THE APPROACH AND LANDING

THE INSTRUMENT APPROACH

Facility Frequencies And Services

The top of an approach plate states the type of approach, the runway it serves, the frequencies of approach control, tower, ground control, ATIS and/or FSS frequencies.

“ASR” indicates an Airport Surveillance Radar instrument approach is available at that airport.

An asterisk (*) with any service or frequency indicates that it operates noncontinuously.

The Initial Approach

Initial approach fixes are identified with the letters ‘IAF”.

Minimum safe altitudes (MSAs) provide 1,000 feet obstacle clearance within 25 NM from the facility.

Know your route and minimum altitude when arriving from any direction.

When cleared for an approach, maintain the last assigned altitude until:
- a different altitude is assigned by ATC, or
- you are established on a segment of a published route or instrument approach procedure.

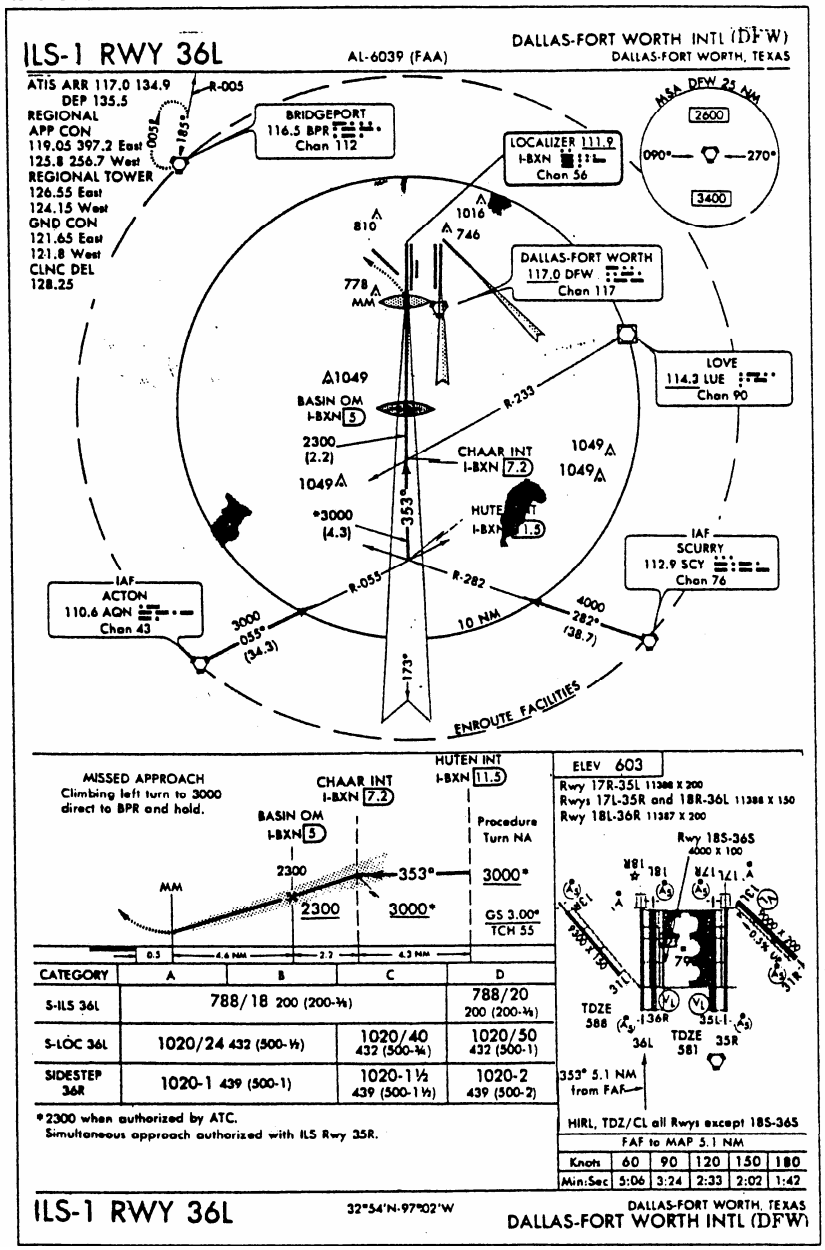
After reaching the final approach fix outbound toward the procedure turn, you may descend to the altitude listed on the profile view, and once established inbound on course, may descend to the altitude listed as the final approach fix.

The Procedure Turn

Procedure turns allow you to reverse direction to establish the aircraft inbound. Maximum speed in a procedure turn is 200 knots.

If you are vectored to the final approach fix, no procedure turn will be necessary.

When a holding pattern is shown in lieu of a procedure turn, use the standard entry to the depicted holding pattern as the means of becoming established on the inbound course.



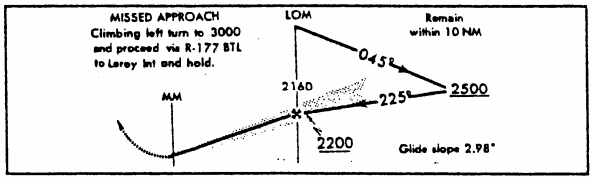
The Procedure Turn (Cont)

When a teardrop procedure is depicted and a course reversal is required, this type of turn must be executed.

NoPT indicates a procedure turn is not required or authorized. This is used when the approach can be made directly from a specified intermediate fix to the final fix.

“Remain within 10 miles” is a reminder to stay within 10 NM of the appropriate fix while completing your procedure turn.

The Intermediate Approach



The intermediate segment begins at the intermediate fix (IF) or point, and ends at the final approach fix (FAF). Positive course guidance is provided.

All altitudes listed in the Planview are minimum altitudes. Profile diagram altitudes are:

Recommended	3500	Maximum	3500
Mandatory	3500	Minimum	3500

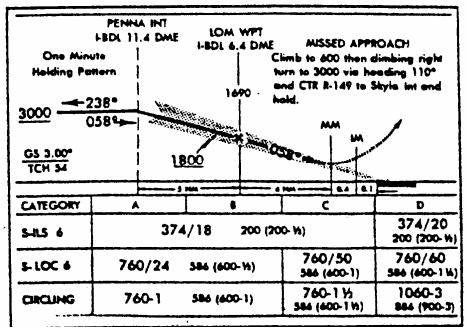
If you are shooting an ILS approach, you may intercept the glide slope prior to the final approach fix and start your descent so as to be over the final approach fix at the published “Glide Slope Altitude at Outer Marker”.

The Final Approach

The final approach segment begins when you cross the final approach fix (FAF). After passing the FAF, descend to the MDA or DH.

A precision approach is one that has an electronic or radar glide slope to provide altitude information, for example, the ILS approach. ILS minimums are normally 200 ft DH and 1/2 mile visibility. The missed approach point (MAP) on a precision approach is the decision height (DH) on the glide slope.

The Final Approach (Cont)

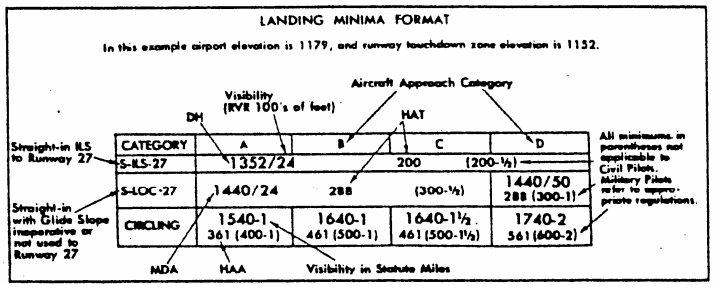


A nonprecision approach is one without a glide slope. Examples of nonprecision approaches include VOR, ADF, LOC, ASR, SDF and LDA approaches. On a nonprecision approach, your missed approach point is the minimum descent altitude (MDA) at the runway threshold. On occasion the MAP is a published fix, depicted on the profile view; for example, at the VOR when the VOR is on the field.

