

IMC 20 Apr 2017

- Opening Remarks
- Air Space Presentation
- IMC Scenario
- Attendees Recent Instrument Experiences
- WX Stuff (GFA and Fore Flight Warnings)
- ILS Vertical Separation (time permitting)
- General comments from members



Air Space (separation) for IFR Pilots Part 1

Gary White

What?

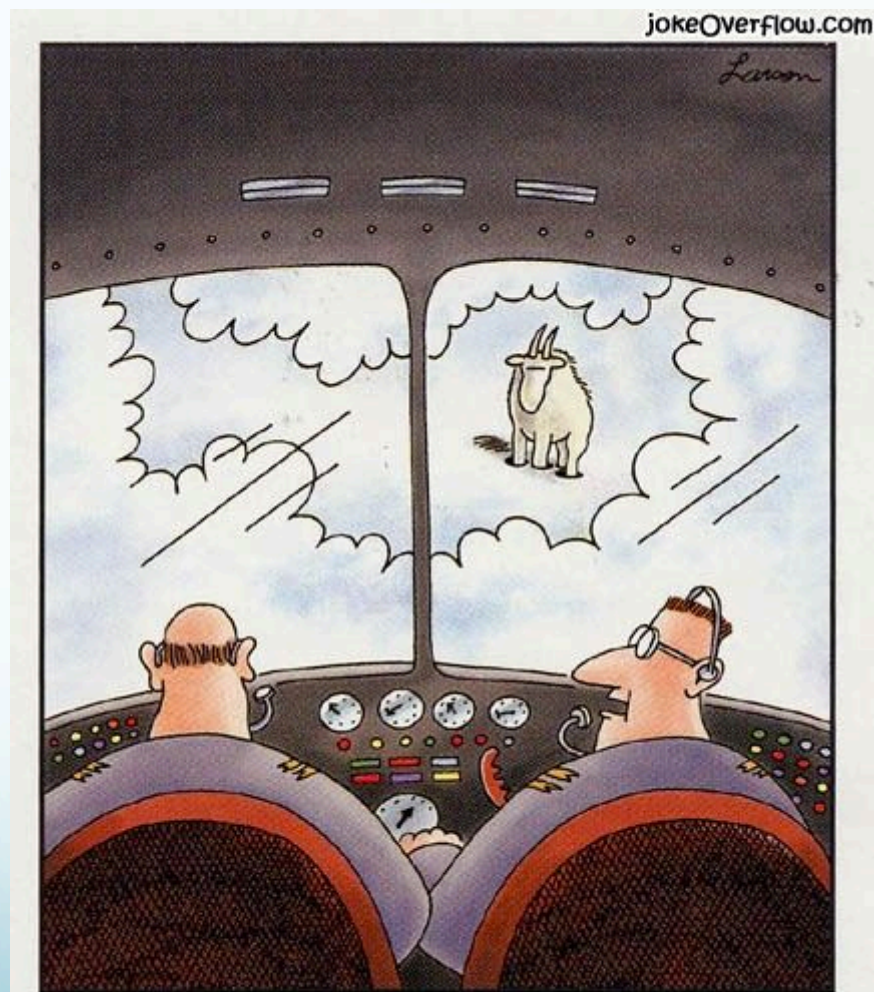
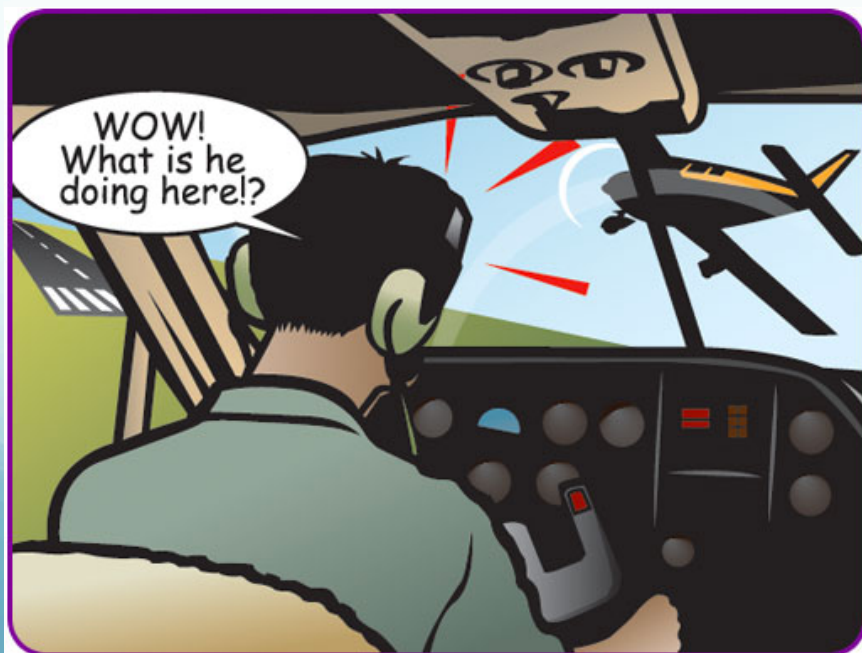
- Quote from AOPA Safety Advisor

