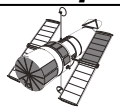
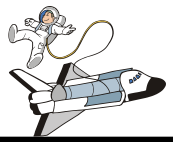




Class E

FL 600

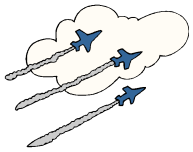
Class A

No VFR

DME required at and above FL 240 [91.205(e)]

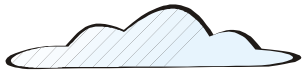
18,000 MSL (FL 180) — Altimeter 29.92

Class E

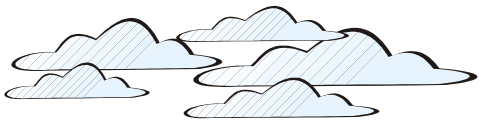


Class E

Class E



14,500 MSL



12,500 MSL

Ceiling of Class B can be anywhere from 7,000 to 12,500 MSL.

10,000 MSL — Transponder Mode C (91.215)

Speed Limit — 250 Knots below 10,000 MSL

C L A S S G

Speed Limit
200 kts below 2,500 AGL within 4 NM of an airport in Class C or D airspace.
(does not apply to Class B)

Class E

7,000 MSL

Class B

Class E

Speed Limit
Unlimited at & above 10,000';
250 KIAS below 10,000';
200 KIAS below a floor.

4,000 AGL

Class C

Class E

2,500 AGL

Class D

700 AGL
Class G

Class G

Class G

Class E

1,200 AGL
Class G

Class D
No radar.

Class E can go down to 700' AGL to accommodate instrument approaches.

Class B — Individually tailored. 250 kts below 10,000 (200 kts below the floor or in VFR corridor).

Class E to the surface must have weather reporting and radio communications with ATC to the ground.

Class G — When 700' MAGENTA on sectionals.

Class D with radar is called a TRSA.

Class G — When 1,200' BLUE on sectionals.

Class G — Uncontrolled. Surface to 14,500 MSL. Shaded on enroute charts (mostly western US).

Class C — Radar. Individually tailored but usually 5 NM Core from surface to 4,000' AGL, 10 NM Shelf from 1,200 to 4,000 AGL, Outer Area 20 NM radius.

CLASS A Airspace: (71.1, 71.31, 71.33, 71.75, 71.133, 91.135, 91.155, AIM 3-2-1, 3-2-2)

1. **All** airspace from **18,000** feet up to and including **FL 600** within the 48 contiguous States (including the District of Columbia) and most of Alaska plus the airspace within 12 NM offshore.
   There is no Class A airspace over Hawaii and the Victor airways have no upper limit in Hawaii.
2. **All** aircraft MUST be **IFR** unless otherwise authorized. No VFR (unless for purposes of lost communications).
3. No minimum flight visibility or distance from clouds is specified.
4. Altimeter setting for all aircraft — **29.92**

CLASS B Airspace: (71.41, 91.117, 91.126, 91.127, 91.129, 91.130, 91.131, 91.155, 91.215, AIM 3-2-1, 3-2-3)

