Detailed Checklist & Procedures

Verbalize everything in Blue & Red (for emergencies)

Approaching Seaplane

- ✈ Gear:
  - Only non-polarized sunglasses
  - Life jacket
  - Headset
- ✈ Check conditions:
  - Wind, current, obstacles, vessels
- ✈ Note how the seaplane is sitting in the water:
  - Sideways: due to more fuel on one side than the other
  - Sideways: due to a float filled with more water on one side, *need to sump the compartments or check for damage*
  - Far down in water: due to potential weight overloading
  - Far down in water: due to water weight in float compartments, *need to sump the compartments or check for damage*

Passenger Briefing

- ✈ Life vests checked on and secure
  - In an emergency, wait until outside the aircraft to inflate
  - Inflate by pulling the handle on the bottom right
  - If it doesn't inflate, blow into the mouthpiece under the flap on the left
- ✈ Seatbelt and shoulder harness operation
- ✈ Door operation
- ✈ Oar behind seats
- ✈ Rope in float locker or behind seats
- ✈ Fire extinguisher behind seats
- ✈ ELT location

Before Starting	**Starting**	**Clear of Obstacles**
WFMMM Checklist ✈ **W**ater Rudders: Down ✈ **F**uel: Fullest Tank - Right tank usually ✈ **M**ags: Both On ✈ **M**ixture: Rich ✈ **M**aster: On	✈ Prime: - Cold: 3 pumps - Hot: None/as req ✈ Throttle: 1/8 inch ✈ Starter: Engage ✈ Throttle: Idle	CO,HHH Checklist ✈ **C**arb Heat**:** On ✈ **O**il Pressure: Check ✈ **H**eadsets (With ALL Switches): On ✈ **H**atches: Secure ✈ **H**arnesses: On

Note: Seat belts and headsets on AFTER clear of the beach, dock, and obstacles

- ✈ If there is an issue starting and it is needed to jump out and grab the dock again
- ✈ To communicate with those on the dock helping out

Runup

CIGARS Checklist

- ✈ **C**ontrols: Free/Correct
- ✈ **I**nstruments: Set
  - Altimeter 500’
- ✈ **G**as: Fullest Tank
- ✈ **A**ttitude: Set, **A**rea: Clear
- ✈ **R**un Up: Perform

---------- *Once CHT > 200º* ----------

------ *Or 5 min warm up on a cold start* --------

- ✈ Throttle: 1700 RPM
- ✈ Mags: Test Left and Right, then Both
  - 100 RPM Max Drop each, 50 RPM Max Difference
- ✈ Carb Heat: Test Off then Test On
- ✈ Throttle: Idle
- ✈ **S**afety: Hatches, Harnesses

Before Takeoff / Step Taxi

FFCARS Checklist

- ✈ **F**uel: Fullest Tank
- ✈ **F**laps: Set
- ✈ **C**arb Heat: Off
- ✈ **A**ttitude (Trim): Set, **A**rea: Clear

⬆ *No Rush* ---------- *Continuous Flow* ⬇

- ✈ **R**udders (Water): Up
- ✈ **S**tick: Back

Takeoff / Getting On Step

- ✈ Throttle: Full
  - Slow and Smooth
- ✈ First Rise: Initial nose rise directly after power application (plow attitude)
- ✈ Second Rise: A noticeable nose rise a few seconds after the first one (timing is weight and wind dependent)
- ✈ Neutralize: Relax back pressure slowly, <u>do not push</u>

---------- *If Step Taxi* ----------

- ✈ Throttle Back: Around 1900 RPM (weight and plane dependent)
- ✈ Trim: Nose up to remove pressure holding up step attitude

---------- *If Takeoff* ----------

- ✈ Tune for Step: Find attitude that creates least amount of drag

After Takeoff

- ✈ Positive Rate, Flaps Clean
- ✈ 75: Vy: 75 MPH
- ✈ 25: 2500 RPM
  - You will have to reduce throttle slightly after takeoff

Before Landing

Early on Downwind

- Carb Heat: On
- Fuel: Fullest Tank (visually verify fuel quantity)
- Water Rudder: Up (confirming, should already be up)

