

# INSTRUMENT RATING PLAN OF ACTION

## A. ADMINISTRATIVE

### Appointment – Step 1

#### Applicant

Name:	Cert#: <input type="checkbox"/>
IACRA Option: <input type="checkbox"/> No <input type="checkbox"/> Yes	FTN:
Phone:	Phone:
<input type="checkbox"/> 61 <input type="checkbox"/> 141 School (4 letters):	School Name:
Aircraft 1 m/m: <input type="checkbox"/>	Aircraft 2 m/m: <input type="checkbox"/>
Aircraft 1 N#:	Aircraft 2 N#:
Retest: <input type="checkbox"/> No <input type="checkbox"/> Yes – AOAs:	
Medical Restrictions: <input type="checkbox"/> None <input type="checkbox"/> Glasses <input type="checkbox"/> Other:	
Medical Date of Issue:	

#### Recommending Instructor

Name:	Cert#: <input type="checkbox"/>
Phone:	Phone:
IACRA Ready: <input type="checkbox"/> No <input type="checkbox"/> Yes	IACRA Application #:

#### Practical Test

Location:	
Date/Time:	

#### Greet Applicant

1. Relaxed atmosphere
  - a. Search for a common background.
  - b. Location of rest rooms, coffee/refreshments etc.
  
2. Overview of test
  - a. Approximate time required.
  - b. Advise of note taking/use of POA.
  - c. Rules regarding PIC for the flight. Positive exchange of controls
  - d. The 3 possible outcomes of the test
    - Temporary Airman Certificate – valid for 120 days
    - Disapproval Notice – valid for 60 days
    - Letter of Discontinuance – valid for 60 days
  
3. Grading criteria
  - a. Practical Test Standards maneuvers based on Instrument Rating PTS.
  - b. Oral testing may take place during flight.
  
4. Ask for any questions from the applicant.

## Eligibility

1. Application - 8710.1 signed by applicant & recommending CFI. **Prefer IACRA**
2. Pilot Certificate – private certificate
3. Identification - Picture ID – Address matches 8710
4. Logbook properly endorsed for Practical Test
5. Medical certificate – valid and at least third class.
6. English - read, write, & converse fluently in English, 61.103
7. Written Test Results within 24 months.
8. Aeronautical Experience, verify hours and log book entries
9. Required equipment:

- a. Aircraft Documents - **(AROW)**

- b. Aircraft Maintenance Records

1. Logbook record of airworthiness inspections
2. AD compliance

- c. POH or FAA approved AFM.

- d. Personal Equipment

1. View limiting device
2. Current aeronautical charts
3. Computer & plotter
4. Flight plan form
5. Flight logs
6. Current AIM, A/FD, AIM, FAR, & PTS

## B. GROUND- Testing begin now

- Discuss the Aircraft requirements: inspections and equipment
  - Annual 100 hour
  - Pitot/static, altimeter, transponder ; How often
  - VOR checks; how often, allowable limits
  - GPS; current data base, Raim (what is raim, how does it affect using GPS)
- Required documents
  - AROW
  - Pilot: ID, license, medical, flight review
  - Currency : Both TO & landing plus IFR
  - Explain IFR currency, how you maintain, regain currency (time limits, how many approaches)
  - Define an appropriately rated safety pilot
- Required equipment: Day/night VFR plus GRABCARD
- When can you log actual IFR time? Simulated?
- When must you file an IFR flight plan
- how and when can you cancel
- Discuss your flight plan
  - What factors did you consider when choosing an altitude
  - How much fuel will we need/ required/have
  - When would you need an alternate (123) how do you calculate fuel needed if an alternate is required
- What are the WX minimums for the alternate? With ILS OTS? What if the only available approach is a GPS?
- Look at low enroute chart
  - How are the airspaces depicted?
  - Can we file direct through MOAs, restricted areas, alert areas (if yes, what do you need to consider if direct is not available?)
- Describe airspace A,B,C,D,E, and G. requirements
- What is the significance of the different colors for airports?  
Are there any special considerations if the WX is marginal VFR?
- Explain the following: MEA, MOCA, OROCA, MCA, MRA
  - How does GPS or lack of GPS change the way you use them (MOCA )
- Identify/describe other items on map
- Review runway markings

## WEATHER

- How do you prefer to obtain a weather briefing?
- Online: which web sites do you use? Which products and why? Why not others?
  - Read various preprinted charts, describe main elements
  - TAF, METAR, winds aloft, prog, wx depiction
- Telephone
  - What do you ask for? What type briefing? Specific products TAF, METAR, area forecast, notams, airmets sigmets, pireps. Explain these products?
- If your entire route is forecast to be IFR, what specific information should you request? (where would you go to find VFR WX in an emergency) Would you have fuel to get there? If not, what would your options be?
- What are the four types of structural icing? AC 00-6A
  - Clear, rime, mixed, frost
- What should you do if you encounter icing conditions? AC 00-06A
  - Request a change of course and/or altitude