1. **Surface to 7,000** feet or **up to 12,500** feet surrounding the nation's busiest airports.
2. Individually tailored upside-down wedding cakes — contain all instrument approaches.
3. **Clearance into Class B required**. (91.131)
4. VFR operations — **3 miles** — **Clear of Clouds** and at least a **1,000 ft ceiling** (or Special VFR).
5. IFR operations — An operable **VOR** or TACAN receiver is required. (91.131)
6. Unless otherwise authorized by ATC, a **LARGE TURBINE-POWERED** airplane operating to or from a primary airport in Class B airspace ***MUST* operate AT** or **ABOVE** the **FLOORS** of the **Class B** airspace while within the lateral limits of that area **even when** operating on a **visual approach**.
7. A **LARGE** (12,500 lbs or more) ***or* TURBINE-POWERED** airplane shall, unless otherwise required by distance from cloud criteria, enter the **TRAFFIC PATTERN** at an altitude of at least **1,500 feet AGL** and maintain 1,500 AGL **until further descent** is **required** for a safe **landing**. [Noise abatement]
8. A **large** or **turbine-powered** airplane approaching to land on a runway served by an **ILS** shall fly **at or above** the **GLIDE SLOPE between** the **outer marker** and the **middle marker**.
9. **Any airplane** approaching to land on a runway served by a **VASI** shall maintain **at or above** the **glide slope** (aka glide path) **until** a **lower altitude** is **necessary** for a safe **landing**.
10. **Mode C veil** — All aircraft operating within **30 NM** of a Class B airport, from the surface to 10,000 feet must have Mode C (unless the aircraft was originally certified without an electrical system and still does not have one).
11. **SPEED LIMIT** — **250 KIAS** below **10,000** feet (**200 KIAS below** the **floor** or in VFR corridor).
    a. **250 KIAS MUST *NOT* BE EXCEEDED even if** you are told to **"MAINTAIN BEST FORWARD SPEED."**
    b. **"Maintain best** (or maximum) **forward speed"** — means — "maximum or best forward ***LEGAL*** speed." ATC does not have the authority to lift the 250 below 10,000 ft speed restriction [91.117(a)]. **You cannot be cleared to violate a regulation**, and you cannot accept such a clearance.
    c. If a controller assigns you 300 kts or greater inbound (10,000 ft or above), and he later descends you to 8,000 ft, it is ***UNDERSTOOD*** that you must **slow to 250 KIAS *BEFORE* descending below 10,000**.
    d. NOTE: There ***was*** a test program that took place at **HOUSTON** International (IAH) to **delete** the **250 kts below 10,000** for ***DEPARTURES* only**, ***AND*** only **if authorized by ATC**. The phraseology was **"NO SPEED LIMIT"** or **"INCREASE SPEED TO** (number) **KNOTS"** or **"DELETE the 250 kt RESTRICTION"** or **"CLIMB UNRESTRICTED"** or **"HIGH SPEED CLIMB APPROVED"**. This program was cancelled in January of 2004.

"At or above the **glide slope"** does not prohibit **normal bracketing maneuvers above or below** the **glide slope** for the purpose of remaining on the glide slope.

"Normal bracketing maneuvers" are maneuvers which remain within the **limits** of the **higher** and **lower glide slope signals**.

OpSpec C077 requires **commercial operators** to **remain within Class B, C**, or **D** airspace — or within **Class E** airspace when within **35 miles** of the **destination**.

Do you have to hear the words "Cleared into Class B"???

1. If you can get a word in edgewise, *always* ask for confirmation, just to get it on the tape.
2. But **if** you've been **radar identified**; and **given** a **heading/altitude assignment** that will **put you in** the **Class B**; and you **cannot get** through the radio clutter to get a Class B clearance **confirmation** — **stay on** the **assigned heading** [91.123(a) **When** an **ATC clearance** has been **obtained**, **no pilot** in command **may deviate from that clearance**. 91.123(b) Except in an emergency, **no person may operate an aircraft contrary to an ATC instruction**…]. The formal words "Cleared into Class B" are moot (although it sure is comforting to *hear* those words).
3. 91.131 [Operations in Class B airspace] (a)(1) — "The operator **must receive** an **ATC clearance** from the ATC facility having jurisdiction for that area **before operating** an aircraft **in that area**."
   It **does *NOT* say** — "The operator **must HEAR** the ***WORDS* *'Cleared into Class B'***…"

CLASS E Airspace:

(71.71, 91.127, 91.155, 135.205, AIM 3-1-4, 3-2-1, 3-2-5, 3-2-6, 4-1-18, 4-3-26, 4-4-12, 5-5-6, FAA-H-8083-15A, FAA-H-8083-25A)

