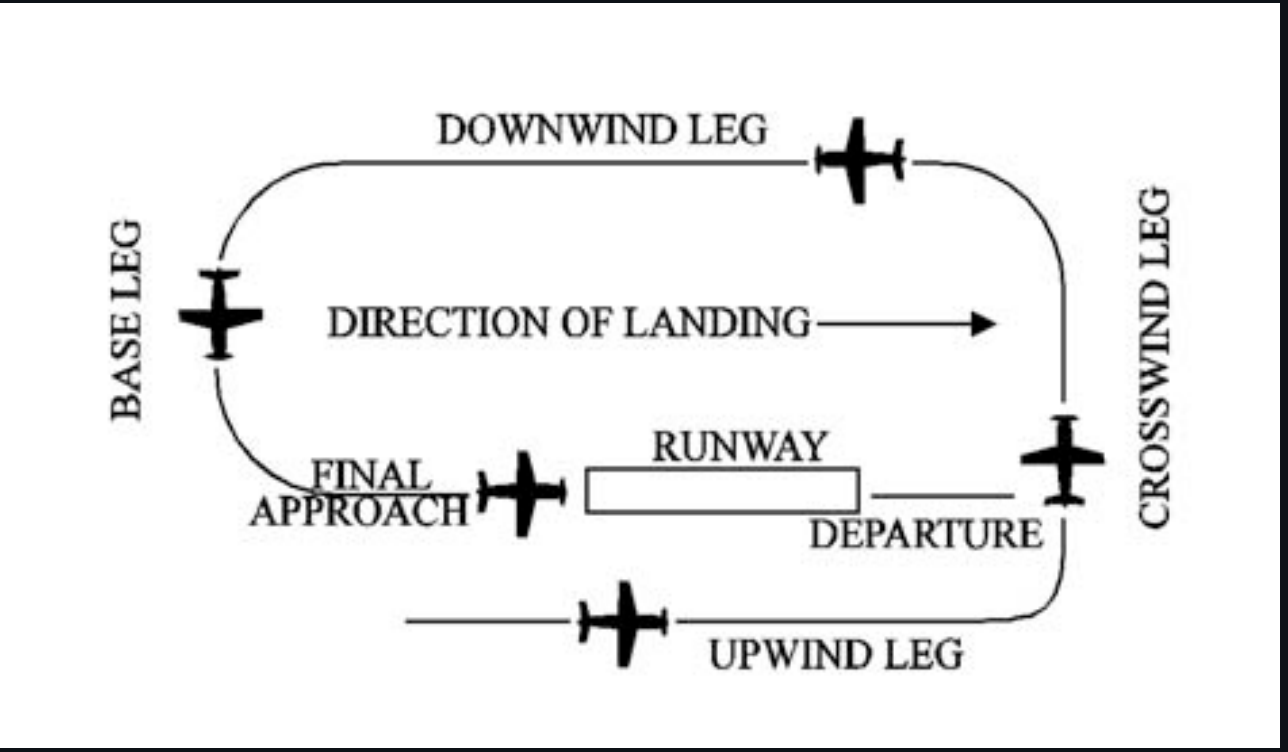
Airport Operations

Hazards operating near an airport

- Traffic congestion
- Climbing/descending aircraft
- Pilot preoccupation

Runway Identifiers

- Aligned with magnetic north heading
- Example: Heading 140°M gives runway 14
- Shift slowly over time
- Parallel runways will be given L, R, or C designations

