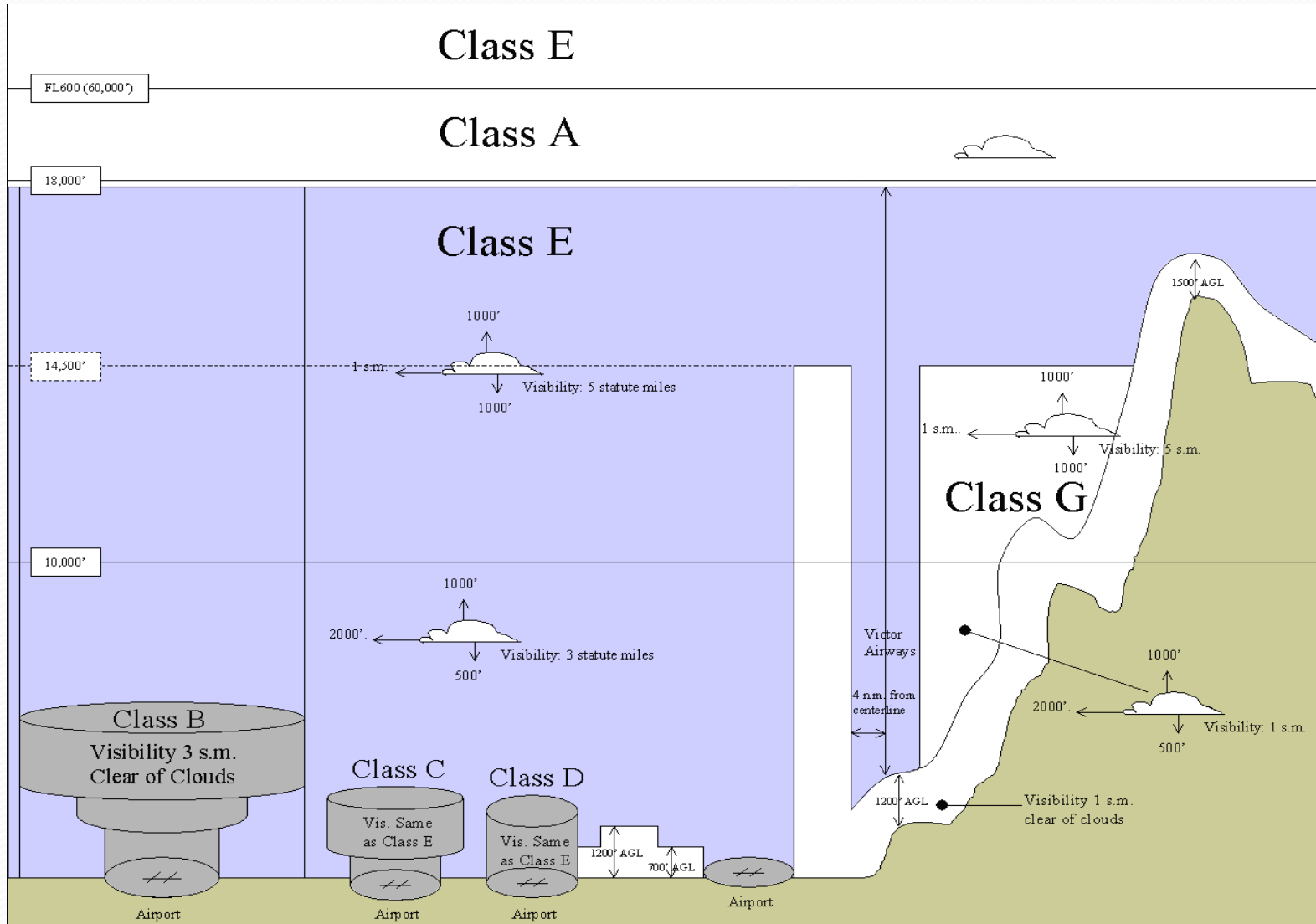
# Class E

- **CLASS E Airspace: (71.71, 91.127, 91.155, AIM 3-2-1, 3-2-6, 3-2-8)**
- **1. CONTROLLED airspace that is not Class A, B, C, or D within the 48 contiguous States and Alaska.**
- **2. Generally the upward limit is 18,000 feet. NOTE: Class E airspace begins again above FL 600.**
- **3. Types of Class E:**
- **a. A SURFACE AREA designated for an AIRPORT designed to contain all instrument approaches. The primary requirements for a Class E airport are approved weather reporting (FSS or ASOS/AWOS) and a means of communications with ATC all the way to the ground.**
- **b. EXTENSIONS to a SURFACE AREA of Class B, C, or D airspace to contain instrument approaches.**
- **c. TRANSITION AREAS beginning at either 700 or 1,200 ft AGL, used to/from the en route environment.**
- **d. EN ROUTE AREAS that provide controlled airspace for IFR but are NOT Federal airways.**
- **e. Federal AIRWAYS from 1,200 AGL upward to but not including 18,000 MSL.**
- **f. Unless designated at lower altitude—Class E begins at 14,500 MSL up to, but not including, 18,000 MSL.**

# Class G

- Class G Airspace is uncontrolled airspace. IFR aircraft will not operate in Class G airspace\*. VFR aircraft can operate in Class G airspace.

# Cloud Clearance Requirements






When is a transponder required?

# FAR 91.215 (b)

- **(1) All aircraft. In Class A, Class B, and Class C airspace areas;**
- **(2) All aircraft. In all airspace within 30 nautical miles of an airport listed in appendix D, section 1 of this part from the surface upward to 10,000 feet MSL;**
- **(3) Notwithstanding paragraph (b)(2) of this section, any aircraft which was not originally certificated with an engine-driven electrical system or which has not subsequently been certified with such a system installed, balloon or glider may conduct operations in the airspace within 30 nautical miles**
- **(4) All aircraft in all airspace above the ceiling and within the lateral boundaries of a Class B or Class C airspace area designated for an airport upward to 10,000 feet MSL; a**

# Read the METAR


- K83J 071534Z 11010G17KT 10SM  
BKN010 OVC30 14/11 A2966 RMK  
AO2 PK WND 11026/1452


- 
- Coastal Airport Observation 7<sup>th</sup> day at 1534Z
  - Wind 110 True at 10kts gusting to 17kts
  - 10 Statute Miles Visibility
  - Broken Clouds at 1000 ft AGL
  - Overcast Clouds at 3000 ft AGL
  - Temperature 14 C Dew Point 11 C
  - Altimeter 29.66

# Read the TAF

- K83J 071522Z 0715/0818 13012G18KT P6SM BKN011  
