

Area of Operation **V** - Task **D**

Taxiing (ASEL)

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Key References:

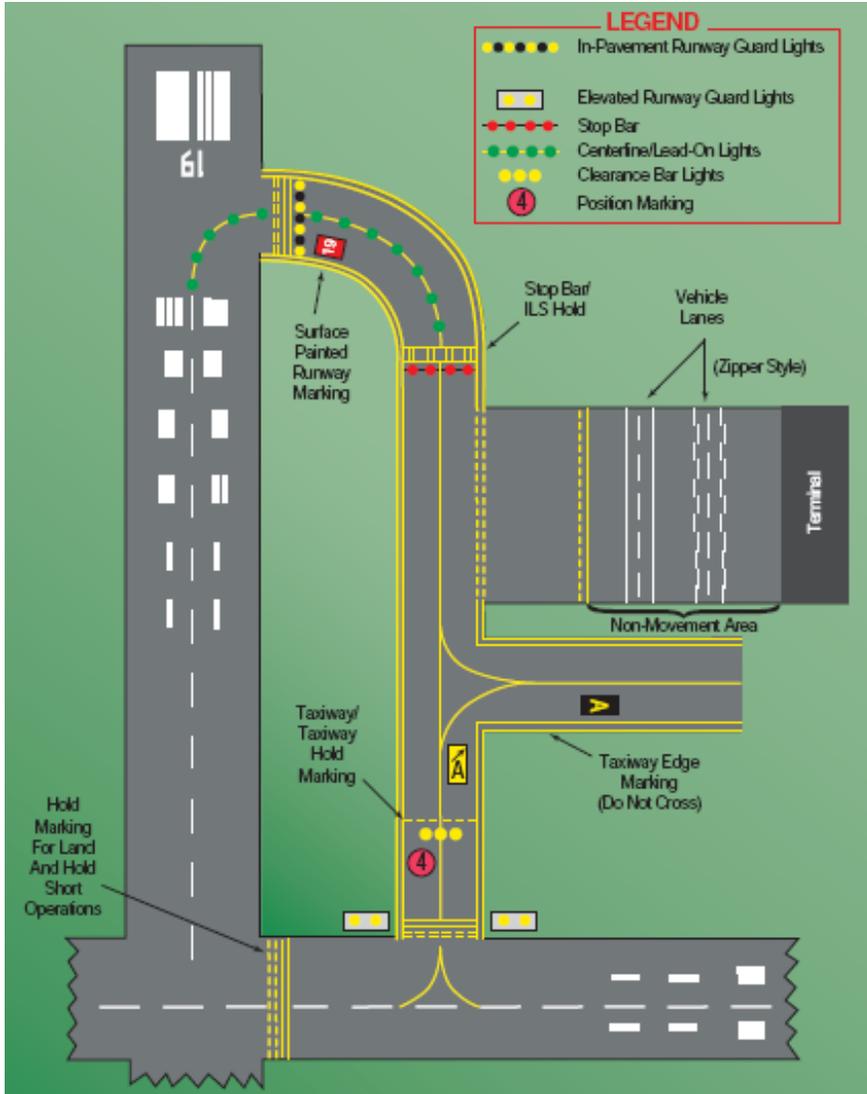
- Airplane Flying Handbook
- POH/AFM

1. Introduction

- **What:** Controlled movement of the airplane under its own power while on the ground
- **Why:** Since the airplane is moved by its own power, the pilot must thoroughly be proficient in taxi procedures
- **Preflight Inspection continued during Taxi:**
 - **Brake Check**
 - *As soon as the plane starts moving*
 - *If not operating properly → shut down the engine*
 - **Taxi Check**
 - *Attitude Indicator → No more than 5° of pitch or bank*
 - *Rate of Turn → Align in the direction of the turn*
 - *Slip/Skid → Ball opposite the turn*
 - *Heading indicator and Compass → showing turn, align to each other*