“Throughout this Safety Advisor, we will be talking about VFR and IFR operations within different classes of airspace. VFR pilots need to know more about airspace than IFR pilots, because most airspace was designed to separate VFR and IFR operations. The simple act of being on an IFR flight plan means that a clearance through controlled airspace has already been granted.”

- What’s Wrong With This Statement?

What Should We Be Thinking?

- Air Space not Airspace
- Other Aircraft, and
- Obstacles and Ground Separation



"Say ... what's a mountain goat doing
way up here in a cloud bank?"

Classical Airspace Memorization Approach

- Neglects ATC Roles and Responsibilities
- Barrier to Situational Awareness
- Doesn't Properly Train *All* Pilots of *Operational* Implications
- Ignores Risk Management and *Avoidance*

See L19 snip. What does this tan area tell us?



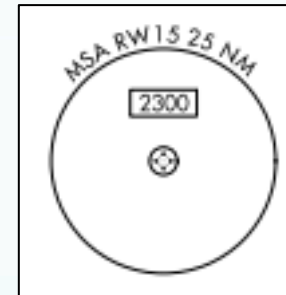
Class G

- We Routinely Climb/Descend Out of Class G on IFR
- But What About Point A to B Totally in Class G?
- Flight Plan Required?
- Flight Into IMC?
- Aircraft Separation?
- What is Minimum Cruise Altitude?
- It May Be Legal – But **Is It Safe?**

MSA

The MSA is provided for emergency purposes only and guarantees 1,000 feet obstruction clearance in the sector indicated with reference to the bearings in the circle

What Does MSA Mean?



MVA?

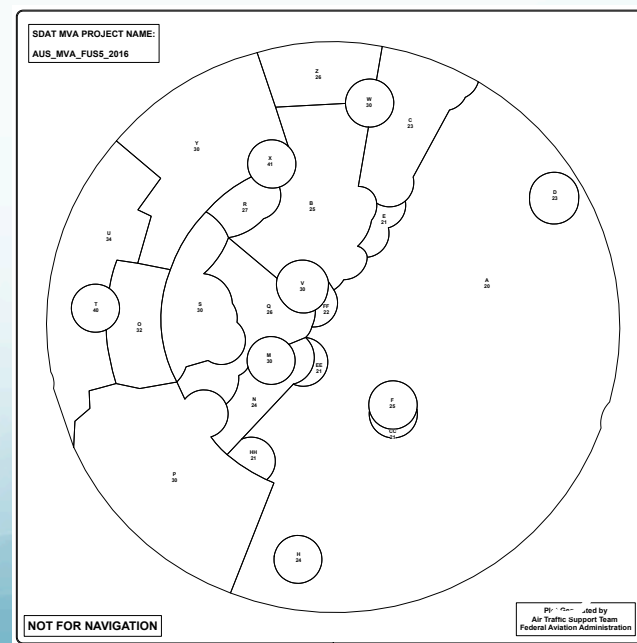
Minimum Vectoring Altitude

Minimum Vectoring Altitude (MVA) is the lowest altitude, expressed in feet AMSL (Above Mean Sea Level), to which a radar controller may issue aircraft altitude clearances during vectoring/direct routing except if otherwise authorized for radar approaches, departures and missed approaches. MVA may also be referred to as Minimum Flight Altitude (MFA), Minimum Radar Vectoring Altitude (MRVA) or ATC Surveillance Minimum Altitude (ASMA).