BKN100
- FM071700 10012KT P6SM SCT007 OVC011 FM071900  
35009KT P6SM SCT009 BKN015
- FM072200 28014G22KT P6SM BKN011 OVC025
- FM080300 27015G24KT P6SM BKN020 OVC035
- FM080900 30014G22KT P6SM BKN035



- 
- Coastal Airport Forecast Valid from 1500 Z on the 7<sup>th</sup> until 1500 Z on the 8<sup>th</sup>
  - Prevailing Wind 130 at 12 gusting to 18 kts
  - Prevailing Visibility 6 Statute Miles
  - Prevailing Clouds 1100 ft AGL Broken/11000 ft AGL Broken



With this METAR and TAF, what kind of flying can you do from 83J and why?

# What are the Pilot Currency Requirements?

# RECENT PILOT EXPERIENCE for Pilot In Command:

- FAR(61.57, 91.103, 121.439, 135.247, 135.299)
- 1. To carry PASSENGERS the PIC must have 3 takeoffs and landings in an aircraft of the same category and class in the past 90 days



What is a BFR and how long is it good for?

# FAR 61.56

- (a) Except as provided in paragraphs (b) and (f) of this section, a flight review consists of a minimum of 1 hour of flight training and 1 hour of ground training. The review must include:
  - (1) A review of the current general operating and flight rules of part 91 of this chapter; and
  - (2) A review of those maneuvers and procedures that, at the discretion of the person giving the review, are necessary for the pilot to demonstrate the safe exercise of the privileges of the pilot certificate.
- **(b) Glider pilots may substitute a minimum of three instructional flights in a glider, each of which includes a flight to traffic pattern altitude, in lieu of the 1 hour of flight training required in paragraph (a) of this section.**
- (c) Except as provided in paragraphs (d), (e), and (g) of this section, no person may act as pilot in command of an aircraft unless, since the beginning of the 24th calendar month before the month in which that pilot acts as pilot in command, that person has—
  - (1) Accomplished a flight review given in an aircraft for which that pilot is rated by an authorized instructor and
  - (2) A logbook endorsed from an authorized instructor who gave the review certifying that the person has satisfactorily completed the review.
- (d) A person who has, within the period specified in paragraph (c) of this section, passed a pilot proficiency check conducted by an examiner, an approved pilot check airman, or a U.S. Armed Force, for a pilot certificate, rating, or operating privilege need not accomplish the flight review required by this section.



