

References: AIM, Federal Aviation Regulations, Enroute Low Altitude Charts, Instrument Approach Procedures. (Applicable instrument approach procedures and enroute chart extracts are located at the end of the questions).

1. According to FAR Part 61, a pilot who has not performed and logged six instrument approaches, holds, and course intercepts under actual or simulated instrument conditions in the past six calendar months
 - a. may not fly in VFR conditions with a safety pilot.
 - b. May not fly IFR as PIC, and must, in the next 6 months regain currency or successfully complete an IPC.
 - c. is still current to act as PIC under IFR during the grace period but needs to fly the required flight time and approaches before the end of the 12th calendar month.
 - d. is restricted to enroute IFR only.
2. Prior to flight under IFR when VOR navigation will be used, the VOR receiver(s) must have been operationally checked, found to be within specifications, and an appropriate record made
 - a. by an FAA-approved avionics repair station within the past year.
 - b. within the past 10 hours of flight time.
 - c. within the past 30 days.
 - d. within the past 24 months.
3. To operate in controlled airspace under IFR, an aircraft must have a sensitive-pressure altimeter that has been calibrated by an FAA-approved test station within the past
 - a. 12 months.
 - b. 36 months.
 - c. 24 months.
 - d. 48 months.
4. According to FAR Part 91, which flight instrument is not required for flight under IFR?
 - a. attitude indicator.
 - b. turn coordinator.
 - c. Vertical speed indicator.
 - d. airspeed indicator.

5. A pilot is planning an IFR flight back to Huntsville International Airport (KHSV). The weather is forecast to be 600 BKN, 1 1/2 -RA BR at the time of arrival (+ or - 1 hour). Based on the above, the pilot should determine that
- a. no alternate airport must be filed since the forecast ceiling is well above the DH for the ILS at KHSV.
 - b. no alternate airport must be filed because the rule says 600 feet for a precision approach.
 - c. an alternate airport must be filed because the forecast visibility is below minimums for the ILS approach.
 - d. an alternate airport must be filed because the forecast visibility is less than 3 miles and ceiling is less than 2000 ft.
6. While enroute on an IFR flight in instrument conditions, the pilot notices that one of the Nav/Com receivers has failed. She/he must then
- a. declare an emergency and request vectors to the nearest airport.
 - b. descend to visual conditions and land as soon as possible.
 - c. notify ATC that this equipment is no longer operational.
 - d. continue with the flight as no action is required for a failed receiver if another is available.
7. The difference between MOCA and MEA altitudes as published on a low-altitude enroute chart is
- a. always 1000 feet.
 - b. The MEA provides assurance of acceptable navigation signal reception for the full route segment.
 - c. a safety factor for altimeter errors.
 - d. the minimum separation used by ATC for aircraft along that route.
8. A pilot operating in visual conditions on an IFR flight plan discovers that the VHF communication radio(s) have failed. She/he should then
- a. squawk 7600, remain in visual conditions, land as soon as practical, and notify ATC.
 - b. squawk 7500 and continue the flight in accordance with the last clearance received from ATC.
 - c. return to the airport of departure.
 - d. squawk 7700, proceed to the nearest airport with a published IFR approach, and land.
9. Non-WAAS GPS receivers will provide RAIM messages to alert the pilot that
- a. there are not enough satellites available, or an accuracy degradation has been detected.
 - b. the pseudo-range and position information supplied by a satellite are correct.

- c. The acronym for Read Airman Information Manual (RAIM) - specific paragraph noted.
 - d. the mask angle needs to be reinitialized.
10. A pilot receives the following clearance: "Cleared localizer runway 27 approach, circle to land runway 9". At what point may the pilot descend from the published circling MDA?
- a. as soon as the pilot breaks out and has runway 27 in sight.
 - b. at midfield on downwind for runway 9.
 - c. upon passing the missed approach point.
 - d. when the runway 9 environment is clearly in sight, the aircraft is in a position to land using normal maneuvers, and a descent at a normal rate can be accomplished and required visibility is met.
11. While conducting an ILS approach at decision height without the runway in sight, a pilot
- a. may continue to land.
 - b. may continue to within 10 feet of the touchdown zone elevation.
 - c. must immediately execute a missed approach; follow the missed approach procedure, and announce "missed" to ATC.
 - d. must call the tower and advise of weather conditions.
12. What is the "3000G" indicate on V245 southwest of Bigbee (See L18 excerpt legend)
- a. GPS MEA.
 - b. Ground Clearance.
 - c. Minimum Crossing Altitude.
 - d. Distance to Golf course
13. The words "RADAR REQUIRED" on an instrument approach procedure mean that
- a. the aircraft must be equipped with airborne radar to fly this approach.
 - b. the approach requires operational ATC radar coverage.
 - c. this is either a PAR or ASR approach.
 - d. a 4096-code transponder with altitude encoding capability will be required.
14. While planning a trip to Miami, a C-182 pilot receives a weather briefing indicating low ceilings along the entire route of flight. Tops are expected to be 22,000 with possible embedded thunderstorms. Based on this information the pilot
- a. continues knowing ATC radar can provide radar vectors through the worst of the weather.
 - b. determines to monitor HIWAS for convective SIGMET bulletins, which will report the position of all thunderstorms.

