

Ballooning Terminology

Aeronaut - A traveler flying upon a hot air balloon or airship

Aeronautical Decision Making - Systematic approach to the mental process used by pilots and crew to consistently determine the best course of action in response to a given set of circumstances.

AGL - Above Ground Level. Used in altitude measurement. Example: 100ft AGL is 100ft above ground level

Altimeter - Required instrument that measures altitude

Anemometer - An instrument used to measure wind velocity. Can be handheld or mounted also referred to as a wind meter

Annual - FAA required airworthiness inspection of the balloon completed each year or 100 hours

ATC - Air traffic control

AWOS - Automatic Weather Observation System. Continuous broadcast, via radio or telephone, of weather conditions at a specific airport

Balloonmeister - Person responsible for all safety and ground-based balloon activities at a balloon event or competition

Basket - Component of the balloon that carries passenger, fuel and flight related equipment. Usually made of wicker woven around a frame and a wood base. Also known as a gondola

BFA - Balloon Federation of America. A national association for balloon pilots, crew and enthusiasts.

Blast Valve - Valve handle below the burner which controls primary burner function

Bowline Knot - Pronounced Boh'-Lin. A common and sometimes required knot that is easy to tie and untie and will not slip

Box Winds - Winds at different altitudes that flow in opposite directions allowing box like movement of the balloon. These may allow a pilot to return to launch site. Most common in mountain areas.

BTU - British Thermal Unit. The amount of heat required to raise the temperature of one pound of water one degree Fahrenheit. Burners are rated by BTU output.

Buoyancy - The ability or readiness of a balloon to fly

Burn - A common term meaning to activate the blast valve on the burner and produce a full flame to heat the air in the envelope

Burner(s) - Propane burning appliance mounted above the basket which heats the air in the envelope

Carabiner - A locking coupling link used to connect things such as ropes and cables. Also known as a "Biner"

Ceiling - Altitude above ground of the lowest level of scattered or overcast cloud layer

Checklist - A systematic and sequential list of all operations that must be performed

Cold Inflation - Inflation of the envelope with ambient air using a gas powered fan

Cold Packed - When the fan has filled or "packed" the envelope with enough ambient air to allow the start of hot inflation. Usually around 70% of the envelope air capacity.

Commercial Operation - Balloon operation that is done for hire.

Commercial Pilot - Pilot who is licensed to fly for hire or provide flight instruction

Contour Flying - Flying very low over terrain while following the terrain's contours

Controlled Airspace - Airspace designated as class A, B, C, D or E within which air traffic control service is provided to aircraft

Crew - Ground based flight team essential to the safe launch, flight and recovery of the balloon

Crew Chief - Experienced crew member assigned by the pilot to direct the crew and manage ground activities.

Crown - The top portion of the balloon

Crown Line - A handling line attached to the load ring used by crew to control the envelope during ground handling

Dawn Patrol - Flight at dawn prior to sunrise
Dope-on-a-Rope - A short flight that keeps the balloon tethered to an object using a single rope or the dropline instead of a full 3 or 6 point tether setup
Downwind - Ahead of the balloon in the direction it is travelling.
Drop Line - Rope or webbing attached to the basket which a pilot deploys to crew for assistance in maneuvering the balloon through tight areas or to more desirable landing areas.

Envelope - The fabric portion of the balloon system which holds the heated air mass
Envelope Bag - Heavyweight fabric bag used to carry, protect and store the envelope
Equator - Horizontal line around the widest or center point of the envelope
Equilibrium - The temperature at which a balloon is standing, self-supporting and able to be stabilized by crew with light hand pressure on the basket. Lift and gravity are balanced at this point.