2. Recap Taxiway Marking & Signs

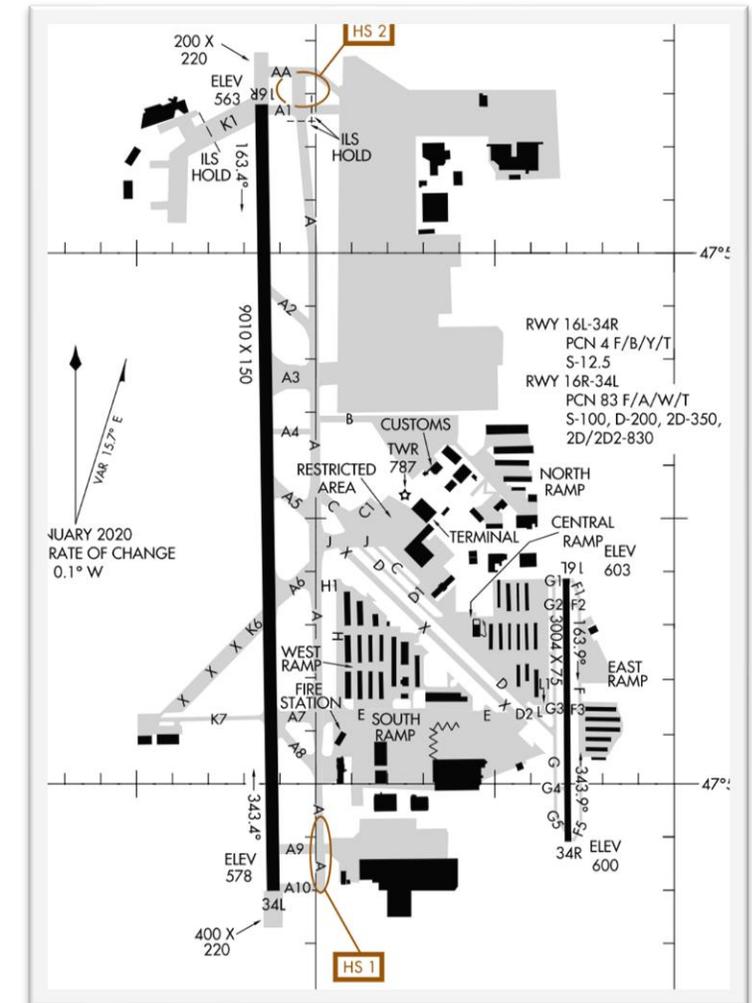


- 1 **Mandatory Instruction Signs** → Red background, White letters
- 2 **Location** → Where you are
- 3 **Direction** → Taxiways / Intersection
- 4 **Destination** → Indicates destination

Type of Sign	Action or Purpose	Type of Sign	Action or Purpose
4-22	Taxiway/Runway Hold Position: Hold short of runway on taxiway		Runway Safety Area/Obstacle Free Zone Boundary: Exit boundary of runway protected areas
26-8	Runway/Runway Hold Position: Hold short of intersecting runway		ILS Critical Area Boundary: Exit boundary of ILS critical area
8-APCH	Runway Approach Hold Position: Hold short of aircraft on approach		Taxiway Ending Marker: Indicates taxiway does not continue
ILS	ILS Critical Area Hold Position: Hold short of ILS approach critical area		Inbound Destination: Defines directions for arriving aircraft
	No Entry: Identifies paved areas where aircraft entry is prohibited		Outbound Destination: Defines directions to takeoff runways
	Taxiway Location: Identifies taxiway on which aircraft is located		Runway Exit: Defines direction & designation of exit taxiway from runway
	Runway Location: Identifies runway on which aircraft is located		Taxiway Direction: Defines direction & designation of intersecting taxiway(s)
4	Runway Distance Remaining: Provides remaining runway length in 1,000 feet increments		Direction Sign Array: Identifies location in conjunction with multiple intersecting taxiways

