IFR Procedures Checklist

Ver. 08/27/21

Before Engine Start

- Check GPS Database Current
- 30 Day VOR Check
- Pitot static drain check (aircraft specific)
- Check function of pitot heat (warm?)
- Anti/de-ice equipment working (FIKI)

After Engine Start

- Confirm Half Up Out of View & Half Left Out of View
- OBS to OBS check
- Confirm INTEG of GPS
- RAIM check if non-WAAS
- VSI = zero (if not, note reading)
- ASI = zero (no wind)
- Set clock to current time
- Listen to AWOS/ATIS (if available)
- Altimeter verify w/in 75’ of airport elevation

Taxiing

- Magnetic compass moves freely & full of fluid
- Turn coordinator indicates direction of turn -- no flag
- Ball moves to the outside
- Heading indicator turns freely
- Check that HSI & GPS TRK are the same
- AI is erect & stable w/in 5 min of start up

Run Up

- Does the attitude indicator make sense?
- Suction gauge is within prescribed limits.
- Electrical system is operating within norms.
- Check function of pitot heat, carb heat and defrost
- Autopilot check & then disengage for departure
- Check STBY Vacuum

Clearance

- Copy CRAFT - note void time
- Enter transponder code
- Enter frequencies into COMMS 1 & 2
- Enter frequencies into NAV 1 & 2
- Enter/Modify flight plan & verify waypoints
- Enter Departure Airport Approach at end of Flight Plan in GPS
- Save flight plan to Catalog (note Flt. Pln #)

Before Take Off

- Autopilot Off
- Confirm COMM/NAV frequencies
- Set Heading Bug (if installed) to actual runway heading
- Set FD to HDG, Altitude pre-select, VS/FLC/IAS
- HAT (Heading - Altimeter - Transponder)
- Note Abort Point (70% Vr before 50% RW)
- Verbalize Departure Briefing
- Set flight timer, note time off

Take Off Check

- Heading to Runway
- CONFIRM full power, oil pressure, fuel flow, airspeed alive

Climb

- Retract gear
- Retract flaps obstacle clear
- Turn to assigned heading at 400’ AGL or as specified in an obstacle departure procedure or ATC clearance
- At 1000’ AGL transition to cruise climb & set cruise climb power if obstruction and terrain clearance allow
- Monitor engine instruments
- Note OATs through climb

Cruise

- Check gear and flaps up
- Set power & mixture
- Cowl flaps closed
- Monitor engine instruments
- Set miniature airplane of attitude indicator to level
- Magnetic Compass to HSI
- Calculate TOD
    Alt-to-lose/1000 x 3 = __ nm
    GS x 5 = __ fpm

Risk Assessment

- What are the ceilings and visibilities?
- Where are the freezing level?
- Where's the convection?
- Turbulence?
- Area PIREPs?

The Last 30 Minutes

- Weather at destination
- Do we need an alternate?
- Select your approach and LOAD it!
- Add Alternate Airport after MAP Hold (if 750 / 650)
- Start an initial briefing
- Set frequencies as necessary

Descent

- Carb Heat as required
- Pitot Heat as required
- FLOW Check
- Where am I, what's next?

Holding

Inbound

- Read back holding clearance
- Determine holding entry and headings
- Tune and identify Navaid(s)
- Reduce speed 3 minutes prior to fix.
- If fix is a GPS waypoint, SUSP GPS
- Determine wind correction prior to entry

Reaching Fix

- Fly entry, note time, report to ATC
- Teardrop - 30-degree entry within the pattern outbound for 1 minute
- Parallel - turn to a heading to parallel the holding course outbound on the non-holding side for one minute
- Direct - fly directly to the fix and turn to follow the holding pattern
- Start outbound leg, timing/distance when abeam the fix or “to/from” ambiguity flip

Established

- TURN - turn to desired heading
- TIME - at wings level after turn inbound or abeam the fix outbound (GPS: abeam the fix is when cross track error = distance to the fix)
- TWIST - verify that the OBS is set to the inbound course/put the holding course into the HI/HSI
- THROTTLE - Maintain holding speed/Altitude change?
- TALK - Report to air traffic control/check EFC
- OBS to SUSP (this should occur when first cleared to the holding fix)