- c. carefully reconsiders his priorities and options for this trip, knowing ATC radar may not accurately depict the embedded storms.
 - d. could easily make the trip using an IFR approved handheld GPS with downlink weather.
- 15. A pilot executes the missed approach at the destination airport due to fog. The pilot must then
 - a. initiate the missed approach, inform ATC of intentions, i.e., alternate airport, route of flight, another approach, etc.
 - b. proceed to the alternate airport as previously filed.
 - c. request special VFR and enter a tight circling approach to landing.
 - d. hold at the missed approach holding point until advised by ATC of additional procedures to be followed.
- 16. A pilot flying a C-182 on a straight-in localizer approach to runway 18R at Huntsville (HSV) must execute the missed approach if the runway environment is not in sight at (*see IAP chart at end*)
 - a. 2:12 minutes past FEKER intersection at 120 knots.
 - b. 3.9 NM past JASEX intersection.
 - c. 2:12 minutes past GETEC intersection at 120 knots.
 - d. 829 feet MSL and 2:56 minutes past GETEC at 90 knots.
- 17. You are departing a runway that does not have a published obstacle departure procedure (ODP), in low IMC. After your wheels leave the runway surface, what, if anything, should you do before turning on course? (Aim Chapter 5)
 - a. No published ODP means there are no obstacle issues and you can turn at will.
 - b. Cross the Departure End of the Runway (DER) at 35 feet AGL or higher, continue climbing runway heading at a minimum gradient of 200 feet per nautical mile to 400 feet above DER.
 - c. Climb to the circling MDA appropriate for your category of aircraft.
 - d. Climb to the minimum safe altitude (MSA).
- 18. You are flying an IAP to a circling approach to landing at 90 knots indicated airspeed. At what point in the approach may you initiate the circle to landing, and when can you descend below MDA?
 - a. As soon as the runway environment is in sight, and when you can make a normal decent to landing.

- b. As soon as you are within 1.3 miles of the runway, and when you are continuously in a position to make a normal decent, using normal maneuvers, to a landing.
 - c. Only after reaching the MDA, and can land in visual conditions.
 - d. Only upon reaching the missed approach point, and can land in visual conditions.
19. The airway marking (open-headed arrow) northwest of MASHA intersection on V325 at JUVLO indicates
(see the enroute chart excerpt #1 at the end)
- a. the published MEA applies only for southeast bound traffic.
 - b. a minimum crossing altitude.
 - c. a DME fix.
 - d. an MEA, MAA and/or MOCA change point.
20. The symbol northeast of Birmingham's Vulcan VORTAC, on V115, approximately 5 nm northeast of GESTS intersection indicates a *(see the enroute chart excerpt #1 at the end)*
- a. minimum crossing altitude.
 - b. VOR changeover point.
 - c. VOR airway course change.
 - d. compulsory reporting point.
21. Regarding obstruction clearance when departing Redstone under IFR,
- a. the "T" within the triangle on the approach plate indicates existence of nonstandard takeoff minima and/or Obstacle Departure Procedure.
 - b. Huntsville ATC will provide obstruction clearance at any altitude.
 - c. Huntsville ATC expects the instrument pilot to adhere to published takeoff procedures.
 - d. both a. and c.
22. The number east of Huntsville on the L18 Low Altitude Chart that reads '4₈' is
- a. ATC minimum vectoring altitude.
 - b. the area MOCA.
 - c. minimum area radio reception altitude.
 - d. Off route obstruction clearance altitude (OROCA).

23. During an IFR arrival at Redstone Army Airfield a pilot receives the following clearance: "Cleared RNAV 17 approach, circle to land runway 35". The pilot fixes his position passing over NICGI intersection then, upon breaking out of the clouds, he should (*see IAP chart at the end*)
- a. circle to enter right downwind for runway 35, maintain 1280 feet MSL until in a position to land.
 - b. circle to enter left downwind for runway 35, maintain 1280 feet MSL until in a position to land.
 - c. circle to enter left downwind for runway 35, maintain 855 feet MSL until in a position to land.
 - d. circle to enter right downwind for runway 35, maintain 855 feet MSL until in a position to land.
- (NOTE: For purposes of this test only, ignore NOTAMs concerning IFR operations at KHUA.)
24. You are flying a GPS approach, and at 2300 MSL and one mile before reaching the FAF (or FAWP), the GPS receiver gives a "RAIM/Loss of Integrity" warning. You decide to abort the procedure and execute a missed approach. The missed approach procedure calls for a straight-ahead climb to 2000 then a climbing right turn to 4000 intercepting a course to a holding waypoint. What do you do?
- a. Start a climb straight ahead to 4000 immediately and hold at the MAP.
 - b. Fly straight ahead to MAP, do not descend, join missed approach procedure and contact ATC.
 - c. Start a climbing right hand turn immediately.
 - d. Climb straight ahead, start a right hand turn on reaching 4000.
25. The intersection marking at CRAND east of Chattanooga's Choo Choo (GQO) VOR on V54 indicates a (*See Low Altitude Enroute Chart Excerpt #2 at end*)
- a. compulsory reporting point.
 - b. VOR changeover point.
 - c. minimum reception altitude.
 - d. minimum crossing altitude.

26. When either R-2104A or R-2104C is active, Huntsville Approach will not clear you for a published instrument approach into KHUA under IFR, without prior coordination with and permission from Redstone Tower. If R-2104A only is active, and you arrive in daytime under marginal VFR conditions, with Redstone Tower open, what are your options to get into Redstone?
 - a. Fly an approach into KHSV and land or if conditions allow fly VFR to Redstone.
 - b. Request a visual or contact approach to KHUA.
 - c. There is no way.
 - d. Declare an emergency and request a PAR/GCA approach into KHUA.
27. An instrument approach procedure having LPV or LNAV/VNAV minima requires what kind of equipment to use those minima?
 - a. a Phase II ILS receiver
 - b. a WAAS-certified GPS receiver
 - c. a TSO C129a-certified GPS receiver
 - d. Transponder Landing System (TLS) airborne component
28. An RNAV STAR procedure is identified on the chart as an RNAV 1 procedure. Under what conditions can you fly that procedure?
 - a. Your aircraft must be equipped with GLS (GNSS Landing System)
 - b. Your aircraft must be equipped with an IFR-Certified WAAS or non-WAAS GPS installation.
 - c. Your aircraft must be equipped with a certified Radar NAV (RNAV) receiver Type 1, and the procedure can be flown only at small airports having Simplified Terminal Approach Radar (STAR)
 - d. The pilot must have an RNAV endorsement.
29. If during a circling maneuver, visual reference to the runway is lost, what should the pilot do?
 - a. Continue downwind and climb to a safe altitude.
 - b. Fly the approach to the opposite runway backwards until above MDA.
 - c. Establish yourself on the published missed approach course by initiating a climbing turn towards the landing runway.
 - d. Circle back to the missed approach point and hold at MDA, make a new plan, inform ATC.
30. Forecast conditions at your destination require you to file an alternate airport. Your preferred alternate has only a VOR/DME approach. Your airplane is not equipped with DME. Can you

