Gleim Pilot Handbook

Eleventh Edition, Third Printing
Updates
May 2020

NOTE: Text that should be deleted is displayed with a line through it. New text is shown with blue underlined font.

If you are tested on any content not represented in our materials or this update, please share this information with Gleim so we can continue to provide the most complete test preparation experience possible. You can submit feedback at www.GleimAviation.com/questions. Thank you in advance for your help!

Introduction and Overview of Certificates and Ratings

Page 2, FAA Requirements to Obtain a Sport Pilot Certificate, Item 2.: This update clarifies language proficiency expectations.

2. Be able to read, speak, write, and ~~converse fluently in~~ understand the English language (certificates with operating limitations may be available for medically related deficiencies).

Pages 5-6, FAA Requirements to Obtain a Private Pilot Certificate, Items 1., 2., and 4.a.: This update adds details about age requirements, and clarifies language proficiency expectations.

1. Be at least 17 years of age (16 years of age to operate a glider or balloon).
2. Be able to read, speak, write, and ~~converse fluently in~~ understand the English language (certificates with operating limitations may be available for medically related deficiencies).

[. . .]

4. Obtain a student pilot certificate.
    a. You must be at least 16 years of age (14 years of age to operate a glider or balloon) and be able to read, speak, write, and understand the English language to be eligible to receive a student pilot certificate.

Page 8, FAA Requirements to Obtain an Instrument Rating, Items 1. and 2.: This update adds details about prerequisites and clarifies language proficiency expectations.

1. Hold at least a current private pilot certificate or be concurrently applying for a private certificate appropriate to the instrument rating sought.
2. Be able to read, speak, write, and ~~converse fluently in~~ understand the English language (certificates with operating limitations may be available for medically related deficiencies).

Page 12, FAA Requirements to Obtain a Flight Instructor Certificate Without a Sport Pilot Rating, Item 2.: This update clarifies language proficiency expectations.

2. Be able to read, speak, write, and ~~converse fluently in~~ understand the English language (certificates with operating limitations may be available for medically related deficiencies).

Page 14, FAA Requirements to Obtain a Flight Instructor Certificate With a Sport Pilot Rating, Item 2.: This update clarifies language proficiency expectations.

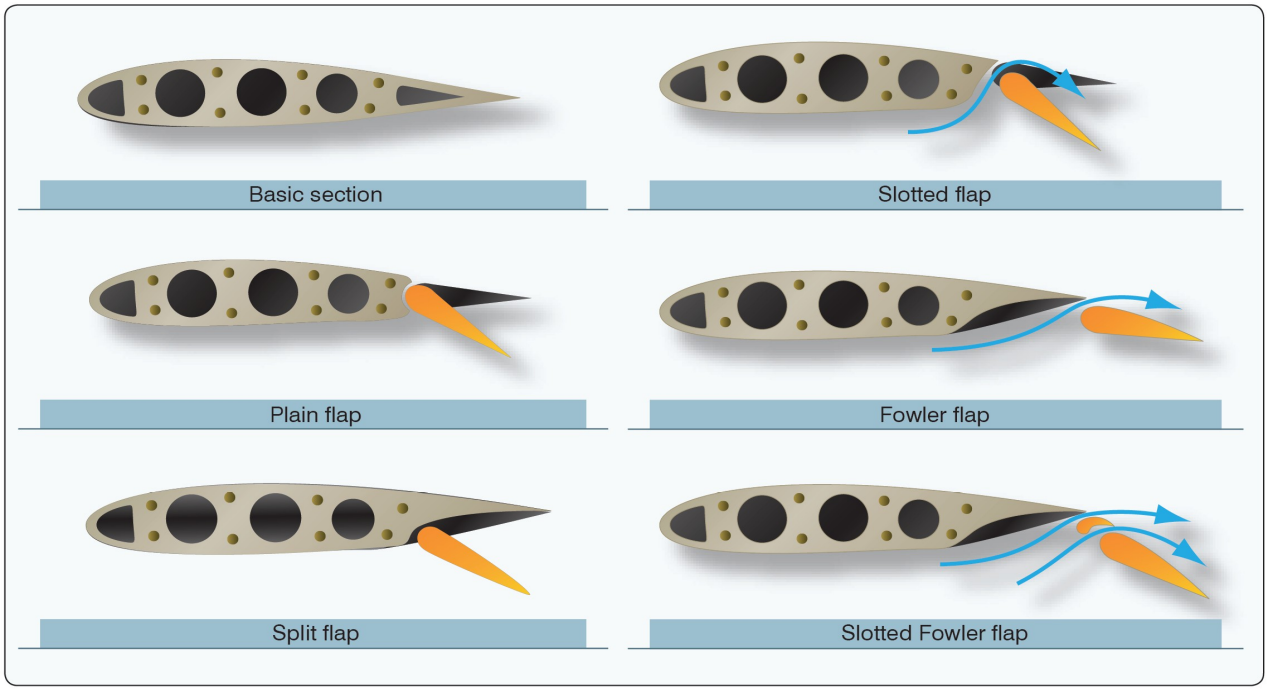
2. Be able to read, speak, write, and ~~converse fluently in~~ understand the English language. If you cannot read, speak, write, and understand English ~~because of~~ for medical reasons, the FAA may place limits on your certificate as necessary for the safe operation of light-sport aircraft.