What are the responsibilities and authorities of the PIC?

# FAR 91.3

- **Responsibility and Authority of the Pilot In Command:**
- **(a) The Pilot In Command is directly responsible for, and is the final authority as to the operation of that aircraft.**
- **(b) In an in-flight emergency requiring immediate action, the Pilot In Command may deviate from any rule to the extent required to meet that emergency.**
- **(c) “Upon the request of the Administrator”, you *may be required to supply a written report of the incident***



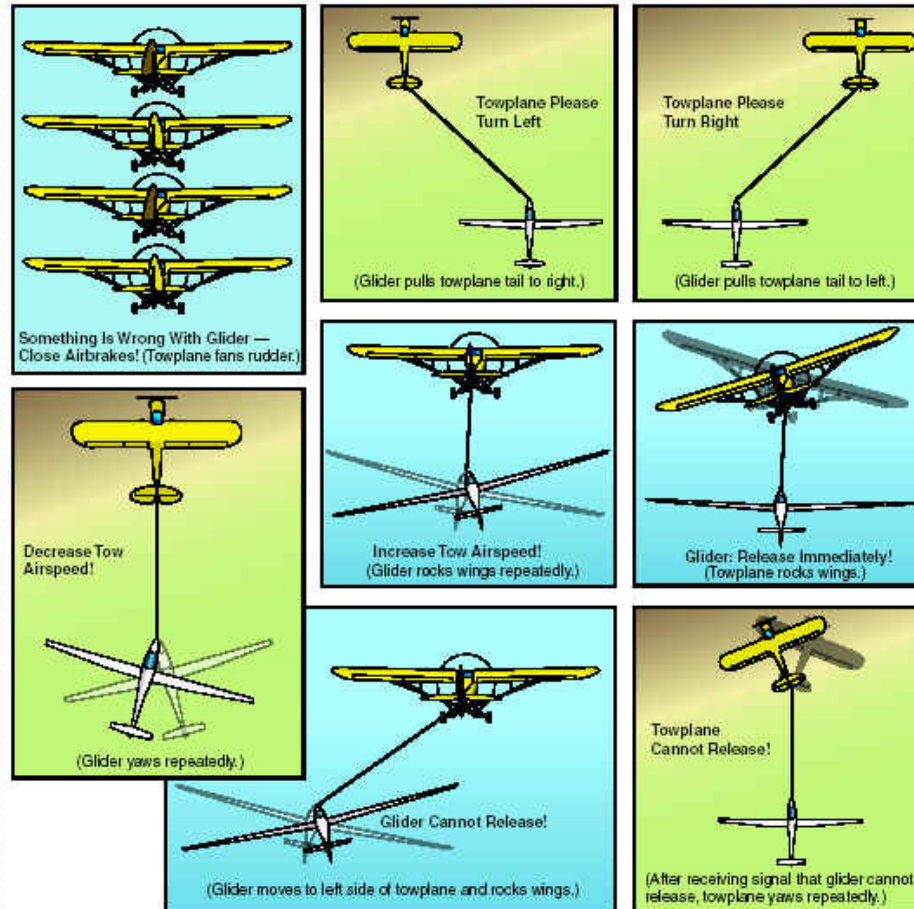
# Tow Pilot Brief


- What needs to be covered?

# FAR 91.309

- (5) The pilots of the towing aircraft and the glider have agreed upon a general course of action, including takeoff and release signals, airspeeds, and emergency procedures for each pilot.
- Triple A-E
- Altitude
- Area
- Airspeed
- Emergencies

# Tow Signals





What are the supplemental Oxygen requirements?