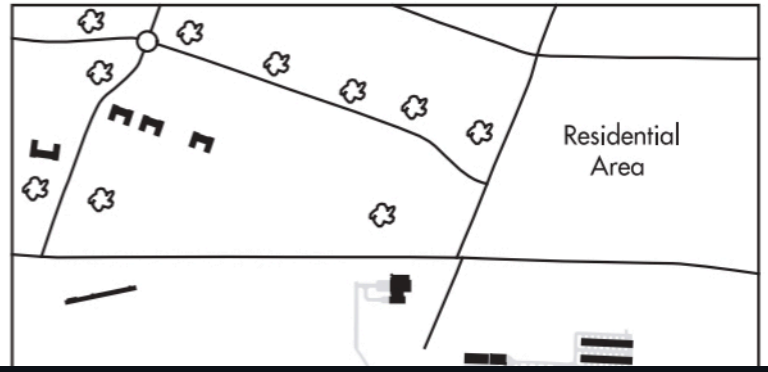


What is a traffic pattern?

- Standardized rectangle aircraft fly around a given runway

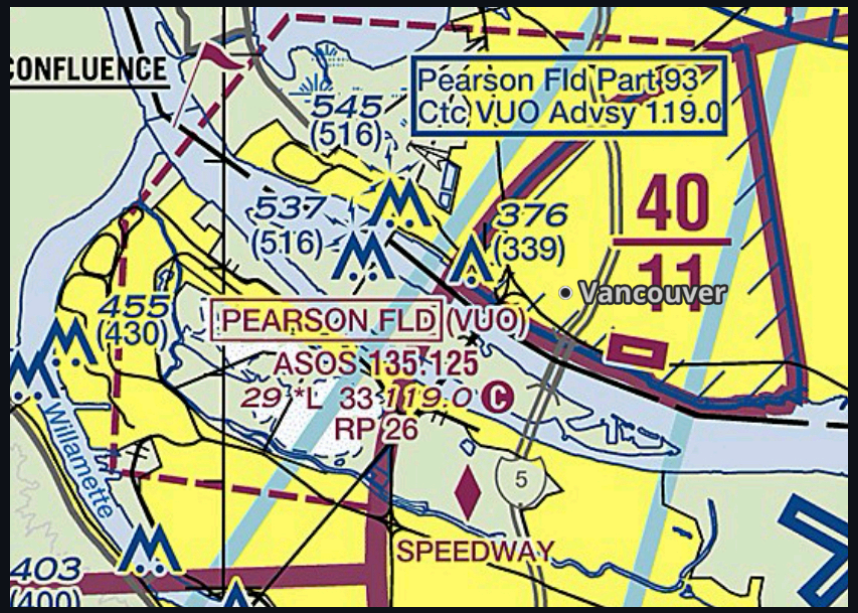
Traffic Pattern Altitude

PEARSON FLD (VUO)(KVUO) 2 SW UTC–8(–7DT) N45°37.23′ W122°39.39′ **SEATTLE**
29 TPA—1029(1000) NOTAM FILE VUO **L–1C**
RWY 08–26: H3275X60 (ASPH) MIRL **IAP**
RWY 08: VASI(V4R)—GA 3.75° TCH 31′. Bridge.
RWY 26: REIL. PAPI(P2R)—GA 4.0° TCH 32′. Thld dsplcd 762′. Tree. Rgt tfc.
RUNWAY DECLARED DISTANCE INFORMATION
RWY 08: TORA–3275 TODA–3275 ASDA–3065 LDA–3065
RWY 26: TORA–3275 TODA–3275 ASDA–3275 LDA–2513
SERVICE: S4 **FUEL** 100LL **OX** 2 **LGT** Rwy 08 VASI unusable byd 6° L or R of rwy cntrln. ACTVT PAPI Rwy 26, MIRL Rwy 08–26—CTAF.