file that airport as the alternate if (1) your airplane is equipped with a non-WAAS IFR GPS, and (2) your airplane is equipped with a WAAS-certified IFR GPS?

- a. No, No. b. No, Yes. c. Yes, No. d. Yes, Yes.

31. You are on the ILS approach to RWY 18L at KHSV. Upon reaching DA, you have the required flight visibility and the localizer and glideslope needles are centered. You look down and can see and identify the approach lights, but you cannot yet see the runway or any other lights or markings associated with it. Can you descend below the DA down to 100 ft HAT based on seeing only the approach lights? (*See IAP chart and approach lighting chart at end*)

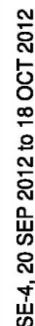
- a. Yes b. No

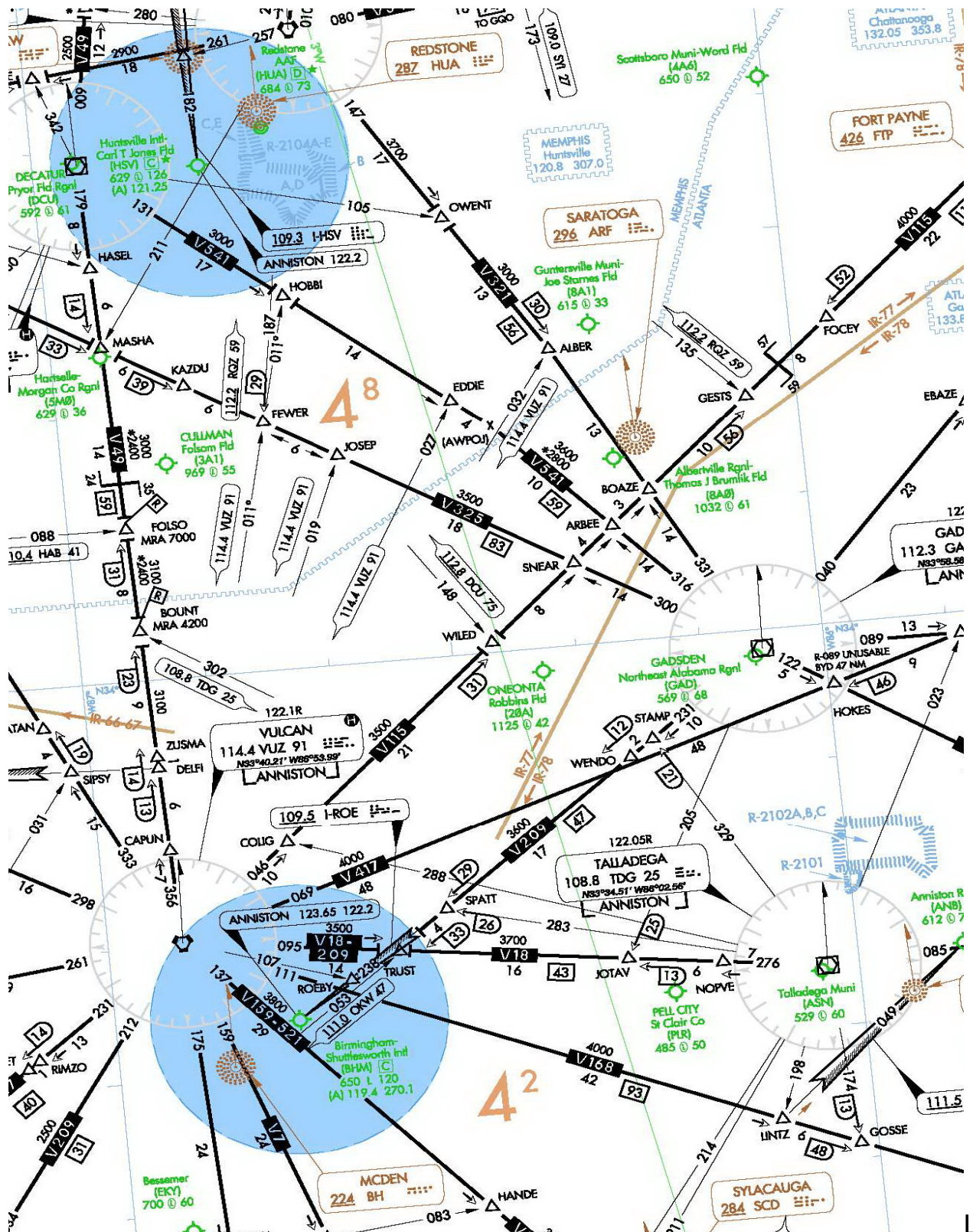
32. You are filing for an alternate airport because your destination airport does not meet the minimum weather requirements ('123' rule). You plan to use an RNAV GPS approach at your destination. If you must use your alternate, can you use an RNAV GPS approach?

- a. Yes if the alternate airport meets alternate minimum requirements.
b. No. Once you've attempted a GPS approach you must select an approach that does not rely on GPS.
c. Yes, but only if your GPS is a WAAS unit certificated under TSO-C-145/C-146.
d. No but you can substitute your GPS for any DME or VOR requirements of the approach.