Page 15, FAA Requirements to Obtain a Ground Instructor Certificate, Item 1.b.: This update clarifies language proficiency expectations.

b. Be able to read, speak, write, and ~~converse fluently in~~ understand the English language (certificates with operating limitations may be available for medically related deficiencies).

Study Unit 1 – Airplanes and Aerodynamics

Page 34, Subunit 1.5, Items 2.c.2) and New item 2.c.2)e): This update replaces the image with a more detailed version and expands our coverage to include Slotted Fowler flaps.



[. . .]

e) Slotted Fowler flap

i) Similar in purpose to the Fowler flap

ii) Adds energy to the airflow via the additional slots

iii) The flap body continues further outward and downward, increasing airfoil camber

iv) Provides an additional increase in lift coupled with an even greater increase in drag in comparison to the Fowler flap, with the corresponding flap position ideal for landing

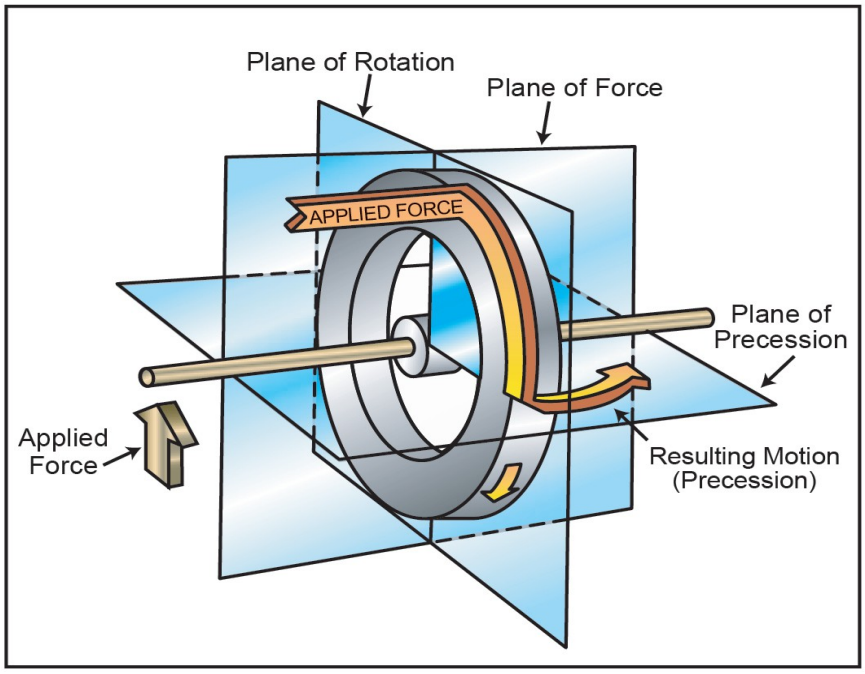
Page 58, Subunit 1.11, Item 5.e.4): This edit removes unclear information from the outline.