You may not descend below MDA or DH unless:
- the aircraft is in a position to make a normal landing, and
- you can see the approach lights or runway environment.

A stepdown fix permits additional descent in a segment by identifying a point at which a controlling obstacle has been safely overflown.

The Landing Minimums



A straight-in approach is one in which the landing runway is aligned not more than 30 degrees from the approach course. Circling approaches are all others.

Aircraft approach categories are based on 1.3 times the stalling speed, in landing configuration at maximum gross landing weight. If maintaining a speed 5 knots faster than specified for your category (category B), use approach minimums for category C.

RVR (runway visual range) is the horizontal visibility or distance a pilot can see down the runway from the approach end.

The Landing Minimums (Cont)

RVR is given in hundreds of feet. If the RVR is inoperative, revert to prevailing visibility, given in statute miles and fractions.

The minimum weather condition for landing upon completion of an IFR approach is the required visibility.

Inoperative Components

If certain components are inoperative, your MDA/DH and required visibility will be affected, unless the component can be replaced by a listed substitute.

A compass locator or precision radar may be substituted for the ILS outer or middle marker.

If the glide Slope is inoperative, you should revert to the localizer minimums.

If two or more components are inoperative, raise the minimum to the highest minimum required by any single component that is inoperative.

The Missed Approach

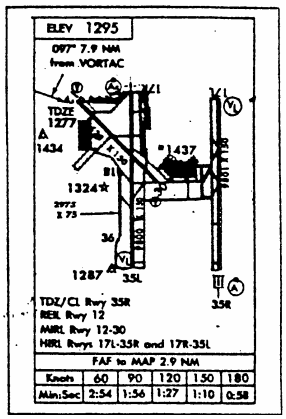
You must execute a missed approach if the runway environment is not in sight, or anytime that visual reference is lost:

- for a precision approach, after arrival at the decision height on the glide slope, or
- for a nonprecision approach, when passing the runway threshold, either measured by time, DME, crossing a NAVAID, or any other published means.

If a missed approach is executed prior to reaching the MAP, continue the approach to the MAP at or above the MDA or DH before executing a turning maneuver.

If circling and you lose visual references, make an initial climbing turn towards the landing runway, then continue the turn until in a safe position to intercept the missed approach course procedure.

The Airport Sketch

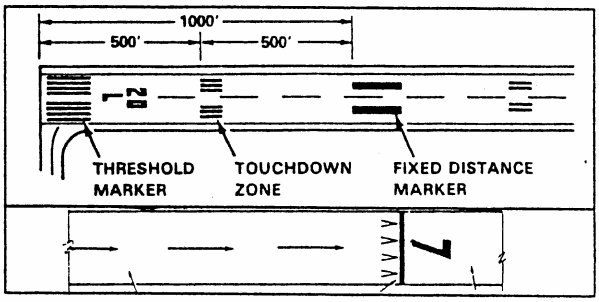


This shows runway length, types of approach lighting available, airport elevation and touchdown elevation

Daytime operation of an airport rotating beacon identifies ground visibility less than 3 miles and/or the ceiling is less than 1000 feet in Class D airspace.

Runway Markings

REIL - runway and identifier lights are a pair of synchronized flashing lights, one on each side of the runway threshold, that provide rapid identification of the approach end of the runway during reduced visibility.



The touchdown zone marker is 500 ft. from the end of the runway. The fixed distance marker is 1000 ft. from the end of the runway.

Arrows leading to the threshold mark indicate a displaced threshold, a non-landing area, usable for taxiing, landing rollout, and takeoff run.

Closing The IFR Flight Plan

You may cancel your IFR flight plan anytime you can proceed in VFR conditions and are outside Class A airspace. Cancel your IFR flight plan by telling ATC to “Cancel IFR”.

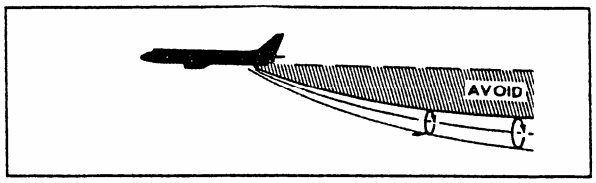
At an airport with a control tower, your IFR flight plan is automatically cancelled upon landing. If you have earlier cancelled your IFR flight plan, you must contact the control tower for clearance into Class D airspace at least five miles from the airport.

Closing The IFR Flight Plan (Cont)

If an FSS is located on the airport, and it has no tower, or the control tower is closed, the FSS will provide Airport Advisory Service, usually on the tower frequency.

At an uncontrolled airport, cancel your IFR flight plan by contacting the local FSS on the radio using a remote communication site nearby, or by telephoning the nearest FSS or ATC facility.

Wake Turbulence



Wake turbulence is created only when the airplane's wings are producing lift. It is maximum behind a jet transport just after takeoff because of the high angle of attack and high gross weight.

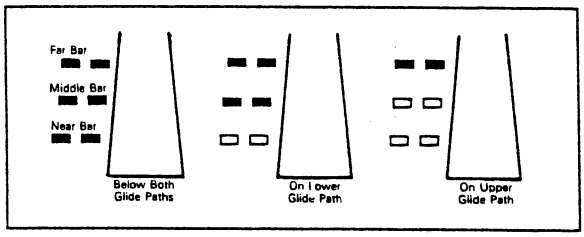
Wake turbulence moves down below the flight path of the aircraft, and tends to move outward. A light crosswind of 3 to 7 knots will tend to keep the upwind vortex in the touchdown zone.

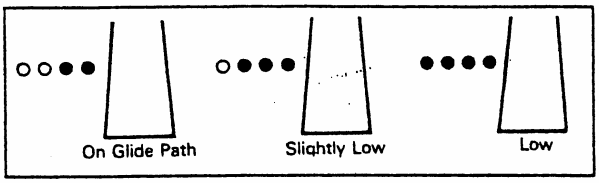
When necessary to operate behind a larger aircraft, minimize the hazards by remaining above the other aircraft's flight path. A light-quartering tailwind will prolong the hazards on a landing runway for the longest period of time.

Visual Approach Slope Indicator (VASI)

Normal glide path for VASI is 3 degrees. Regulations require you, if landing on a runway served by VASI, to use the VASI glide slope and stay at or above the glide slope until a lower altitude is necessary for landing.

VASI glide slope assures safe obstruction clearance in the approach area.





Precision Approach Path indicator (PAPI) consists of one row of four lights. Two white and two red lights indicate that you are on the glide path.

Tri Color VASI consists of one light projector with 3 colors: red (too low), green (on glidepath), and amber (too high).

Miscellaneous Information

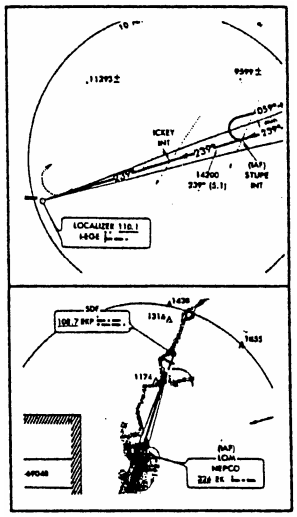
An LDA (Localizer Directed Approach) is similar to an ILS approach, except that the LDA is not aligned with the runway. Both ILS and LDA have a 5 degree course width.

The SDF (Simplified Directional Facility) provides a course width of either 6 or 12 degrees, without glide slope.

ATC may authorize a sidestep maneuver ("cleared for the ILS runway 7L approach, sidestep to runway 7R"). Commence the sidestep maneuver as soon as possible after runway environment is in sight.