Provides 1,000' (2,000' mountainous) Obstacle Clearance

MVA at KRWW is 2,000' AMSL

Pilots Have Little or No Insight Into What a MVA is or if the Controller is Violating it

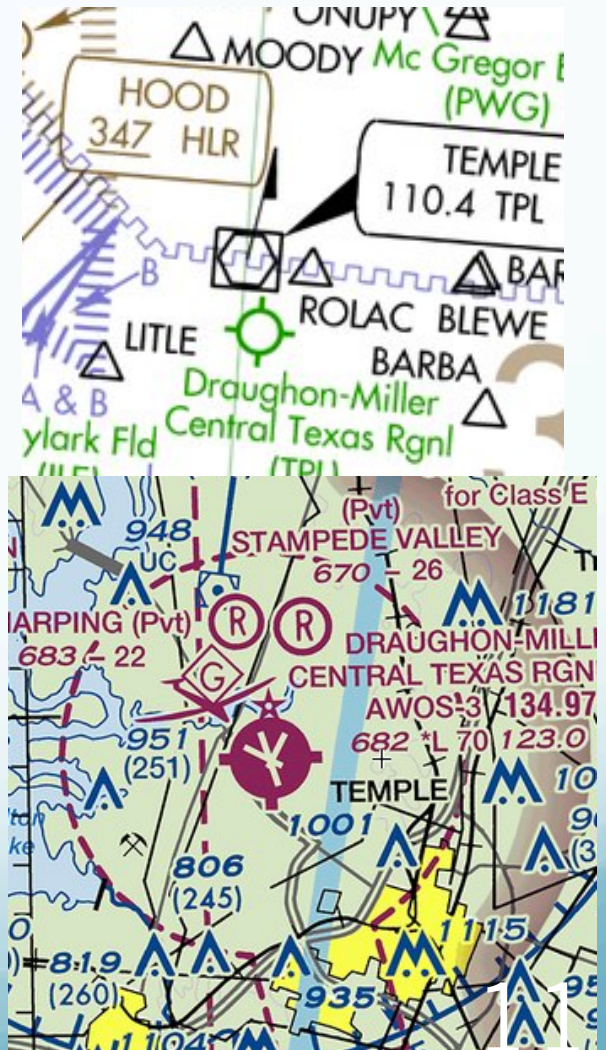


Back to Class E

- Review the KRWW GPS Approach to Runway 15
- Note: 'RADAR REQUIRED'
- Then look at VOR/DME A at KRWW
- Where or When do Separation Services Terminate?
- Where Could Conflicts Occur Between VFR and IFR When Shooting This Approach?
- What Weather Condition(s) Might Raise Sensitivities Even More?

Class E Surface Areas

- We Are Told 'It Protects Precision Approaches'
- We Are Left With A Feeling We Have Better Separation Services at Lower Altitudes - **False**
- What It Really Does Is:
 - Raises Weather Minimums for VFR Traffic
 - Must Have Weather Station at Field
 - Provides ATC (TRACON) Communications To The Surface
- Protection is by **Fiat**, Not By any Radar Service to Lower Altitudes