33. You have selected an RNAV approach on your GPS WAAS receiver at an airport that offers an LPV approach. After the FAWP you get a VERTICAL OFF flag on the receiver. According to AIM Chapter 1, what are your options?

- a. You must abandon the approach and fly to the MAWP before continuing the missed approach procedure.
b. You may elect to continue the approach but only to LNAV minimums.
c. The GPS WAAS receiver will continue to give reliable guidance to complete the LPV.
d. The WAAS GPS will automatically "fail down" and give you the next most accurate approach.





ow-Altitude Enroute Chart Excerpt #1

REDSTONE ARSENAL, ALABAMA

RNAV (GPS) RWY 17

| | |
|-------------------------|-------------------------|
| APCH CRS 169° | Rwy Idg 7297 |
| TDZE 684 | Arpt Elev 684 |

AL-703 [USA]

REDSTONE AAF (KHUA)

V * When ALS inop, increase CAT CDE vis ¼ mile.
NA ** Circling not authorized E of Rwy 17-35.

SALS
A2

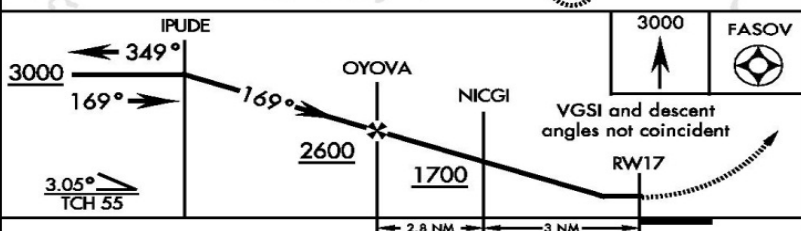
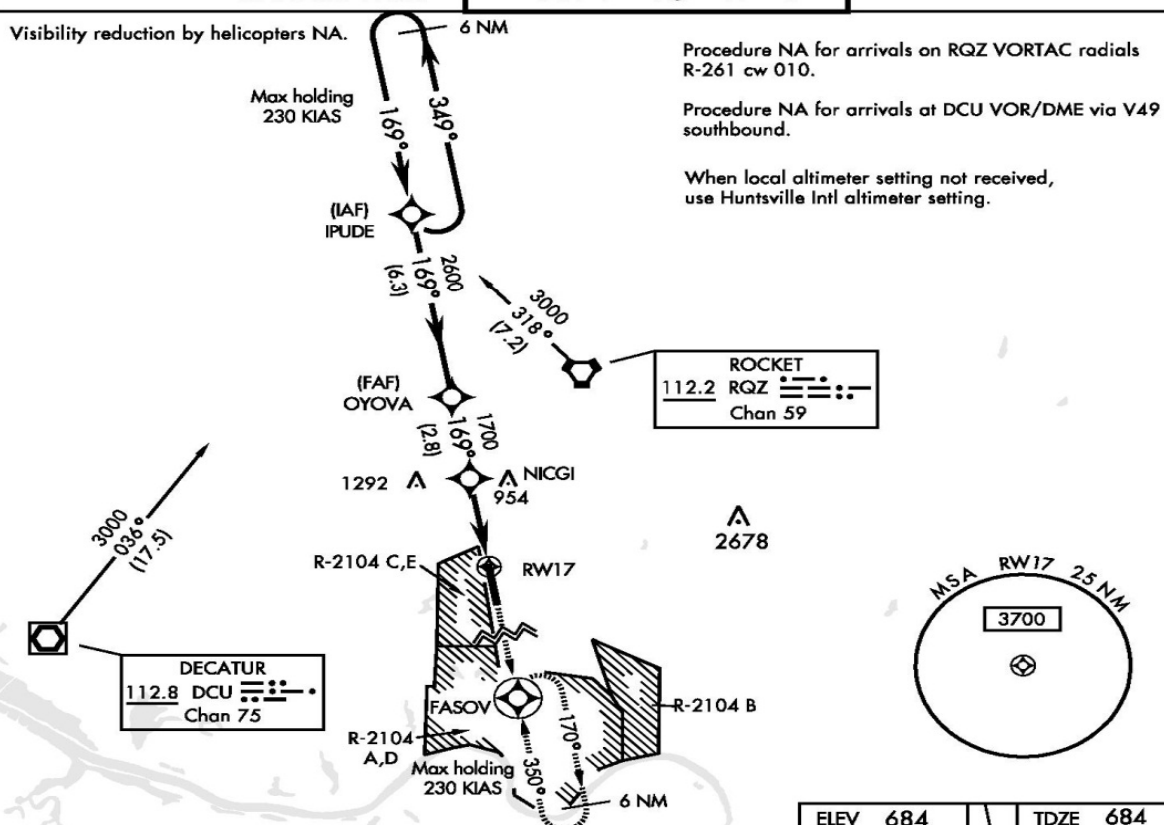
MISSED APPROACH: Climb to 3000 direct FASOV and hold.