Landing Pattern

Abeam Touchdown Point	Base Leg	Final Leg
✈ Power: 1700 RPM ✈ Airspeed: < 80 MPH ✈ Flaps: 1 Notch	✈ Power: As Required ✈ Airspeed: 65 MPH ✈ Flaps: 2 Notches	✈ Power: As Required ✈ Airspeed: 60 MPH ✈ Flaps: 3 Notches - Except glassy is 2

Landing

- Touchdown: Confirm on the water
- Shutdown: Throttle smoothly to idle
- Let it Slide: Maintain landing attitude
- As the Nose Comes Up, Stick Back

After Landing

- Water Rudders: Down
- Flaps: Clean
- Carb Heat: On (should already be on from landing, if from step taxi will need to turn on)

Land and Maintain the Step

Not on Rough Water

- Touchdown
- Flaps: Clean
- Carb Heat: Off
- Power Up: 1900 RPM / As Needed (plane and weight dependent)
- Trim: Nose up to remove pressure holding step attitude up

Step Turn

- Look: Clear the area
- Stick: Aileron in direction of turn
- Power: 100 rpm increase (or as needed) simultaneously with turn
- Turn: Rudder input, neutralize and opposite rudder as needed

Corrections:

- Nose coming up and decelerating: blow the nose down with power (add power) and get back to step attitude
- Porpoising with nose too flat and going too fast: stick back to gently to stop oscillations and reduce power to manage step taxi speed
- Accelerating to outside of turn excessively: less rudder to make turn less aggressive, and/or slow down

Shutdown - Docking, Beaching

- **HHH**: Off (Headsets, Hatches, Harnesses)
- Switches: Off (Except Mags/Master)
- Ammeter: Check (Positive)

----------Once in Gliding Distance----------

- Mixture: Cutoff

----------Dock/Beach Assured----------

- Magnetos: Off
- Master: Off

Emergency Checklists

Engine Failure and Rough Engine

----------Simultaneously (PPP) ----------

- **P**itch: 70 MPH
- **P**oint: Landing Spot
  - Marry the Shoreline
- **P**rocedure: Perform

----------Procedure (GMMS)----------

- **G**as: Switch Tank
- **M**ixture: Full, Carb Heat: On, Primer: Locked
- **M**ags: Check R/L/Both
- **S**witches: Master On

Engine/Wing Fire

- Ensure Glide: To safe landing area
  - If over trees or an area unsuitable for emergency landing, find one first
- Power: Idle

GMMS Checklist

- **G**as: Off
- **M**ixture: Cutoff
- **M**ags: Off
- **S**witches: Off
- Slip away from flames and land immediately

Electrical Fire

- Master: Off
- Ventilate the cabin
- If smoke clears
  - Land as soon as practicable
- If smoke/flames continue
  - Land immediately

Takeoff and Landing Procedures

Marry the Shoreline

- On *every* takeoff and landing
- Allows for a visual reference of your height
- Creates certainty of clearing the area before landing
    - Easy to lose track of what you cleared in the middle of the lake
- If engine fails or urgent situation, it is close to paddle or sail to

Takeoff

	Flaps	Details
Normal Water	1 Notch	- Hold step attitude and wait
Glassy Water	1 Notch	- Lift one float once on the step and close to liftoff speed
Rough Water	2 Notches	- Nose slightly higher than step attitude - Apply power as nose comes up on a wave
Confined Area	1 Notch → Full Flaps	- Start with 1 notch, go full flaps once on the step and accelerated (over 35 mph usually)

** Hint: Always set up the takeoff with 1 notch of flaps unless it's rough water (for a confined area, go full flaps after you're on the step, but the setup is the same)*

Landing

Plan every landing to be power off, but plan to use power on every landing

- Always use power after landing transition to soften the touchdown

	Flaps	Other Details
Normal Water	Full Flaps	- Use power after transition
Glassy Water	2 Notches	- Step Attitude by 15', set power and wait - Chop, Pitch, Power, Patience
Rough Water	Full Flaps	- Touchdown as softly as possible - Hover to find best water and calmer wind
Confined Area	Full Flaps	- Commercial: +100' / -0' - Private: +200' / -0'

