

GLOSSARY OF FORMATION TERMS

(Adapted from the T-34 Association Formation Flight Manual for the use of Cessnas 2 Oshkosh Pilot Training)

FORMATION: A disciplined flight of two or more aircraft under the command of a flight leader, using a standardized set of signals and commands to direct the wingmen. Not to be confused with a **GAGGLE** of aircraft. (Also see the FAA definition of a formation.)

GAGGLE: An undisciplined group of aircraft, milling about in roughly the same piece of sky, sometimes attempting to impersonate a **FORMATION**. (Also see the FAA definition of a formation.)

FAA DEFINITION OF FORMATION: More than one aircraft which, by prior arrangement between the pilots, operate as a single aircraft with regard to navigation and position reporting. Separation between aircraft within the formation is the responsibility of the flight leader and the pilots of the other aircraft in the flight. This includes transition periods when aircraft within the formation are maneuvering to attain separation from each other to effect individual control during join-up and breakaway.

1. A standard formation is one in which a proximity of no more than 1 mile laterally or longitudinally and within 100 feet vertically from the flight leader is maintained by each wingman.
2. Nonstandard formations are those operating under any of the following conditions:
 - a. When the flight leader has requested and ATC has approved other than standard formation dimensions.
 - b. When operating within an authorized altitude reservation (ALTRV) or under the provisions of a Letter of Agreement (LOA).
 - c. When the operations are conducted in airspace specifically designed for a special activity. (See Altitude Reservation) (Refer to FAR Part 91)

SECTION or ELEMENT: A flight of two aircraft. The section is the basic fighting element and is self-supporting, covering each other's six o'clock in combat (real or otherwise), and providing back-up on routine flights with radio or equipment malfunctions in addition to moral support and good company.

DIVISION or FLIGHT: Four aircraft, consisting of two sections or elements, each with its own leader, but under the command of the lead element's leader, who is designated "flight lead". The flight is usually led by the most experienced pilot, with the second element leader as his deputy flight lead.

SUCKED: To fall behind the lead, or too far out on the position bearing to be able to join up with available engine power.

ACUTE: The opposite of “sucked”. To be in a position too far forward in the formation or on a bearing (angle) that would place the aircraft too far forward during rendezvous, creating an uncomfortable closure rate and angle for the joining aircraft; vis., an “acute” rendezvous bearing as compared to a “sucked” rendezvous bearing.

NOSE TO TAIL OVERLAP: As viewed from above, the nose of the #2 or #3 aircraft is farther forward than the tail of the #1. Naturally, as long as there is lateral separation between aircraft, no danger exists.

WINGTIP OVERLAP: No lateral separation exists, a time to be smooth and concentrate if you also have nose to tail overlap.

STEP DOWN OR STACKED DOWN: The #2 and #3 aircraft are a couple of feet or more lower than the lead. This allows room to maneuver in case of turns into the wingmen.

STEP UP OR STACKED UP: The #2 and #3 aircraft are a couple of feet or more, higher than the lead.

BEARING: The horizontal angle off the lead as flown by the #2 or #3 aircraft. If the wingmen were to overrun their leader and fly too far forward of a proper position, they would be on an “acute” bearing. If they were too far aft of their proper position, they are on a “sucked” bearing (Not to be confused with gentlemanly conduct or officer-like “bearing”)

RENDEZVOUS: To join the flight onto the leader, as after takeoff. Also a gathering of pilots after a mission, wherein there may be a lot of rowdiness, drinking and ungentlemanly bearing.

THE BREAK: The breakup of the formation over the runway when a flight does a 360° overhead entry into the traffic pattern, also called “pitchout”, a fighter maneuver indicating an abrupt bank and yank to accomplish a change of direction and/or altitude. It looks Sierra Hotel.

SIERRA HOTEL: Phonetic equivalent of “shit hot”, used to designate anything which is outstanding, and deserving of the praise of fighter pilots.

KISSOFF: Signal passed by lead to the rest of the flight just before he slams the stick over to break, symbolically kissing them off as the flight breaks into individual aircraft for landing.

“GIMME ONE” “GIMME SOME”: What the wingman calls to the lead when he has insufficient power to keep up, asking for lead to reduce power by one inch or more of manifold pressure.

CALL SIGN: The code word or words that designate a flight, usually selected by the flight leader for that particular mission. The flight then would be designated (in the case of a call sign of “Red Flight”) as: “Red Lead”, “Red Two”, “Red Three”, and “Red Four”. In the case of large formations divided into flights, the flights might be divided as follows: Red, Blue, Yellow, etc. Or, Alpha, Bravo, etc. Any combination of names can be used depending upon the imagination and audacity of the flight leader.

BINGO FUEL: The fuel state at which the flight must return to base, a predetermined fuel figure remaining in gallons, pounds or minutes which will allow safe return to base plus sufficient overhead reserve. When the wingman signals bingo fuel the leader acknowledges and heads for base.

PARADE OR CLOSE FORMATION: Formation configuration to be used when under observation by the public, as in an airshow appearance. Parade formation is demanding, since the aircraft are in close physical proximity to each other. It requires absolute concentration on the part of the wingmen and smooth leadership by the flight lead.

ENROUTE or ROUTE FORMATION: A much looser version of the above, applied to any formation during cross country flight. It allows the leader to control the flight, and reduces fatigue on the wingmen. Wingmen maintain the same relative bearing on the leader but move out to allow nose to tail and wingtip separation.

SMASH: Airspeed or Energy. Normally used to denote energy available to accomplish a snappy fighter-type maneuver, such as a pitchup to landing.

INITIAL: As in initial approach, it refers to the approach on runway heading used when doing a 360° overhead break. The leader will call his position on initial as: “300 Sierra Hotel flight of four T-34 on a two mile initial for a 360° overhead on runway 18.”

GIB: Guy in Back, meaning your back seater.

TALLY HO: Used to indicate that you have visually acquired whatever it is you were looking for.

NO JOY: Used to indicate that you have not visually acquired whatever it is you are looking for.

HUMMER: Any gadget you can't remember the name for, or which you think has been saddled with too mundane a name to use.

SLUGGER: The other general aviation airplanes, which do not participate in formation or other fun fighter pilot-type activities, also known as “Spam Cans”.