Passing the Instrument Checkride

Tips & Traps

Dave Simpson

Master CFI
Gold Seal CFI

Objectives

- Help you pass your checkride by avoiding mistakes of others
- Identify “must know areas”
- New instrument PTS
- Tricky examiner questions
- How to rescue a mistakes on a checkride
- Real checkride experiences

3 Participants in a Successful Checkride

Student

CFI

Knowledge Test

Don’t start with one strike

Tools Help

http://iacratraining.faa.gov/IACRA/AircraftHours.aspx

Latest Headlines

1. Personal Information | 2. Certificate Sought | 3. Certificate Held | 4. Supplemental Data | 5. Aeronautical Experience | 6. Summary

Path: Pilots > Private Pilot > Standard > Cfr 61 - Completion Of Required Test > Added Category/Class Rating

Enter any flight hours for this application into the Aeronautical Experience Grid, if applicable.

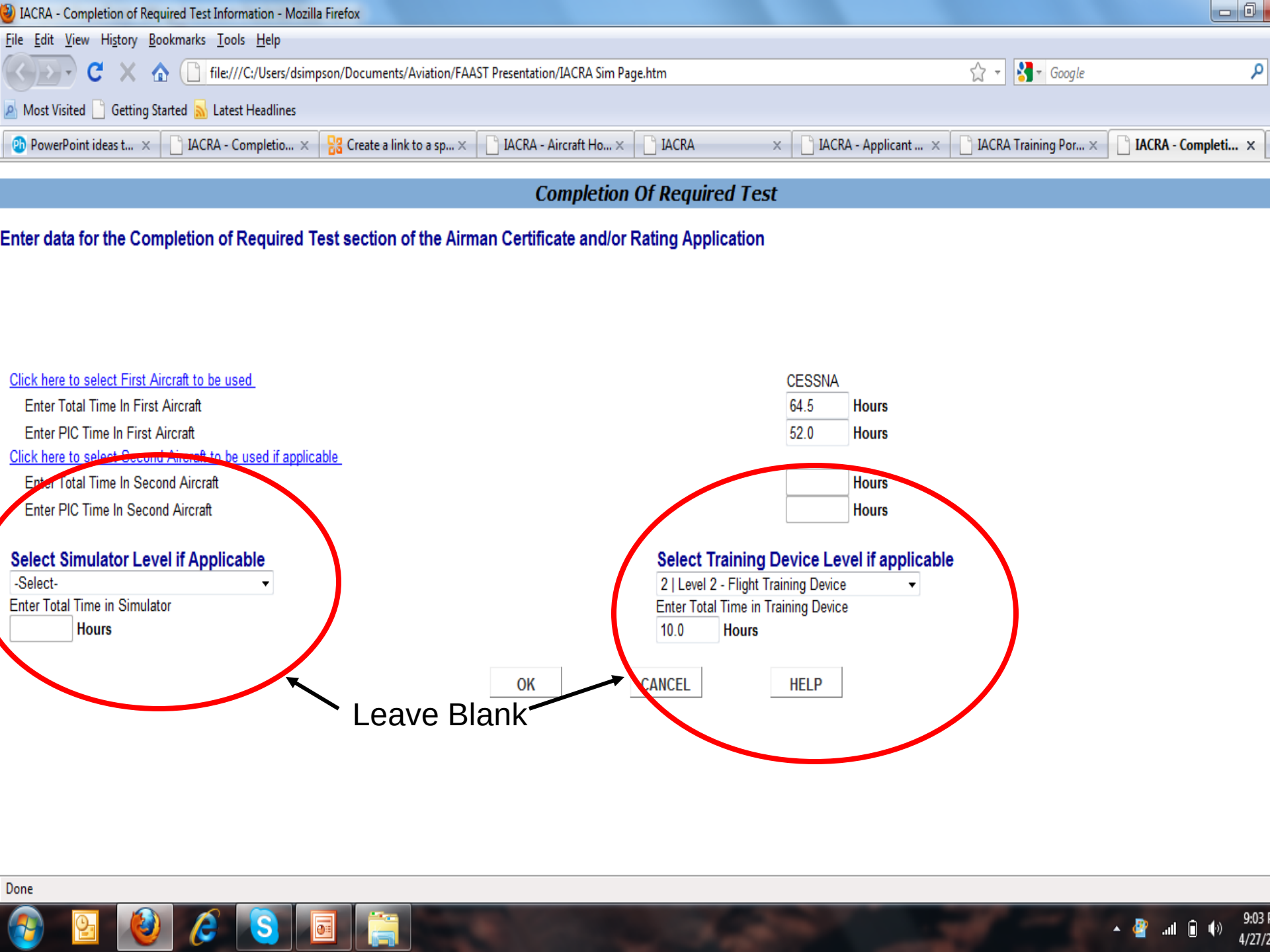
* At least one field is required

Aeronautical Experience Grid

	Airplanes	Rotorcraft	Powered Lift	Gliders	Lighter than Air	Training Device	Simulator	PCATD
Total	250							
Instruction Received	58					No	No	10
Solo	45							
Pilot in Command	PIC 185 SIC	PIC SIC	PIC SIC					
Cross Country Instruction Received	15							
Cross Country Solo	89							
Cross Country Pilot in Command	PIC 55 SIC	PIC SIC	PIC SIC					
Instrument	30							10
Night Instruction Received	5							
Night Take-off / Landing	30							
Night Pilot in Command	PIC 25 SIC	PIC SIC	PIC SIC					
Night Take-off / Landing Pilot in Command	PIC 21 SIC	PIC SIC	PIC SIC					
Number of Flights								

