## **HQ AFSVA/SVPAR**

**Annual Instrument** 

**REEXAMINATION** 

1 August 2002

(Incorporates change 1, dated 17 Dec 02)

(Required passing score: 80%)

Please do not mark on booklet

## **Annual Instrument Reexamination Questions (50)**

(Chg 1, 17 Dec 02)(Question 1 references FAA-H-8083-15 (IFH-new))

- 1. (Refer to figures 22 and 24.) For planning purposes, what would be the highest MEA on V187 between Grand Junction, Walker Airport and Durango, La Plata Co. Airport?
  - A. 12,000 feet
  - B. 16,000 feet
  - C. 15,000 feet

(Chg 1, 17 Dec 02)(Question 2 references AC 61-23 (PHAK))

2. Determine the time to be entered in block 10 of the flight plan. (Refer to the FD excerpt below, and use the wind entry closest to the flight planned altitude.)

Route of flight Figures 69, 70, and 71

Flight log and MAG VAR Figure 70

JUDDS TWO ARRIVAL

and Excerpt from AFD Figure 72

FT 3000 6000 9000 BDL 3320 3425+05 3430+00

- A. 58 minutes
- B. 1 hour 14 minutes
- C. 50 minutes

(Chg 1, 17 Dec 02)(Question 3 references AC 61-27C (IFH-old))

- 3. During normal coordinated turns, what error due to precession should you observe when rolling out to straight and level flight from a 180° steep turn to the right?
  - A. A straight and level coordinated flight indication
  - B. The miniature aircraft would show a slight turn indication to the left
  - C. The miniature aircraft would show a slight descent and wings level attitude

(Chg 1, 17 Dec 02)(Questions 4 - 5 reference FAA-H-8083-15)

- 4. Which is the correct sequence for recovery from a spiraling, nose low, increasing airspeed, unusual flight attitude?
  - A. Reduce power, raise the nose to level attitude, and correct the bank attitude
  - B. Reduce power, correct the bank attitude, and raise the nose to a level attitude
  - C. Increase pitch attitude, reduce power, and level wings

- 5. When making an instrument approach at the selected alternate airport, what landing minimums apply?
  - A. The landing minimums published for the type of procedure selected
  - B. Standard alternate minimums (600-2 or 800 2)
  - C. The IFR alternate minimums listed for that airport

(Chg 1, 17 Dec 02)(Question 6 references AC 61-27C)

- 6. If, while in level flight, it becomes necessary to use an alternate source of static pressure vented inside the airplane, which of the following should the pilot expect?
  - A. The vertical speed to momentarily show a climb
  - B. The altimeter to read lower than normal
  - C. The vertical speed to momentarily show a descent

(Chg 1, 17 Dec 02)(Questions 7 - 10 reference FAA-H-8083-15)

- 7. When holding at an NDB, at what point should the timing begin for the second leg outbound?
  - A. When abeam the holding fix
  - B. When the wings are level and the wind drift correction angle is established after completing the turn to the outbound heading
  - C. When the wings are level after completing the turn to the outbound heading, or abeam the fix, whichever occurs first
- 8. What should be the indication on the magnetic compass as you roll into a standard rate turn to the left from a west heading in the Northern Hemisphere?
  - A. The compass will indicate the approximate correct magnetic heading if the roll into the turn is smooth
  - B. The compass will initially indicate a turn to the right
  - C. The compass will remain on west for a short time, then gradually catch up to the magnetic heading of the aircraft
- 9. (Refer to figure 89.) What VHF frequencies are available for communications with Cedar City FSS?
  - A. 122.2, 121.5, 122.0, and 123.6
  - B. 123.6, 121.5, 108.6, and 112.8
  - C. 122.2, 121.5, 122.6, and 112.1
- 10. (Refer to figure 73.) What is the minimum altitude at which you should intercept the glide slope on the ILS RWY 6 approach procedure?
  - A. 1,690 feet MSL
  - B. 1,800 feet MSL
  - C. 3,000 feet MSL

#### (Questions 11 - 27 reference AIM)

- 11. When ATC has not imposed any climb or descent restrictions and aircraft are within 1,000 feet of assigned altitude, pilots should attempt to both climb and descend at a rate of between
  - A. 500 feet per minute and 1,000 feet per minute
  - B. 1000 feet per minute and 2,000 feet per minute
  - C. 500 feet per minute and 1,500 feet per minute
- 12. What effect would a light crosswind of approximately 7 knots have on vortex behavior?
  - A. The downwind vortex would tend to remain over the runway
  - B. The upwind vortex would tend to remain over the runway
  - C. The light crosswind would rapidly dissipate vortex strength
- 13. What does declaring "minimum fuel" to ATC imply?
  - A. Merely an advisory that indicates an emergency situation is possible should any undue delay occur
  - B. Emergency handling is required to the nearest useable airport
  - C. Traffic priority is needed to the destination airport
- 14. (Refer to figure 64.) The course deviation indicator (CDI) are centered. Which indications on the No. 1 and No. 2 VOR receivers over the Lafayette Regional Airport would meet the requirements for the VOR receiver check?