HUNTSVILLE APP CON
E 125.6 354.1 W 118.05 239.0

REDSTONE TOWER ★
126.95 (CTAF) 0 290.275

PAR

Visiblity reduction by helicopters NA.



| CATEGORY | A | B | C | D | E |
|--|--------|-------------|-------------------------|-------------------------|-------------------------|
| LNAV MDA* | 1280-1 | 596 (600-1) | 1280-1¼ 596 (600-1¼) | 1280-1½ 596 (600-1½) | 1280-1¾ 596 (600-1¾) |
| CIRCLING ** | 1280-1 | 596 (600-1) | 1280-1½ 596 (600-1½) | 1280-2 596 (600-2) | 1600-3 916 (1000-3) |
| HUNTSVILLE INTL ALTIMETER SETTING MINIMA | | | | | |
| LNAV MDA* | 1300-1 | 616 (700-1) | 1300-1½ 616 (700-1½) | 1300-1¾ 616 (700-1¾) | 1300-2 616 (700-2) |
| CIRCLING ** | 1300-1 | 616 (700-1) | 1300-1¾ 616 (700-1¾) | 1300-2 616 (700-2) | 1620-3 936 (1000-3) |

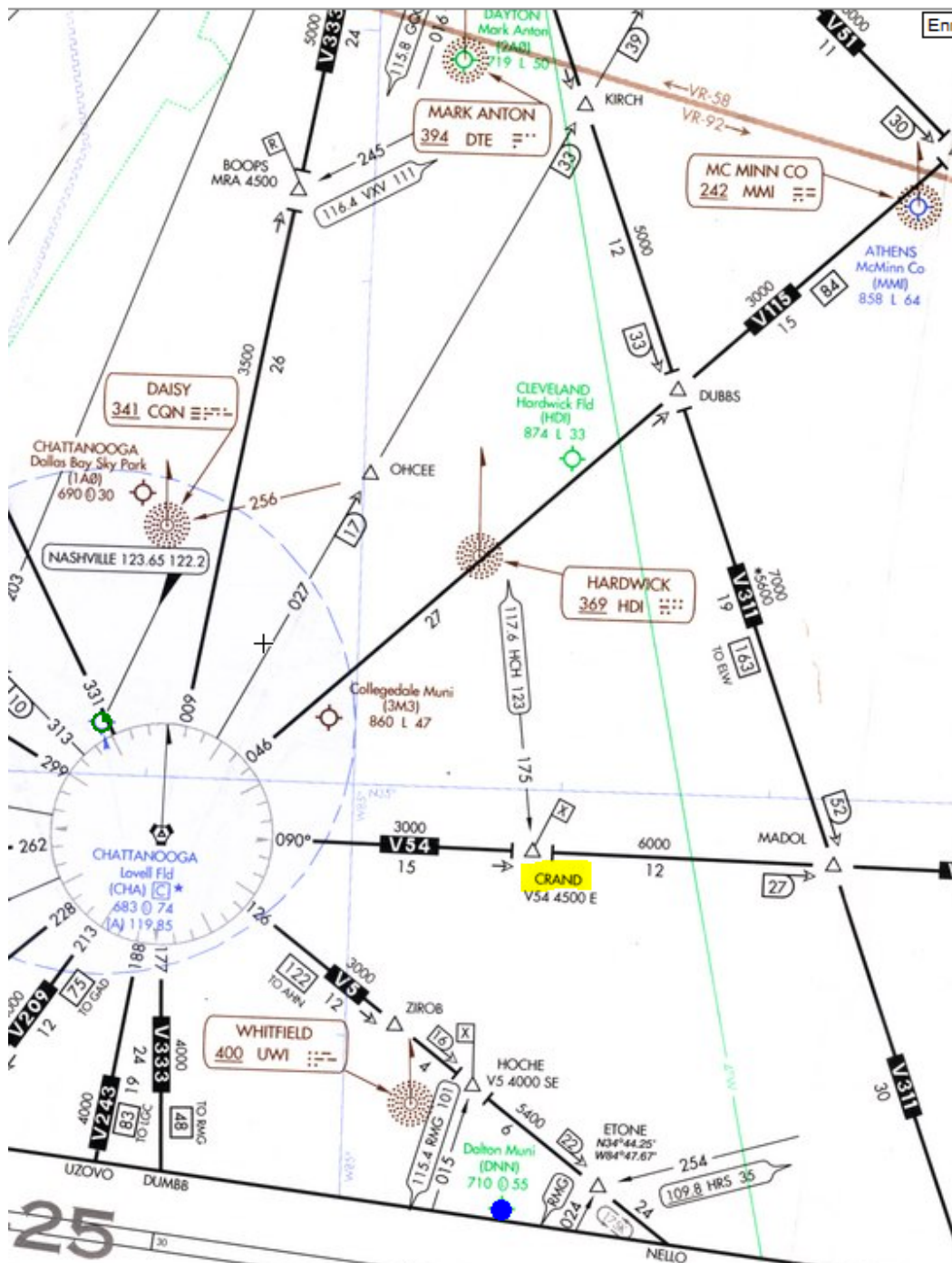
REDSTONE ARSENAL, ALABAMA

34° 41' N-86° 41' W

REDSTONE AAF (KHUA)

Orig B 11349

RNAV (GPS) RWY 17



IFR LOW ALTITUDE ENROUTE CHART EXCERPT #2

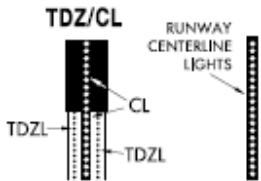
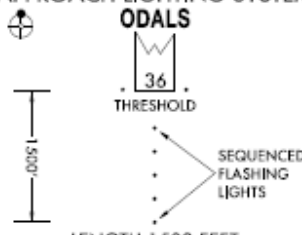
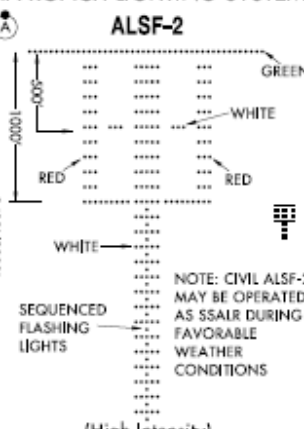
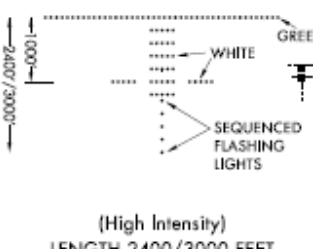