** Hint: Always land with full flaps unless it's glassy water*

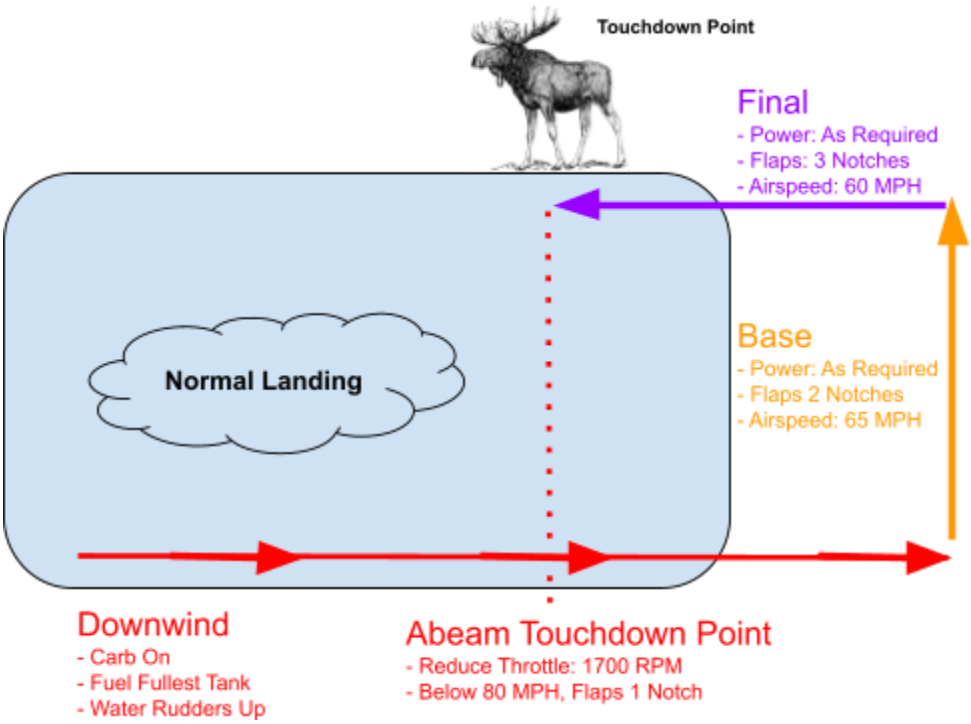
Normal Water

Takeoff

- Flaps: 1 Notch
- Takeoff the same as getting on the step, then wait for liftoff (do not rotate)
    - Rotating will dig in stern of floats, increasing drag and preventing takeoff
- "First Rise, Second Rise, Neutralize, Tune for Step"

Landing

- Flaps: 3 Notches (Full Flaps)
- 60-65 mph on final
- Power idle once the landing spot is assured
    - Maintain 60 mph all the way until the landing transition
- Around 15-20 feet begin landing transition:
    - From nose down (whatever holds 60 mph), to landing step attitude
        - This will be a very slow motion
    - At about 5 feet high, nose needs to be level or higher (no nose down)
    - Continue bringing nose up to step attitude by 1-3 feet off the water
    - Add power once the nose is above level and it feels like almost all the energy is lost or the plane is about to drop down
- Once in the landing step attitude, hold it and *keep the toes up*
- Make necessary adjustments with *power* for a soft touchdown, *don't drop the plane*
    - Once power is added for the landing, do not chop it back idle until fully on the water
    - If needed, reduce the power gently to get closer to the water, but *do not chop idle*