VOR TO/FROM VOR TO/FROM No. 1 No. 2

- A. 160° FROM 162° FROM
- B. 341° FROM 330° FROM
- C. 162° TO 346° FROM
- 15. What is the purpose of FDC NOTAMs?
  - A. To issue notices for all airports and navigation facilities in the shortest possible time
  - B. To provide the latest information on the status of navigation facilities to all FSS facilities for scheduled broadcasts
  - C. To advise of changes in flight data which affect instrument approach procedure (IAP), aeronautical charts, and flight restrictions prior to normal publication

- 16. Which is true regarding the use of an instrument departure procedure chart?
  - A. The use of instrument departure procedures is mandatory
  - B. To use an instrument departure procedure, the pilot must possess at least the textual description of the approved standard departure
  - C. To use an instrument departure procedure, the pilot must possess both the textual and graphic form of the approved procedure
- 17. Where can the VOT frequency for a particular airport be found?
  - A. In the Airport/Facility Directory and on the A/G Voice Communication Panel of the En Route Low Altitude Chart
  - B. Only in the Airport/Facility Directory
  - C. On the IAP Chart and in the Airport/Facility Directory
- 18. Which clearance items are always given in an abbreviated IFR departure clearance? (Assume radar environment.)
  - A. Altitude, destination airport, and one or more fixes which identify the initial route of flight
  - B. Clearance limit, DP Name, Number, and/or Transition, if appropriate
  - C. Destination airport, altitude, DP Name, Number, and/or Transition, if appropriate
- 19. A pilot is more subject to spatial disorientation if
  - A. body signals are used to interpret flight attitude
  - B. kinesthetic senses are ignored
  - C. eyes are moved often in the process of cross checking the flight instruments
- 20. What does the symbol T within a black triangle in the minimums section of the IAP for a particular airport indicate?
  - A. Takeoff minimums are not standard and/or departure procedures are published
  - B. Takeoff minimums are 1 mile for aircraft having two engines or less and 1/2 mile for those with more than two engines
  - C. Instrument takeoffs are not authorized
- 21. When is a pilot on an IFR flight plan responsible for avoiding other aircraft?
  - A. When weather conditions permit, regardless of whether operating under IFR or VFR
  - B. Only when advised by ATC
  - C. At all times when not in radar contact with ATC

- 22. During an IFR flight in IMC, a distress condition is encountered, (fire, mechanical, or structural failure). The pilot should
  - A. contact ATC and advise that an urgency condition exists and request priority consideration
  - B. not hesitate to declare an emergency and obtain an amended clearance
  - C. wait until the situation is immediately perilous before declaring an emergency
- 23. (Refer to figure 93.) What is the maximum altitude that Class G airspace will exist? (Does not include airspace less than 1,500 feet AGL.)
  - A. 14,500 feet MSL
  - B. 14.000 feet MSL
  - C. 18,000 feet MSL
- 24. For which speed variation should you notify ATC?
  - A. Any time the groundspeed changes 10 MPH
  - B. When the average true airspeed changes 5 percent or 10 knots, whichever is greater
  - C. When the groundspeed changes more than 5 knots
- 25. When is radar service terminated during a visual approach?
  - A. Automatically when ATC instructs the pilot to contact the tower
  - B. Immediately upon acceptance of the approach by the pilot
  - C. When ATC advises "Radar Services Terminated, Resume Own Navigation."
- 26. What is the meaning of a single coded identification received only once approximately every 30 seconds from a VORTAC?
  - A. The DME component is operative and the VOR component is inoperative
  - B. The VOR and DME components are operative
  - VOR and DME components are both operative, but voice identification is out of service
- 27. Due to visual illusion, when landing on a narrower than usual runway, the aircraft will appear to be
  - A. higher than actual, leading to a lower than normal approach
  - B. lower than actual, leading to a higher than normal approach
  - C. higher than actual, leading to a higher than normal approach

(Questions 28 – 29 reference AC 00-6 (AW))

- 28. Which weather phenomenon signals the beginning of the mature stage of a thunderstorm?
  - A. The start of rain at the surface
  - B. Strong turbulence in the cloud
  - C. Growth rate of cloud is maximum
- 29. If you fly into severe turbulence, which flight condition should you attempt to maintain?
  - A. Constant altitude and constant airspeed
  - B. Level flight attitude
  - C. Constant airspeed (VA)

(Questions 30 – 32 reference AC 00-45 (AWS))