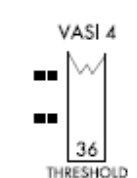
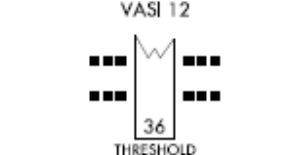
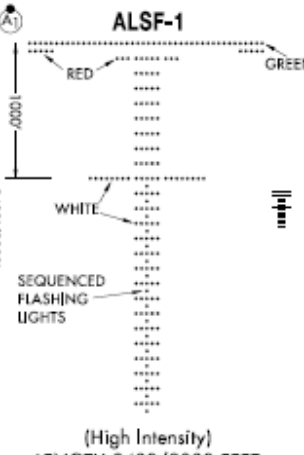
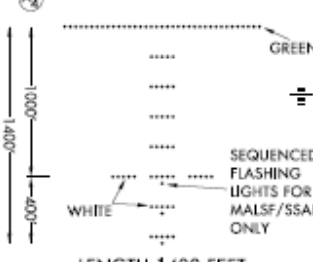
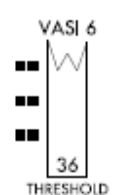
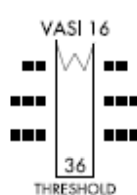
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LEGEND

INSTRUMENT APPROACH PROCEDURES (CHARTS) APPROACH LIGHTING SYSTEM - UNITED STATES

Approach lighting and visual glide slope systems are indicated on the airport sketch by an identifier, e.g., (A2), (V), etc.

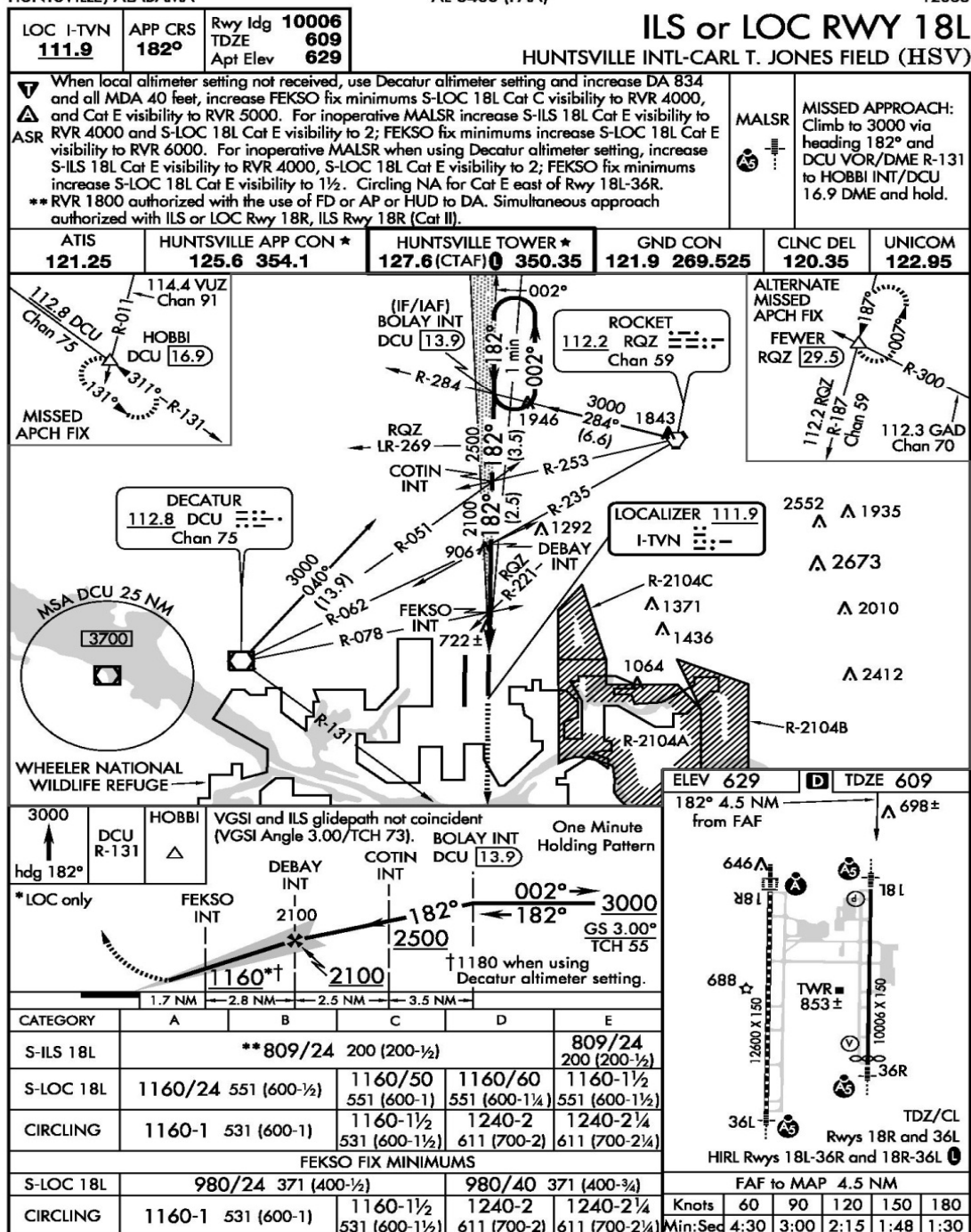
A dot "•" portrayed with approach lighting letter identifier indicates sequenced flashing lights (F) installed with the approach lighting system e.g., (A1). Negative symbology, e.g., (A1), (V) indicates Pilot Controlled Lighting (PCL).