~~4) Because rates of turn at any given bank angle vary with airspeed, the bank angle at which the airplane becomes laterally unstable also varies with airspeed.~~

~~a) For example, in a medium turn with a 30° bank, the airplane will usually be stable, while the same airplane will often be unstable in a steep turn with a 50° bank.~~

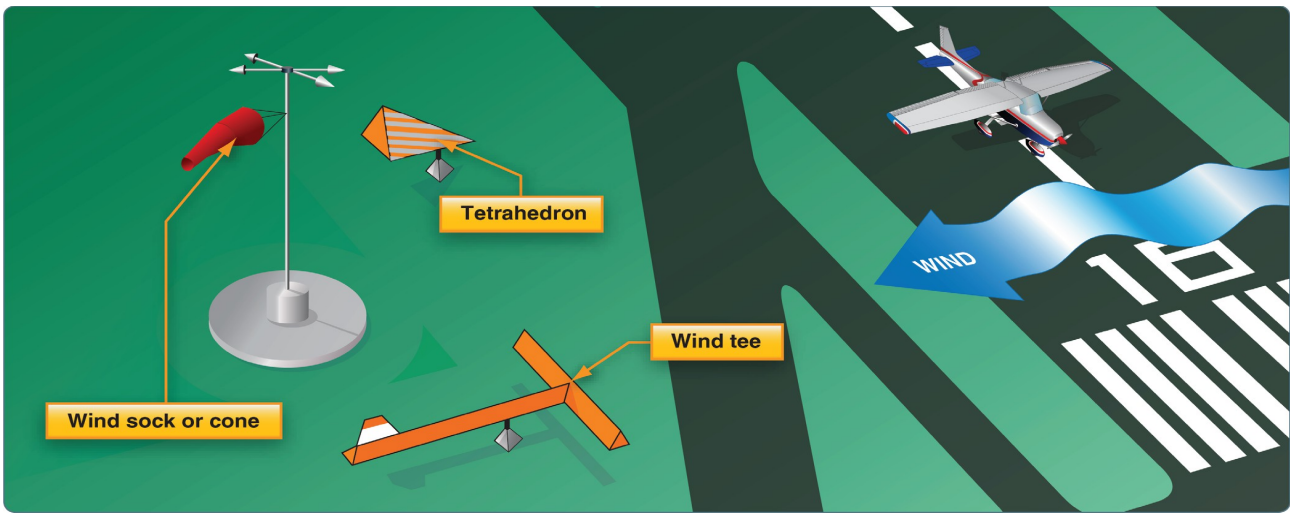
Study Unit 2 – Airplane Instruments, Engines, and Systems

Page 87, Subunit 2.5, Item 3.b.2): The image was updated to include “Applied Force” and “Resulting Motion (Precession)” labels.



Study Unit 3 – Airports, Air Traffic Control, and Airspace

Page 159, Subunit 3.4, Item 2.a.2)c): The image was replaced with a more detailed version.



Page 201, Subunit 3.29, Item 1.c.: This update clarifies the limits of Class D airspace.

c. Class D airspace normally extends from the surface up to and including 2,500 ft. ~~AGL~~ above the airport elevation and is charted in MSL.

Page 208, Subunit 3.35, Items 3.c.6), 3.d., and 3.d.2)a)iv): This update replaces the image with a new version.

6) The following figure depicts ADS-B airspace requirements:

Study Unit 4 – Federal Aviation Regulations

Page 236, Subunit 4.6, 61.65, Item 1.b.: This update clarifies language proficiency expectations.

b. Be able to read, speak, write, and ~~converse fluently in~~ understand the English language.

Page 242, Subunit 4.6, 61.96, Items 2.b.-c.: This update clarifies language proficiency expectations and medical certificate requirements.

b. Be able to read, speak, write, and ~~converse fluently in~~ understand the English language, or limitations will be placed on the certificate as necessary for safety.

c. Hold at least a valid third-class medical certificate unless operating under the privileges of ~~(~~14 CFR 61.23(c)(3).