- 30. When the visibility is greater than 6 SM on a TAF it is expressed as
  - A. 6SMP
  - B. P6SM
  - C. 6PSM
- 31. (Refer to figure 12.) What is the approximate wind direction and velocity at 34,000 feet (see arrow C)?
  - A. 330°/50 knots
  - B. 090°/48 knots
  - C. 290°/50 knots
- 32. (Refer to figure 7.) What weather conditions are depicted within the area indicated by arrow D?
  - A. Forecast isolated thunderstorms, tops at FL 440, more than 1/8 coverage
  - B. Forecast isolated embedded cumulonimbus clouds with tops at 43,000 feet MSL, and less than 1/8 coverage
  - C. Existing isolated cumulonimbus clouds, tops above 43,000 feet with less than 1/8 coverage

(Questions 33 – 39 reference 14 CFR Part 91)

- 33. In the 48 contiguous states, excluding the airspace at or below 2,500 feet AGL, an operable coded transponder equipped with Mode C capability is required in all controlled airspace at and above
  - A. 10,000 feet MSL
  - B. Flight level (FL) 180

- C. 12,500 feet MSL
- 34. Where may you use a surveillance approach?
  - A. At any airport which has radar service
  - B. At any airport that has an approach control
  - C. At airports for which civil radar instrument approach minimums have been published
- 35. Before beginning any flight under IFR, the pilot in command must become familiar with all available information concerning that flight. In addition, the pilot must
  - A. list an alternate airport on the flight plan and confirm adequate takeoff and landing performance at the destination airport
  - B. list an alternate airport on the flight plan and become familiar with the instrument approaches to that airport
  - C. be familiar with the runway lengths at airports of intended use, and the alternatives available if the flight cannot be completed
- 36. When must an operational check on the aircraft VOR equipment be accomplished to operate under IFR?
  - A. Within the preceding 30 days
  - B. Within the preceding 10 days or 10 hours of flight time
  - C. Within the preceding 30 days or 30 hours of flight time
- 37. What action should the pilot take if the marker beacon receiver becomes inoperative during the S ILS 9 approach at Riverside Municipal?
  - A. Substitute SWAN LAKE INT. for the OM and use published minimums
  - B. Raise the DH 100 feet (50 feet for the OM and 50 feet for the MM)
  - C. Substitute SWAN LAKE INT. for the OM and surveillance radar for the MM
- 38. What is the oxygen requirement for an unpressurized aircraft at 15,000 feet?
  - A. Crew must use oxygen for the entire time above 14,000 feet and passengers must be provided supplemental oxygen only above 15,000 feet
  - B. All occupants must use oxygen for the entire time at this altitude
  - C. Crew must start using oxygen at 12,000 feet and passengers at 15,000 feet
- 39. What are the minimum weather conditions that must be forecast to list an airport as an alternate when the airport has no approved IAP?
  - A. The ceiling and visibility from 2 hours before until 2 hours after ETA, 2,000 feet and 3 miles, respectively
  - B. The ceiling and visibility at ETA must allow descent from MEA, approach, and landing, under basic VFR

C. The ceiling and visibility at ETA, 2,000 feet and 3 miles, respectively

(Questions 40 – 41 reference 14 CFR Part 61)

- 40. What portion of dual instruction time may a certificated instrument flight instructor log as instrument flight time?
  - A. All time during which the instructor acts as instrument instructor, regardless of weather conditions
  - B. Only the time during which the instructor flies the aircraft by reference to instruments
  - C. All time during which the instructor acts as instrument instructor in actual instrument weather conditions
- 41. If a pilot enters the condition of flight in the pilot logbook as simulated instrument conditions, what qualifying information must also be entered?
  - A. Location and type of each instrument approach completed and name of safety pilot
  - B. Number and type of instrument approaches completed and route of flight
  - C. Name and pilot certificate number of safety pilot and type of approaches completed

(Questions 42 - 48 reference AIM)

42. Assume this clearance is received:

"CLEARED FOR ILS RUNWAY 07 LEFT APPROACH, SIDE STEP TO RUNWAY 07 RIGHT."

When would the pilot be expected to commence the side step maneuver?