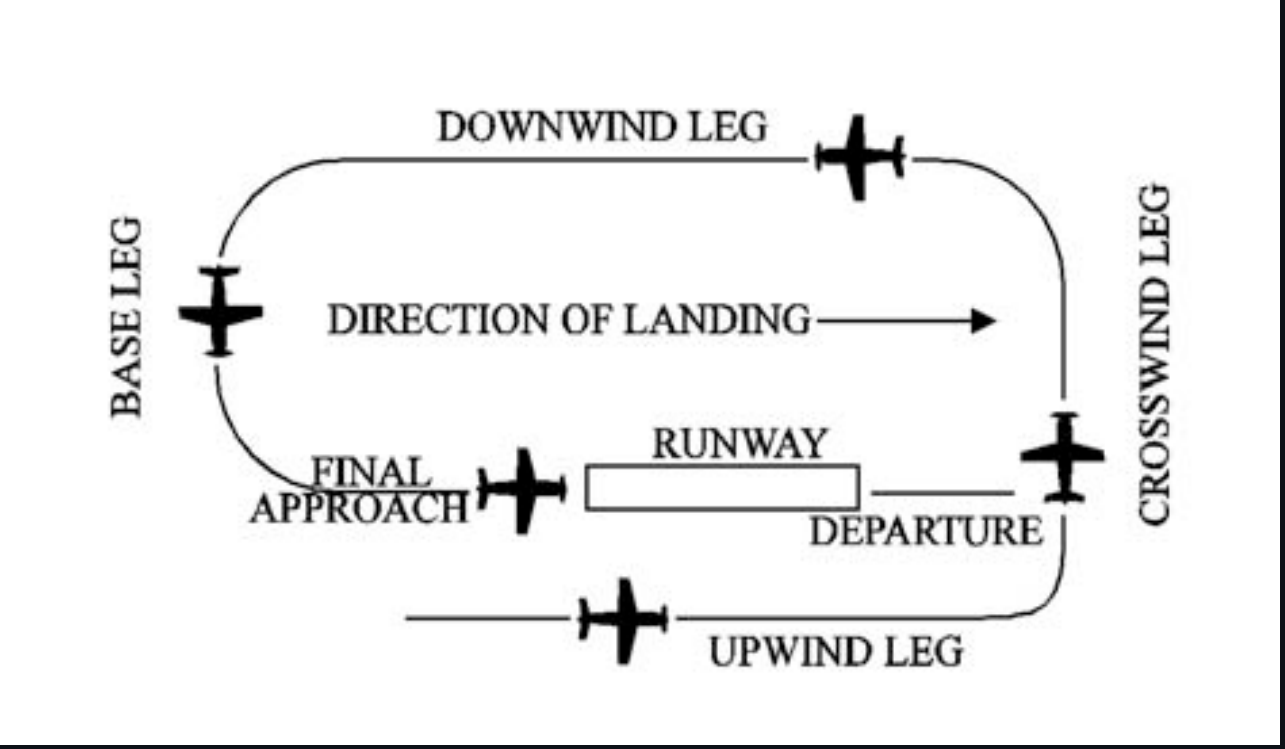


- Chart supplement
- Propeller-driven aircraft: 1000' above field elevation
- Large or turbine aircraft: 1500' above field elevation
- Helicopters: 500', but may vary