AC 61-136
AC 120-45

BATD or AATD


IACRA - Completion of Required Test Information - Mozilla Firefox
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Click here to select First Aircraft to be used
CESSNA
Enter Total Time In First Aircraft
64.5 Hours
Enter PIC Time In First Aircraft
52.0 Hours
Click here to select Second Aircraft to be used if applicable
Enter Total Time In Second Aircraft
Hours
Enter PIC Time In Second Aircraft
Hours
Select Simulator Level if Applicable
-Select-
Enter Total Time in Simulator
Hours
Select Training Device Level if applicable
2 | Level 2 - Flight Training Device
Enter Total Time in Training Device
10.0 Hours
OK
CANCEL
HELP
Leave Blank
Done

IACRA Tips

- Save copy of IACRA application and e-mail it to your instructor (or do it together) before submitting it. If there's a mistake, you'll have to start over.

- Print a signed copy of the final 8710 as a backup in case IACRA is down

Logbook Endorsement Tips

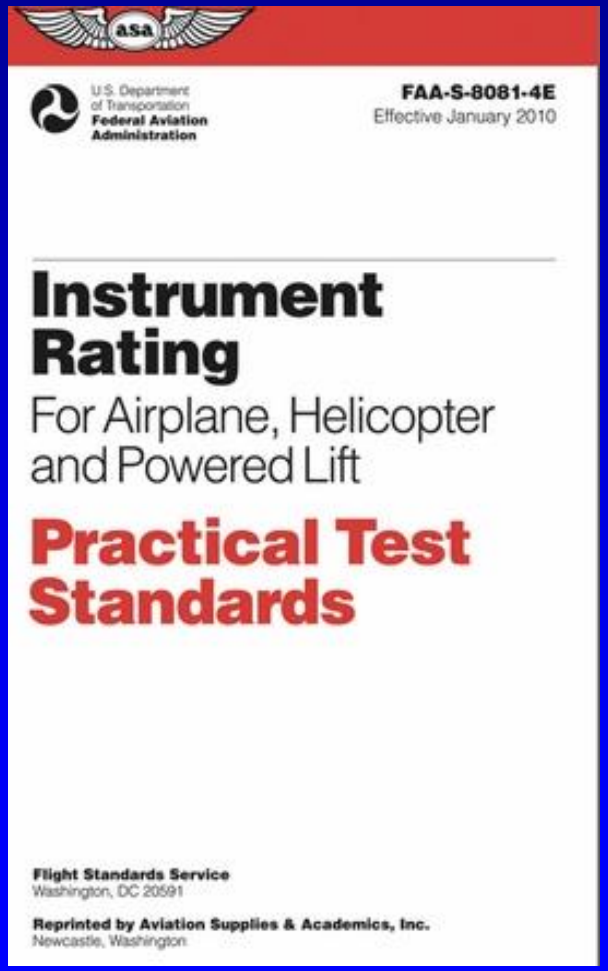
- Citizenship verification
- Authorization to take knowledge test
- Knowledge test deficiency resolution
- 3 hrs dual, 2 months before checkride
- Practical test endorsement
- Ground training endorsement 61.65 (b)

Ground Endorsement

I certify that Al K. Holik has received the required ground training 14 CFR 61.65 (b) 1-10

CFI Signature, CFI #, Expiration, Date

New Instrument Syllabus



New Instrument Syllabus

- LPV approaches less than DA 300’ HAT are now considered precision approaches for checkride purposes only.

  Therefore possible approaches to satisfy precision requirement in the San Diego area are either ILS at MYF or CRQ or RNAV 28 MYF

- One of the two non precision approaches will have no vertical guidance (Jan PTS says both) Therefore possible approaches to satisfy this non precision requirement (no glideslope) are:

  All VOR

  All LNAV

  LOC

  NDB

- The other non precision approach can be any of the above (no vertical guidance) or may be any of the following provided that the DA is greater than 300’ HAT (Only contained in on-line update to Jan 2010 PTS)

  LPV

  LNAV/VNAV

  LNAV+V

New Instrument Syllabus Cont'd

- One of the non precision approaches will require either a PT or RNAV TAA
- One of the non precision approaches will be conducted partial panel/loss of PFD
- One of the non precision approaches will be conducted with the autopilot (if working)
- **NOTE:** If any avionics/navigation unit, including GPS, in the aircraft used for the practical test is placarded inoperative, the examiner will review the maintenance log to verify that the discrepancy has been properly documented – e.g. ADF, autopilot, DME
- Special emphasis area of icing hazards
- New emphasis on SRM - single pilot resource management
  4 pages devoted to this in PTS

Single Pilot Resource Management

Most fatal accidents include a lack of SRM skills (task management (TM), risk management (RM), automation management (AM), aeronautical decision making (ADM), controlled flight into terrain (CFIT), and situational awareness (SA) as a causal factor.

Consequently, examiners must evaluate the applicant to ensure that he or she has the appropriate level of these skills. A Judgment Assessment Matrix is provided as a tool to evaluate the applicant's SRM skills objectively. The examiner will use the Judgment Assessment Matrix during the practical test.