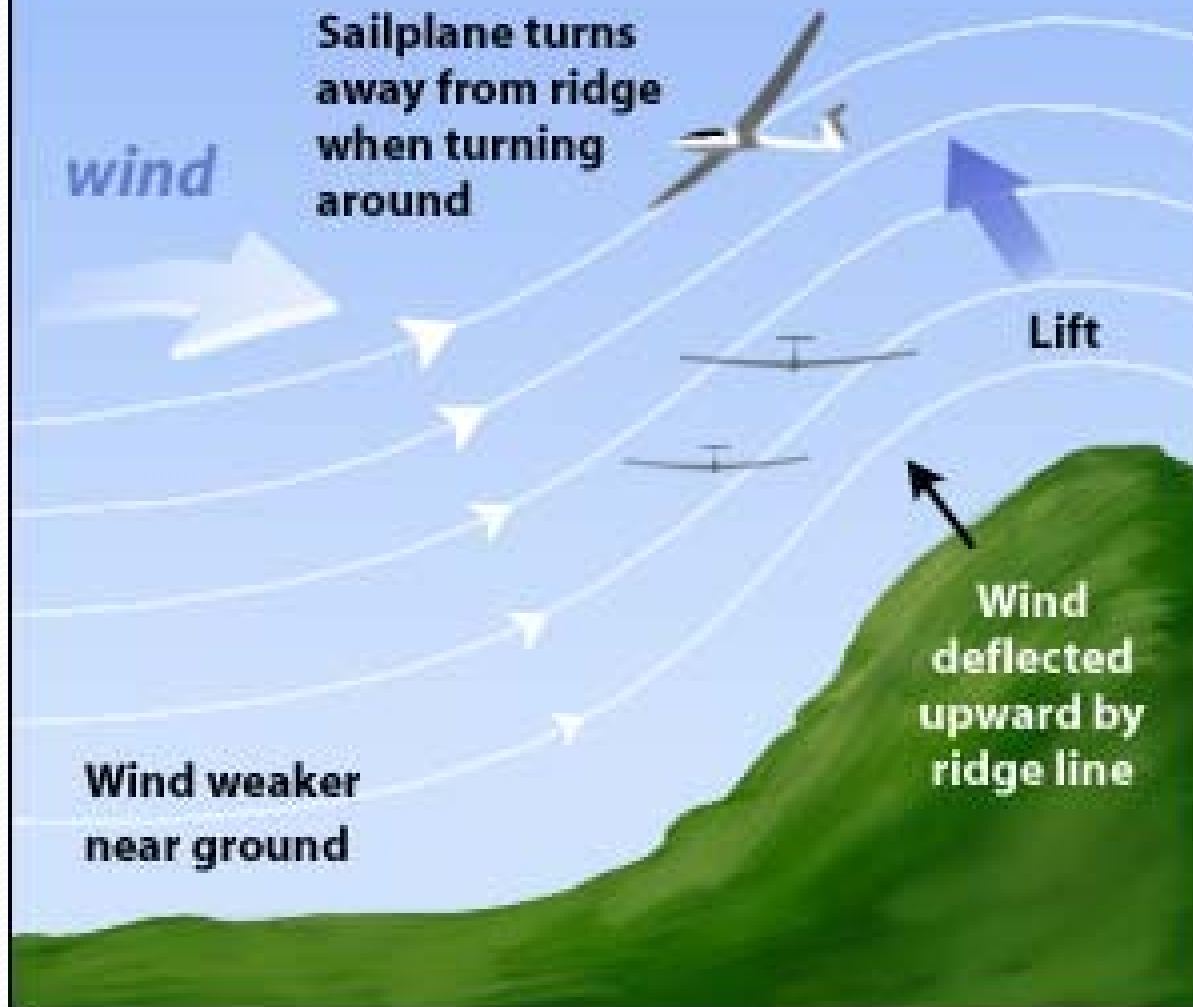
# FAR 91.211

- Supplemental Oxygen (a) *General*. No person may operate a civil aircraft of U.S. registry —
- (1) At cabin pressure altitudes above 12,500 feet (MSL) up to and including 14,000 feet (MSL) unless the required minimum flight crew is provided with and uses supplemental oxygen for that part of the flight at those altitudes that is of more than 30 minutes duration;
- (2) At cabin pressure altitudes above 14,000 feet (MSL) unless the required minimum flight crew is provided with and uses supplemental oxygen during the entire flight time at those altitudes; and
- (3) At cabin pressure altitudes above 15,000 feet (MSL) unless each occupant of the aircraft is provided with supplemental oxygen.