Page 248, Subunit 4.6, 61.123, Item 1.b.: This update clarifies language proficiency expectations.

b. Be able to read, speak, write, and ~~converse fluently in~~ understand the English language, or limitations will be placed on the certificate as necessary for safety.

Page 250, Subunit 4.6, 61.213, Item 1.b.: This update clarifies language proficiency expectations.

b. Be able to read, speak, write, and ~~converse fluently in~~ understand the English language, or limitations will be placed on the certificate as necessary for safety.

Study Unit 8 – Aviation Weather Services

Page 387, Subunit 8.1, Item 2.a.6)h): This update removes coverage of NOTAMs that are no longer included in standard briefings.

h) NOTAMs -- information from any NOTAM pertinent to the proposed flight ~~and pertinent FDC NOTAMs within approximately 400 mi. of the FSS providing the briefing~~.

~~i) NOTAMs that have been published in the *Notices to Airmen Publication (NTAP)* are not included, unless requested by you.~~

Page 395, Subunit 8.4, New TAF example item 12.a): This update provides additional information about BECMG.

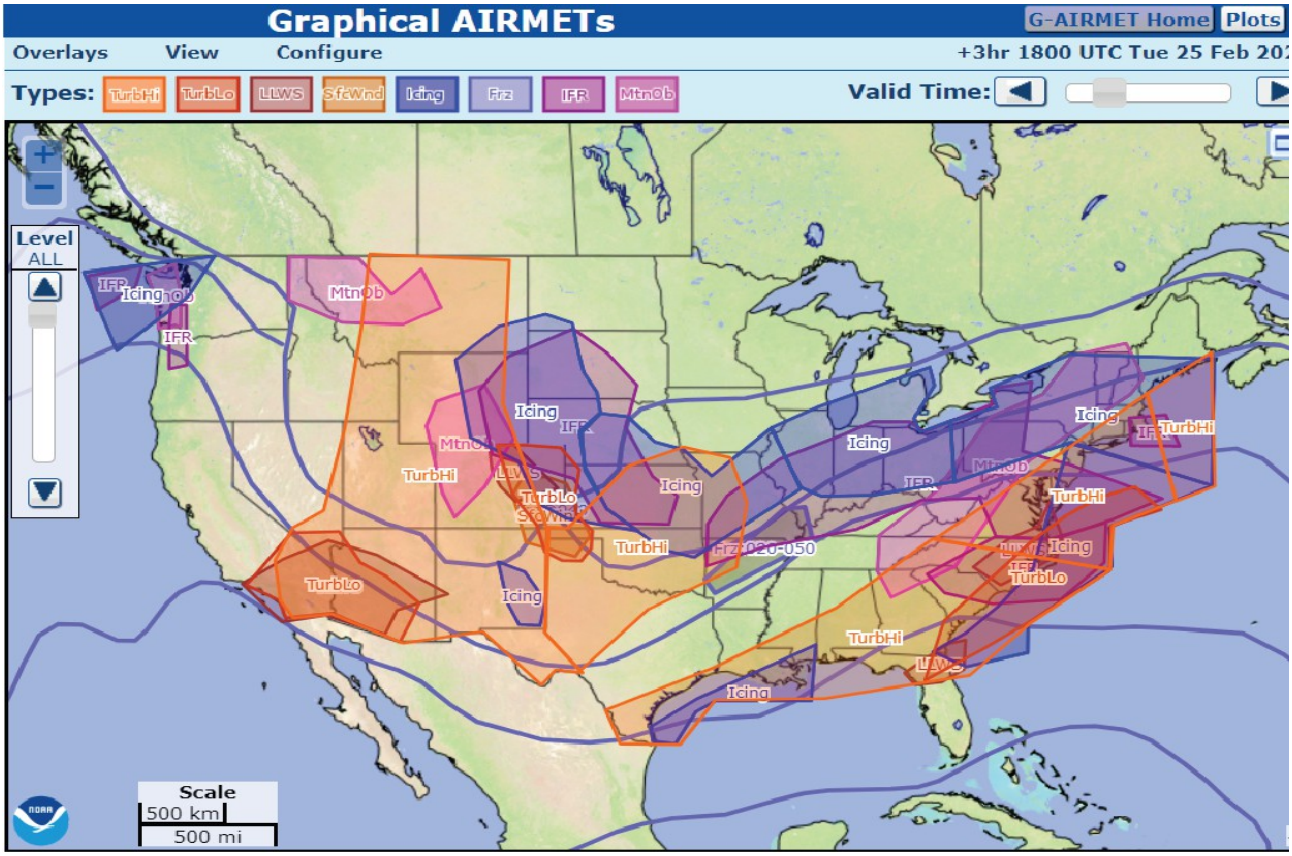
12. Becoming (gradual change) wind 200° true at 13 kt., gusts to 20 kt., visibility 4 SM in moderate rain showers, ceiling 2,000 ft. overcast between 2200 UTC and 2400 UTC on the 5th and beginning the 6th day