Single Pilot Resource Management

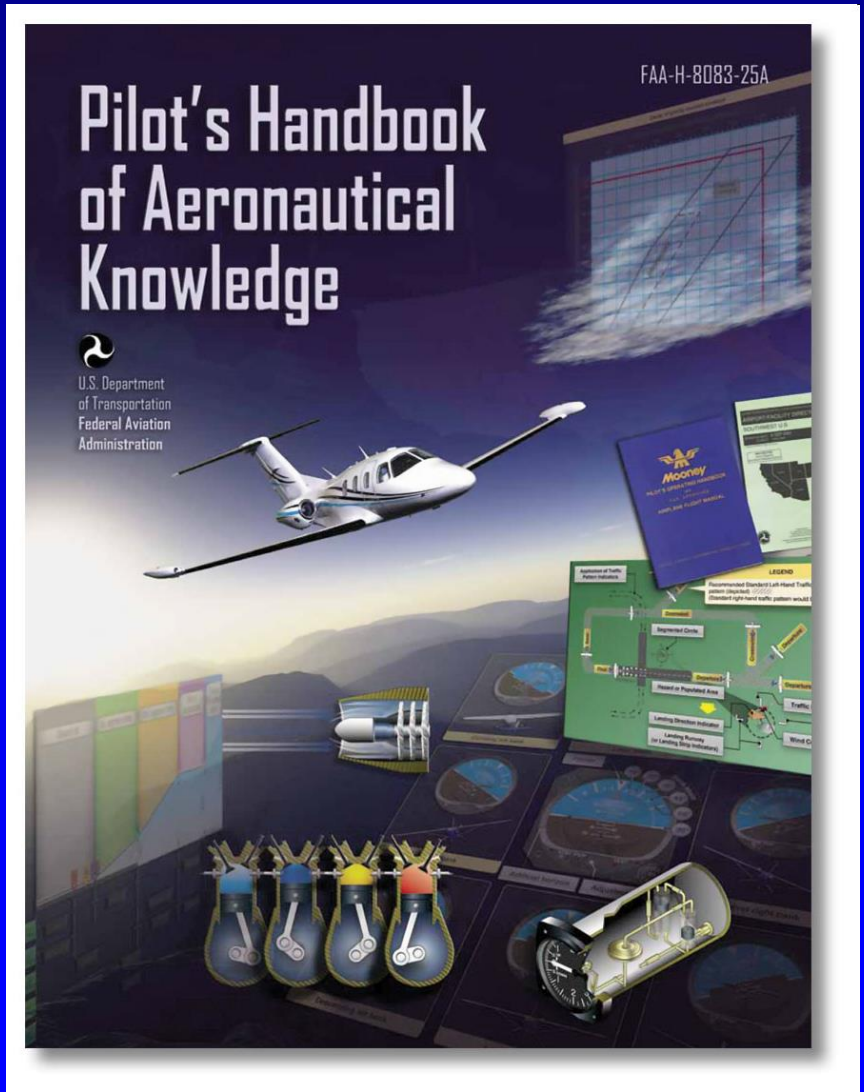
The six components of SRM can best be remembered by the acronym **CARATS** (like diamonds)
CFIT avoiding controlled flight into terrain
ADM aeronautical decision making **(Use 5P's & DECIDE)**
Risk Management **(Use PAVE)**
Automation Management (e.g. autopilot, glass panel training)
Task Management (e.g. use of checklists)
Situational awareness (e.g. not becoming distracted)

The components of ADM are best remembered by using the **5P's** and the acronym **DECIDE.**
Plan – appropriate for the mission and still viable?
Plane – capable for the mission & still working properly?
Pilot – still up to the task?
Passengers – causing distractions, problems, or pressure?
Programming – automation working and appropriate for the conditions?

When a decision need to be made the **DECIDE** acronym is a good process
Detect a problem
Estimate need for action
Choose the desired outcome
Identify action
Do the action
Evaluate the effect of the action

The components of Risk Management can best be remembered by the acronym **PAVE**
Pilot (how capable are you) Use **IMSAFE** (Illness, Medication, Sleep, Alcohol, Fatigue, Eating)
Aircraft (how capable is it?)
V en**v**ironment (e.g. weather, terrain, night, VFR/IFR)
External factors – e.g. pressure to get there

