

## Gleim Private Pilot Flight Maneuvers

Seventh Edition, Third Printing

Updates

April 2022

NOTE: Sections with changes are indicated by a vertical bar in the left margin. 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](http://www.GleimAviation.com/questions). Thank you in advance for your help!

The changes described and reproduced in this update are for clarification or to reflect changes in FAA and/or industry usage.

Language was updated throughout the book, including “cockpit” to “panel,” “panel display,” or “flight deck;” “student” to “learner,” “certificate holder,” “candidate,” or “trainee;” and “Notices to Airmen” to “Notices to Air Missions.”

### Study Unit 3 – Pilot Qualifications

Page 23, Subunit 3.1, Item 3.b.1)-2):

- 1) You must undergo a routine medical examination that may be administered only by FAA-designated AMEs.
  - a) For operations requiring a private, recreational, or student pilot certificate, a first-, second-, or third-class medical certificate expires ~~at the end of the last day of the month either~~
    - i) ~~5 years~~ (60 months 5 years) after the month of the date of examination shown on the certificate, if you have not reached your 40th birthday on or before the date of examination or
    - ii) ~~2 years~~ (24 months 2 years) after the month of the date of examination shown on the certificate, if you have reached your 40th birthday on or before the date of examination.
- 2) ~~Even if you have a physical handicap~~ For persons with a disability, medical certificates can be issued in many cases. Operating limitations may be imposed depending upon the nature of the disability.

Page 25, Subunit 3.1, Item 4.a.:

- a. Although you are required to carry your medical and pilot certificates, you are not required to have your logbook with you at all times ~~(unless you are a student pilot)~~.

## Study Unit 4 – Airworthiness Requirements

Page 34, Subunit 4.1, Item 3.a.1)a)-e):

- a) Use the memory aid ATOMATOE FLAMES to help you remember the equipment.
  - i) Anticollision light system (approved aviation white or aviation red)
  - ii) Tachometer for each engine
  - iii) Oil pressure gauge for each engine using a pressure system
  - iv) Manifold pressure gauge for each altitude engine
  - v) Altimeter
  - vi) Temperature gauge for each liquid-cooled engine
  - vii) Oil temperature gauge for each air-cooled engine
  - viii) Emergency equipment (flotation devices beyond power-off glide from the shore if operating for hire and at least one pyrotechnic signaling device)
  - ix) Fuel gauge indicating the quantity of fuel in each tank
  - x) Landing gear position indicator, if the aircraft has a retractable landing gear
  - xi) Airspeed indicator
  - xii) Magnetic direction indicator (compass)
  - xiii) An Emergency locator transmitter (ELT), if required by 14 CFR 91.207
  - xiv) Approved Safety belt with approved metal-to-metal latching device for each occupant who is 2 yr. of age or older
- b) For small civil airplanes manufactured after July 18, 1978, an approved shoulder harness for each front seat
- c) ~~For normal, utility, and acrobatic category airplanes with a seating configuration, excluding pilot seats, of nine or less, manufactured after December 12, 1986, a shoulder harness for each seat in the airplane~~
- d) ~~For small airplanes certificated after March 11, 1996, an approved anticollision light system~~
- e) ~~Approved flotation gear for each occupant and one pyrotechnic signaling device if the aircraft is operated for hire over water beyond power-off gliding distance from shore~~

## Study Unit 5 – Weather Information

Page 49, Subunit 5.1, FIS-B Over UAT Product Update and Transmission Intervals: This table and the footnotes beneath were replaced entirely.