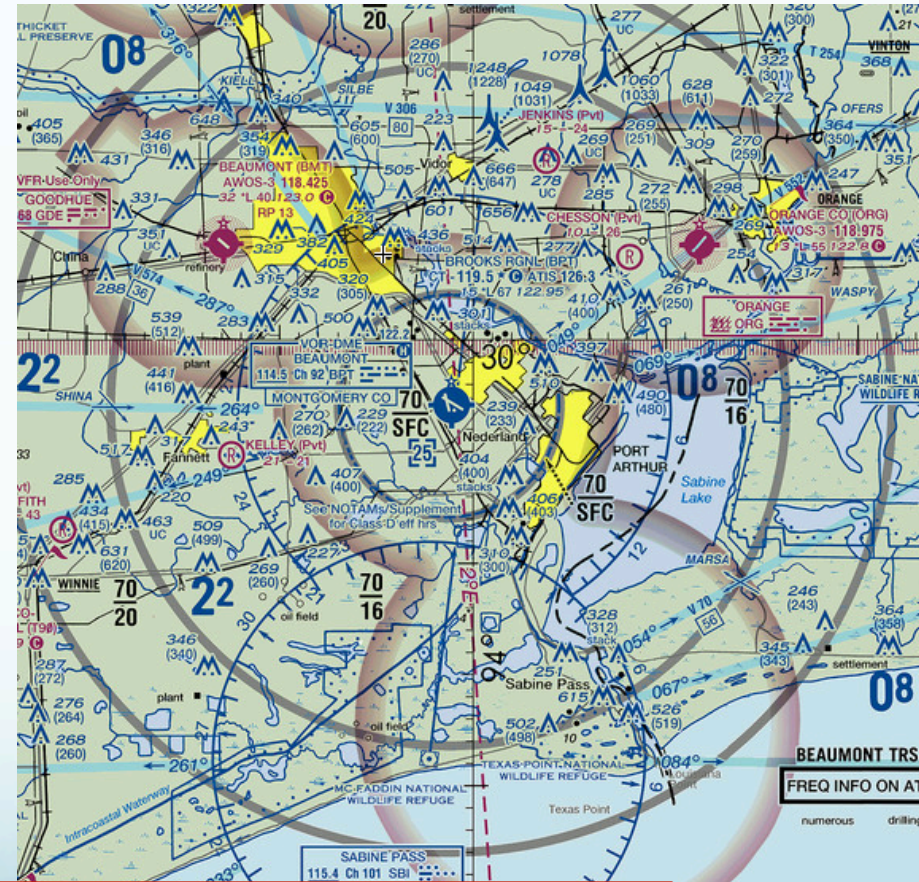


Class D Airspace

- We Are Communicating With the Tower – So We Must Have Separation Services – Correct? **NO**
- VFR and IFR Traffic in VMC is Provided As ‘Traffic Advisories’ In Most Cases
 - TRSA is Exception – Covered Later
 - All Pilots in VMC Must Adhere to ‘See and Avoid’
- Not all Class D Towers Have Radar

TRSA

- ‘Strange’ Airspace
 - Result of Incomplete Transfer to Class C
 - A Mix of G, E and D
- Overlays Class D Airports
- Provides Radar Separation for ‘Participating VFR Aircraft’




In VMC We Must Still Apply Our ‘See and Avoid’ Skills

TRSA (cont.)

- Recommended Approach – Treat TRSA as ‘Almost’ Class C
 - VFR – Participate
 - IFR – Remember There May be Some VFR Traffic ‘Not Participating’
- Separation Types
 - Radar – 500’ Altitude
 - Visual Contact (Alleviates Controller of Responsibility)
 - ‘Maintain VFR’ for VFR Traffic
 - May Not Have Assigned Altitude – Be Alert for Altitude Changes

Class C

- Even in Class C There May Be Some Differences in Separation Services
- From ATC Training Material and ‘Snoopy’
 - IFR/IFR
 - Less than 40 nm From Radar
 - 3 mile or 1000’ (same category) up to 5 miles category dependent
 - IFR/VFR
 - 500’ vertical (radar returns don’t touch)
 - VFR/VFR
 - Traffic Advisories and Radar and Safety Alerts

In VMC We Must Still Apply Our ‘See and Avoid’ Skills

Let's All Take a Deep Breath

- If In Doubt About Altitude Separation – Ask

‘Are You (TRACON, Tower, ARTCC) Providing Altitude Separation?’ or, ‘What’s Your Minimum Vectoring Altitude Here?’