If during a VFR practice approach, ATC assigns you a heading that will cause you to enter the clouds, avoid the clouds and inform ATC that altitude/heading will not permit VFR.

While being vectored, if crossing the ILS final approach course becomes imminent and an approach clearance has not been issued, maintain the last assigned heading and query ATC.



Things Medical

Hypoxia is a lack of oxygen. Symptoms may be difficult to recognize before the pilot's reactions are affected.

Hyperventilation is a lack of carbon dioxide as a result of overbreathing. To remedy, consciously breathe at a slower rate than normal.

Spatial disorientation is more likely if you use body signals to interpret flight attitude. Centrifugal force often produces the sensation of rising or falling. Rely entirely on indications of flight instruments.

To scan for other traffic, systematically focus on different segments of the sky for short intervals.

Things Medical (Cont)

During your approach, a narrower-than-normal runway will have the same effect as an up sloping runway. You will appear to be higher than actual, leading to a lower-than-normal approach.

The use of regular white light, such as a flashlight, will impair night vision.

Haze creates the illusion of being a greater distance than actual from other traffic, and from the runway, and causes pilots to fly a lower approach.

Procedures required for accident reporting are covered in NTSB Part 830.

4058. J15 IRA
How is your flight plan closed when your destination airport has IFR conditions and there is no control tower or flight service station (FSS) on, the field?

A) The ARTCC controller will close your flight plan when you report the runway in sight.
B) You may close your flight plan any time after starting the approach by contacting any FSS or ATC facility.
C) Upon landing, you must close your flight plan by radio or by telephone to any FSS or ATC facility.

4076. J15 IRA
When may a pilot cancel the IFR flight plan prior to completing the flight?

A) Anytime.
B) Only in VFR conditions when not in Class A airspace.
C) Only if an emergency occurs.

4088. G10 IRA
Which publication covers the procedures required for aircraft accident and incident reporting responsibilities for pilots?

A) FAR Part 61.
B) FAR Part 91.
C) NTSB Part 830.

4274. J42 IRA
(Refer to figures 29) What is the TDZ elevation for RWY 16 on Eugene/Mahlon Sweet Field?

A) 363 feet MSL.
B) 365 feet MSL.
C) 396 feet MSL.

4276.
(Refer to figure 29.) Using a groundspeed of 90 knots on the ILS final approach course, what rate of descent should be used as a reference to maintain the ILS glide slope?

A) 415 feet per minute.
B) 480 feet per minute.
C) 555 feet per minute.

4282. H833 IRA
(Refer to figures 36A) Under which condition should the missed approach procedure for the RNAV RWY 33 approach be initiated?

A) Immediately upon reaching the 5,0 DME from the FAF.
B) When passage of the MAP waypoint is shown on the ambiguity indicator.
C) After the MDA is reached and 1.8 DME fix from the MAP waypoint.

4283.
(Refer to figures 32, 36, 36A) What is the MDA and visibility criteria respectively for the S-33 approach procedure?

A) 1,240 feet MSL; 1 SM.
B) 1,280 feet MSL; 1 and 1/4 SM.
C) 1,300 feet MSL; 1 SM.

4293. J41 IRA
(Refer to figures 41 and 41A.) Which frequency would you anticipate using to contact Regional Approach Control? (ACTON TWO ARRIVAL).

A) 119.05.
B) 124.15.
C) 125.8.

4295.
(Refer to figures 41, 42, 42A) Which frequency should you expect to use for Regional Approach Control, control tower, and ground control respectively at DFW?

A) 119.05; 126.55; 121.65.
B) 119.05; 124.15; 121.8.
C) 125.8; 124.15; 121.8.

4297. J42 IRA
(Refer to figures 42, 42A) What is the difference in elevation (in feet MSL) between the airport elevation and the TDZE for RWY 36L?

A) 15 feet.
B) 18 feet.
C) 22 feet.

4307.
(Refer to figures 44 and 49.) What is MDA and visibility criteria for a straight-in LOC/DME RWY approach at Portland International?

A) 1,100 feet MSL, visibility 1 SM.
B) 680 feet MSL, visibility I SM,
C) 680 feet MSL, visibility I NM.

NOTE: CORRECT ANSWER IN BOLD ITALICS

4309.
(Refer to figure 49.) You have been cleared to the CREAK intersection via the BTG 054 radial at 7,000 feet. Approaching CREAK, you are cleared for the LOC/DME RWY 21 approach to PDX. Descent to procedure turn altitude should not begin prior to

A) completion of the procedure turn, and established on the localizer.
B) intercepting the glide slope.
C) CREAK outbound.

4320.
(Refer to figures 55) As a guide in making range corrections; how many degrees of relative bearing change should be used for each one-half mile deviation from the desired arc?

A) 2° to 3°.
B) 5° maximum.
C) 10° to 20°.

4321. J42 IRA
(Refer to figures 55) Under which condition should a missed approach procedure be initiated if the runway environment (Paso Robles Municipal Airport) is not in sight?

A) After descending to 1,440 feet MSL.
B) After descent to 1,440 feet or reaching the 1 NM DME, whichever occurs first.
C) When you reach the established missed approach point and determine the visibility is less than 1 mile.

4332.
(Refer to figures 60A) What is the elevation of the TDZE for RWY 4?

A) 70 feet MSL.
B) 54 feet MSL.
C) 46 feet MSL.

4351.
(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) 3,000 feet MSL.
B) 1,800 feet MSL.
C) 1,690 feet MSL.

4352.
(Refer to figure 73) At which indication or occurrence should you initiate the published missed approach procedure for the ILS RWY 6 approach provided the runway environment is not in sight?

A) When reaching 374 feet MSL indicated altitude.
B) When 3 minutes (at 90 knots groundspeed) have expired or reaching 374 feet MSL, whichever occurs first.
C) Upon reaching 374 feet AGL.

NOTE: CORRECT ANSWER IN BOLD ITALICS

4355.
(Refer to figure 73) What is the touchdown zone elevation for RWY 6?

A) 174 feet MSL.
B) 200 feet AGL.
C) 270 feet MSL.

4356. J42 IRA
(Refer to figure 73) After passing the OM, Bradley Approach Control advises you that the MM on the ILS RWY 6 approach is inoperative. Under these circumstances, what adjustments, if any, are required to be made to the DH and visibility?

A) DH 424/24.
B) No adjustments are required.
C) DH 374/24.

4357. J42 IRA
(Refer to figure 73) Which runway and landing environment lighting is available for approach and landing on RWY 6 at Bradley International?

A) HIRL, REIL, and VASI.
B) HIRL and VASI.
C) ALSF2 and HIRL

4368.
(Refer to figures 74 and 80.) Which aircraft approach category should be used for a circling approach for a landing on RWY 25?

A) A
B) B
C) C

4369. J42 IRA
(Refer to figure 80.) How many initial approach fixes serve the VOR/DME RWY 27R (Billings Logan) approach procedure?

A) Three.
B) Four.
C) Five.

4371.
(Refer to figure 80.) What is the TDZE for landing on RWY 27R?

A) 3,649 feet MSL.
B) 3,514 feet MSL.
C) 3,450 feet MSL.

4401. J33 IRA
What does the Runway Visual Range (RVR) value, depicted on certain straight-in IAP Charts, represent?

A) The slant range distance the pilot can see down the runway while crossing the threshold on glide slope.
B) The horizontal distance a pilot should see down the runway from the approach end of the runway.
C) The slant visual range a pilot should see down the final approach and during landing.

4408. J03 IRA
The operation of an airport rotating beacon during daylight hours may indicate that

A) the in-flight visibility is less than 3 miles and ‘ the ceiling is less than 1,500 feet within Class
E airspace.
B) the ground visibility is less than 3 miles and/or the ceiling is less than 1,000 feet in Class B, C, or D airspace.
C) an IFR clearance is required to operate within the airport traffic area.