**FIS-B Over UAT Product Update and Transmission Intervals**

Product	Update Interval <sup>1</sup>	Transmission Interval (95%) <sup>2</sup>	Basic Product
AIRMET	As Available	5 min.	Yes
AWW/WW	As Available, then at 15 min. intervals for 1 hr.	5 min.	No
Ceiling	As Available	10 min.	No
Convective SIGMET	As Available, then at 15 min. intervals for 1 hr.	5 min.	Yes
D-ATIS	As Available	1 min.	No
Echo Top	5 min.	5 min.	No
METAR/SPECI	1 min. (where available), As Available otherwise	5 min.	Yes
MRMS NEXRAD (CONUS)	2 min.	15 min.	Yes
MRMS NEXRAD (Regional)	2 min.	2.5 min.	Yes
NOTAMs-D/FDC	As Available	10 min.	Yes
NOTAMs-TFR	As Available	10 min.	Yes
PIREP	As Available	10 min.	Yes
SIGMET	As Available, then at 15 min. intervals for 1 hr.	5 min.	Yes
SUA Status	As Available	10 min.	Yes
TAF/AMEND	6 hr. (±15 min.)	10 min.	Yes
Temperature Aloft	12 hr. (±15 min.)	10 min.	Yes
TWIP	As Available	1 min.	No
Winds aloft	12 hr. (±15 min.)	10 min.	Yes
Lightning strikes <sup>3</sup>	5 min.	5 min.	Yes
Turbulence <sup>3</sup>	1 min.	15 min.	Yes
Icing, Forecast Potential (FIP) <sup>3</sup>	60 min.	15 min.	Yes
Cloud tops <sup>3</sup>	30 min.	15 min.	Yes
1 Minute AWOS <sup>3</sup>	1 min.	10 min.	No
Graphical-AIRMET <sup>3</sup>	As Available	5 min.	Yes
Center Weather Advisory (CWA) <sup>3</sup>	As Available	10 min.	Yes
Temporary Restricted Areas (TRA)	As Available	10 min.	Yes
Temporary Military Operations Areas (TMOA)	As Available	10 min.	Yes

<sup>1</sup>The Update Interval is the rate at which the product data is available from the source.

<sup>2</sup>The Transmission Interval is the amount of time within which a new or updated product transmission must be completed (95%) and the rate or repetition interval at which the product is rebroadcast (95%).

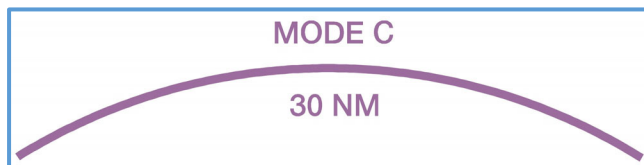
<sup>3</sup>The transmission and update intervals for the expanded set of basic meteorological products may be adjusted based on FAA and vendor agreement on the final product formats and performance requirements.

**NOTE:** NOTAM-D and NOTAM-FDC products broadcast via FIS-B are limited to those issued or effective within the past 30 days.

## Study Unit 7 – National Airspace System

Pages 91-92, Subunit 7.1, Items 1.c.-h.:

- c. **Class A** airspace is generally the airspace from 18,000 ft. MSL up to and including flight level (FL) 600, including the airspace overlying the waters within 12 NM of the coast of the 48 contiguous states and Alaska.
- 1) Operating rules and pilot/equipment requirements
    - a) An IFR clearance to enter and operate within Class A airspace is mandatory. Thus, you must be instrument-rated to act as PIC of an airplane in Class A airspace.
    - b) Two-way radio communication, appropriate navigational capability, and a Mode C transponder are required.
    - c) Aircraft operating above FL 180 (18,000 ft. MSL) must be equipped with a Mode S transponder-based ADS-B transmitter.
- d. **Class B** airspace is generally the airspace from the surface to 10,000 ft. MSL surrounding the nation's busiest airports in terms of IFR operations or passenger enplanements (e.g., Atlanta, Chicago).
- 1) The configuration of each Class B airspace area is individually tailored and consists of a surface area and two or more layers.
  - 2) Operating rules and pilot/equipment requirements for VFR operations
    - a) An ATC clearance is required prior to operating within Class B airspace.
    - b) Two-way radio communication capability is required.
    - c) A Mode C transponder is required within and above the lateral limits of Class B airspace and within the 30 NM Mode C veil of the primary airport regardless of altitude.