FAA - Federal Aviation Administration. Division of the Dept. of Transportation that oversees and regulates aircraft and pilot operations and certifications

Fan - See Inflator fan

FARs - Federal Aviation Regulations

False Lift - Unintended lift that occurs from wind flowing over the top of the balloon

Flameout - Inadvertent extinguishing of the burner flame

Flare - Flight maneuver where the balloon's descent is reduced to a path nearly parallel to the ground just prior to touchdown

Flight Team - Team of people needed for successful balloon operations consisting of the pilot, crew chief and crew members

FSDO - Flight Service District Office. A regional FAA office. Pronounced fizz-doe

FSS/Flight Service - Flight Service Station. Primary source of weather briefings and flight related information for pilots

Fuel Hose - Black rubber hoses that carry the fuel from the tanks to the burner

Glow - See Night Glow

Going Hot - Ready to start hot inflation

Gore - Vertical strips of panels sewn into a strip. Gores are connected to each other with load tapes to form the envelope

High-Wind Landing - A landing that is in wind speeds that is faster than your ground crew can run! Generally a landing in winds over 6mph

Hot Inflation - Adding heat to the cold inflated envelope using the burner to stand the balloon upright

Igniter - A handheld spark generator used to ignite the burners pilot light

Inflator Fan - Gas powered fan used for cold inflating the envelope

Instruments - Mechanical or electronic devices that give the pilot required information about the flight. Required instruments on a balloon are the altimeter, pyrometer and variometer/vertical speed indicator

Knot - A measurement of speed equal to 1.15miles per hour. Wind forecasts are given in knots.

Launch Director (Zebra) - Event official who determines the order and timing of balloon launches at a balloon event

Liftgate - A hydraulic tailgate used to lift and lower heavy objects into a vehicle

LTA - Lighter Than Air

Load Cables - The cables which suspend the basket below the envelope

Load Ring - Metal ring at the top of the envelope where the load tapes meet

Load Tape - reinforced vertical seams or nylon webbing along the length of the envelope which spread weight and stress loads evenly across the fabric. Load cables connect the load tapes to the basket.

LPG - Liquefied petroleum gas, commonly known as Propane or LP. The fuel used in balloons.

Master Tank - Propane tank, usually numbered tank number 1, which offers liquid, vapor and backup services

Metering Valve - A valve on a balloon heater system that can be set to allow raw, un-vaporized propane to pass through at a specific rate. Used in case of blast valve failure and over noise sensitive areas, including livestock, due to quieter operation than the blast valve. Also known as whisper burner, fire 2 or other trade names.

MSL - Mean Sea Level. In aviation terms it is the measurement of altitude above sea level.

N Number - FAA registration number. On balloons it is sewn into the envelope fabric

Night Glow - An event crowd favorite where balloons use the burners to make the envelope glow prior to sunrise or after sunset. Balloon is secured to the ground to prevent flight during a night glow.

NOTAM - Notice To Airmen. A notice, restriction or advisory issued to pilots by ATC or FSS

Overtemp - The act of heating the air inside the envelope beyond the manufacturer's maximum established temperature

Panel - Various sized portions of fabric sewn together to make a gore.

Parachute/Parachute Valve - Large circular fabric panel at the top of the balloon used to vent heat or deflate the envelope. It is held in place by Velcro tabs during inflation and heat during flight

Pibal - Pilot Balloon. A small helium filled balloon released prior to flight to determine wind speed, direction and stability.

PIC - Pilot in Command. Legally responsible for the safe and legal operation of the balloon

Pilot Light - A small, constantly burning flame within the burner to provide main burner ignition

POP - Probability of Precipitation.

Preflight - All preparations, including gathering information, assembly, and inspection by the pilot and crew prior to flight

Private Pilot - A pilot certified to fly solo or with non-paying passengers

Propane - See LPG

Pyrometer - Required instrument that measures envelope temperature

PZ - Prohibited Zone

Quick Release - Link to quickly disconnect balloon from the tie-off during launch

Rapid Descent - A relatively fast loss of altitude. It is subjective, but usually meant to describe a descent of more than 500 feet per minute

Red Zone - See PZ

Rescue 8 - A belay device that is used as a quick release mechanism in the tie-off system