| | | |
|--|---|--|
| <p>RUNWAY TOUCHDOWN ZONE AND CENTERLINE LIGHTING SYSTEMS</p>  <p>TDZ/CL CL TDZL</p> <p>AVAILABILITY of TDZ/CL will be shown by NOTE in SKETCH e.g. "TDZ/CL Rwy 15"</p> | <p>SHORT APPROACH LIGHTING SYSTEM</p> <p>(A2)</p> <p>SALS/SALSF (High Intensity)</p> <p>SAME AS INNER 1500' OF ALSF-1</p> | <p>OMNIDIRECTIONAL APPROACH LIGHTING SYSTEM</p> <p>(A2)</p> <p>ODALS</p>  <p>THRESHOLD</p> <p>SEQUENCED FLASHING LIGHTS</p> <p>LENGTH 1500 FEET</p> |
| <p>APPROACH LIGHTING SYSTEM</p> <p>(A)</p> <p>ALSF-2</p>  <p>GREEN</p> <p>WHITE</p> <p>RED</p> <p>WHITE</p> <p>SEQUENCED FLASHING LIGHTS</p> <p>NOTE: CIVIL ALSF-2 MAY BE OPERATED AS SSALR DURING FAVORABLE WEATHER CONDITIONS</p> <p>(High Intensity)</p> <p>LENGTH 2400/3000 FEET</p> | <p>SIMPLIFIED SHORT APPROACH LIGHTING SYSTEM with Runway Alignment Indicator Lights</p> <p>(A3)</p> <p>SSALR</p>  <p>GREEN</p> <p>WHITE</p> <p>SEQUENCED FLASHING LIGHTS</p> <p>(High Intensity)</p> <p>LENGTH 2400/3000 FEET</p> | <p>(V)</p> <p>VISUAL APPROACH SLOPE INDICATOR</p> <p>VASI</p> <p>VISUAL APPROACH SLOPE INDICATOR WITH STANDARD THRESHOLD CLEARANCE PROVIDED.</p> <p>ALL LIGHTS WHITE — TOO HIGH</p> <p>FAR LIGHTS RED NEAR LIGHTS WHITE — ON GLIDE SLOPE</p> <p>ALL LIGHTS RED — TOO LOW</p> <p>VASI 2</p>  <p>THRESHOLD</p> <p>VASI 4</p>  <p>THRESHOLD</p> <p>VASI 12</p>  <p>THRESHOLD</p> |
| <p>APPROACH LIGHTING SYSTEM</p> <p>(A1)</p> <p>ALSF-1</p>  <p>GREEN</p> <p>RED</p> <p>WHITE</p> <p>SEQUENCED FLASHING LIGHTS</p> <p>(High Intensity)</p> <p>LENGTH 2400/3000 FEET</p> | <p>MEDIUM INTENSITY (MALS and MALSF) OR SIMPLIFIED SHORT (SSALS and SSALF) APPROACH LIGHTING SYSTEMS</p> <p>(A4)</p>  <p>GREEN</p> <p>WHITE</p> <p>SEQUENCED FLASHING LIGHTS FOR MALSF/SSALF ONLY</p> <p>LENGTH 1400 FEET</p> | <p>(V3)</p> <p>VISUAL APPROACH SLOPE INDICATOR</p> <p>VASI</p> <p>VISUAL APPROACH SLOPE INDICATOR WITH A THRESHOLD CROSSING HEIGHT TO ACCOMMODATE LONG BODIED OR JUMBO AIRCRAFT.</p> <p>VASI 6</p>  <p>THRESHOLD</p> <p>VASI 16</p>  <p>THRESHOLD</p> |
| <p>MEDIUM INTENSITY APPROACH LIGHTING SYSTEM with Runway Alignment Indicator Lights</p> <p>(A5)</p> <p>MALSR</p> <p>SAME LIGHT CONFIGURATION AS SSALR.</p> | | |