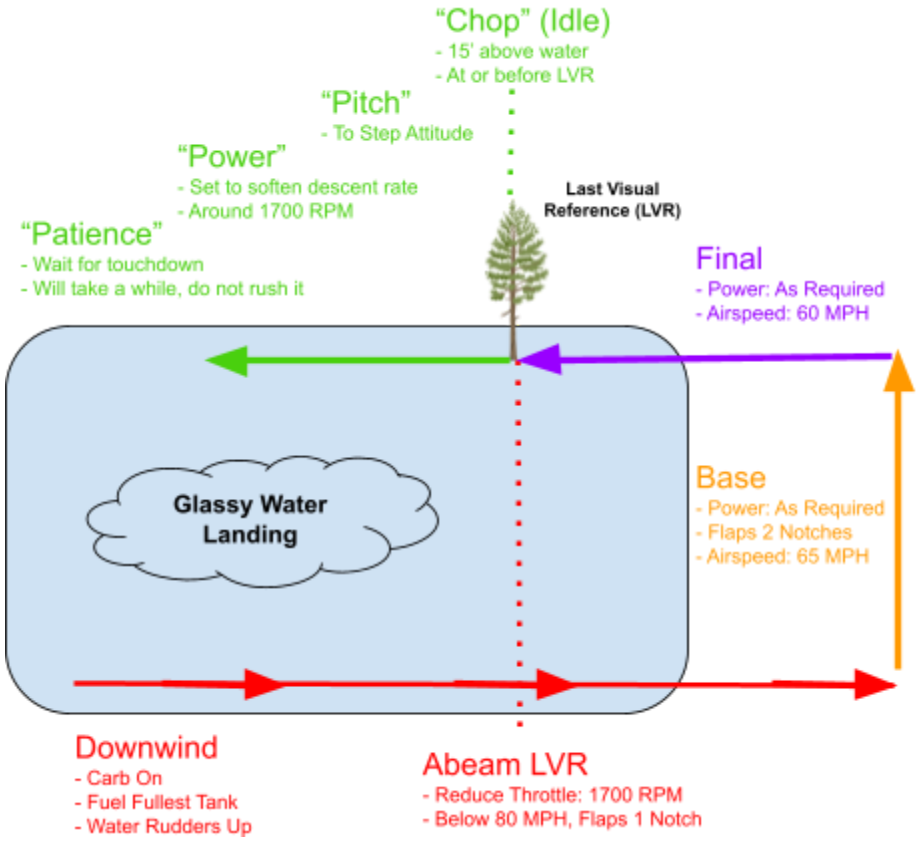
Glassy Water

Takeoff

- Flaps: 1 Notch
- Once on step attitude and around 35 mph, roll onto one float via aileron input, then smoothly neutralize the aileron
    - Let the aircraft turn the direction of aileron applied, do not apply opposite rudder
        - This would add drag and counteract the one float takeoff
- Maintain positive rate of climb on takeoff
    - Avoid accidentally touching back down with the deceiving depth perception

Landing

- Flaps: 2 Notches
    - Only time we don't land with full flaps
- Really marry the shoreline
    - Crucial for a proper visual of your height
- Choose Last Visual Reference (LVR) instead of a touchdown point
- At 15' above the water, before or abeam LVR, start the procedure:
    - "Chop" power to idle
    - "Pitch" to step attitude in one smooth motion *right* after the chop of power
    - "Power" to maintain shallow descent *right* after you have set the pitch
    - "Patience" maintain step/landing attitude until touchdown



Rough Water

Takeoff

- Flaps: 2 Notches
- Look for sheltered water before accepting a rough water takeoff
- Apply initial throttle increase as the nose rises on the wave
    - Prevents it from digging into a wave
- Once on the step, have the nose slightly higher than usual

Landing

- Flaps: 3 Notches (Full Flaps)
- Nose slightly higher than normal on landing
- Use power for a touchdown as soft as possible
    - Think about low water work, use that power to drive yourself to an area of the best looking water, and use it to gently touchdown
- There is no rush to touchdown or hit a spot, just make it soft

Confined Area

Takeoff

- Flaps: 1 Notch to start, then once airspeed has built on the step, pull in full flaps
    - If pulled too soon it will hurt takeoff and take longer than normal
    - Usually will happen around 35 mph, but it depends on weight, winds, etc.
- Plan departure carefully and be certain of takeoff distance with the given weight, density altitude, obstacles ahead, potential downdrafts, and a path out
- Select a go/no-go point

Landing

- Flaps: 3 Notches (Full Flaps)
- Plan approach strategically to utilize all available space
    - Follow the contour of lowest terrain leading to the lake which will allow you to get as low as possible before getting over the water (and therefore touching down as short as possible)
- Determine if you can take off again after you land
- Touchdown at selected point, go around if you will pass it