4469. J08 IRA
When are you required to establish communications with the tower, if you cancel your IFR flight plan 10 miles from the destination?

A) Immediately after canceling the flight plan.
B) When advised by ARTCC.
C) At least 5 miles from the center of the airport.

4540. J18 IRA
What obstacle clearance and navigation signal coverage is a pilot assured with the Minimum Sector Altitudes depicted on the IAP charts?

A) 1,000 feet and acceptable navigation signal coverage within a 25 NM radius of the navigation facility.
B) 1,000 feet within a 25 NM radius of the navigation facility but not acceptable navigation signal coverage.
C) 500 feet and acceptable navigation signal coverage within a 10 NM radius of the navigation facility.

4630. B10 IRA
If a pilot elects to proceed to the selected alternate, • the landing minimums used at that airport should be the

A) minimums specified for the approach procedure selected.
B) alternate minimums shown on the approach chart.
C) minimums shown for that airport in a separate listing of “IFR Alternate Minimums.”

4631. J18 IRA
If the pilot loses visual reference while circling to land from an instrument approach and ATC radar service is not available, the missed approach action should be to

A) execute a climbing turn to parallel the published final approach course and climb to the initial approach altitude.
B) climb to the published circling minimums then proceed direct to the final approach fix.
C) make a climbing turn toward the landing runway and continue the turn until established on the missed approach course.

4632. J18 IRA
When the approach procedure involves a procedure turn, the maximum speed should not be greater than

A) 180 knots IAS.
B) 200 knots IAS.
C) 250 knots IAS.

4635. J42 IRA
(Refer to figure 118.) During the ILS RWY 12L procedure at DSM, what altitude minimum
applies if the glide slope becomes inoperative?

A) 1,420 feet.
B) 1,360 feet.
C) 1,121 feet.

4636.
What does the absence ofthe procedure turn barb on the planview on an approach chart indicate?

A) A procedure turn is not authorized.
B Teardrop-type procedure turn is authorized.
C) Racetrack-type procedure turn is authorized.

4637.
When making an instrument approaching at the selected alternate airport, what landing minimums apply?

A) Standard alternate minimums (600-2 or 800-2).
B) The IFR alternate minimums listed for that airport.
C) The landing minimums published for the type of procedure selected.

4641. J18 IRA
While being radar vectored, an approach clearance is received. The last assigned altitude should be maintained until

A) reaching the FAF.
B) advised to begin descent.
C) established on a segment of a published route or IAP.

4642. J42 IRA
(Refer to figure 119.) The final approach fix for the precision approach is located at

A) DENAY intersection.
B) Glide slope intercept (lightning bolt).
C) ROMEN intersection locator outer marker.

4648. J42 IRA
(Refer to figure 120.) Refer to the DEN ILS RWY 35R procedure. The FAF intercept altitude is

A) 7,488 feet MSL.
B) 7,500 feet MSL.
C) 9,000 feet MSL.

NOTE: CORRECT ANSWER IN BOLD ITALICS

4649.
(Refer to figure 120.) The symbol on the planview of the ILS RWY 35R procedure at DEN represents a minimum safe sector altitude within 25 NM of

A) Denver VORTAC.
B) Gandi outer marker.
C) Denver/Stapleton International Airport.

4650. J42 IRA
(Refer to figure 121.) During the ILS RWY 30R procedure at DSM, the minimum altitude for
glide slope interception is

A) 2,365 feet MSL.
B) 2,500 feet MSL.
C) 3,000 feet MSL.

4651. J42 IRA
(Refer to figure 121.) During the ILS RWY 30R procedure at DSM, what MDA applies should the glide slope become inoperative?

A) 1,157 feet.
B) 1,320 feet.
C) 1,360 feet.

4652. J42 IRA
(Refer to figure 122.) The missed approach point of the ATL S-LOC 8L procedure is located how far from the LOM?

A) 4.8 NM.
B) 5.1 NM.
C) 5.2 NM.

4653. J42 IRA
(Refer to figure 123.) What minimum navigation equipment is required to complete the VOR/DME-A procedure?

A) One VOR receiver.
B) One VOR receiver and DME.
C) Two VOR receivers and DME.

4654.
(Refer to figure 123.) The symbol on the planview of the VOR/DME-A procedure at 7D3 represents a minimum safe sector altitude within 25 NM of

A) DEANI intersection.
B) White Cloud VORTAC.
C) Baldwin Municipal Airport.

4655. J42 IRA
(Refer to figure 124) What options are available concerning the teardrop course reversal for LOC RWY 35 approach to Duncan/Halliburton Field?

A) If a course reversal is required, only the teardrop can be executed.
B) The point where the turn is begun and the type and rate of turn are optional.
C) A normal procedure turn may be made if the 10 DME limit is not exceeded.

4656. J42 IRA
(Refer to figure 124) The point on the teardrop procedure where the turn inbound (LOC RWY 35) Duncan/Halliburton, is initiated is determined by

A) DME and timing to remain within the 10-NM limit.
B) Timing for a 2 minute maximum.
C) Estimating groundspeed and radius of turn.

4657. J42 IRA
(Refer to figure 125) RWY 17R at Lincoln Municipal and crossed the Lincoln VOR at 5,000 feet MSL, at what point in the teardrop could a descent to 3,000 feet commence?

A) As soon as intercepting LOC inbound.
B) Immediately.
C) Only at the point authorized by ATC.

4658. J18 IRA
(Refer to figure 125) If cleared for an S-LOC 17R approach at Lincoln Municipal from over TOUHY, it means the flight should

A) land straight in on runway 17R.
B) comply with straight-in landing minimums.
C) begin final approach without making a procedure turn.

4659.
(Refer to figure 126) What landing minimums apply for a FAR part 91 operator at Dothan, AL using a category C aircraft during a circling LOC 31 approach at 120 knots? (DME available).

A) MDA 860 feet MSL and visibility 2 SM.
B) MDA 860 feet MSL and visibility 1 and ½ SM.
C) MDA 720 feet MSL and visibility 3/4 SM.

4660. J33 IRA
(Refer to figure 126) If cleared for a straight-in LOC approach from over OALDY, it means the flight should

A) land straight in on runway 31.
B) comply with straight-in landing minimums.
C) begin final approach without making a procedure turn.

4661. J42 IRA
(Refer to figure 126) What is the ability to identify the RRS 2.5 stepdown fix worth in terms of localizer circle-to-land minimums for a category C aircraft?

A) Decreases MDA by 20 feet.
B) Decreases visibility by ½ SM.
C) Without the stepdown fix, a circling approach is not available.

NOTE: CORRECT ANSWER IN BOLD ITALICS

4662. J42 IRA
(Refer to figure 127) If cleared for NDB RWY 28 approach (Lancaster/Fairfield) over ZZV VOR, the flight would be expected to

Category A aircraft
Last assigned altitude 3,000 feet

A) proceed straight in from CRISY, descending to the MDA after CASER.
B) proceed to CRISY, then execute the teardrop procedure as depicted on the approach chart.
C) proceed direct to CASER, then straight in to 5-28 minimums of 1620-1.

4667. J18 IRA
If an early missed approach is initiated before reaching the MAP, the following procedure should be used unless otherwise cleared by ATC.

A) Proceed to the missed approach point at or above the MDA or DH before executing a turning maneuver.
B) Begin a climbing turn immediately and follow missed approach procedures.
C) Maintain altitude and continue past MAP for 1 minute or 1 mile whichever occurs first.

4668. J18 IRA
When more than one circuit of the holding pattern is needed to lose altitude or become better established on course, the additional circuits can be made

A) at pilot's discretion.
B) only in an emergency.
C) only if pilot advises ATC and ATC approves.