We Routinely Fly IFR With Gaps in Altitude Separation Services

- Don't Verify Visual Contacts Unless 110% Sure
 - Example – Next Page

Visual Contact Verbiage

Here's an example: You're on 3/4 mile final, ready to land and a Gulfstream is taking off. Tower will ask you to confirm you have the departing Gulfstream (just taking the runway) in sight.

Your response must either be “negative contact” or “visual contact”.

After you confirm having visual contact, tower will then tell you to “maintain visual contact with that departing Gulfstream; cleared to land runway 27”.

You must then read back “maintain visual contact with the Gulfstream; cleared to land runway 27”. You can't say “roger”, “wilco” or anything else except that you will “maintain visual contact”. They need to hear you say that (along with your call sign in the same transmission).

Has Separation Responsibility Shifted to You?

Visual vs. Contact Approach

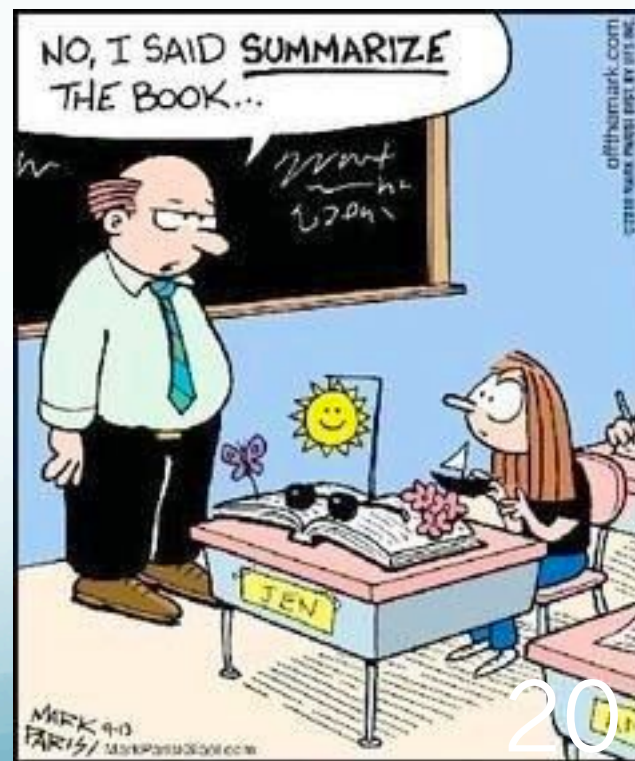
- Visual – May be Offered By ATC
 - Must Have 1,000' CIG and 3 sm VIS
 - No Obstacle Clearance, but Aircraft Separation Provided for Participating VFR Aircraft
 - Be Careful at Class D, E, and G and TRSA of Non-Participating VFR Aircraft
- Contact – Must be Requested by Pilot
 - 1 sm VIS and Clear of Clouds
 - No Obstacle Clearance, but Aircraft Separation Provided for Participating VFR Aircraft
 - VFR Aircraft Might Be Operating at Class G Airport Under These WX Conditions

Visual Approach Confusion

- If 'Cleared for Visual' You May Maneuver and Change Altitude
 - Some Controllers Don't Expect This and Will Question You
 - KAUS TRACON Expects You to Proceed Direct to Airport Until Handoff to Tower
 - Sometimes Handoff to Tower is Late
- If Being Vectored on a 'Visual' You Are Expected to Follow ATC

Summary

- Think Air Space (separation) When IFR
- Part 2 Will Cover Air Space During:
 - Departure Procedures
 - Special Use Airspace
 - Mountain Flying
 - Meteorological Factors
 - Visual IAPs