Traffic Pattern Direction



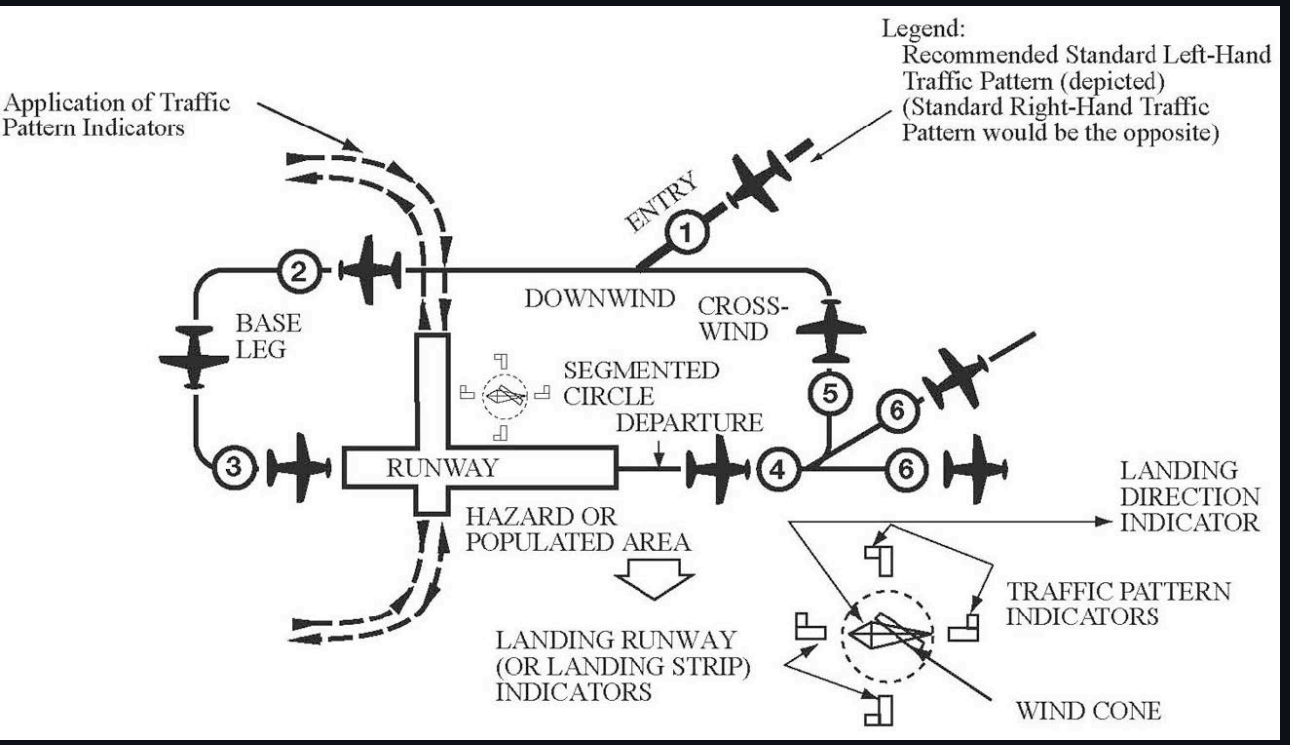
- Shown in chart supplement, sectional ("RP 36"), and ForeFlight
- If not shown, left traffic is implied



Traffic Pattern Legs

- Upwind leg
- Crosswind leg
- Downwind leg
- Base leg
- Final approach
- Departure

Traffic Pattern Entry and Exit



- Enter in level flight abeam the midpoint of the runway
- If remaining in the pattern, start crosswind leg within 300' of pattern altitude
- When departing the pattern, depart straight-out or 34° in the direction of the pattern
- When operating with parallel runways, don't overshoot the final turn