4670. J18 IRA
When simultaneous approaches are in progress, how does each pilot receive radar advisories?

A) On tower frequency.
B) On approach control frequency.
C) One pilot on tower frequency and the other on approach control frequency.

4671. J18 IRA
During an instrument approach, under what conditions, if any, is the holding pattern course reversal not required?

A) When radar vectors are provided.
B) When cleared for the approach.
C) None, since it is always mandatory.

4672. J18 IRA
During an instrument precision approach, terrain and obstacle clearance depends on adherence to

A) minimum altitude shown on the IAP.
B) Terrain contour information.
C) natural and man-made reference point information.

4677. J42 IRA
(Refer to figure 128) At which points may you initiate a descent to the next lower minimum altitude when cleared for the VOR RWY 36 approach, from the PUC R-095 IAF (DME operative)?

A) Start descent from 8,000 when established on final, from 7,500 when at the 4 DME fix, and from 6,180 when landing requirements are met.
B) Start descent from 8,000 when established on the PUC R-186, from 6,400 at the 4 DME fix, and from 6,180 when landing requirements are met.
C) Start descent from 8,000 at the R-127, from 6,400 at the LR-127, from 6,180 at the 4 DME fix.

4678. J18 IRA
(Refer to figure 128) What is the purpose of the 10,300 MSA on the Price/Carbon County Airport Approach Chart?

A) It provides safe clearance above the highest obstacle in the defined sector out to 25 NM.
B) It provides an altitude above which navigational course guidance is assured.
C) It is the minimum vector altitude for radar vectors in the sector southeast of PUC between 020° and 290° magnetic bearing to PUC VOR.

4685. J42 IRA
(Refer to figure 130) How does an LDA facility, such as the one at Roanoke Regional, differ from a standard ILS approach facility?

A) The LOC is wider.
B) The LOC is offset from the runway.
C) The GS is unusable beyond the MM.

4686. J42 IRA
(Refer to figure 130) What are the procedure turn restrictions on the LDA RWY 6 approach at Roanoke Regional?

A) Remain within 10 NM of CLAMM INT and on the north side of the approach course.
B) Remain within 10 NM of the airport on the north side of the approach course.
C) Remain within 10 NM of the outer marker on the north side of the approach course.

4687. J42 IRA
(Refer to figure 130) What are the restrictions regarding circle to land procedures for LDA RWY/GS 6 approach at Roanoke Regional?

A) Circling to runway 24 not authorized.
B) Circling not authorized NW of RWY 6-24.
C) Visibility increased ½ mile for circling approach.

4688. J42 IRA
(Refer to figure 130) At what minimum altitude should you cross CLAMM intersection during the S-LDA 6 approach at Roanoke Regional?

A) 4,200 MSL.
B) 4,182 MSL.
C) 2,800 MSL.

NOTE: CORRECT ANSWER IN BOLD ITALICS

4689. J42 IRA
(Refer to figure 130) How should the pilot identify the missed approach point for the S-LDA GS 6 approach to Roanoke Regional?

A) Arrival at 1,540 feet on the glide slope.
B) Arrival at 1.0 DME on the LDA course.
C) Time expired for distance from OM to MAP.

4690.
(Refer to figure 131.) The control tower at BOS reports "tall vessels" in the approach area. What are the VOR/DME RNAV RWY 4R approach minimums for category A aircraft?

A) 840/40.
B) 890/24.
C) 890/40.

4691.
(Refer to figure 131.) What determines the (MAP) for the straight-in VOR/DME RNAV RWY 4R approach at BOS?

A) RULSY waypoint.
B) .5 NM to RULSY waypoint.
C) 2.5 NM to RULSY at 840 feet MSL.

4692. J18 IRA
Which of the following statements is true regarding Parallel ILS approaches?

A) Parallel ILS approach runway centerlines are separated by at least 4,300 feet and standard IFR separation is provided on the adjacent runway.
B) Parallel ILS approaches provide aircraft a minimum of 1 1/2 miles radar separation between successive aircraft on the adjacent localizer course.
C) Landing minimums to the adjacent runway will be higher than the minimums to the primary runway, but will normally be lower than the published circling minimums.

4693. J42 IRA
(Refer to figure 131.) What is the landing distance available for the VOR/DME RNAV RWY 4R approach at BOS?

A) 7,000 feet.
B) 8,850 feet.
C) 10,005 feet.

4696. J42 IRA
(Refer to figure 133) How should a pilot reverse course to get established on the inbound course of the ILS RWY 9, if radar vectoring or the three IAFs are not utilized?

A) Execute a standard 45° procedure turn toward Seal Beach VORTAC or Pomona VORTAC.
B) Make an appropriate entry to the depicted holding pattern at Swan Lake OM/INT.
C) Use any type of procedure turn, but remain within 10 NM of Riverside VOR.

NOTE: CORRECT ANSWER IN BOLD ITALICS

4699. J17 IRA
(Refer to figure 133) 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 surveillance radar for the MM.
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 use published minimums.

4700. J42 IRA
(Refer to figure 133) Why are two VOR/LOC receivers recommended to obtain an MDA of 1,160 when making an S-LOC 9 approach to Riverside Municipal?

A) To obtain R-327 of PDZ when on the localizer course.
B) In order to identify Riverside VOR.
C) To utilize the published stepdown fix.

4701. J42 IRA
(Refer to figure 133) What is the minimum altitude descent procedure if cleared for the S-ILS 9 approach from Seal Beach VORTAC?

A) Descend and maintain 3,000 to JASER INT, descend to and maintain 2,500 until crossing SWAN LAKE, descend and maintain 1,260 until crossing AGNES, and to 991 (DH) after passing AGNES.
B) Descend and maintain 3,000 to JASER INT, descend to 2,800 when established on the LOC course, intercept and maintain the GS to 991 (DH).
C) Descend and maintain 3,000 to JASER INT, descend to 2,500 while established on the LOC course inbound, intercept and maintain the GS to 991 (DH).

4702. J01 IRA
What is a difference between an SDF and an LDA facility?

A) The SDF course width is either 6° or 12° while the LDA course width is approximately 5°
B) The SDF course has no glide slope guidance while the LDA does.
C) The SDF has no marker beacons while the LDA has at least an OM.

4703.
What is the difference between a Localizer-Type Directional Aid (LDA) and the ILS localizer?

A) The LDA is not aligned with the runway.
B) The LDA uses a course width of 6° or 12°, while an ILS uses only 5°.
C) The LDA signal is generated from a VOR-type facility and has no glide slope.

4704. J01 IRA
How wide is an SDF course?

A) Either 3° or 6°
B) Either 6° or 12°.
C) Varies from 5° to 10°.

4705. J01 IRA
What are the main differences between the SDF and the localizer of an ILS?

A) The useable off-course indications are limited to 35° for the localizer and up to 90° for the SDF.
B) The SDF course may not be aligned with the runway and the course may be wider.
C) The course width for the localizer will always be 5° while the SDF course will be between 6° and 12°.

4706.
A pilot is making an ILS approach and is, past the OM to a runway which has a VASI. What action should the pilot take if an electronic glide slope malfunction occurs and the pilot has the VASI in sight?

A) The pilot should inform ATC of the malfunction and then descend immediately to the localizer DH and make a localizer approach.
B) The pilot may continue the approach and use the VASI glide slope in place of the electronic glide slope.
C) The pilot must request an LOC approach, and may descend below the VASI at the pilot's discretion.

4707. J27 IRA
What wind condition prolongs the hazards of wake turbulence on a landing runway for the longest period of time?

A) Direct headwind.
B) Direct tailwind.
C) Light quartering tailwind.