Single Pilot Resource Management



- Chapter 17
- AC 60-22

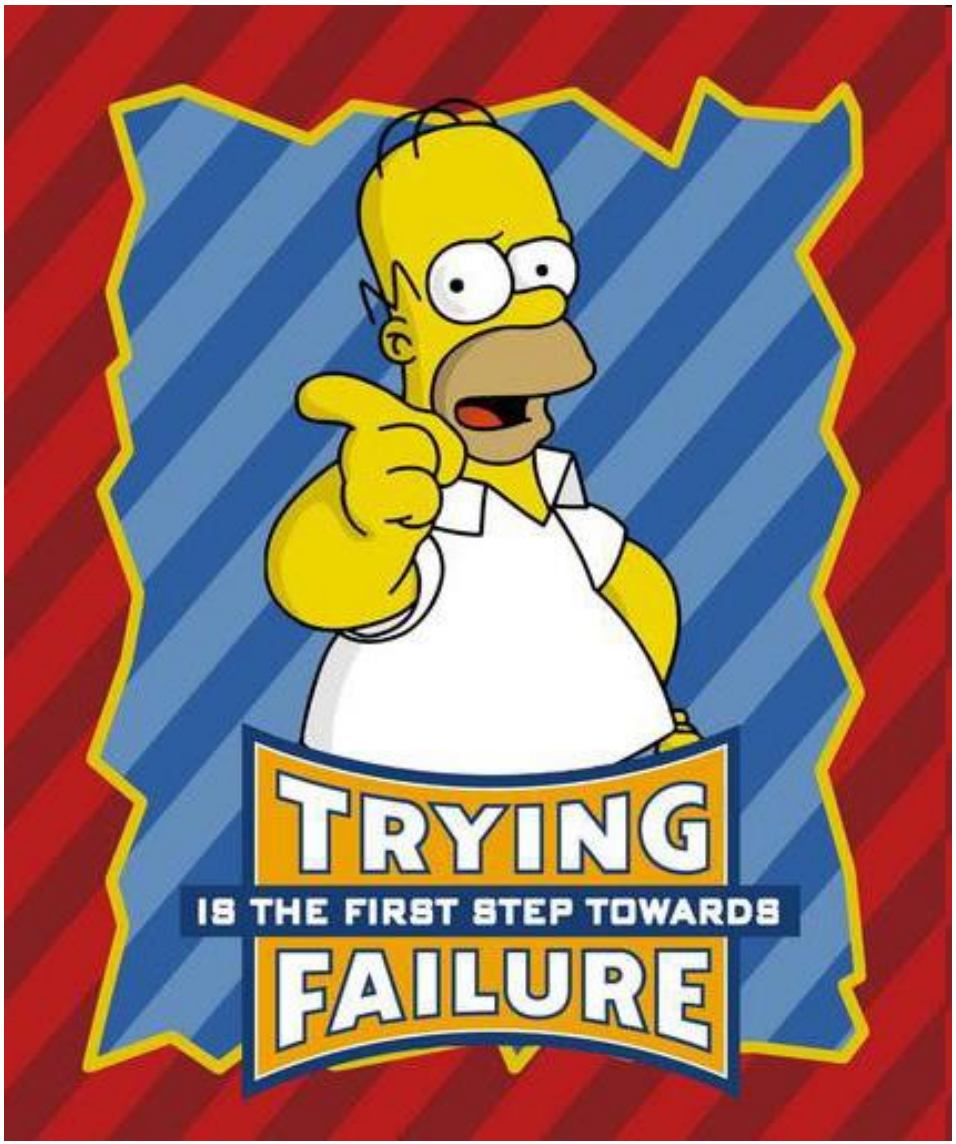
Checkride Expectations & Standards

- Prove that you have an airworthy aircraft
  - Airworthiness Directives
  - Inspections
  - Airworthy according to 14 CFR 91.213 (d)
- Altitude prior to FAF +/- 100’
- Altitude from FAF to MDA or DA +100/-0
- Course ¾ scale maximum deflection
- Report entering hold - AIM 5-3-3 1(f)
- Report missed approach - AIM 5-3-3 1(d)
- Be prepared to land on a circling approach

Checkride Expectations & Standards

- Be prepared to explain lost com procedures during any phase of flight (SRM)
- For G1000 be prepared to lose entire PFD and fly NP approach with MFD only (user setting)
- For Avidyne/Aspen – lose PFD and fly NP approach with CDI screen of GNS 430/530
- Expectation that autopilot will be used throughout checkride to reduce workload (PTS & SRM)

Notes from Examiners on Failed Orals



Pilot Qualifications

- No endorsement for knowledge test deficiency or ground training
- No citizenship verification

Weather Information

- Unable to analyze weather charts – (solution: print your own)
- Unable to read a basic METAR/TAF (ICAO format)

KNKX 0615/0715 VRB06KT 9999 SCT020 SCT080 620509 520004 QNH2983IN
TEMPO 0618/0622 16012KT 9000 -RA BR BKN010 OVC020
BECMG 0707/0709 17009[illegible] 9000 RA BR BKN020 [illegible]C035 QNH[illegible]975INS

Visibility 9,999 meters = 6.2 mi

Light icing from 5,000’ to 14,000’

Light turbulence surface to 4,000’

Weather Information Cont'd

- Unable to describe different types of ice formation (special emphasis area)
- Unable to describe stages of a thunderstorm

X-C Flight Planning

- Did not look up Notams and TFRs – (FAA website)

ks Tools Help

http://www.faa.gov/

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- Notices to Airmen (NOTAMS)
- Orders & Notices
- Policy & Guidance
- Reauthorization
- Rulemaking
- Significant Guidance Documents
- Temporary Flight Restrictions (TFRs)

FAA Changes Policy on Antidepressants for Pilots

April 2 - The FAA will allow some pilots to fly while taking approved medications for mild to moderate depression. More »

Upcoming Conferences

elays

nt Data

controller

Forms

Regulations & Guidelines

Federal Aviation Regulations (FAR)

Advisory Circulars (ACs)

Airworthiness Directives (ADs)

Recent Rulemaking Documents

Orders & Notices

Temporary Flight Restrictions (TFRs)

FAA Offices

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Airports | Go

Field & Regional Offices

Aircraft Certification Offices (ACO) | Go

N-Number Inquiry

N | Go

Renew N-Number

Reserve N-Number

More »