Preferred entry

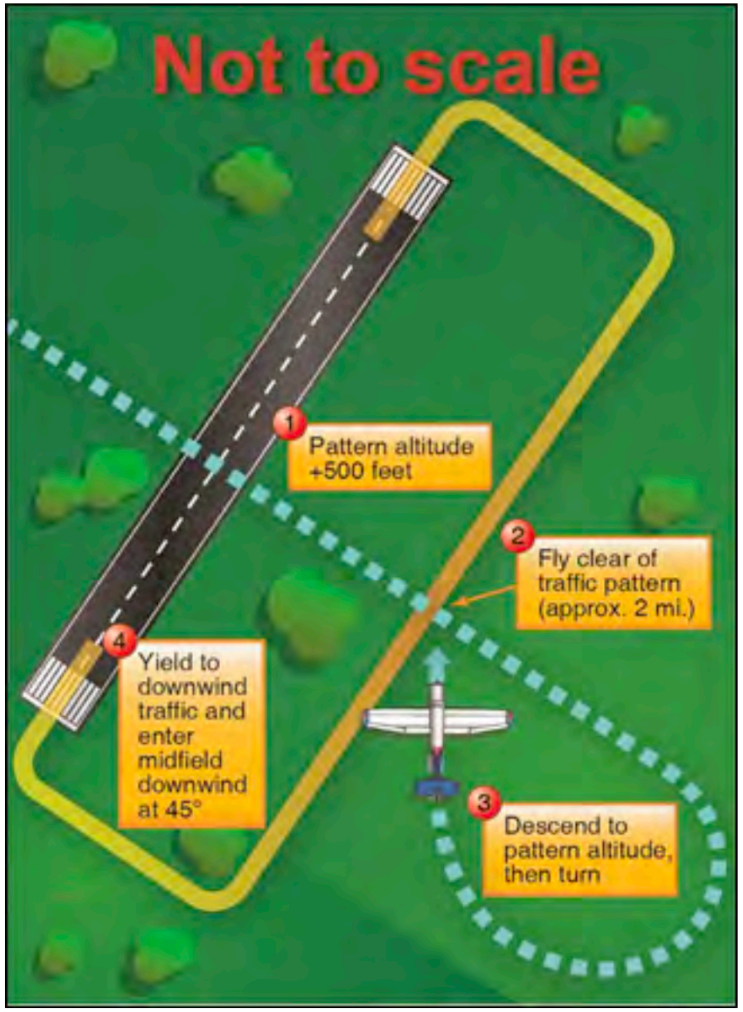


Figure 14-2. *Preferred Entry-Crossing Midfield.*

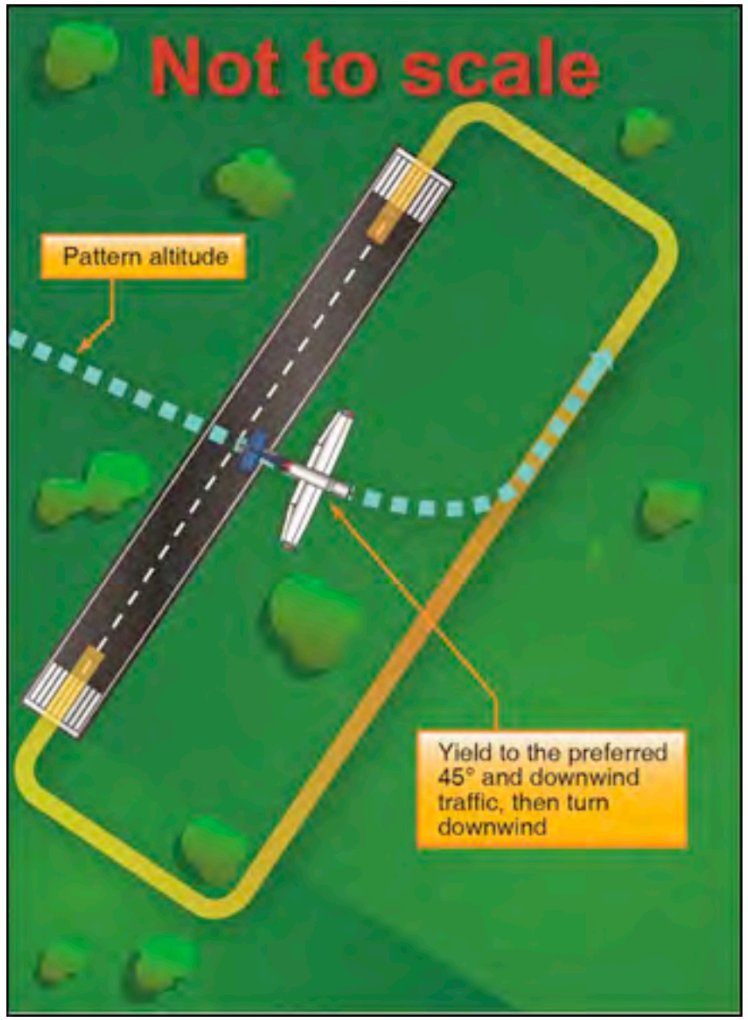
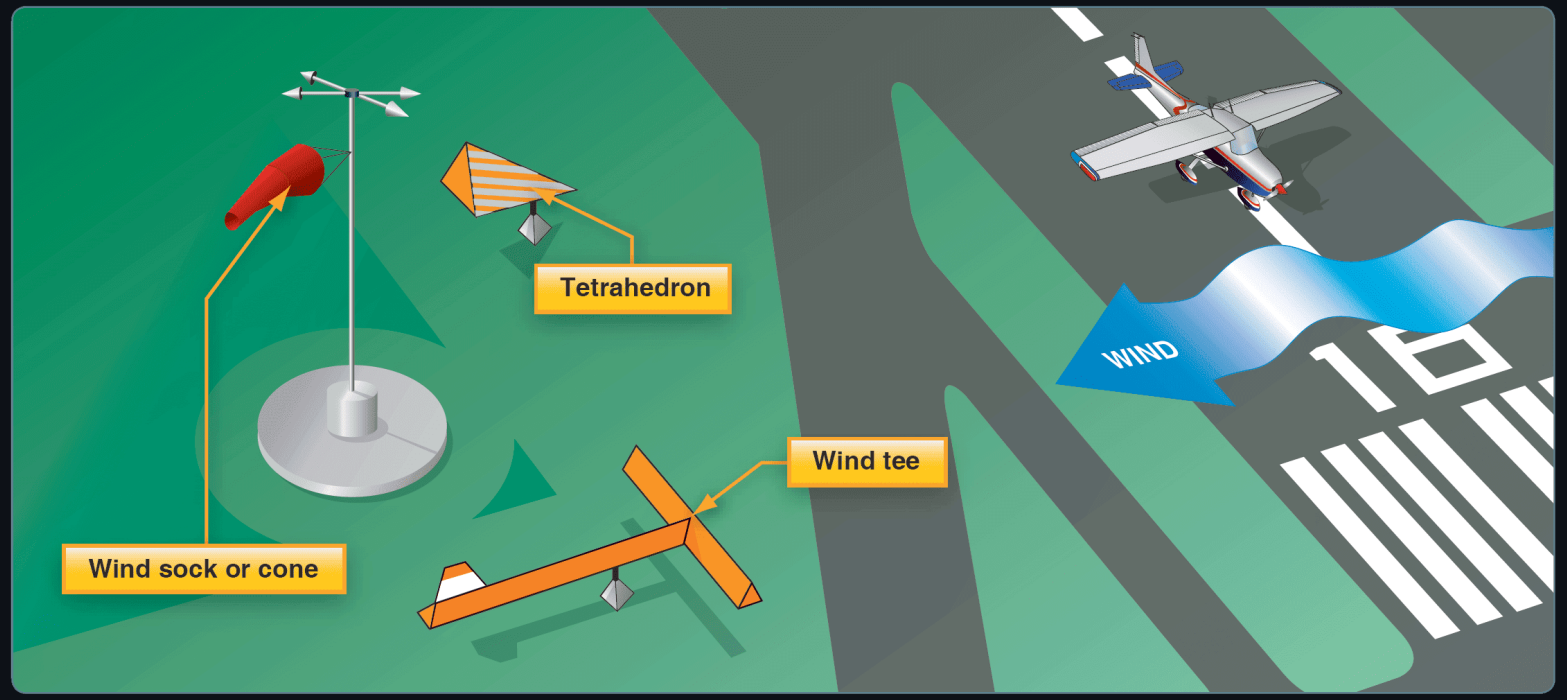


Figure 14-3. *Alternate Midfield Entry.*

Visual indicators



- Segmented circle/traffic pattern indicator: Shows traffic pattern direction
- Tetrahedron: Land in the direction that it's pointed