- A. After reaching the circling minimums for Runway 07 right
- B. Any time after becoming aligned with the final approach course of Runway 07 left, and after passing the final approach fix
- C. As soon as possible after the runway environment is in sight
- 43. Which type of runway lighting consists of a pair of synchronized flashing lights, one on each side of the runway threshold?
  - A. HIRL
  - B. RAIL
  - C. REIL
- 44. What are the vertical limits of a transition area that is designated in conjunction with an airport having a prescribed IAP?
  - A. 700 feet AGL or more to the base of the overlying controlled airspace
  - B. Surface to 700 feet AGL
  - C. 1,200 feet AGL to the base of the overlying controlled airspace

- 45. What timing procedure should be used when performing a holding pattern at a VOR?
  - A. Adjustments in timing of each pattern should be made on the inbound leg
  - B. Timing for the inbound leg begins when initiating the turn inbound
  - C. Timing for the outbound leg begins over or abeam the VOR, whichever occurs later
- 46. After being handed off to the final approach controller during a "no gyro" surveillance or precision approach, the pilot should make all turns
  - A. standard rate
  - B. one half standard rate
  - C. based upon the groundspeed of the aircraft
- 47. What is the significance of an ATC clearance which reads "... CRUISE SIX THOUSAND ..."?
  - A. The pilot must maintain 6,000 feet until reaching the IAF serving the destination airport, then execute the published approach procedure
  - B. The pilot may utilize any altitude from the MEA/MOCA to 6,000 feet, but each change in altitude must be reported to ATC
  - C. Climbs may be made to, or descents made from, 6,000 feet at the pilot's discretion
- 48. What are the main differences between a visual approach and a contact approach?
  - A. The pilot must request a contact approach; the pilot may be assigned a visual approach and higher weather minimums must exist
  - B. The pilot must request a visual approach and report having the field in sight; ATC may assign a contact approach if VFR conditions exist
  - C. Any time the pilot reports the field in sight, ATC may clear the pilot for a contact approach; for a visual approach, the pilot must advise that the approach can be made under VFR conditions

(Question 49 references 14 CFR Part 91)

- 49. Which procedure should you follow if you experience two way communications failure while holding at a holding fix with an EFC time? (The holding fix is not the same as the approach fix.)
  - A. Proceed immediately to the approach fix and hold until EFC
  - B. Depart the holding fix to arrive at the approach fix as close as possible to the EFC time
  - C. Depart the holding fix at the EFC time

#### (Question 50 references AFMAN 34-232)

- 50. You plan to rent an aero club aircraft for the day to accomplish an IFR cross-country flight. Based on the weather, an alternate airport is required. According to your fuel calculations, you will have 45 minutes of fuel remaining upon reaching your alternate airport. Do you have legal fuel reserves for this flight?
  - A. No, the requirement is a 1-hour fuel reserve based on normal cruise consumption
  - B. Yes, the requirement is a 45-minute fuel reserve based on normal cruise consumption
  - C. Yes, I can update my fuel status in-flight and divert to another airport, if required

## **Annual Instrument Reexamination Figures**

No. 2000				WIND	SPEED-KTS		DIST	TIME		FUEL	
FROM	то	ALTITUDE	COURSE	TEMP	TAS	GS	NM	LEG	тот	LEG	тот
JT	JNC	JNC9JNC CLIMB V187		230 08				$\times$			
	HERRM	15,000 V187	151°		175			:24:0			
PPROAC		V211 DESCENT	151° 092°					:18:30			
	DRO										
OTHER D		KEOFF RU	NWAV 99			TIME		L (LB)	MMARY		

Figure 22.