a) BECMG is only used at military airfields.

Pages 398-400, Subunit 8.5: This update replaces Subunit 8.5, “Aviation Area Forecast (FA),” which is no longer a relevant topic, with the more up-to-date material reproduced below.

8.5 GRAPHICAL AIRMAN’S METEOROLOGICAL ADVISORY (G-AIRMET)

1. The G-AIRMET is a graphical advisory of potentially hazardous weather conditions for aircraft. These conditions are less severe than those reported in SIGMETs, and they are only valid at specific time “snapshots.”



   a. For G-AIRMETs, forecasters create graphical objects depicting the areas and attributes of AIRMET hazards.

2. G-AIRMETs are issued at discrete times no more than 3 hr. apart for a period of up to 12 hr. into the future (00, 03, 06, 09, and 12 hr.). They are issued at 03:00, 09:00, 15:00, and 21:00 UTC (with updates issued as necessary). AIRMETs are issued by the Aviation Weather Center (AWC) for the contiguous United States and adjacent coastal waters.

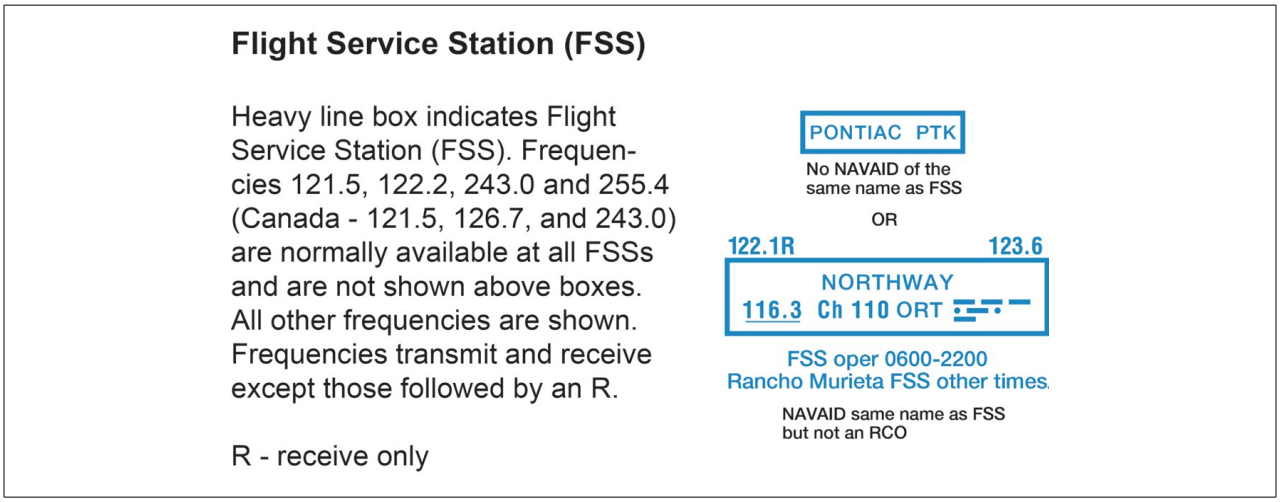
3. Graphical snapshots and interactive displays, which help define possible impact upon en route navigation, can be accessed at www.aviationweather.gov/gairmet.