1. **CONTROLLED** airspace that is not Class A, B, C, or D within the 48 contiguous States and Alaska.
2. Generally the **upward limit** is **18,000 feet**. NOTE: **Class E** airspace **begins again** above **FL 600**.
3. Types of Class E:
   a. A **SURFACE AREA** designated for an **AIRPORT** designed to contain all instrument approaches. The primary requirements for a Class E airport are approved **weather reporting** (FSS or ASOS/AWOS) and a means of **communications with ATC** all the way to the ground.
   b. **EXTENSIONS** to a **SURFACE AREA** of **Class B, C, or D** airspace to contain instrument approaches.
   c. **TRANSITION AREAS** **beginning at** either **700 or 1,200 ft AGL**, used to/from the en route environment.
   d. **EN ROUTE AREAS** that provide **controlled airspace** for **IFR** but are **NOT Federal airways**.
   e. **Federal AIRWAYS** from **1,200 AGL upward to but not including 18,000 MSL**.
   f. Unless designated at lower altitude—**Class E begins** at **14,500 MSL** up to, but not including, **18,000 MSL**.

OpSpec C077 requires **commercial operators** to **remain within Class B, C**, or **D** airspace — or within **Class E** airspace when within **35 miles** of the **destination**.

VFR in CLASS E (controlled) Airspace:

(91.155, 91.157, AIM 3-1-4, 3-2-6, 5-4-22, FAA-H-8083-15A, FAA-H-8083-25A, OpSpec C077)

1. **Less than 10,000** feet MSL — **3 SM** visibility — Cloud separation: 500 below, 1,000 above, 2,000 horizontally.
2. **At or above 10,000** feet MSL — **5 SM** visibility — Cloud separation: 1,000 below, 1,000 above, 1 mile horizontally.
3. **No person may operate** an aircraft **beneath** the **ceiling** under VFR within the limits of controlled airspace designated to the surface for an airport **when** the **ceiling** is **less than 1,000 feet** (except "Special VFR" — 91.157).
4. NOTE #1: **Do NOT cancel in the air** while on approach to an airport with a **Class E** surface area ***unless*** the weather meets the basic **VFR weather** and **cloud separation** requirements of 91.155 (see 1. above) unless you have received a "Special VFR" clearance (91.157).
5. NOTE #2: A **"Special VFR"** clearance is **treated almost** the **same as an IFR** clearance as far as separation is concerned. It is **not likely to save you or** the **guy behind you any time**. So, if the weather is **below 3 miles visibility** and/or the **ceiling** is **below 1,000** ft or there's a chance that **cloud separation** could be a problem, **just wait till you're on** the **ground to cancel**. You never know who might be lurking in the weeds just waiting for a chance to make your life miserable.
6. NOTE #3: To conduct a **VISUAL APPROACH** in Class B, C, D, or E airspace under **Part 91** you need only maintain **"clear of clouds"** (AIM 5-4-22). **Part 135** (turbojets) and **Part 121** are restricted by OpSpec C077 and **must maintain** the **cloud separation required by 91.155** (see 1. above).

SURFACE-BASED CLASS E: (AC 90-66A, FAA-H-8083-3, FAA-H-8083-15A, FAA-H-8083-25A)

1. **Brings** Class E, **controlled airspace**, **to the surface** in order to raise the weather minimums and **restrict VFR traffic** during poor weather. Especially important for **ILS approaches**.
2. Must have approved **weather reporting** and **communications** with **ATC to the surface**.
3. The airport manager must also request and receive Class E approval from the FAA.
4. Most airports with weather reporting and communications with ATC never request Class E status because it would make VFR traffic illegal when the visibility drops below 3 SM and/or ceiling below 1,000 feet. Not good for business, especially if there's a flight school on the field.
5. When **weather reporting** is **unavailable**, Class E **reverts to Class G** with a Class E transition area.
6. Represented by **dashed lines** on sectionals and enroute charts.
7. Surface-based Class E was **formerly** known as a **control zone**.
8. ***"RECOMMENDED"*** traffic pattern **SPEED LIMIT** is **200 kts**.