HUNTSVILLE, ALABAMA

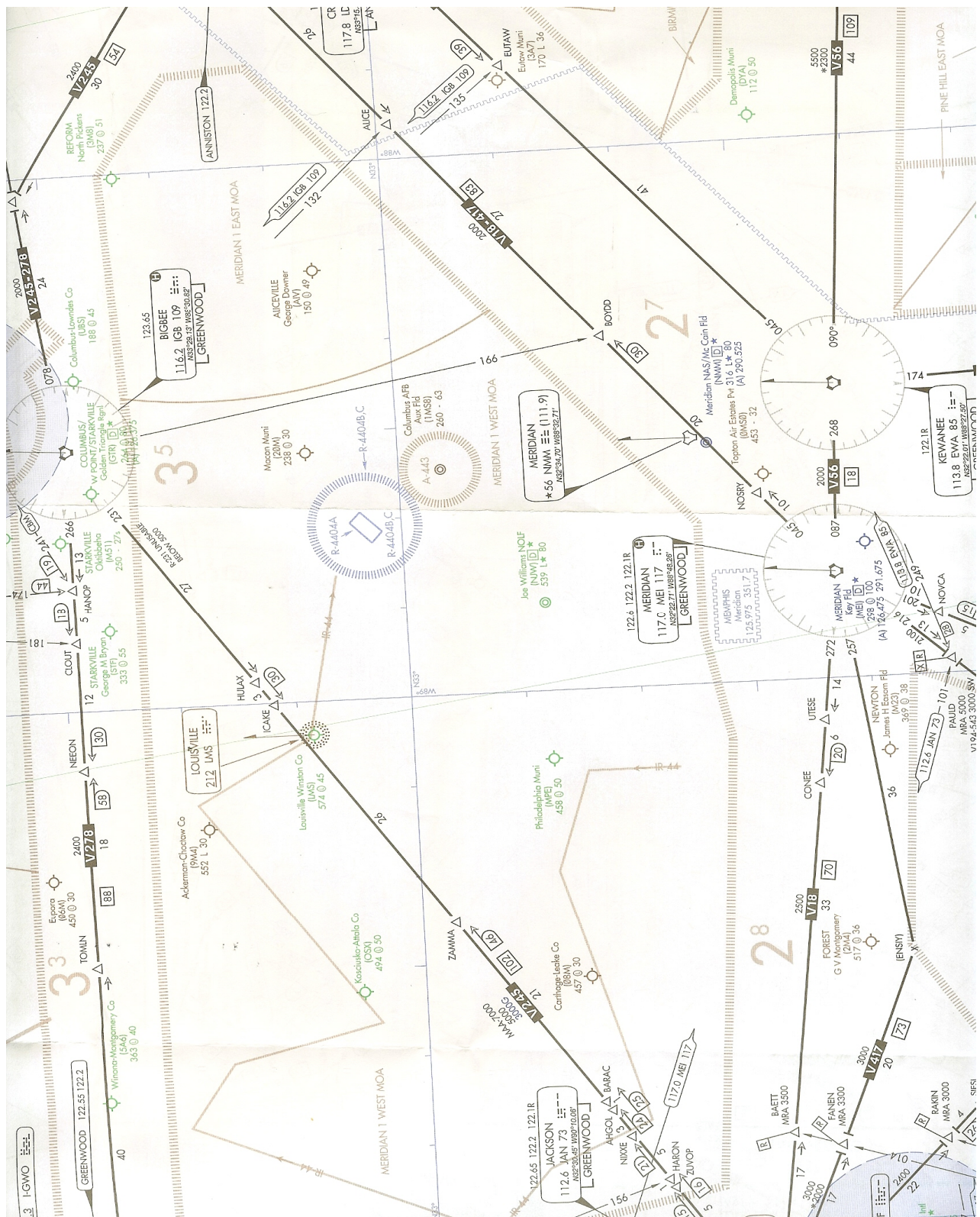
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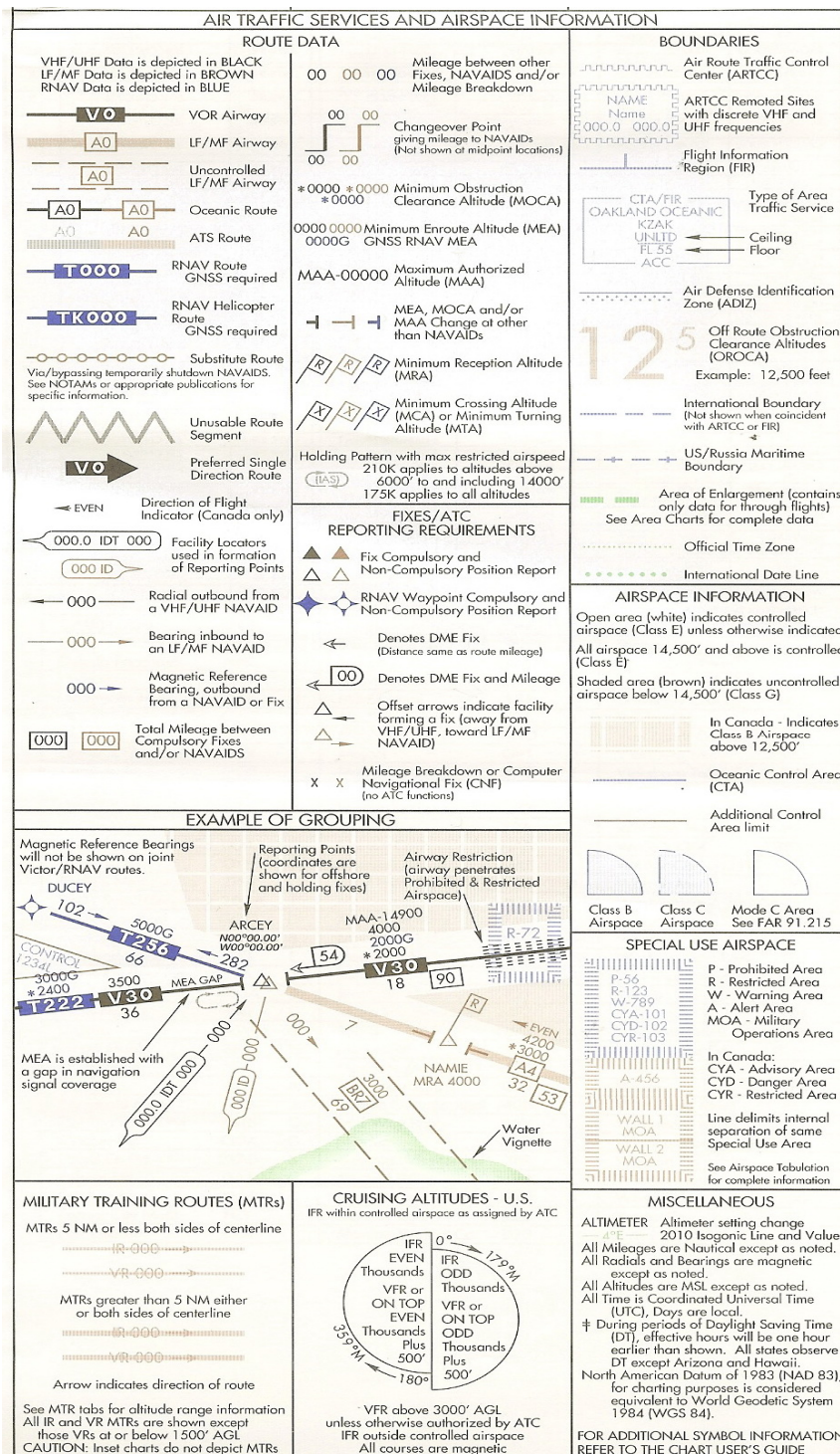


SE-4, 20 SEP 2012 to 18 OCT 2012

SE-4, 20 SEP 2012 to 18 OCT 2012



L-18 Chart IFR LOW ALTITUDE ENROUTE CHART EXCERPT #3



L18 Legend