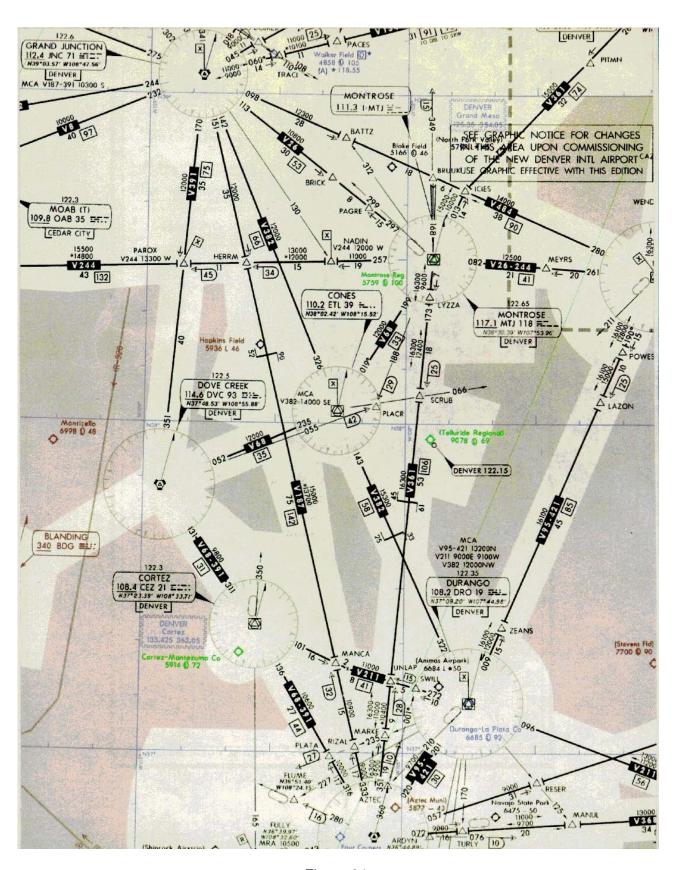


Figure 24

									Form Approved		
FEDERAL	RTMENT OF TRANSI LAVIATION ADMINIS LIGHT PL	STRATION	(FAA I	USE ONLY	) [	PILOT BRIEFING	] VNR	TIM	E STARTED		SPECIALIST INITIALS
TYPE 2	2. AIRCRAFT IDENTIFICATION		RAFT TY		. TRUE AIRSPEED	5. DEPARTURE POINT	6. DE	PARTU	RE TIME	7.	CRUISING
VFR X IFR				JIFMENT		GREENWOOD LAKE	PROPOSE	ED (Z)	ACTUAL (Z)		
. ROUTE OF	N2142S	C1	72/		128 кт	s 4N1				5	5000
HOUTE OF		ECT SHA	AFF I	NT.,	V213 H	ELON INT., V58	JUDD	SIN	T., JUI	DDS	2
DESTINAT	ION (Name of air			E ENROUT		IARKS					
	EY INTL		URS	MINUTES							
	BDL				INS'	RUMENT TRAINI	NG FLI	IGHT	r		
2. FUEL O		13. ALTER	NATE AIR	RPORT(S)	14. PILC	T'S NAME, ADDRESS & TELEPHON	NE NUMBER	& AIRCE	RAFT HOME BASE	E 15	. NUMBER ABOARD
HOURS	MINUTES									4	
					17. DES	STINATION CONTACT/TELEPHO	NE (OPTIO	NAL)			2
			N/A								2
6. COLOR	OF AIRCRAFT		controll	led airspac	<ul> <li>Failure to fil</li> </ul>	Part 91 requires you file an IFI e could result in a civil penalty no	of to exceed	\$1,000	for each violatio	n (Se	ction 901 of the
					of of 1958 as	amended) Filing of a VER flight of:				tina pr	
	/TAN/WH:	ITE				amended). Filing at a VFR (light plaint). F PLAN WITH					RRIVAL
		ITE		OSE VF	RFLIGH	T PLAN WITH					
		ITE		OSE VF	RFLIGH						
		MAK	CLC	OSE VF	RFLIGH	T PLAN WITH					
			CLC	AIR	RFLIGH	T PLAN WITH					
		MAK	CLC CE C 42S	AIR:	RFLIGH	NFORMATION  MODEL 172					

Figure 69

# FLIGHT LOG GREENWOOD LAKE (4N1) TO BRADLEY INTL. (BDL)

CHECK P	OINTS	ROUTE		WIND	SPEED-KTS		DIST	TIME		FUEL	
FROM	то	ALTITUDE	COURSE	TEMP	TAS	GS	NM	LEG	тот	LEG	тот
		DIRECT									
4N1	SHAFF	CLIMB	350'					:08:0			
	HELON	V213 5000 V58	029'		128						
	IGN	5000 JUDDS2	102'			-				<u> </u>	
		JUDDS2	112*				-				
	JUDDS		100'								
	BRISS	JUDDS2	057*								
APPROAC & LANDI	NG							:12:0			
* *	BDL				1						

OTHER DATA:	****	A-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	FLIGHT SUMMARY				
	MAG. VAR. 14° W.	3. VAR. 14° W. TIME FUEL (L		da managana ana masa			
				EN ROUTE			
65				RESERVE			
			100	MISSED APPR.			
				TOTAL			