3. Taxi Clearance

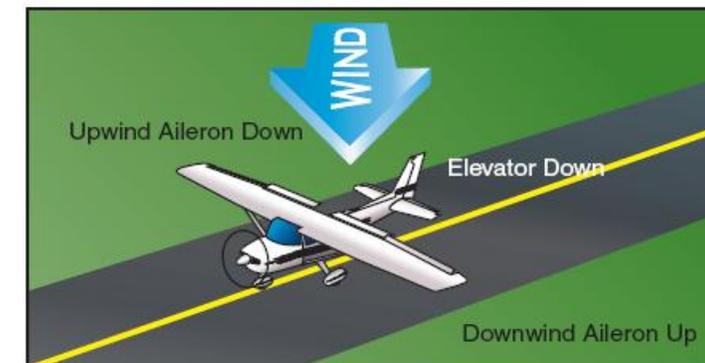
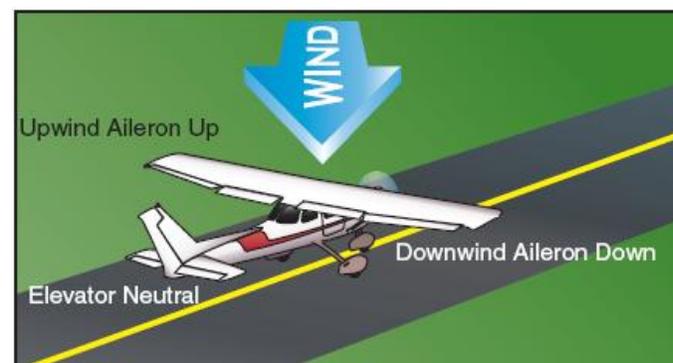
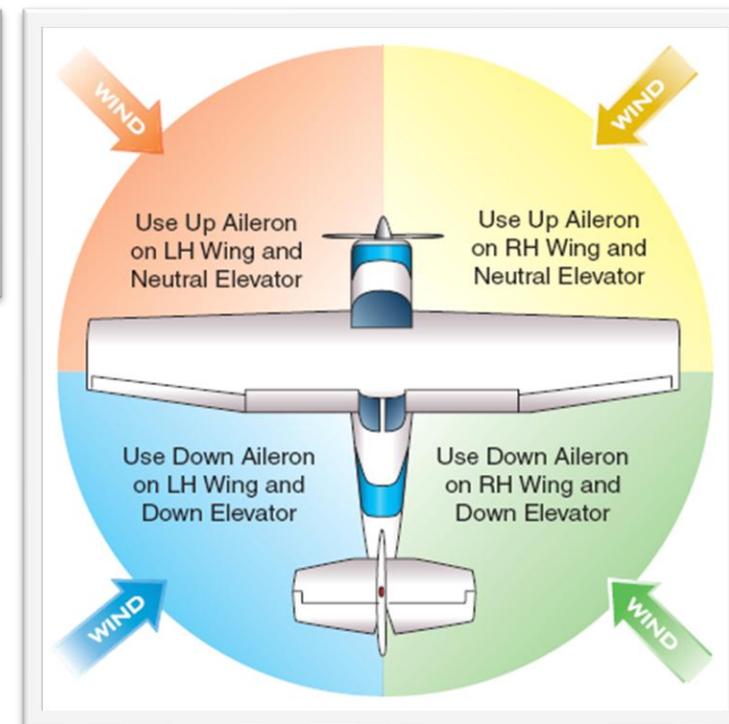
- **A taxi clearance is required prior to entering or moving in the movement area**
 - Have your taxi diagram handy
- **Clearance must also be obtained prior to crossing any runway**
- **Taxi instructions will include:**
 - The runway, or point, to taxi to
 - Taxi route instructions
 - Hold short instructions or runway crossing clearances
- **Always read back:**
 - Runway assignment
 - Any clearance to enter a specific runway
 - Any instruction to hold short of a specific runway (or taxiway)
- **Uncontrolled Fields**
 - Announce your intentions on CTAF
 - Monitor CTAF to be aware of other aircraft and deconflict with them
 - *NOTE: radio communication is not required at uncontrolled fields*