4708. J27 IRA
Wake turbulence is near maximum behind a jet transport just after takeoff because

A) the engines are at maximum thrust output at slow airspeed.
B) the gear and flap configuration increases the turbulence to maximum.
C) of the high angle of attack and high gross weight

4709. J27 IRA
What effect would a light crosswind of approximately 7 knots have on vortex behavior?

A) The light crosswind would rapidly dissipate vortex strength.
B) The upwind vortex would tend to remain over the runway.
C) The downwind vortex would tend to remain over the runway.

4710. J27 IRA
When landing behind a large jet aircraft, at which point on the runway should you plan to land?

A) If any crosswind, land on the windward side of the runway and prior to the jet's touchdown point.
B) At least 1,000 feet beyond the jet's touchdown point.
C) Beyond the jet's touchdown point.

NOTE: CORRECT ANSWER IN BOLD ITALICS

4714. J18 IRA
Which procedure should be followed by a pilot who is circling to land in a Category B airplane, but is maintaining a speed 5 knots faster than the maximum specified for that category?

A) Use the approach minimums appropriate for Category C.
B) Use Category B minimums.
C) Use Category D minimums since they apply to all circling approaches.

4715. How can an IAF be identified on a Standard Instrument Approach Procedure (SIAP) Chart?

A) All fixes that are labeled IAF.
B) Any fix illustrated within the 10 mile ring other than the FAF or stepdown fix.
C) The procedure turn and the fixes on the feeder facility ring.

4716.
RVR minimums for landing are prescribed in an IAP, but RVR is inoperative and cannot be reported for the intended runway at the time. Which of the following would be an operational consideration?

A) RVR minimums which are specified in the procedures should be converted and applied as ground visibility.
B) RVR minimums may be disregarded, providing the runway has an operative HIRL system.
C) RVR minimums may be disregarded, providing all other components of the ILS system are operative.

4717. J18 IRA
Aircraft approach categories are based on

A) certificated approach speed at maximum gross weight.
B) 1.3 times the stall speed in landing configuration at maximum gross landing weight.
C) 1.3 times the stall speed at maximum gross weight.

4719. B10 IRA
When a pilot elects to proceed to the selected alternate airport, which minimums apply for landing at the alternate?

A) 600-1 if the airport has an ILS.
B) Ceiling 200 feet above the published minimum; visibility 2 miles.
C) The landing minimums for the approach to be used.

4726.
You are being vectored to the ILS approach course, but have not been cleared for the approach. It becomes evident that you will pass through the localizer course. What action should be taken?

A) Turn outbound and make a procedure turn.
B) Continue on the assigned heading and query ATC.
C) Start a turn to the inbound heading and inquire if you are cleared for the approach.

4728. J18 IRA
How is ATC radar used for instrument approaches when the facility is approved for approach control service?

A) Precision approaches, weather surveillance, and as a substitute for any inoperative component of a navigation aid used for approaches.
B) ASR approaches, weather surveillance, and course guidance by approach control.
C) Course guidance to the final approach course, ASR and PAR approaches, and the monitoring of nonradar approaches.

4731. J42 IRA
Which pilot action is appropriate if more than one component of an ILS is unusable?

A) Use the highest minimum required by any single component that is unusable.
B) Request another approach appropriate to the equipment that is useable.
C) Raise the minimums a total of that required by each component that is unusable.

4732. J01 IRA
Which substitution is permitted when an ILS component is inoperative?

A) A compass locator or precision radar may be substituted for the ILS outer or middle marker.
B) ADF or VOR bearings which cross either the outer or middle marker sites may be substituted for these markers.
C) DME, when located at the localizer antenna site, should be substituted for the outer or middle marker.

4733. J42 IRA
What facilities, if any, may be substituted for an inoperative middle marker during an ILS approach without affecting the straight-in minimums?

A) ASR.
B) Substitution not necessary, minimums do not change.
C) Compass locator, PAR, and ASR.

4734. J18 IRA
When being radar vectored for an ILS approach, at what point may you start a descent from your last assigned altitude to a lower minimum altitude if cleared for the approach?

A) When established on a segment of a published route or instrument approach procedure.
B) You may descend immediately to published glide slope interception altitude.
C) Only after you are established on the final' approach unless informed otherwise by ATC.

NOTE: CORRECT ANSWER IN BOLD ITALICS

4738. V14 IRA
Under which conditions is hydroplaning most likely to occur?

A) When rudder is used for directional control instead of allowing the nosewheel to contact the surface early in the landing roll on a wet runway.
B) During conditions of standing water, slush, high speed, and smooth runway texture.
C) During a landing on any wet runway when brake application is delayed until a wedge of water begins to build ahead of the tires.

4740. J18 IRA
When cleared to execute a published sidestep maneuver for a specific approach and landing on the parallel runway, at what point is the pilot expected to commence this maneuver?

A) At the published minimum altitude for a circling approach.
B) As soon as possible after the runway or runway environment is in sight.
C) At the localizer MDA minimum and when the runway is in sight.

4742. J01 IRA
Which of these facilities may be substituted for an MM during a complete ILS IAP?

A) Surveillance and precision radar.
B) Compass locator and precision radar.
C) A VOR/DME fix.

4744. J18 IRA
If all ILS components are operating and the required visual references are not established, the missed approach should be initiated upon

A) arrival at the DH on the glide slope.
B) arrival at the middle marker.
C) expiration of the time listed on the approach chart for missed approach.

4746.
Which fixes on the IAP Charts are initial approach fixes?

A) Any fix on the en route facilities ring, the feeder facilities ring, and those at the start of arc approaches.
B) Only the fixes at the start of arc approaches and those on either the feeder facilities ring or en route facilities ring that have a transition course shown to the approach procedure.
C) Any fix that is identified by the letters IAF.

4749.
When may a pilot make a straight-in landing, if using an IAP having only circling minimums?

A) A straight-in landing may not be made, but the pilot may continue to the runway at MDA and then circle to land on the runway.
B) The pilot may land straight-in if the runway is the active runway and he has been cleared to land.
C) A straight-in landing may be made if the pilot has the runway in sight in sufficient time to make a normal approach for landing, and has been cleared to land.

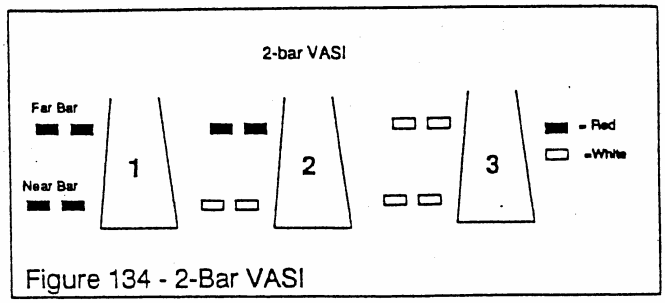


Figure 134 - 2-Bar VASI

4753. J01 IRA
Approximately what height is the glide slope centerline at the MM of a typical ILS?

A) 100 feet.
B) 200 feet.
C) 300 feet.

4754. B10 IRA
If the RVR is not reported, what meteorological value should you substitute for 2,400 RVR?

A) A ground visibility of ½ NM.
B) A slant range visibility of 2,400 feet for the final approach segment of the published approach procedure.
C) A ground visibility of ½ SM.

4757. J18 IRA
While being vectored, if crossing the ILS final approach course becomes imminent and an approach clearance has not been issued, what action should be taken by the pilot?

A) Turn outbound on the final approach course, execute a procedure turn, and inform ATC.
B) Turn inbound and execute the missed approach procedure at the outer marker if approach clearance has not been received.
C) Maintain the last assigned heading and query ATC.

4759. B10 IRA
The RVR minimums for takeoff or landing are published in an IAP, but RVR is inoperative and cannot be reported for the runway at the time. Which of the following would apply?