- What aircraft characteristics will be observed in the following wind shear situations?
  - Increase in headwind – As a tailwind shears to a headwind an increase in airspeed and altitude occurs along with a nose up pitching tendency. The usual reaction is to reduce both power and pitch. This can be dangerous if the aircraft suddenly encounters a downdraft and tailwind. Now the situation demands the exact opposite of the pilots initial reaction
  - Decrease in headwind – As a headwind shears to a calm or tailwind, pitch decreases, airspeed decreases, and a loss of altitude occurs. The required action is more power and a higher pitch attitude to continue a climb or remain on the glide slope
- To whom and how would you report a wind shear encounter? AIM 7-1-24
  - To the controller. Loss or gain of airspeed and altitude, distance from airport.
- When temp. and dew point are close together (within 5°), what type of weather is likely?
  - Visible moisture in the form of clouds, dew, or fog
- State two basic ways fog can form. AC 00-6A
  - Cooling air to the dew point and adding moisture to the air
- Name several types of fog. AC 00-6A
  - Radiation, Advection, Upslope, Precipitation –induced, and Ice fog
- What are airmets, sigmets and convective sigmets? How do they apply to different situations?
- Define/describe EFAS and HIWAS
- What is RVR? Where do you find it? When do you need it?
- Explain the various types of icing. When and how they form, How to avoid, how to eliminate it after it forms, dangers

## DEPARTURE

- How can you obtain and IFR clearance? Controlled/ uncontrolled airports
- Explain Clearance Void Time, Hold for Release when included in an IFR clearance
- What are minimums for an IFR take-off? What are considered minimums for good operating Practice?
- What are DP's? Where do you find them? Must you accept them? (If no, how does that work)
- When in VMC are you required to maintain vigilance for traffic?
- Discuss transponder requirements, codes, nordo procedures, incorrect altimeter setting

## ENROUTE

- What reports to ATC are required?
  - Vacate an altitude alt. change if VFR on Top unable to climb/desc 500ft/min
  - Missed app change in true A/S time and alt. upon reaching holding fix
  - Leaving assigned holding fix or point loss of Nav or com impairment
  - Encountering wx or hazardous conditions not forecast
- Explain maintain; cruise
- VFR on Top clearance Why would you want one? Is it an IFR clearance? Where is it prohibited?
- What altitudes are appropriate? What cloud clearance and vis do you need?
- Holding: What info is ATC required to provide? What if the holding pattern is not charted?
- Why do you need and EFC time?
- Explain how you would handle an EFC time NORDO
- NORDO procedures
  - Route: assigned, vectored, expect filed
  - Altitude: highest of : MEA, expect or assigned
- Procedures for electrical failure
- What actions if you inadvertently encounter thunderstorms, icing
- Explain no gyro turns. When would you use them, what turn rates do you use?
- What are: HSI, RMI, DME, RNAV,
- GPS: discuss losing RAIM
- Can you use a VFR GPS?

## ARRIVAL

- What is a STAR? Must you accept? If not, Explain
- When can you start a descent when you are “cleared for the approach”?
- What are standard IFR minimums?
- What is MVA?
- What is the procedure for visual approaches? What cloud clearances are required, if any?
- Explain “contact approach”
- Explain the difference between DH and MDA. When can you descend below them?
- Describe the main elements of this approach plate.
- On the approach plate, identify and describe: IAF, FAF, procedure turn, MA procedures, MSA, symbols,
- Procedure Turns: When not required?
- Limitations for procedure turns
- Procedure if holding pattern is specified in lieu of PT
- Precision approaches: elements- course guidance, range info, visual
- Describe the different marker beacons: locations, indications
- What are PAR and ASR approaches?
- Describe No- Gyro turns/approaches
- Describe some different non-precision approaches
- Discuss the GPS overlay program
- Discuss Circling approaches
- Discuss missed approach procedures:, identify MAP.
- What speeds do you use on the approach (category, timing, flap speeds)
- Do you have to have a back-up for a GPS approach?
- When can you use GPS in lieu of DME or ADF? Are there any restrictions?
- What is WAAS?
- What happens and how do you react when a tailwind shears to calm or a headwind?
- What happens and how do you react when a headwind shears to calm or a tailwind?

## SYSTEMS

- Explain how the following work and problems/indications/solutions
  - Airspeed, altimeter, VSI
  - Artificial Horizon/ DG
  - Turn coordinator
  - Compass (limitations/ Explain Northerly turning error) Why is that important
  - Alternate air source
  - Pitot heat
- Oxygen systems if available. Ox requirements.
- V speeds

## CREW RESOURCE MANAGEMENT

- [ ] What does Crew Resource Management refer to?
- [ ] Identify some of the resources available to a single pilot

## SITUATIONAL AWARENESS

- [ ] What is situational awareness?
- [ ] What 4 elements are taken into consideration with situational awareness?
  - Pilot - Aircraft -- Environment -- Type of operation
- [ ] What are some of the elements, inside and outside the aircraft, that must be considered to maintain SA?
  - A/C systems, pilot and pax

Environmental conditions, spatial orientation of the a/c, relationship to terrain, traffic, wx, and airspace

[ ] What are some of the obstacles to maintaining SA?

Fatigue, stress, work overload. Distractions- minor issue diverting attention and pilot fails to maintain control of a/c

[ ] What are some "operational pitfalls"?

Peer pressure, mindset, get-there-it is, descent below minimums, scud running, vfr into ifr, getting behind a/c, loss of positional/situational awareness, inadequate fuel reserves, flying outside the envelope, neglect of preflight planning/inspections/checklists