- d) ADS-B Out equipment is also required within and above the Class B airspace and inside the Mode C veil.
- e) The PIC must be at least a private pilot, or a student pilot certificate holder or recreational pilot who is under the supervision of a CFI.

[...]

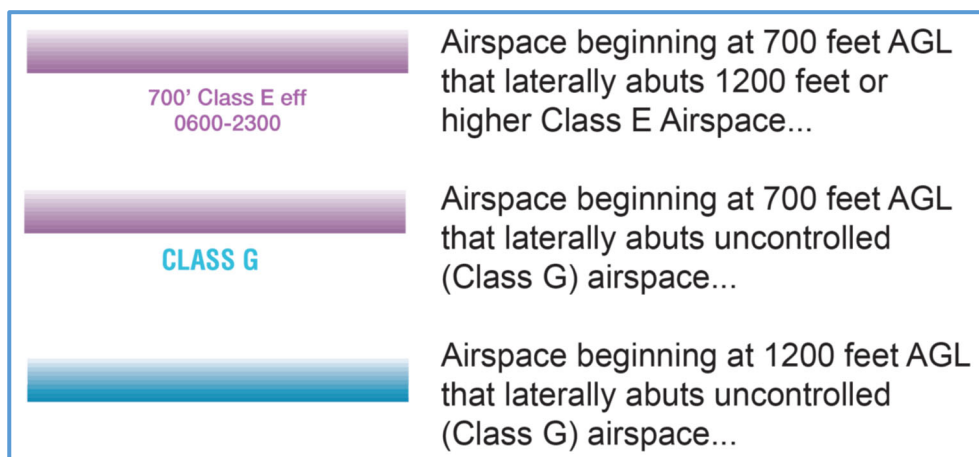
- 2) Operating rules and equipment requirements
  - a) Two-way radio communications must be established and maintained with ATC before entering and while operating in Class C airspace.
  - b) ~~Mode C transponder is required within and above the lateral limits of Class C airspace.~~ The minimum equipment needed to operate within and above Class C airspace includes
    - i) A 4096-code transponder with Mode C (altitude encoding) capability.
    - ii) Two-way communication capability, and
    - iii) ADS-B Out equipment that either operates on the frequency of 1090 MHz or operates using a UAT on the frequency of 978 MHz.

- f. **Class D** airspace surrounds those airports that have both an operating control tower and weather services available, and are not associated with Class B or C airspace.
- 1) Class D airspace normally extends from the surface up to and including 2,500 ft. AGL and is depicted on charts in MSL.
  - 2) Operating rules and pilot/equipment requirements
    - a) Two-way communications must be established and maintained with ATC prior to entering and while operating in Class D airspace.
    - b) No specific pilot certification is required.
- g. **Class E** airspace is any controlled airspace that is not Class A, B, C, or D airspace.
- 1) Except for 18,000 ft. MSL (the floor of Class A airspace), Class E airspace has no defined vertical limit, but rather it extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace.
  - 2) There are no specific minimum pilot certification ~~or equipment~~ requirements to operate under VFR in Class E airspace.
    - a) ADS-B Out equipment is required in Class E airspace when
      - i) Above 10,000 ft. MSL over the 48 states and Washington, D.C., excluding airspace at and below 2,500 ft. AGL
      - ii) Over the Gulf of Mexico at and above 3,000 ft. MSL within 12 NM of the coastline of the United States
- h. **Class G** airspace is that airspace that has not been designated as Class A, Class B, Class C, Class D, or Class E airspace (i.e., it is uncontrolled airspace).
- 1) No specific pilot certification or airplane equipment is required to operate under VFR in Class G airspace.

NOTE: While generally there is no equipment required to operate VFR in Class ~~E~~ or Class G airspace, there are some airports located within the surface area of an airport with an operational control tower. In these circumstances, you must establish and maintain two-way radio communication with the control tower if you plan to operate to, from, or through an area within 4 NM from the airport, from the surface up to and including 2,500 ft. AGL.