4. Taxiing

- Execute “**Before Taxi Checklist**” →
- **Steering** → Rudder pedals and brakes
- **Speed**
 - Taxi at the speed of a fast walk (GS: 15-19kts)
 - Controlled first with power and then brake pressure
- **Centerline Site Picture**
 - Align to your inside leg
- **Taxiing with a Tailwind or downslope**
 - Engine power at a minimum and occasional brakes to prevent overheating them
- **Quartering Headwind**
 - Ailerons into the wind (elevator neutral)
- **Quartering Tailwind**
 - Ailerons with the wind, elevator down

TAXI	
Avionics Switches	ON
Radios & Transponder	SET
ATIS/ALT/HDG	CHECK/SET
Flaps	RETRACT
Parking Brake/Brakes	RELEASE/TEST
Lights	AS REQUIRED
IFR: On turns → Slip/Skid move opposite, Rate of Turn alive. HSI moves w/ compass. <math><5^{\circ}</math> roll)	



5. Avoiding Hazards, Incursions and Other Aircraft

- **Be Diligent**

- Keep your eyes outside and do not multitask → Checklists should be accomplished when stopped
- Taxi at a safe speed, Slow down prior to turning → Hand on the throttle always
- Rotating beacon, taxi lights and position lights (if at night) should be on → be cautious with strobes
- Apply right-of-way rules
- Maintain the centerline and be aware of the airplane's wingspan
- Maintain a sterile cockpit

- **Maintain situational awareness**

- Know where you are and where you are going → Build a mental picture of other traffic on the airport
- Be aware of hot spots

- **Prevent Incursions**

- Always have a taxi diagram
- Readback all runway / taxiway crossing and hold short instructions
- Write down complex instructions, especially at unfamiliar airports → Request progressive taxi if needed
- Know airport signage, Review NOTAMs
- After landing, clear the runway and obtain taxi instructions before further movement

6. Light Gun Signals

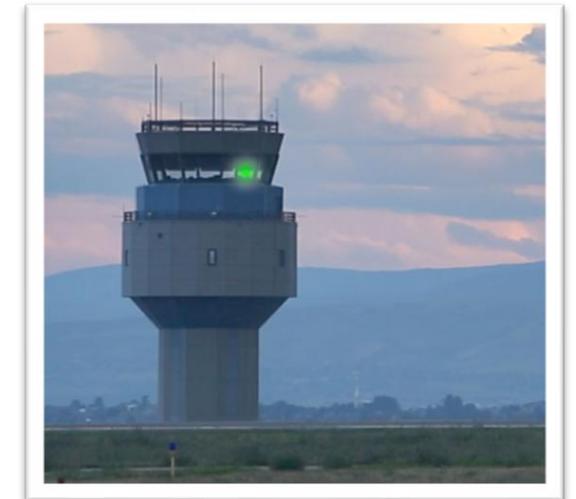
- **During Taxi:**

- Steady red → Stop
- Flashing green → Clear for Taxi
- **Steady green → Clear to Takeoff**
- **Flashing Red → Leave the runway**

- **Ground Procedures**

- Call ATC and request a VFR departure without radio (if pilot was not able to get radio repaired before flight)
- If radio failure occurs during taxi, watch for light signals
- **At Night:** To get tower's attention, turn on a landing light and taxi to a safe position so the light is visible to tower

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!!!!



7. Common Errors

1. Improper use of brakes
2. Improper positioning of the flight controls for various wind conditions
3. Hazards of taxiing too fast
4. Hazards associated with the failure to comply with airport/taxiway surface marking, signals, and ATC clearances or instructions
5. Hazards of becoming distracted while taxiing
6. Hazards associated with failing to adhere to sterile cockpit procedures

Questions?