Figure 70

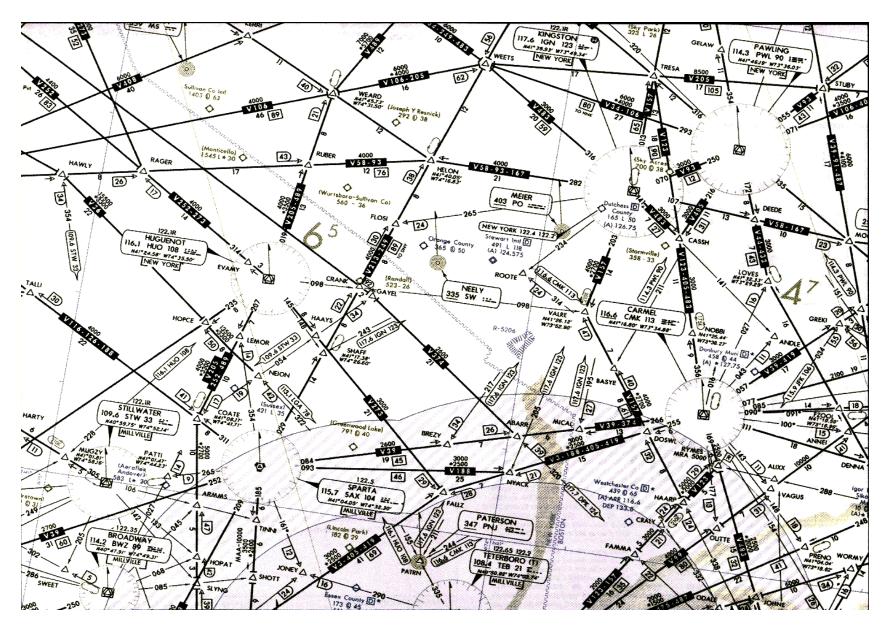


Figure 71

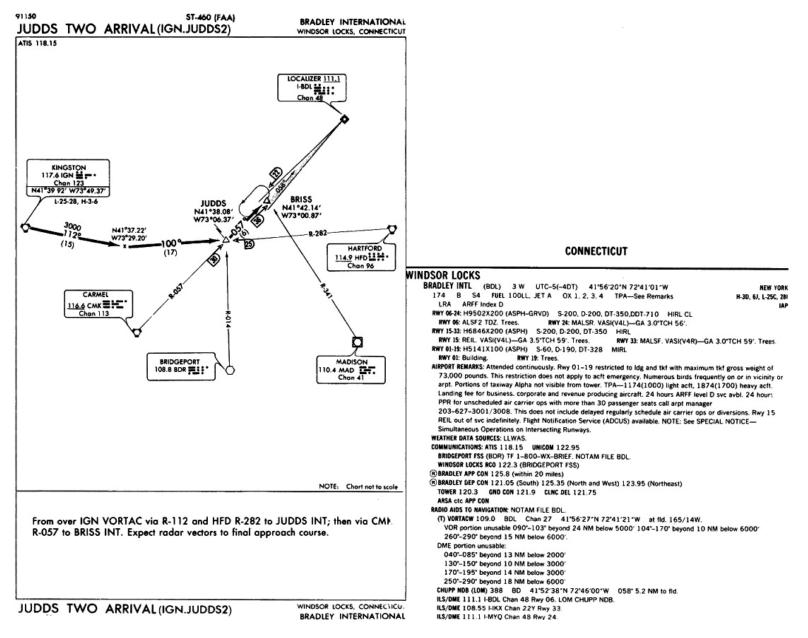


Figure 72

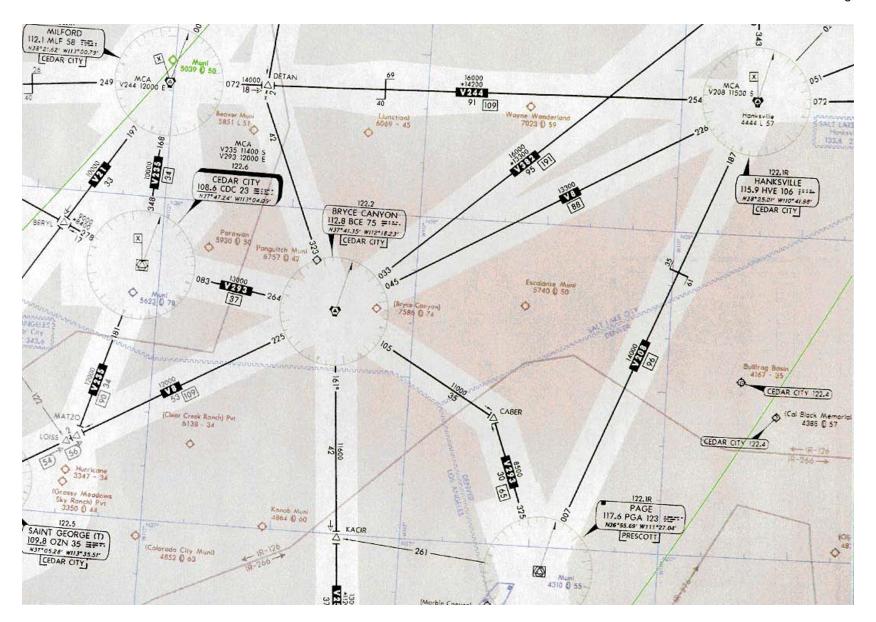


Figure 89

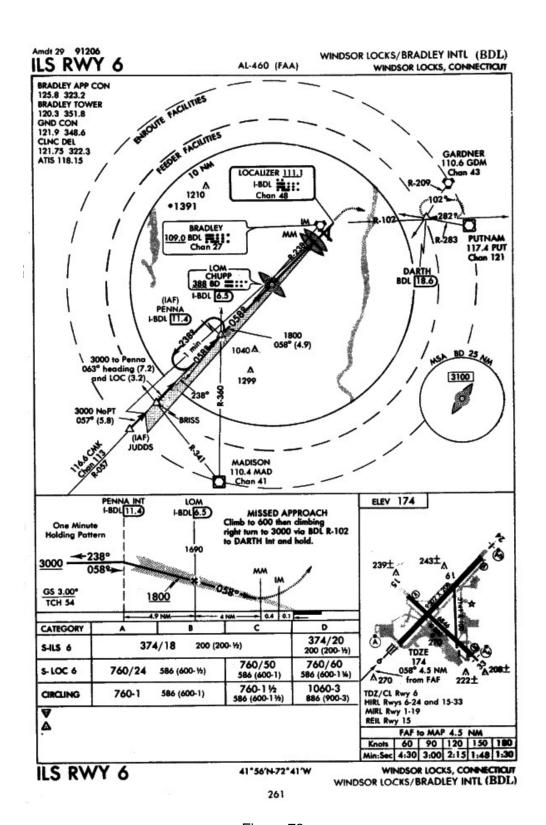


Figure 73

## LOUISIANA

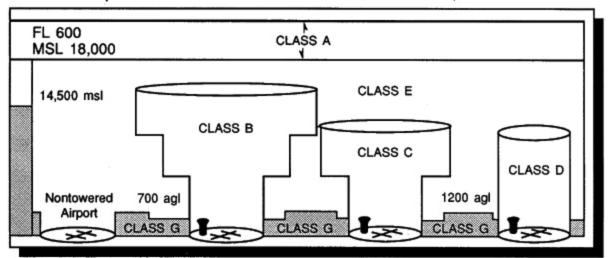
### **VOR RECEIVER CHECK POINTS**

Facility Name (Arpt Name)	Freq/Ident	Type Check Pt. Gnd. AB/ALT	Azimuth from Fac. Mag	Dist. from Fac. N.M.	Check Point Description
Baton Rouge (Baton Rouge Metro, Ryan)	116.5/BTR	A/1500	063	7.7	Over water tank W side of arpt,
Downtown	108.6/DTN	A/1500	290	10	Over white water tower.
Esler (Esler Regional)	108.8/ESF	G	151	3.5	On ramp in front of admin bldg.
Hammond (Hammond Muni)	109.6/HMU	G	342	.6	On twy W side app end Rwy 18.
Lafayette (Lafayette Regional)	110.8/LFT	A/1000	340	25	Over rotating beacon.
Lake Charles (Lake Charles Muni)	113.4/LCH	A/1000	253	6.2	Over rotg bon on atot.
Monroe (Monroe Muni)	117.2/MLU	G	209	0.9	On ramp SE of atct.
Natchez (Concordia Parish)	110.0/HEZ	A/1000	247	10.5	Over hangar NW end of field.
New Orleans (Lakefront)	113.2/MSY	A/1000	081	7.7	Over lakefront atct.
Ruston	112.8/RSN	A/2000	343	14	Over hwy & RR crossing at Dubash.
Shreveport (Shreveport Downtown)	108.6/DTN	G	307	.5	On runup area N side of rwy 14.
Shreveport (Shreveport Regional)	117.4/SHV	A/1200	175	19.3	Over old terminal building.
Tibby (Thibodaux Muni)	112.0/TBD	A/1000	006	5.0	Over railroad bridge off apch end rwy 26.
	112.0/TBD	A/1000	117	10:0	Over intersection of rwys 17-35 and 12-30.