Page 93, Subunit 7.1, Item 2.5)b):

- b) The lateral and vertical limits of all Class E airspace (up to but not including 18,000 ft.) are shown by narrow bands of vignette on Sectionals and TACs.



Page 96, Subunit 7.1, New items 3.a.8)-3.b.:

8) **National security areas (NSAs)** -- airspace of defined vertical and lateral dimensions established at locations where there is a requirement for increased security and safety of ground facilities. Pilots are requested to voluntarily avoid flying through the depicted NSA.

a) A NOTAM will be issued to prohibit flight in NSAs when it is necessary to provide a greater level of security and safety.

**b. Other Airspace Areas**

1) **Airport advisory areas** encompass the areas within 10 SM of airports that have no operating control towers but where FSSs are located. At such locations, the FSS provides advisory service to arriving and departing aircraft. Participation in the Local Airport Advisory (LAA) program is recommended but not required.

2) **Military training routes (MTRs)** are developed for use by the military for the purpose of conducting low-altitude (below 10,000 ft. MSL), high-speed training (more than 250 kt.).

**3) Temporary Flight Restrictions (TFRs)**

a) TFRs (14 CFR 91.137) contain airspace where the flight of aircraft is prohibited without advance permission and/or an FAA waiver.

i) This restriction exists because the area inside the TFR is often of key importance to national security or national welfare.

ii) TFRs may also be put into effect in the vicinity of any incident or event that, by its nature, may generate such a high degree of public interest that hazardous congestion of air traffic is likely.

b) TFRs are very different from other forms of airspace because they are often created, canceled, moved, and/or changed.

i) The temporary nature of TFRs can make keeping track of their locations and durations challenging.

ii) TFRs protect government interests as well as the general public.

iii) TFRs often surround other forms of airspace when extra security is necessary.

iv) Because TFRs protect the President, pilots must be aware that large TFRs will be implemented around any area where the President is present.

c) A Notice to Air Missions (NOTAM) implementing temporary flight restrictions will contain a description of the area in which the restrictions apply.

i) The size and shape of TFRs vary based on the areas they protect.

ii) Most TFRs are in the shape of a circle and are designed to protect the center of that circle.

iii) TFRs always have defined vertical and lateral boundaries as indicated in the NOTAMs.

d) Flight limitations in the proximity of space flight operations (14 CFR 91.143) are designated in a NOTAM.

4) Parachute jump aircraft operations areas are coordinated with the control facility with reference to altitudes in MSL. This allows for ATC to provide meaningful traffic information. Monitoring the Common Traffic Advisory Frequency (CTAF) in areas of high jumping activity is essential.

a) Tabulations of parachute jump areas in the U.S. are contained in the Chart Supplement U.S.

b) Review aviation navigation charts for highlighted areas of activity.

**b-c. Special Flight Rules Areas (SFRAs)**

[...]

Pages 98-99, Subunit 7.1, Items 3.c. and 3.d.-3.d.5) were moved as edited to new items 3.a.8)-3.b. on the previous page and above. Subsequent items were renumbered accordingly.

6) VFR flyway is a general flight path not defined as a specific course but used by pilots planning flights into, out of, through, or near complex terminal airspace to avoid Class B airspace.

[...]

**Study Unit 10 – Human Factors and Appendix B**

Pages 145 and 646, Gleim Preflight Risk Assessment Matrix:

[...]

enVironment						
Airport	Adequate, familiar		Barely adequate		Unfamiliar, inadequate	
Weather (IFR/VFR)	VFR		MVFR	IFR	LIFR	
Runways	Dry, hard, long	Dry, hard, short	Dry, soft, short	Wet, hard, short	Wet, soft, short	
Lighting (Day VFR=1)	Runway, taxiway		Runway only		None	
Terrain	Flat, <del>populated</del> <u>dry</u>	<u>Flat, swampy</u>	Flat, <del>unpopulated</del> <u>dense forests</u>	<u>Hilly</u>	Mountainous	
External pressures						

[...]