# Describe Ridge Lift

# RIDGE SOARING



# Ridge Rules of the Road

- Turn away from ridge
- Pass on the ridge side of the sailplane to be passed
- Pass port to port when head on

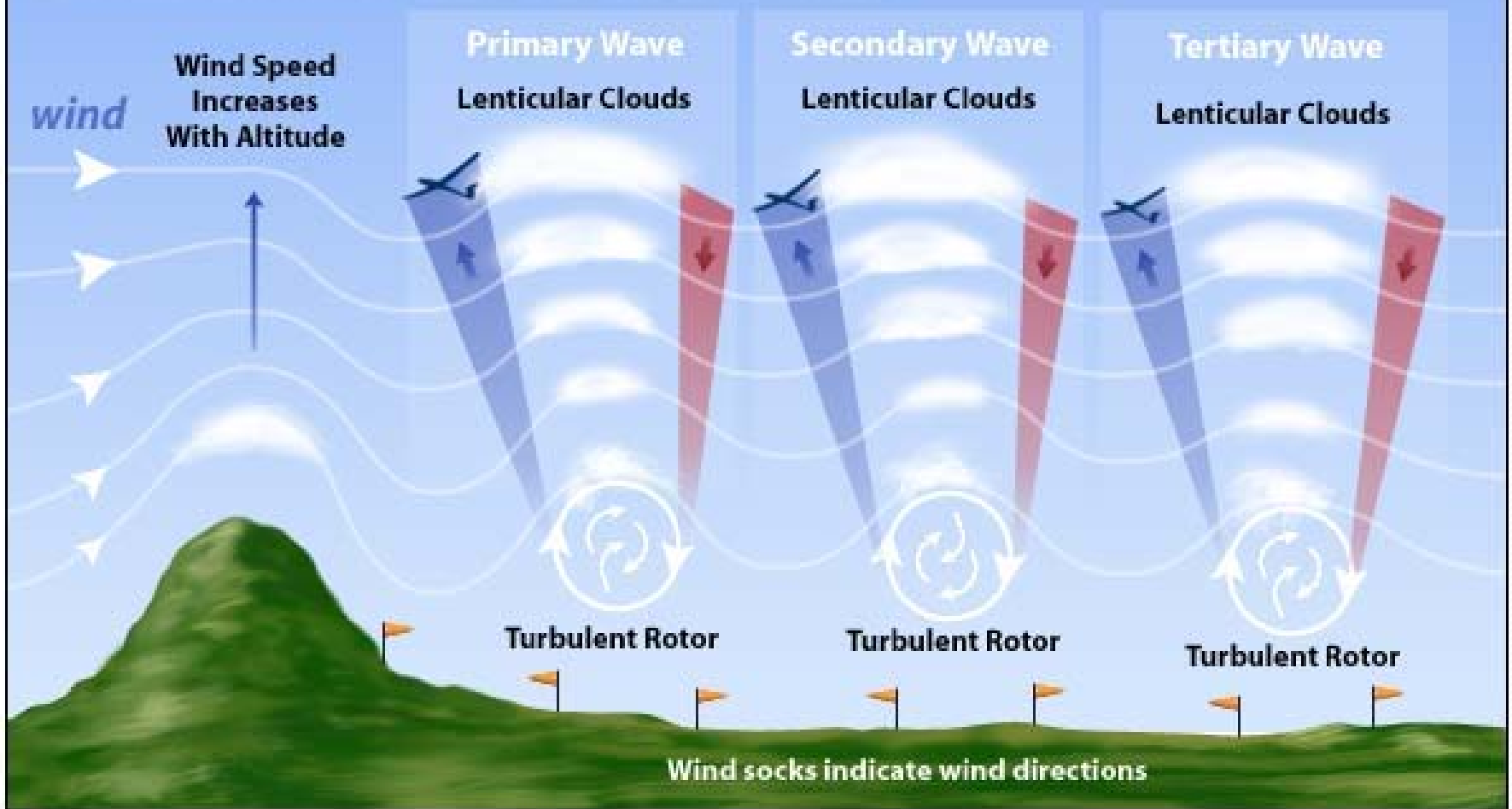




# Describe Wave Lift

# MOUNTAIN WAVE SOARING

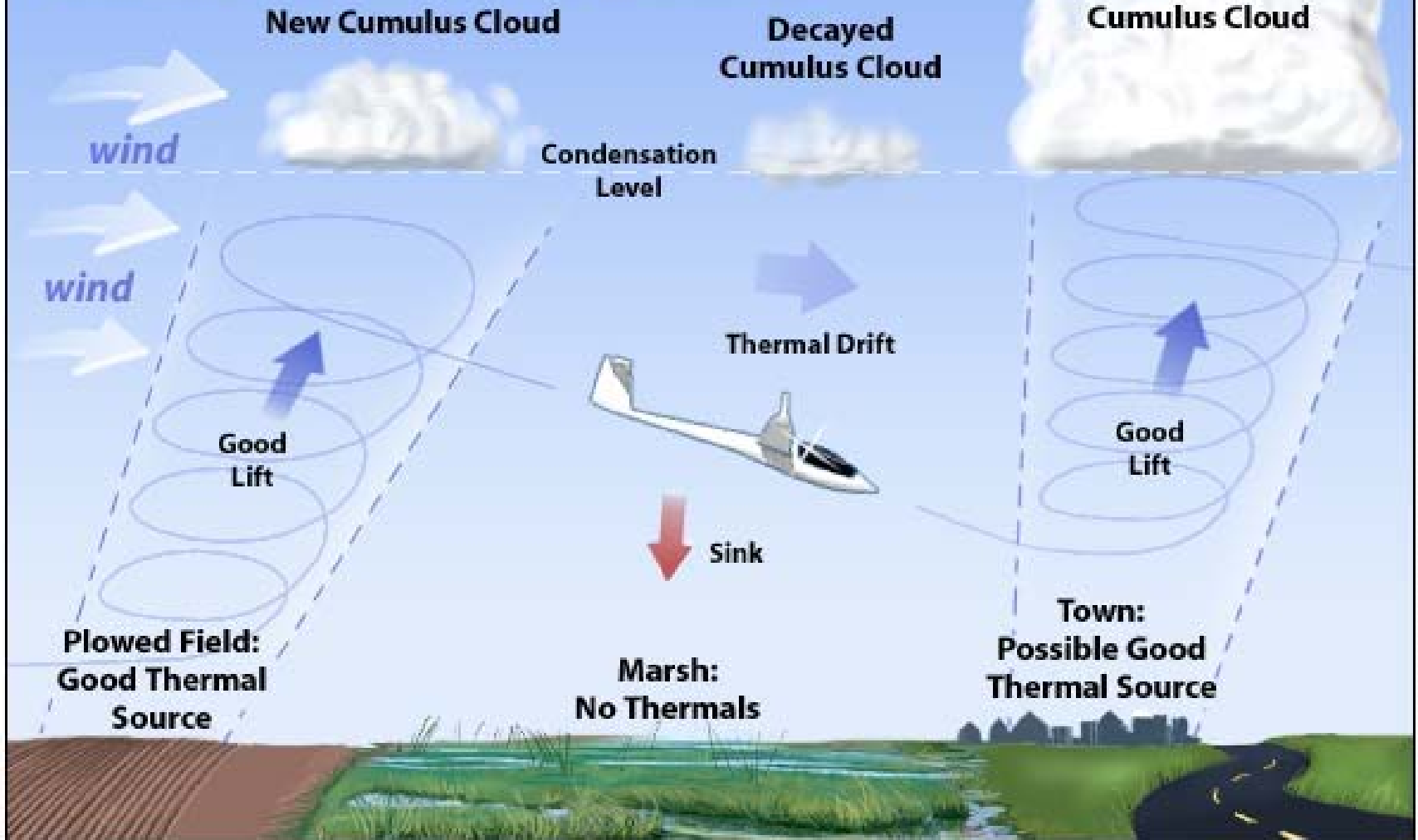