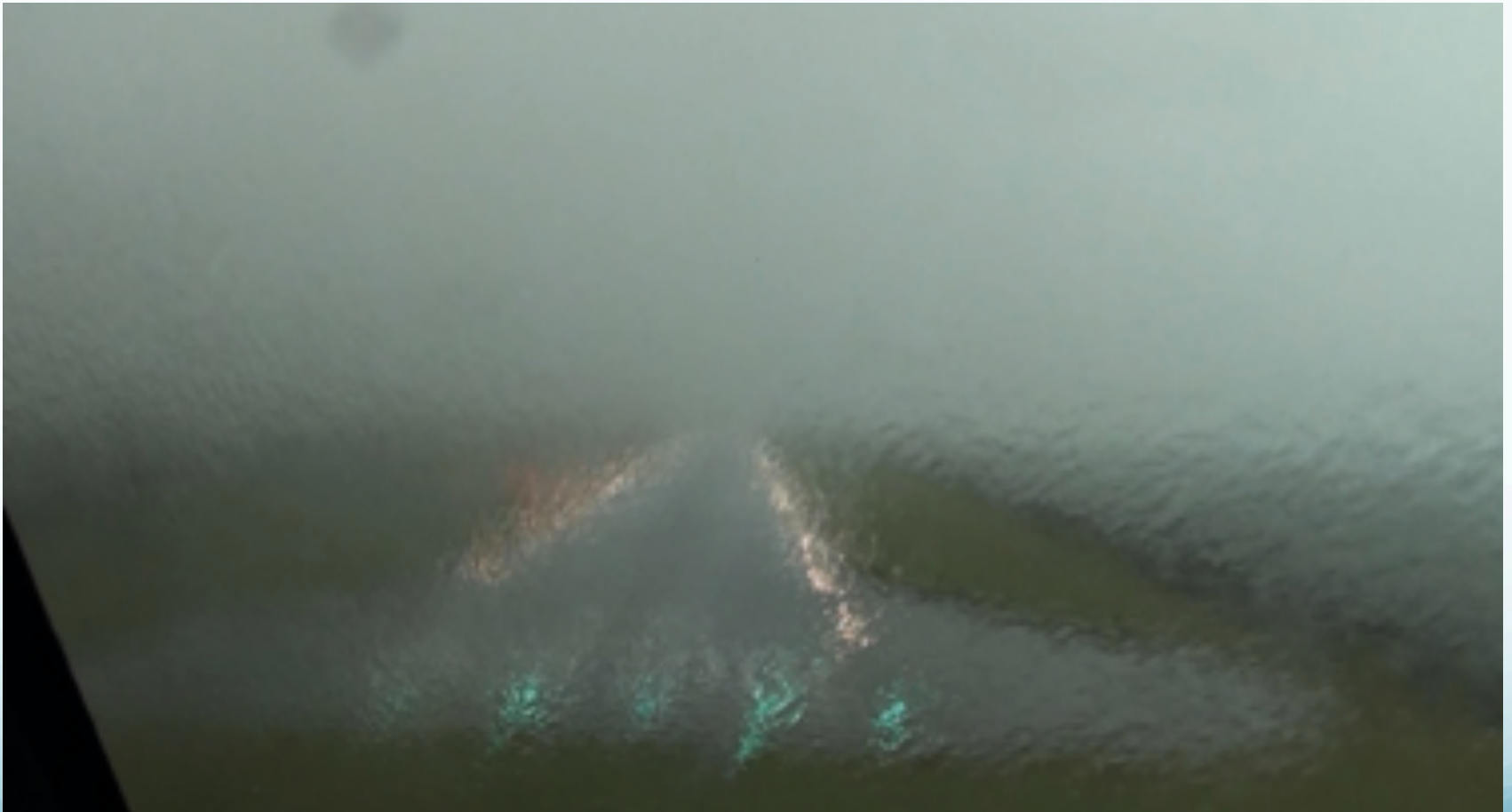
One Final Thought

- ‘Fly the IAP, and Obstacle Clearance is Guaranteed’
- <http://www.ainonline.com/aviation-news/aviation-international-news/2012-08-01/fly-plate-and-you-wont-get-hurt>

IMC Scenario



Recent Instrument Experiences



WX Stuff

- FAA and NWS Have Rolled out Graphical FA
 - On aviationweather.gov under Tools
 - FSS Don't Have Access Due to Bandwidth
 - Expect Some Transition Issues as Textual FA is Phased Out
- Fore Flight MOS is *NOT* a TAF
 - Don't Use it Alone to Select Alternates, etc.
 - Use FA if No TAF Exists

ILS Vertical Separation