A) RVR minimums which are specified in the procedure should be converted and applied as ground visibility.
B) RVR minimums may be disregarded, providing the runway has an operative HIRL system.
C) RVR minimums may be disregarded, providing all other components of the ILS system are operative.

4762.
If the RVR equipment is inoperative for an IAP that requires a visibility of 2,400 RVR, how should the pilot expect the visibility requirement to be reported in lieu of the published RVR?

A) As a slant range visibility of 2,400 feet.
B) As an RVR of 2,400 feet.
C) As a ground visibility of ½ SM.

4763. B10 IRA
If during an ILS approach in IFR conditions, the approach lights are not visible upon arrival at the DH, the pilot is

A) required to immediately execute the missed approach procedure.
B) permitted to continue the approach and descend to the localizer MDA.
C) permitted to continue the approach to the approach threshold of the ILS runway.

4764.
Immediately after passing the final approach fix inbound during an ILS approach in IFR conditions, the glide slope warning flag appears. The pilot is

A) permitted to continue the approach and descend to the DH.
B) permitted to continue the approach and descend to the localizer MDA.
C) required to immediately begin the prescribed missed approach procedure.

4770. J01 IRA
Which substitution is appropriate during an ILS approach?

A) A VOR radial crossing the outer marker site may be substituted for the outer marker.
B) LOC minimums should be substituted for ILS minimums whenever the glide slope becomes inoperative.
C) DME, when located at the localizer antenna site, should be substituted for either the outer or middle marker.

4771. J18 IRA
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) As soon as possible after the runway environment is in sight.
B) Any time after becoming aligned with the final approach course of Runway 07 left, and after passing the final approach fix.
C) After reaching the circling minimums for Runway 07 right.

4774. J03 IRA
(Refer to figure 134.) Unless a higher angle is necessary for obstacle clearance, what is the normal glidepath angle for a 2-bar VASI?

A) 2.75°.
B) 3.00°.
C) 3.25°.

NOTE: CORRECT ANSWER IN BOLD ITALICS

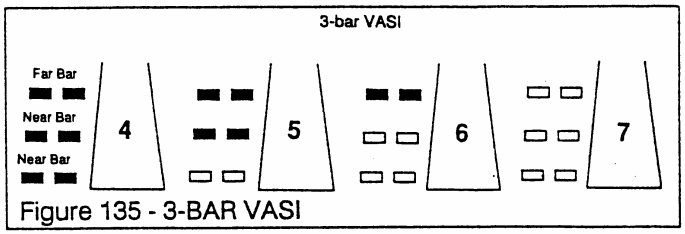


Figure 135 - 3-BAR VASI

4775. J03 IRA
Which of the following indications would a pilot see while approaching to land on a runway served by a 2-bar VASI?

A) If on the glidepath, the near bars will appear red, and the far bars will appear white.
B) If departing to the high side of the glidepath, the far bars will change from red to white.
C) If on the glidepath, both near bars and far bars will appear white.

4776.
The middle and far bars of a 3-bar VASI will

A) both appear white to the pilot when on the upper glidepath.
B) constitute a 2-bar VASI for using the lower glidepath.
C) constitute a 2-bar VASI for using the upper glidepath.

4777. J03 IRA
Tricolor Visual Approach Indicators normally consist of

A) a single unit, projecting a three-color visual approach path.
B) three separate light units, each projecting a different color approach path.
C) three separate light projecting units of very high candle power with a daytime range of approximately 5 miles.

4778.
When on the proper glidepath of a 2-bar VASI, the pilot will see the near bar as

A) white and the far bar as red.
B) red and the far bar as white.
C) white and the far bar as white.

4779. J03 IRA
If an approach is being made to a runway that has an operating 3-bar VASI and all the VASI lights appear red as the airplane reaches the MDA, the pilot should

A) start a climb to reach the proper glidepath.
B) continue at the same rate of descent if the runway is in sight.
C) level off momentarily to intercept the proper approach path.

4780. J03 IRA
Which is a feature of the tricolor VASI?
A) One light projector with three colors: red, green, and amber.
B) Two visual glidepaths for the runway.
C) Three glidepaths, with the center path indicated by a white light.

4781. J03 IRA
Which approach and landing objective is assured when the pilot remains on the proper glidepath of the VASI?

A) Continuation of course guidance after transition to VFR.
B) Safe obstruction clearance in the approach area.
C) Course guidance from the visual descent point to touchdown.

4782.
(Refer to figure 135.) Unless a higher angle is required for obstacle clearance, what is the normal glidepath for a 3-bar VASI?

A) 2.3°
B) 2.75°
C) 3.0°

4783. J03 IRA
(Refer to figure 135.) Which illustration would a pilot observe when on the lower glidepath?
A) 4
B) 5
C) 6

4784. J03 IRA
(Refer to figure 135.) Which illustration would a pilot observe if the aircraft is above both glidepaths?

A) 5
B) 6
C) 7

4785. J03 IRA
(Refer to figure 135.) Which illustration would a pilot observe if the aircraft is below both glidepaths?

A) 4
B) 5
C) 6

4963.
The “runway hold position” sign denotes

A) intersecting runways.
B) an entrance to runway from a taxiway.
C) an area protected for an aircraft approaching a runway.

4964.
“Runway hold position” markings on the taxiway

A) identifies where aircraft hold short ofthe runway.
B) identifies area where aircraft are prohibited.
C) allows an aircraft permission onto the runway.

4965.
The “No Entry” sign identifies

A) the exit boundary for the runway protected area.
B) an area that does not continue beyond an intersection.
C) paved area where aircraft entry is prohibited.

NOTE: CORRECT ANSWER IN BOLD ITALICS

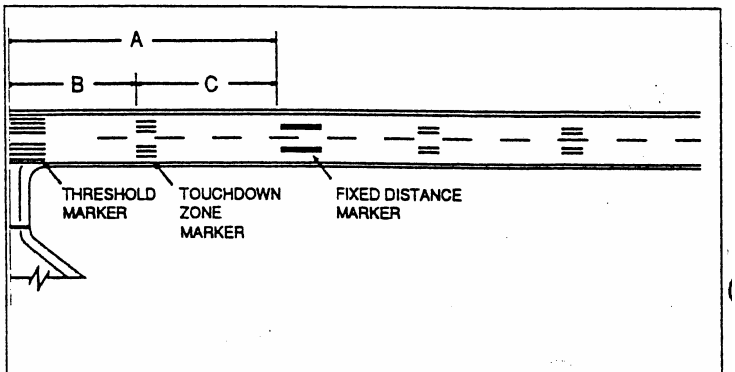


Figure 137 - Precision Instrument Runway

4966. J05 IRA
When turning onto a taxiway from another taxiway, the "taxiway directional sign" indicates

A) direction to the take-off runway.
B) designation and direction of taxiway leading out of an intersection.
C) designation and direction of exit taxiway from runway.

4786. J03 IRA
(Refer to figure 136.) Which illustration depicts an "on glidepath" indication?

A) 8.
B) 10.
C) 11.

4787. J03 IRA
(Refer to figure 136.) Which illustration depicts a "slightly low" (2.8°) indication?

A) 9.
B) 10.
C) 11.

4788. J03 IRA
(Refer to figure 136.) Which illustration would a pilot observe if the aircraft is on a glidepath higher than 3.5°?

A) 8.
B) 9.
C) 11.

4789. J03 IRA
(Refer to figure 136.) Which illustration would a pilot observe if the aircraft is "slightly high" (3.2°) on the glidepath?

A) 8.
B) 9.
C) 11.

4790. J03 IRA
(Refer to figure 136.) Which illustration would a pilot observe if the aircraft is less than 2.5°?

A) 10.
B) 11.
C) 12.