4. G-AIRMET users must keep in mind that if a 00-hr. forecast shows no significant weather and a 03-hr. forecast shows hazardous weather, the change is occurring during the period between the two forecasts.

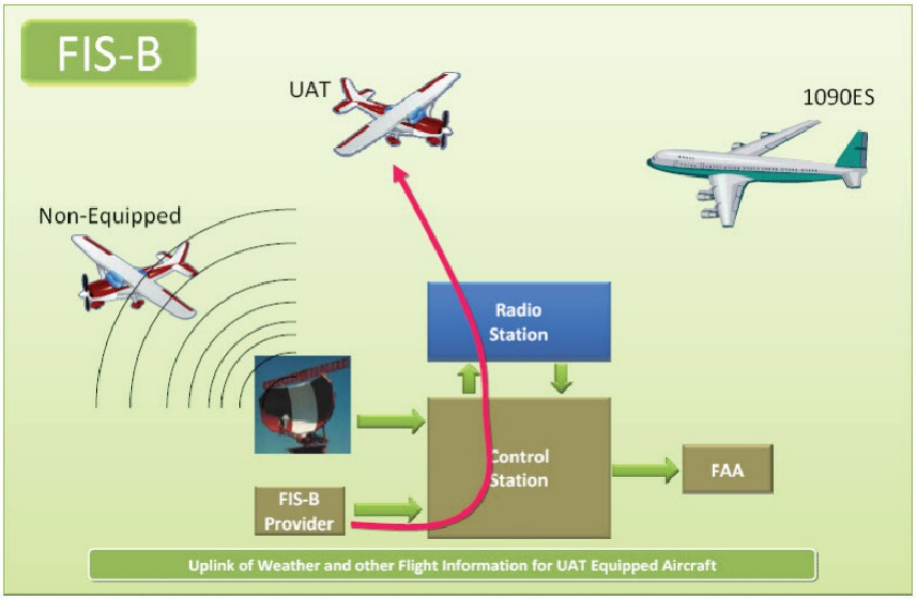
Page 402, Subunit 8.7, Item 1.b., New item 2., and Old item 2.: This update removes coverage of HIWAS, adds coverage of FIS-B as new item 2. (subsequent items were renumbered accordingly), includes two new images, and revises newly renumbered item 3.

1. Flight Service Stations (FSSs) specifically provide en route aircraft with current weather along their route of flight.
   a. Flight Service is available throughout the country on 122.2 MHz or the frequencies listed on aeronautical charts and the Chart Supplement.
      1) On a sectional chart, the name of the nearest FSS facility is sometimes indicated in communications boxes.

~~b. Hazardous Inflight Weather Advisory Service (HIWAS) is available from navigation facilities that have a small square inside the right corner of the navigation aid identifier box.~~

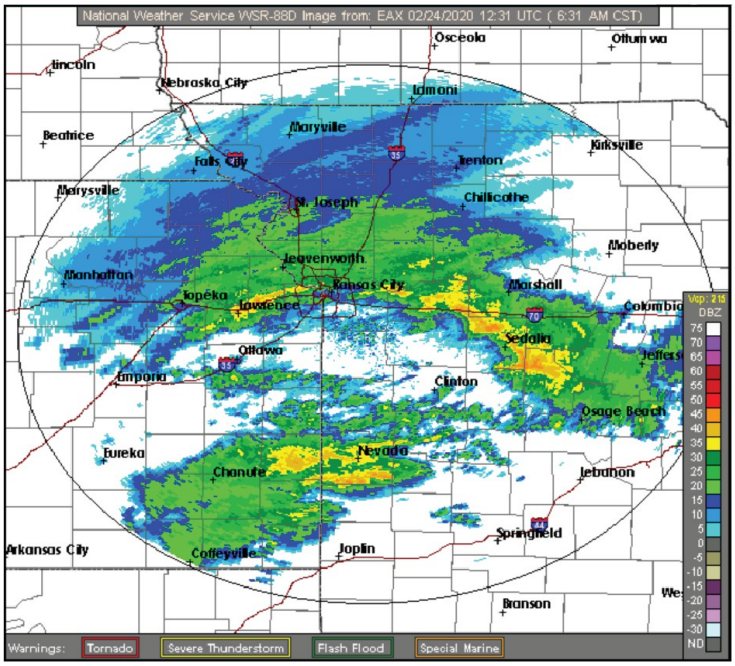


2. Flight Information Service – Broadcast (FIS-B) is available to aircraft receiving data over 978 MHz (UAT) and provides current weather and aeronautical information in the cockpit.