Technique

- *Adjust outbound time to make the inbound leg one minute for timed hold*
- *When flying outbound use 3x the wind correction used inbound*

- *Align DG with magnetic compass after the completion of each turn in the hold*

Leaving the Hold

- Adjust flight path within the limits of the holding pattern to leave fix at the time specified
- Resume normal speed
- Configuration check
- Report leaving holding fix to ATC

Approach

LOC, LDA, VOR, RNAV, ILS

10 Miles - 10 Minutes Prior

- **W**eather (ATIS, AWOS, ASOS)
- Select Approach
- **I**nstruments - Load Approach & Set RAW data
- Turn & Identify Navaids
- **R**adios set COMM 1 & 2
- **E**nvironment - brief approach
- Add alternate to flt plan after MAP hold (430/530)
- Determine intentions (straight-in approach, circle-to-land or low approach)
- Note VDP
- Note/Calc VDP as Req'd> 300'/NM to Max 400'/NM
- Note/Calc Slope as Req'd> Ft to lose / NM * GS/60 = FPM
- Complete before landing checklist

Prior To Initial Approach Fix

- Comply with ATC clearance
- Activate Approach WHEN CLEARED
- Identify Navaids?
- Add alternate to flt. plan after MAP hold (430/530)
- Confirm Approach fixes under Flight Plan page
- Reduce power to approach speed (3 min. ETE TO IAF)
- Crossing the IAF, complete the 5 "T"s (if full approach).
- Proceed outbound for hold, procedure turn (if full approach) or as vectored by ATC

Cleared for Approach

- Expect & Read Back PTAC
- Verify Approach is ACTIVE
- Identify Navaids?
- Confirm VLOC or GPS
- Set altimeter to airport reading

Localizer Intercept (or Procedure Turn Inbound)

- GPS CDI to VLOC or GPS (as required)
- Confirm approach annunciation:
  For LNAV, LNAV+V (w/in 2nm of FAF)
  For LPV, LNAV/VNAV, LP, LP+V
  (when the FAF becomes the active waypoint)
- Confirm GPS is un-suspended
- Call out ”Localizer Alive”
- Call out “Glide Slope Alive”

One Dot Below Glide Slope Intercept

- Gear down (if applicable)
- Flaps as required
- Pre-landing Check
- Carb Heat & Pitot Heat check
- Set power for descent & approach speed

Final Approach Fix

- Head UP w/ memory items (FAC,DA/MDA, Time, Initial MAP, Wind)
- Start Timer @ FAF
- GUMPS check
- Call out “Final Fix” intercept and confirm altitude
- @MAP transition to landing or execute the MAP via:
  - @DA execute the missed approach procedure
  - @MDA arrest descent, maintain MDA till MAP

Missed

- Autopilot Disconnect
- PowerUp
- Pitch Up

- Clean Up (Gear, Flaps, Carb Heat Off, Cowl Flaps)
- Button Up (OBS un-suspend)
- Button Up (CDI to GPS)
- Trim Up
- Advise ATC of missed and intentions

Circle to Land

- Determine that a landing to another runway is possible
- Determine the safest route to the runway

Field in Sight

- Level within 100' of MDA
- Circle within the circling approach area; not to exceed the visibility criteria or descend below the MDA
- Maintain MDA until ready to initiate descent to runway

DME Arc

- Tune and identify the NAVAID
- Proceed inbound or outbound on the cleared course or heading
- Determine initial heading for direction of arc
- Lead your standard rate turn by 0.5% of your ground speed in the direction of the arc (~0.5 nm @ 90kts.)
- Turn 90º from the radial the aircraft is on
- Fly arc with a FROM indication on the Arc VOR
- Once established, TWIST OBS 10º right/left and TURN 10º right/left
- Use your heading bug to track your heading
- When the CDI centers, TWIST OBS 10º and TURN 10º both in the appropriate direction
- Adjust heading to compensate for any wind drift
- Repeat until reaching desired lead radial then…
- Lead LOC intercept by ~5 degrees
- Turn inbound or outbound depending on clearance

NOTE: for every 1nm inside arc, correct outside 5º
for every 1nm outside arc, correct inside 10º

IFR 5W Process