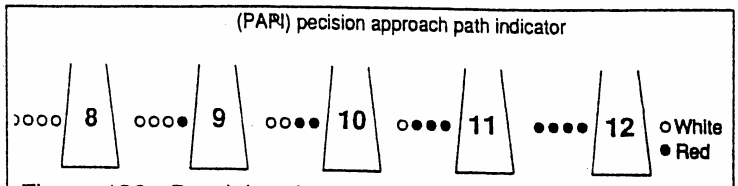


Figure 136 - Precision Approach Path Indicator (PAPI)

4791. J05 IRA
(Refer to figure 137.) What is the distance (A) from the beginning of the runway to the fixed distance marker?

A) 500 feet.
B) 1,000 feet.
C) 1,500 feet.

4792. J05 IRA
(Refer to figure 137.) What is the distance (B) from the beginning of the runway to the touchdown zone marker?

A) 250 feet.
B) 500 feet.
C) 750 feet.

4793. J05 IRA
(Refer to figure 137.) What is the distance (C) from the beginning of the touchdown zone marker to the beginning of the fixed distance marker?

A) 1,000 feet.
B) 500 feet.
C) 250 feet.

4794. J05 IRA
Which runway marking indicates a displaced threshold on an instrument runway?

A) Arrows leading to the threshold mark.
B) Centerline dashes starting at the threshold.
C) Red chevron marks in the nonlanding portion of the runway.

4795. J03 IRA
Which type of runway lighting consists of a pair of synchronized flashing lights, one on each side of the runway threshold?

A) RAIL.
B) HIRL.
C) REIL.

4796. J03 IRA
The primary purpose of runway end identifier lights, installed at many airfields, is to provide

A) rapid identification of the approach end of the runway during reduced visibility.
B) a warning of the final 3,000 feet of runway remaining as viewed from the takeoff or approach position.
C) rapid identification of the primary runway during reduced visibility.

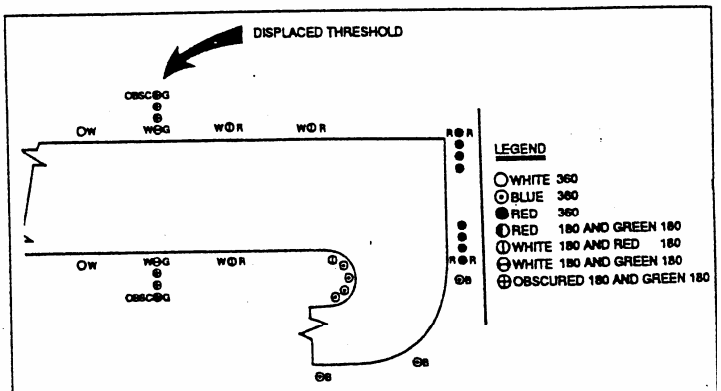


Figure 138 - Runway Legend

NOTE: CORRECT ANSWER IN BOLD ITALICS

4797. J05 IRA
(Refer to figure 138.) What night operations, if any, are authorized between the approach end of the runway and the threshold lights?

A) No aircraft operations are permitted short of the threshold lights.
B) Only taxi operations are permitted in the area short of the threshold lights.
C) Taxi and takeoff operations are permitted, providing the takeoff operations are toward the visible green threshold lights.

4802. H800 IRA
Without visual aid, a pilot often interprets centrifugal force as a sensation of

A) rising or falling.
B) turning.
C) motion reversal.

4803.
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.

4804.
What visual illusion creates the same effect as a narrower-than-usual runway?

A) An up sloping runway.
B) A wider-than-usual runway.
C) A down sloping runway.

4805. J31 IRA
Abrupt head movement during a prolonged constant rate turn in IMC or simulated instrument conditions can cause

A) pilot disorientation.
B) false horizon.
C) elevator illusion.

NOTE: CORRECT ANSWER IN BOLD ITALICS

4806. J31 IRA
A sloping cloud formation, an obscured horizon, and a dark scene spread with ground lights and stars can create an illusion known as

A) elevator illusions.
B) auto kinesis.
C) false horizons.

4807. J31 IRA
An abrupt change from climb to straight-and-level flight can create the illusion of

A) tumbling backwards.
B) a noseup attitude.
C) a descent with the wings level.

4808. J31 IRA
A rapid acceleration during takeoff can create the illusion of

A) spinning in the opposite direction.
B) being in a noseup attitude.
C) diving into the ground.

4809. J31 IRA
Why is hypoxia particularly dangerous during flights with one pilot?

A) Night vision may be so impaired that the pilot cannot see other aircraft.
B) Symptoms of hypoxia may be difficult to recognize before the pilot's reactions are affected.
C) The pilot may not be able to control the aircraft even if using oxygen.

4810. J31 IRA
The sensations which lead to spatial disorientation during instrument flight conditions

A) are frequently encountered by beginning instrument pilots, but never by pilots with moderate instrument experience.
B) occur, in most instances, during the initial period of transition from visual to instrument flight.
C) must be suppressed and complete reliance placed on the indications of the flight instruments.

4811. J31 IRA
How can an instrument pilot best overcome spatial disorientation?

A) Rely on kinesthetic sense.
B) Use a very rapid cross-check.
C) Read and interpret the flight instruments, and act accordingly.

4812. J31 IRA
Which statement is correct regarding the use of cockpit lighting for night flight?

A) Reducing the lighting intensity to a minimum level will eliminate blind spots.
B) The use of regular white light, such as a flashlight, will impair night adaptation.
C) Coloration shown on maps is least affected by the use of direct red lighting.

4813. J31 IRA
How can an instrument pilot best overcome spatial disorientation?

A) Use a very rapid cross-check.
B) Properly interpret the flight instruments and act accordingly.
C) Avoid banking in excess of 30°.

4814. J31 IRA
A pilot is more subject to spatial disorientation if

A) kinesthetic senses are ignored.
B) eyes are moved often in the process of cross-checking the flight instruments.
C) body signals are used to interpret flight attitude.

4815. J31 IRA
Which procedure is recommended to prevent or overcome spatial disorientation?

A) Reduce head and eye movements to the extent possible.
B) Rely on the kinesthetic sense.
C) Rely on the indications of the flight instruments.

4816. J31 IRA
What action should be taken if hyperventilation is suspected?

A) Breathe at a slower rate by taking very deep breaths.
B) Consciously breathe at a slower rate than normal.
C) Consciously force yourself to take deep breaths and breathe at a faster rate than normal.

4817. J31 IRA
Which use of cockpit lighting is correct for night flight?

A) Reducing the interior lighting intensity to a minimum level.
B) The use of regular white light, such as a flashlight, will not impair night adaptation.
C) Coloration shown on maps is least affected by the use of direct red lighting.

4818. J31 IRA
Which technique should a pilot use to scan for traffic to the right and left during straight-and-level flight?

A) Systematically focus on different segments of the sky for short intervals.
B) Concentrate on relative movement detected in the peripheral vision area.
C) Continuous sweeping of the windshield from right to left.

4819. J31 IRA
What effect does haze have on the ability to see traffic or terrain features during flight?

A) Haze causes the eyes to focus at infinity, making terrain features harder to see.
B) The eyes tend to overwork in haze and do not detect relative movement easily.
C) Haze creates the illusion of being a greater distance than actual from the runway, and causes pilots to fly a lower approach.

4822.
During a “no-gyro” approach and prior to being handed off to the final approach controller, the pilot should make all turns

A) one-half standard rate unless otherwise advised.
B) any rate not exceeding a 30° bank.
C) standard rate unless otherwise advised.

4823. J18 IRA
After being handed off to the final approach controller during a “no-gyro” surveillance or precision approach, the pilot should make all turns

A) one-half standard rate.
B) based upon the groundspeed of the aircraft.
C) standard rate.

NOTE: CORRECT ANSWER IN BOLD ITALICS