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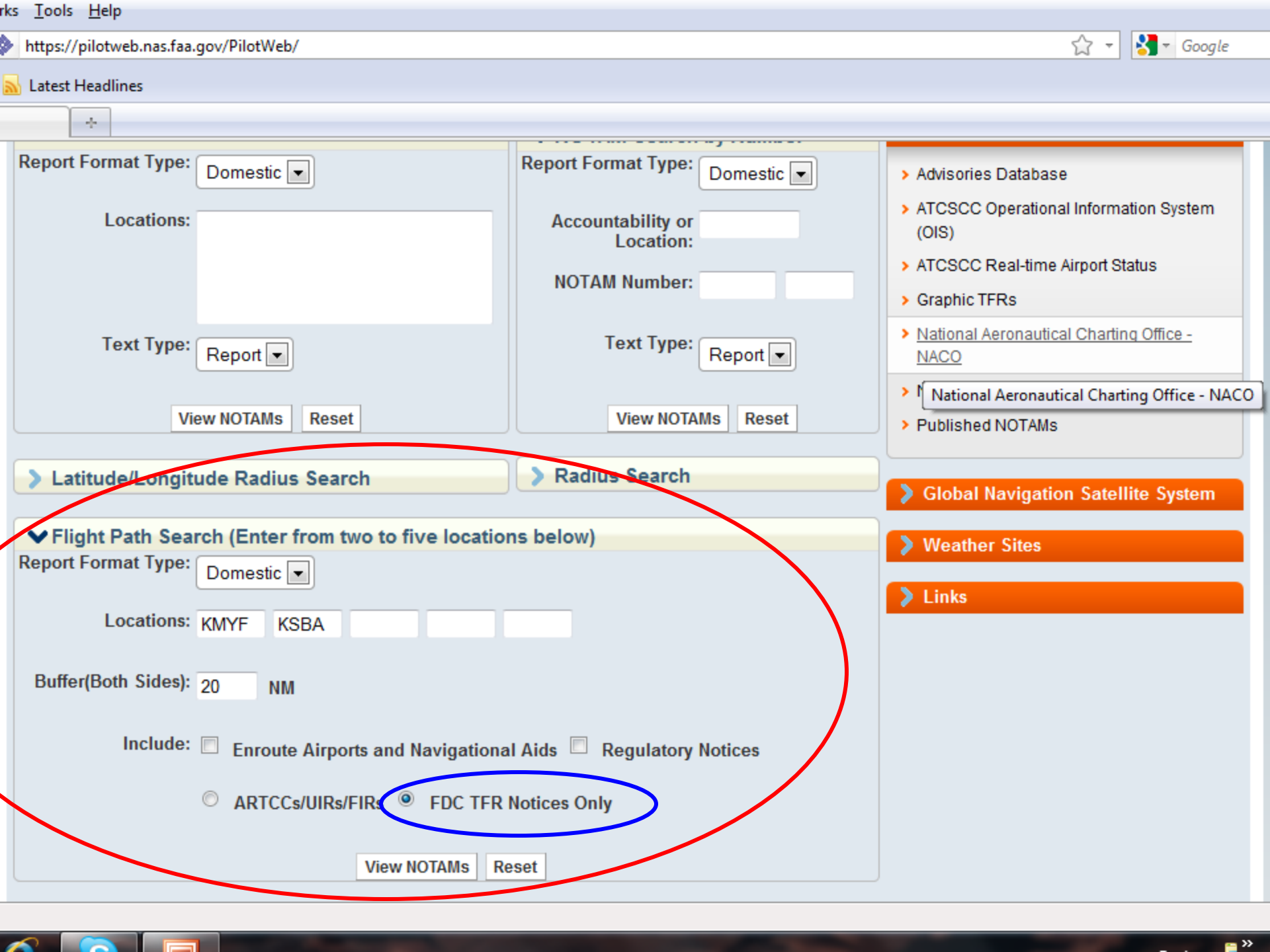
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Latest Headlines
Report Format Type: Domestic
Locations:
Text Type: Report
View NOTAMs Reset
Report Format Type: Domestic
Accountability or Location:
NOTAM Number:
Text Type: Report
View NOTAMs Reset
Advisories Database
ATCSCC Operational Information System (OIS)
ATCSCC Real-time Airport Status
Graphic TFRs
National Aeronautical Charting Office - NACO
National Aeronautical Charting Office - NACO
Published NOTAMs
Latitude/Longitude Radius Search
Radius Search
Global Navigation Satellite System
Weather Sites
Links
Flight Path Search (Enter from two to five locations below)
Report Format Type: Domestic
Locations: KMYF KSBA
Buffer(Both Sides): 20 NM
Include: Enroute Airports and Navigational Aids Regulatory Notices
ARTCCs/UIRs/FIRs FDC TFR Notices Only
View NOTAMs Reset

Display Selected NOTAMs | Check All NOTAMs | UnCheck All NOTAMs | Save all NOTAMs

The following is a list of NOTAMs within a 20NM radius of the specified flight path (KMYF -> KSBA)

Locations: Sort By: Default Report Keyword Sort: Go

KMYF , KSBA , ZLA , MMFR

Data Current as of: **Thu, 29 Apr 2010 20:47:00 UTC**

KMYF MONTGOMERY FIELD [Back to Top]