Rip-out - Where the pilot pulls and pulls on the vent line to "rip-out" the top allowing for quick deflation of the envelope. Used in high wind landings and to avoid being drug into obstacles

Scoop - Half cone shaped fabric funnel at the envelope throat to channel air and heat into the envelope

Sectional Chart - Aeronautical map used for navigation on VFR flights

Solo - A flight with only the pilot onboard

Skirt - Tubular shaped fabric structure at the envelope throat

Slave Tank - Fuel tank that solely supplies liquid to the main burner

Special Shape - An envelope that is different than the standard "teardrop" shape. Special shapes can have simple appendages or be shaped as animals, products or other various items

Splash and Dash - When a pilot gently touches the basket to the surface of the water

Squeezer - Device or crew member used to deflate the envelope and gather the fabric into a long streamer for easier packing

Static Display - A fully inflated and upright balloon that is being used for display without the basket ever leaving the ground

Striker - See Ignitor

Surface winds - Speed and direction of the winds closest to the ground

Tank - Aluminum, steel or titanium cylinder used to carry fuel inside the basket

Target Fixation - State of mind where one is so focused on a single object that other stimuli and feedback is ignored

Telltale - Heat sensitive labels sewn into the top of an envelope which discolor when a maximum temp is exceeded

Tether - A captive flight usually below 100ft while anchored to objects on the ground. Tethers can be 3 point or 6 point systems, 6 point being the safest

Tether Line - Rope or webbing used to restrain and control a tethered balloon. Tether lines are attached at the load ring and basket and at to the anchor object on the ground.

TFR - Temporary Flight Restriction. An area where flight is restricted due to VIP movement, special events or natural disasters

Thermal - Vertically rising and spiraling warm air that will cause a balloon to go into an uncontrollable ascent. These normally occur mid-day and over dark terrain like plowed fields and parking lots.

Throat - The large opening at the bottom of the envelope. Also called the mouth

Tie-off - A restraint tied to a large object on one end and the quick release on the other end to prevent forward movement of the balloon prior to launch

Touch-and-Go Landing - A brief landing where after touchdown the balloon continues flying

Track - The plot of a flights course, direction, speed and timing over the ground or on a map

Turning Vent - A vent that allows a pilot to rotate the balloon

Upright - Vertical poles made of wicker, wood, metal or fiberglass that extend upwards from the basket and hold the burner or burner support frame. They may or may not be a load carrying component depending on the basket manufacturer.

Upwind - Behind the balloon as it travels forward

Valve - See Parachute/Parachute Valve

Valve Line - The line used to control activation of the parachute valve. It is associated with a red line, but can be any color.

Variometer - See VSI

Vertical Speed - The speed in feet per minute the balloon is climbing or descending

Virga - Precipitation that falls from a cloud but evaporates prior to hitting the ground. Can often be seen as gray streaks under clouds.

Visibility - The clarity of the atmosphere given in miles.

VFR - Visual Flight Rules. Flight rules governing flight stating the pilot must maintain visual contact with the ground.

Volume - The total amount of air inside an envelope. Often referred to in the form of a 2 or 3 digit number. For example 77 or 77k would mean a balloon that holds 77,000 cubic feet of air volume.

VSI - Vertical Speed Indicator. Required instrument for balloon flight that measures the rate of climb or descent in feet per minute

Weight-On - Placing all of your weight on the side of the basket to keep the balloon on the ground

Weight-Off - Taking you weight off the basket so the pilot may determine lift or take-off

Wind Direction - The direction the wind is blowing FROM, not blowing towards. If it is said to be a south wind it is wind that is blowing from south to north

Wind Meter - See Anemometer

Wind Shear - A strong and sudden horizontal or vertical shift in wind direction and speed.

Winds Aloft - Speeds and directions of winds a various given altitudes. Winds aloft forecasts are given at 3000 foot intervals.

Zebra - See Launch director

Zulu/Zulu Time - The universal time zone used in aviation. Also called UTC (Universal Time Coordinated) or GMT (Greenwich Mean Time)