§	LAFAYETTE REGIONAL (LFT) 2 SE GMT-6(-5DT) 30°12′14"N 91°59′16"W	HOUSTON
	42. B S4 FUEL 100LL, JET A OX 1. CFR Index B	H-4F, L-17C
	RWY 03-21: H7651X150 (ASPH-GRVD) S-75, D-170, DT-290 HIRL	IAP
	RWY 03: REIL. VASI(V4L)—GA 3.0°TCH 35'. Tree.	
	RWY 21: MALSR. VASI(V4L)—GA 3.0°TCH 44'. Tree.	
	RWY 10-21: H5401X150 (ASPH) S-85, D-110, DT-175 MIRL	
	RWY 10: REIL (out of svc indefinitely). VASI(V4L)—GA 3.0° TCH 35.33'. Tree.	
	RWY 28: REIL. VASI(V4L)—GA 3.0° TCH 55'. Thid depict 202'. Tree.	
	RWY 01-19: H5069X150 (ASPH) S-25, D-45	
	RWY 01; VASI(V4R)—GA 3.0°TCH 50'. Tree.	
	AIRPORT REMARKS: Attended continuously. Rwy 01-19 closed to air carriers. ACTIVATE MALSR Rwy 21118	8.5.
	COMMUNICATIONS: CTAF 118.5 ATIS 120.5 Opr 1200-0500Z‡ UNICOM 122.95	
	LAFAYETTE FSS (LFT) on arpt. 122.35, 122.2, 122.1R, 110.8T LD 318-233-4952 NOTAM FILE LFT.	
	(B) APP/DEP COM 121.1 (011°-190°) 124.0 (191°-010°) (1200-0400Z‡)	
	HOUSTON CENTER APP/DEP CON 133.65 (0400-1200Z‡)	
	TOWER 118.5, 121.35 (Helicopter ops) (1200-0400Z‡) GND CON 121.8 CLNC DEL 125.55	
	STAGE III ctc APP CON within 25 NM below 7000'	
	RADIO AIDS TO NAVIGATION: NOTAM FILE LFT. VHF/DF ctc LAFAYETTE FSS	
	(L) YORTAC 110.8 LFT Chan 45 30°08′45″N 91°59′00″W 344°3.0 NM to fld. 40/06E	
	LAFFS NDB (LOM) 375 LF 30°17'21"N 91°54'29"W 215° 5.8 NM to fld	
	LAKE MARTIN NOB (MHW) 362 LKM 30°11′33″N 91°52′58″W 270°5.2 NM to fld	
	ILS/DME 109.5 I-LFT Chan 32 Rwy 21 LOM LAFFS NDB. Unmonitored when twr clsd.	
	ASR	

Figure 64

## New Airspace Classification



msl - mean sea level

agl - above ground level

FL - flight level

Figure 93

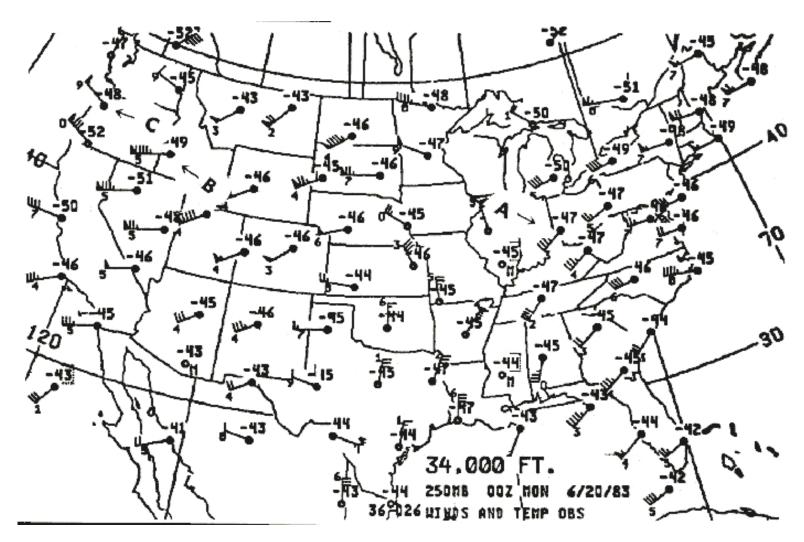


Figure 12

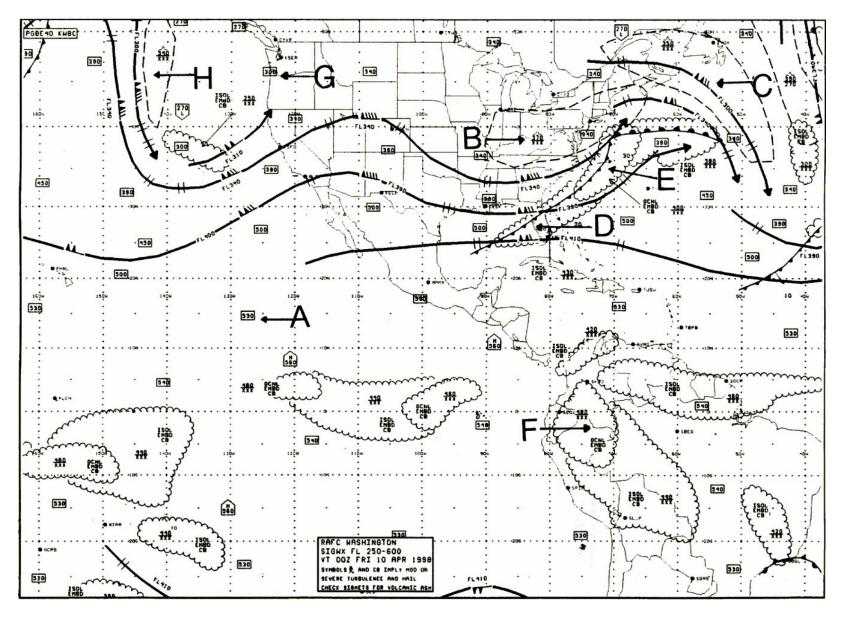


Figure 7