Check All KMYF | UnCheck All KMYF

☐ !FDC **0/8412** MYF PART 1 OF 2 FI/T MONTGOMERY FIELD, SAN DIEGO, CA. TAKEOFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES... NOTE: RWY 28L, BUSHES BEGINNING 35 FT FROM DEPARTURE END OF RWY, 338 FT RIGHT OF CENTERLINE, UP TO 4 FT AGL/415 FT MSL. MULTIPLE POLES BEGINNING 407 FT FROM DEPARTURE END OF RWY, 160 FT RIGHT OF CENTERLINE, UP TO 37 FT AGL/432 FT MSL. MULTIPLE TREES AND POLES BEGINNING 1007 FT FROM DEPARTURE END OF RWY, 7 FT LEFT OF CENTERLINE, UP TO 37 FT AGL/451 FT MSL. NOTE: RWY 28R, BUSHES BEGINNING 34 FT FROM DEPARTURE END OF RWY, 162 FT RIGHT OF CENTERLINE, UP TO 4 FT AGL/415 FT MSL. MULTIPLE TREES, SIGNS AND POLES BEGINNING 767 FT FROM DEPARTURE END OF RWY, 98 FT RIGHT OF CENTERLINE, UP TO 67 FT AGL/488 FT MSL. MULTIPLE TREES AND POLES BEGINNING 406 FT FROM DEPARTURE END OF RWY, 339 FT LEFT OF CENTERLINE, UP TO 38 FT AGL/451 FT MSL. NOTE: RWY 10L, MULTIPLE TREES BEGINNING 230 FT FROM DEPARTURE END OF RWY, 495 FT LEFT OF CENTERLINE, UP TO 57 FT AGL/486 FT MSL. MULTIPLE TREES BEGINNING 1172 FT FROM DEPARTURE END OF RWY, 91 FT RIGHT OF CENTERLINE, UP TO 69 FT AGL/488 FT MSL. NOTE: RWY 10R, ROD ON ELECTRICAL EQUIPMENT 40 FT FROM DEPARTURE END

X-C Flight Planning Cont'd

- No knowledge of RAIM, where to get it, when to get it
- Used on line flight planner but couldn't explain how mag course was calculated
- Let flight planner dictate route over high terrain
- Didn't know how to translate an ODP climb rate in ft/nm to ft/min
- Didn't know 123 rule for alternates or how to determine acceptable alternate
- Didn't know lost com procedure – VFR or AVEF + highest 3 altitudes
- Didn't know important symbols and their meaning on Enroute & Approach Charts, & AFD
    - MRA vs. MCA Symbols
    - T Routes vs. Victor Airways Depiction
    - Non Standard Takeoff Minimum Symbol
    - Non standard Alternate Minimum Symbol
    - VDP Symbol
    - AFD airport descriptions and runway diagram symbols
    - Approach Chart Symbols – some must know stuff …

SAN DIEGO (EL CAJON), CALIFORNIA AL-5402 (FAA)

LOC-D

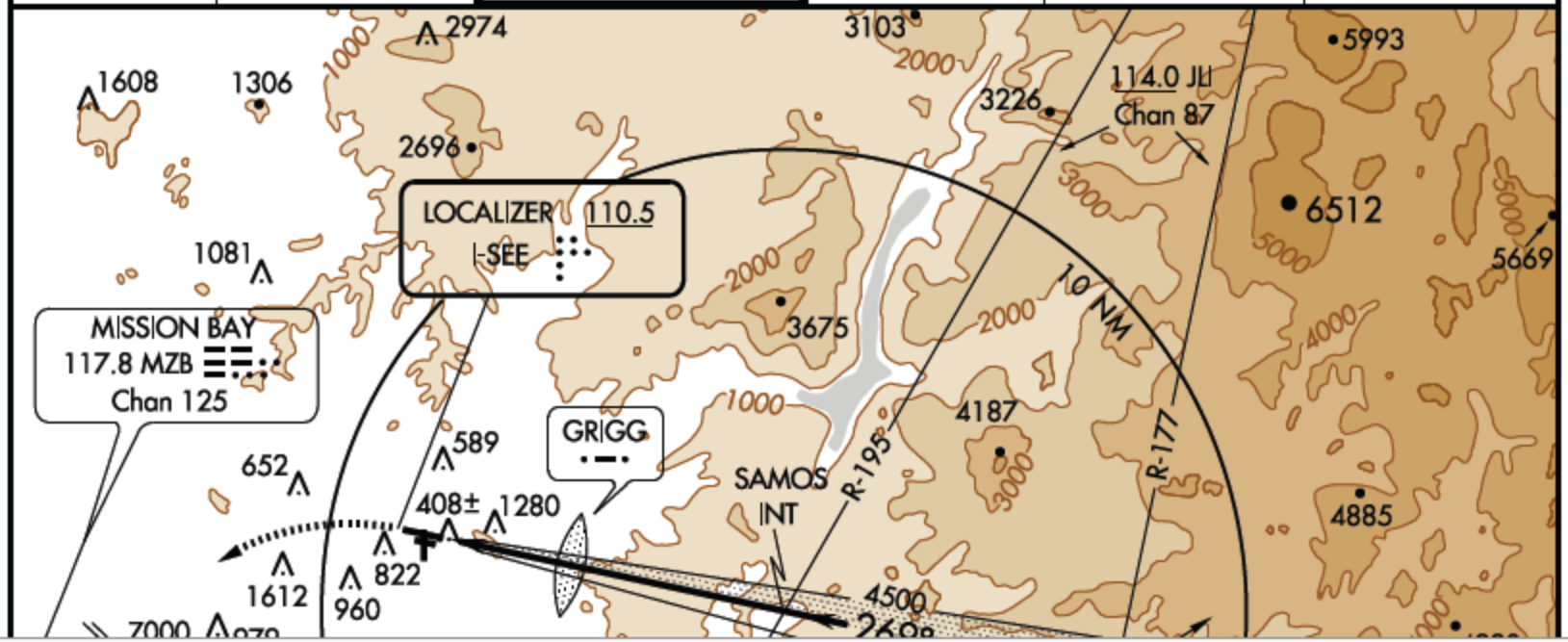
SAN DIEGO/ GILLESPIE FIELD (SEE)

LOC I-SEE	APP CRS	Rwy Idg	N/A
110.5	269°	TDZE	N/A
		Apt Elev	387

T A Circling not authorized NE of Rwys 17 and 27R. When control tower closed use Miramar MCAS, CA altimeter setting and increase all MDAs 40 feet.