■ Areas of Lift   ■ Areas of Sink





# Describe Thermal Lift

# CROSS-COUNTRY SOARING





# Read a Skew-T Plot

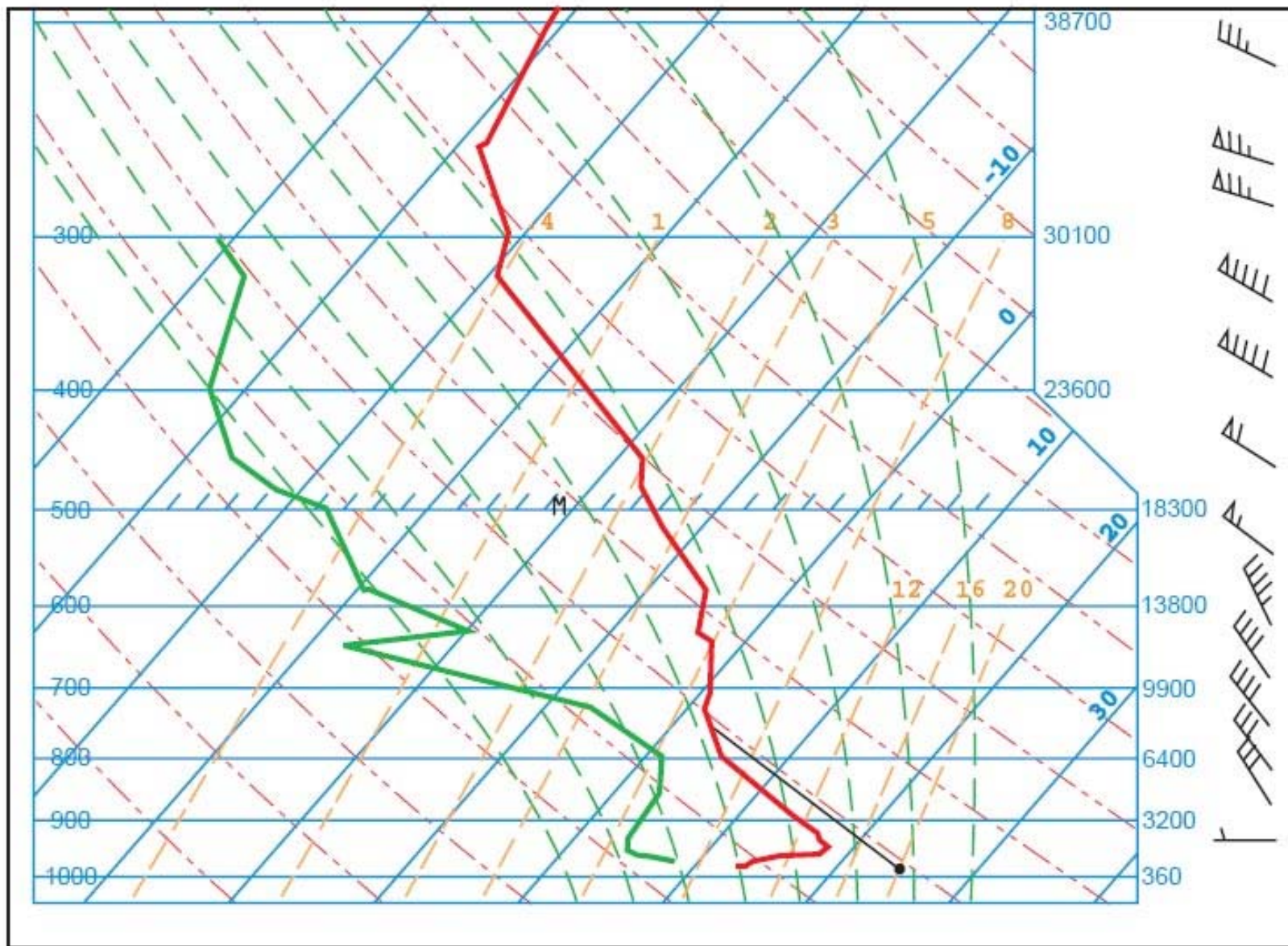


Figure 9-10. Skew-T from an actual sounding.

# Grob 103 Speeds

- Stall
- Minimum Sink
- Best L/D
- Maximum Tow Speed
- Manuevering Speed
- Maximum Velocity
- What is the Yellow Triangle on the ASI?

# Grob 103 Speeds

- Stall 40 kts
- Minimum Sink 47 kts
- Best L/D 57 kts
- Maximum Tow Speed 92 kts
- Manuevering Speed 92 kts
- Maximum Velocity 135 kts
- Minimum Approach Speed 51 kts