Right-of-way 91.113

- When two airplanes are approaching to land, the lower one has right-of-way
- However, you cannot take advantage of this by cutting in front of another aircraft

Airports with a ATCT

- Maintain contact with the control tower while you're in the airspace
- Some airports have a radar display, but not all
  - Traffic advisories
  - Recommended headings

Runway distances

PEARSON FLD (VUO)(KVUO) 2 SW UTC–8(–7DT) N45°37.23′ W122°39.39′ **SEATTLE**
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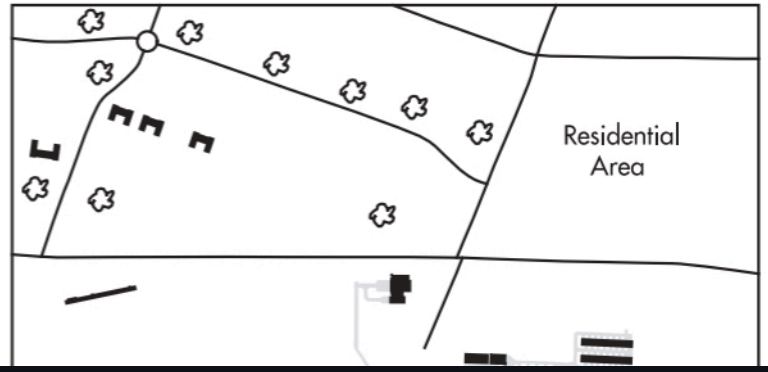
SERVICE: S4 **FUEL** 100LL **OX** 2 **LGT** Rwy 08 VASI unusable byd 6° L or R of rwy cntrln. ACTVT PAPI Rwy 26, MIRL Rwy 08–26—CTAF.



- TORA: Takeoff runway Available, usually the length of the runway
- TODA: Takeoff distance available, TODA + any clearway/stopway beyond the end of the runway
- ASDA: Accelerate-Stop Distance Available: Distance available to accelerate and stop

Intersection takeoffs

- Controller will give you take off distance available from intersection
- Pilots need to accept or decline

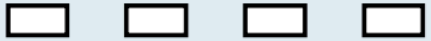
Wake turbulence holds

- ATC will hold light aircraft for 3 minutes if a large aircraft has just takeoff
- "Hold for wake turbulence"
- Pilots can request to waive this, "Request to waiver 3 minute interval"

LAHSO: Land and hold short operations

- Land before an intersecting runway or taxiway
- PIC needs to accept or decline
- Land and hold short points are listed in the Chart Supplement
  - Available Landing Distance (ALD) listed for each
- Example: `N12382 cleared to land runway six right, hold short of taxiway bravo for crossing traffic B737.`
- Need basic VFR weather conditions

Light gun signals

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)
Steady red 	Stop	Stop	Give way to other aircraft and continue circling
Flashing red 	Clear the taxiway/runway	Taxi clear of the runway in use	Airport unsafe, do not land
Flashing white 	Return to starting point on airport	Return to starting point on airport	Not applicable
Alternating red and green 	Exercise extreme caution!!!!	Exercise extreme caution!!!!	Exercise extreme caution!!!!

ATC Phraseology

- Ground control frequencies ("GROUND POINT 7" means 121.7)
- "Cleared for the option", means cleared for one of:
  - Touch-and-go
  - Low approach
  - Missed approach
  - Stop-and-go
  - Full stop landing

Aircraft lights

- Beacon/anti-collision lights on when aircraft is in motion
- Position/nav lights are required to be on sunset to sunrise
- Strobes should be used in flight (not when taxiing), unless reflecting in clouds is hazardous
- All lights should be used when crossing runways
- Operation Lights On
    - Pilots are encouraged to use landing light, day or night, up to 10,000'

ASOS/AWOS

- Should be available < 10,000 ft within 25nm
- "I have the one-minute weather for Salem"