MISSED APPROACH: Climbing left turn to 3000 direct to MZB VORTAC.

ATIS	SOCAL APP CON	GILLESPIE TOWER★	GND CON	CLNC DEL	UNICOM
125.45	124.35 279.625	120.7 (CTAF) L 257.8	121.7	125.1	123.05



SW-3, 0

2010

116' MSL.

52' AGL/108' MSL. Light poles
DER, 490' right of centerline,
Tree 1574' from DER, 765' left
113' MSL.

SAN DIEGO (EL CAJON), CA

GILLESPIE FIELD

TAKE-OFF MINIMUMS: **Rwys 9L, 9R,** 900-2 or std. with a min. climb of 1000' per NM to 1600. **Rwy 17,** 500-1 or std. with a min. climb of 260' per NM to 800. **Rwys 27L, 27R,** CAT A,B 500-1 or std. with a min. climb of 370' per NM to 900. CAT C,D 2500-2 or std. with a min. climb of 370' per NM to 2500. **Rwy 35,** 1300-2 or std. with a min. climb of 460' per NM to 1800.

What are standard takeoff minimums?

DEPARTURE PROCEDURE: **Rwy 9L, 9R, 27L, 27R,** climbing right turn. **Rwys 17, 35,** climbing left turn. **All aircraft** climb via heading 165°and MZB R-076 to MZB VORTAC.

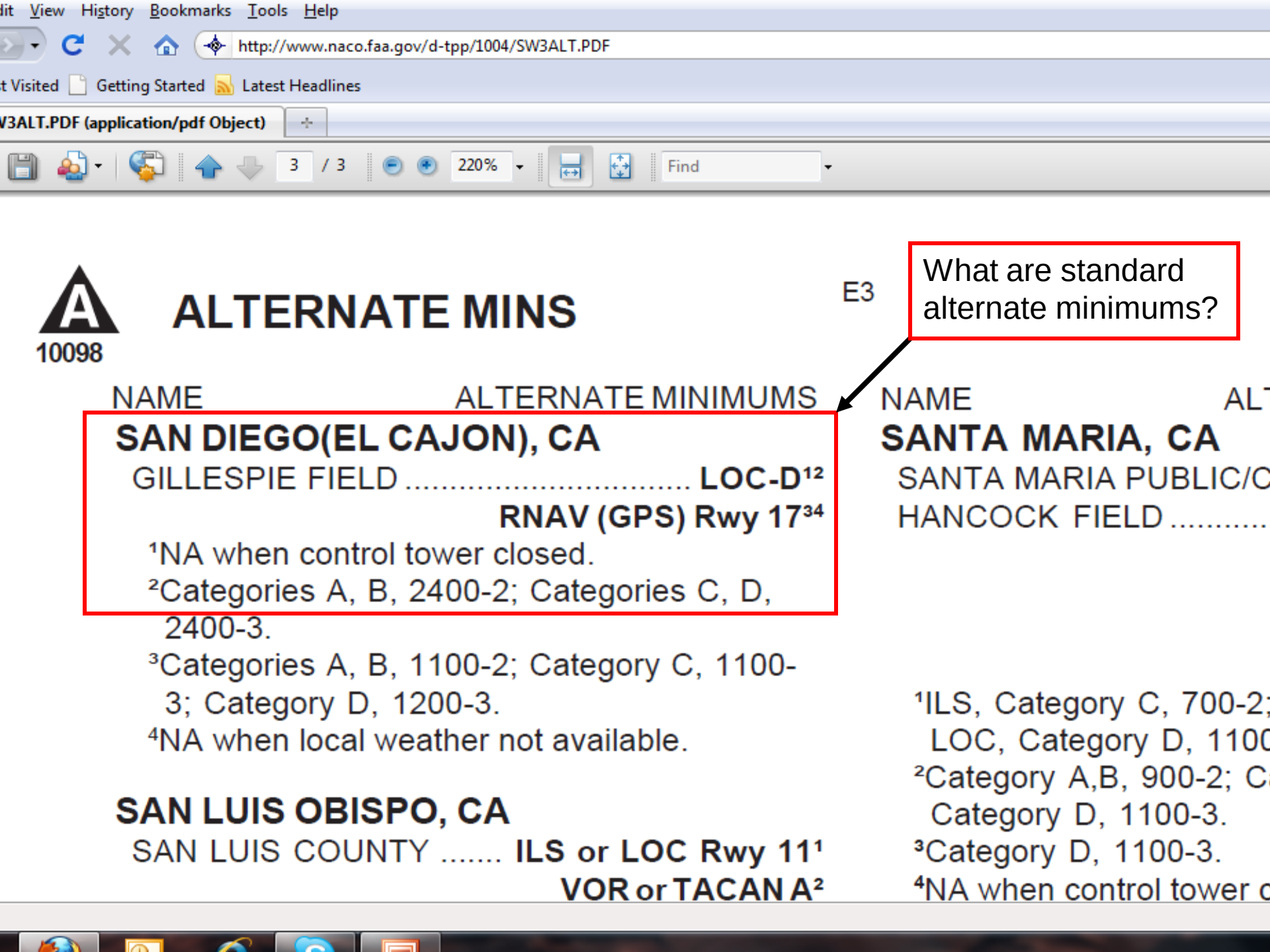
What criteria requires an ODP to be published?