~~2~~3. In-flight ~~aviation~~ weather advisories ~~are~~ include, among others, NEXRAD, PIREPs, METAR, winds and temperatures aloft, and NOTAMs. They also provide forecasts ~~that advise~~ advising en route aircraft of ~~the development of~~ potentially hazardous weather.

Page 409, Subunit 8.11, Item 2.a.3): This update replaces the top two images with a new image.

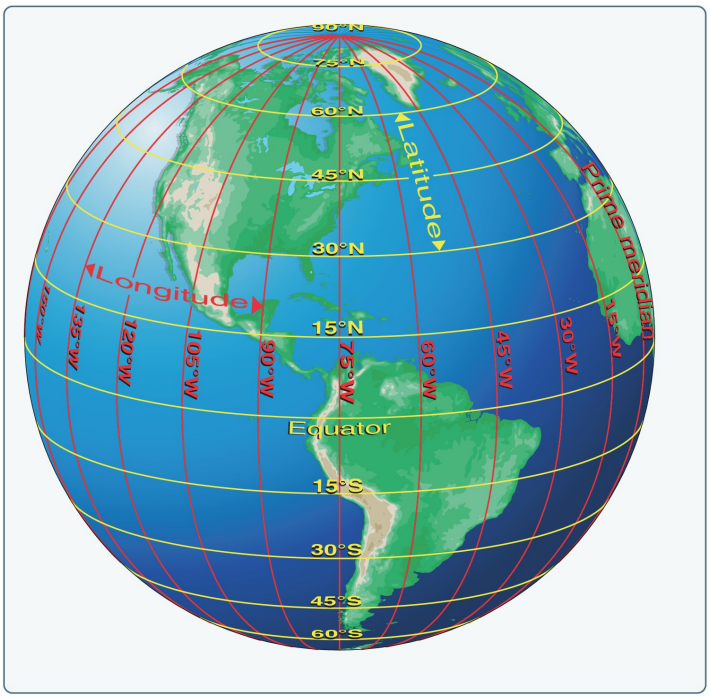


Page 417, Subunit 8.14, Item 4.c.1): These edits update domestic flight plan filing procedures.

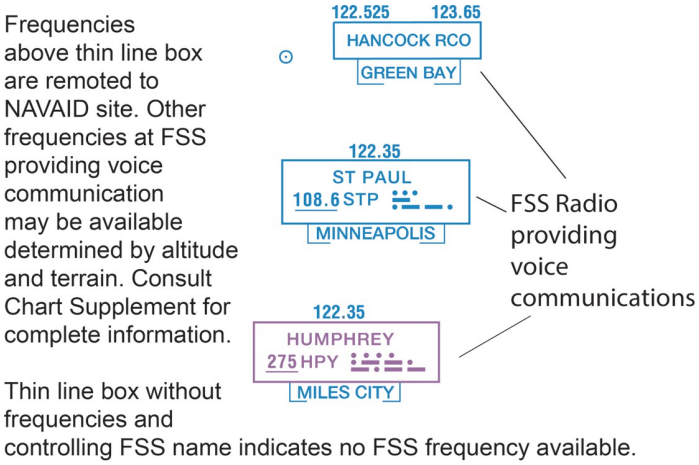
1) Domestic flight plans ~~may~~ should be filed under the ~~FAA Domestic or~~ ICAO format as shown below.

Study Unit 9 – Navigation: Charts, Publications, Flight Computers

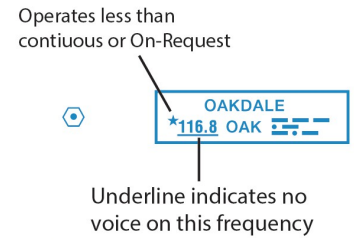
Page 425, Subunit 9.2, Item 1.b.3): This update replaces the image with a new version.