10042

TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE P

Rate-of-Climb Table

Climb Gradient Feet Per NM	Ground Speed (Knots)											
	60	80	90	100	120	140	150	180	210	240	270	300
	Vertical Speed — Feet Per Minute (fpm)											
200	200	267	300	333	400	467	500	600	700	800	900	1000
250	250	333	375	417	500	583	625	750	875	1000	1125	1250
300	300	400	450	500	600	700	750	900	1050	1200	1350	1500
350	350	467	525	583	700	816	875	1050	1225	1400	1575	1750
400	400	533	600	667	800	933	1000	1200	1400	1600	1700	2000
450	450	600	675	750	900	1050	1125	1350	1575	1800	2025	2250
500	500	667	750	833	1000	1167	1250	1500	1750	2000	2250	2500
550	550	733	825	917	1100	1283	1375	1650	1925	2200	2475	2750
600	600	800	900	1000	1200	1400	1500	1800	2100	2400	2700	3000
650	650	867	975	1083	1300	1516	1625	1950	2275	2600	2925	3250
700	700	933	1050	1167	1400	1633	1750	2100	2450	2800	3150	3500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10098
ALTERNATE MINS
E3
What are standard alternate minimums?
NAME
ALTERNATE MINIMUMS
NAME
AL
SAN DIEGO(EL CAJON), CA
GILLESPIE FIELD LOC-D12
RNAV (GPS) Rwy 1734
1NA when control tower closed.
2Categories A, B, 2400-2; Categories C, D, 2400-3.
3Categories A, B, 1100-2; Category C, 1100-3; Category D, 1200-3.
4NA when local weather not available.
SAN LUIS OBISPO, CA
SAN LUIS COUNTY ..... ILS or LOC Rwy 111
VOR or TACAN A2
SANTA MARIA, CA
SANTA MARIA PUBLIC/C
HANCOCK FIELD .....
1ILS, Category C, 700-2; LOC, Category D, 1100
2Category A,B, 900-2; C Category D, 1100-3.
3Category D, 1100-3.
4NA when control tower c

Aircraft Systems & Instruments

- Couldn’t describe vacuum vs. static instruments?
- Unable to describe how an airspeed indicator works - unable to answer “what happens to airspeed if your pitot tube ices up in a climb and why”?
- Unable to describe how an altimeter works - unable to answer “what happens to altitude if you don’t reset from a high to low pressure area OR high to low temperature area and why?
- Couldn’t describe how a VSI works and why there is a calibrated leak?
- Answered incorrectly the question “What do the wings of the turn coordinator indicate. Do they indicate bank?
- Couldn’t explain the errors of a magnetic compass when turning from 270° to 360°and where would you rollout?
- Couldn’t explain the voltage coming out of the battery and out of the alternator and why there is a difference
- On a G1000 system couldn’t explain what is controlled by AV Bus 1 and 2

Flight Portion Checkride Busting Issues Examiner Notes

Flight Portion Checkride Busting Issues Examiner Notes

- Lost com on missed approach – didn't think about MSA for altitude
- Turned the wrong way on holds – learn a good solid method for hold entries
- No discussion of how wind will affect hold entry
- Time the ILS as a backup – the examiner may "fail" the glideslope
- ATC said "maintain 3,500 until established" but descended before needle alive
- Student had no plan to land out of a circling approach
- Electrical emergency – no use of checklists (SRM)
- Did not identify navaids
- Not listening to tower/ATC instructions – if examiner has to take control (FAIL)

- No reporting entering a hold (required report) AIM 5-3-3
- Wrong radial selected on a VOR approach
- Wrong radial selected for crossing radial
- Descended below a step down altitude or MDA/DA
- Be prepared to descend right to the MDA/DA (don’t round up)
- Marker beacon not on for ILS approach – need approach acronyms
- Failed to initiate missed approach in a timely manner
- Failed to climb in a timely manner on missed approach
- Never cleaned up airplane on missed – need memorized checklist
- Descended from MDA before MAP and before declaring airport environment in sight

Tricky Examiner Questions

- You're in IMC on the ILS at MYF and reach the DA and see 1 approach light … Now what?
- Which way does the gyro spin on the turn coordinator, vertically or horizontally?
- What does A02 mean in the AFD?
- You just discovered that your VSI is inoperative – is the airplane airworthy?
- What are the four components of an ILS?
- What is the aural ID of a VOT?

Final Thoughts and Advice

- Never give up. Most checkride “fatal mistakes” can be rectified. Examiners don’t expect it to be perfect.
  - Part of SRM
  - LOC D SEE
  - VOR A OKB
- Talk constantly – silence is not golden
- Some examiners do stage checks

This presentation can be downloaded at

www.takeflightsandiego.com