Page 430, Subunit 9.3, Item 1.c.: This update replaces the images with new versions.

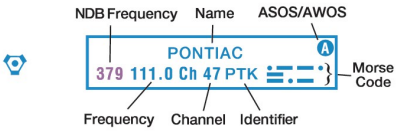


VOR

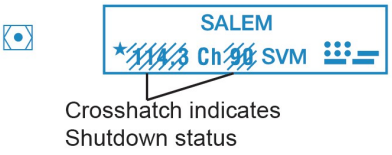


VORTAC

When an NDB NAVAID shares the same name and Morse Code as the VOR NAVAID the frequency can be co-located inside the same box to conserve space.

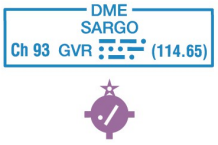


VOR-DME



DME

DME co-located at an airport
Note: DMEs are shown without the compass rose.



Pages 440-441, Subunit 9.7, Items 2.a.5)-6) and New items 2.e.-h. and 3.: These edits update coverage of NOTAMs.

~~5) NOTAM (D) information will remain available for the duration of its validity or until it is published in the *Notices to Airmen Publication (NTAP)*.~~

~~a) If you request information from a published NOTAM during a telephone weather briefing, be aware that the briefer will have to search for it. This can significantly increase your call time.~~

~~6) Once the NOTAM has expired or has been published, the NOTAM is deleted from the computer database.~~

[. . .]

d. **Military NOTAMs**

1) Military NOTAMs pertain to U.S. Air Force, Army, Marine, and Navy navigation aids and/or airports that are part of the national airspace system.

e. FICON NOTAMs provide notices regarding field condition and information about landing runways, taxiways, and aprons.

f. TFR NOTAMs distribute general warnings for the entire FAA airspace and define areas of restricted air travel related to special events or hazardous conditions.

1) Current TFRs are available online at https://tfr.faa.gov/tfr2/list.html.

g. International NOTAMs are received from other countries and also generated by the U.S. NOTAM Office.

h. GPS NOTAMs are issued in response to testing or interference missions meeting national security requirements.

1) GPS NOTAMs are available online at www.faasafety.gov/SPANS/notices_public.aspx.

3. Dissemination of NOTAMs

a. NOTAMs can be obtained from a standard weather briefing by calling 1-800-WX-BRIEF (1-800-992-7433) or online at www.1800wxbrief.com.

b. The FAA NOTAM search page provides information critical to safe aircraft operation and can be accessed at https://notams.aim.faa.gov/notamSearch/nsapp.html#/.

Page 469, Subunit 9.25, Item 1.c.3): This update revises the wind speeds in the example.

3) EXAMPLE: Using the headwind/crosswind component graph depicted above, determine the headwind and the crosswind components of the wind for a landing on Runway 36 when the wind is 030° at ~~30~~40 kt.

a) The angle between the runway (360° or 0°) and the wind (030°) is 30° (A).

b) Enter the graph at the 30° line, and move down to the wind speed arc of ~~30~~40 kt. (B).

c) From this point, move horizontally to the left margin to determine a headwind component of ~~26~~35 kt. (C).

d) Return to the point of the 30° angle and ~~30~~40-kt. speed arc. Now, move vertically down to determine a crosswind component of ~~15~~20 kt. (D).

e) Landing in this situation is like having a ~~15~~20-kt. direct crosswind.

Study Unit 11 – Cross-Country Flight Planning

Page 503, Subunit 11.1, Item 1.b.1): These edits update where NOTAMs can be found.

b. Obtain the appropriate charts and other navigation publications (e.g., Chart Supplement~~,~~ ~~*NTAP*~~) that you will need for your cross-country flight.

1) You can obtain ~~the~~ all required NOTAMs ~~in the NTAP (Notices to Airmen Publication)~~ from https://notams.aim.faa.gov/notamSearch/nsapp.html#/ or by specifically requesting any “published NOTAMs” from an FSS specialist during your weather briefing.

~~a) These NOTAMs are provided to you only if you specifically request them.~~