

MAP READING
Stop being a dreamy pilot!

Navigational Options:

PROS:

VOR:

Pretty well set for IFR flight, most planes have them, they are pretty simple; mindless. You tend to keep maps out and ready.

World net (Loran/Sat Nav):

Good economic direct flight, cheaper to maintain or replace, easier to hook to moving map. Very accurate on where the destination is and loads of interesting trivia. Some good at pointing out emergency field.

Maps:

Know where you are, keeps you alert, better set for deviations. Real men. You have legal maps on board - usually. Some pre-planning. Be able to join up with friends by actually seeing terrain to describe.

Flight Following:

Get pretty good call outs for other aircraft. Have several wake up calls per hour. Good emergency soothing talk. You cannot wander into improper airspace without blessings. Passengers unplug.

CONS:

VOR:

Need to check notams, some errors, don't go where you want to go, collect planes over beacons, FAA always knows when you are off course. You tend to have to do location by cross-reference.

World net (Loran/Sat Nav):

Not IFR for most of us, not so good when you want to deviate, not real informative on where you really are, puts you way behind on map reading.

Maps:

Up to date maps are a pretty expensive hobby, maps get worn out pretty fast in cockpit, tends to be labor intensive. Who cares about terrain? Should fold them first, some pre-planning. No electronic trivia. Not so good on top of clouds.

Flight Following:

Somewhat labor intensive, lots of frequency changes, cannot listen to music much; passengers unplug.

Basic Rules for map navigation - Stop being a dreamy pilot:

Before you go:

1. Get new maps on a regular basis around home, transfer marks; retape them when torn. Stay away from ONCs.
2. Use black marker, red disappears in some night lighting. You don't need to keep a clean map.
3. Draw line to destinations, around all Restrictions.
4. Add mileage hash marks and label.
5. Where the line goes off each map edge write call letters of destination.
6. Fold maps for 3 panels and stack in order.

In the air:

1. "Drag your foot along" - stop being a dreamy pilot. The more you look at the terrain, the more mid-air you avoid.
2. Human landmarks are fickle. If you must, make sure they are unique. The worst are straight roads and square intersections.
3. Water is always at the bottom, is pretty reliable. Most lakes have unique dams.
4. Never cruise over an airport on the chart without picking it out for future use. Mark new ones on your map. Figure out exactly how long you are in glide range to each - "in this wind".
5. If looking at the terrain for location, look for big unique landmarks.
6. Use the nav aids only as a cross-check. Stay away from VOR stations, they are crowded with dreamy pilots. Leave them off if you have become dependent.
7. Travel together. Always use flight following when alone, mark and circle the freqs at every change point for future use. Use absolute unique fixed points to rendezvous; leader circle at 500 feet higher.
8. Figure up-wind and down-wind side of all mountains and surf the up-wind side as much close to track as possible.
9. Make a habit of picking best weather ahead, using your line only as guidance instead of as a fixed track. Flying 10 Degrees off heading is not adding more than 5 minutes per hour and the better weather will keep passengers happy.

10. Consider varying track for passenger interest and navigation training; don't just sightsee, locate it on the map too.

11. Night visibility is generally better for navigation but much worse for forced landings; pick road routes parallel to your line at night. Allow more fuel and figure on less open gas stations.

12. Balance tanks by the hour, use the top of the clock to figure fuel burn, fuel remaining, and when to stop for next fuel. Run one tank dry on all long trips, and use it as a reminder of fuel remaining.

13. Ignore MOAs in planning, there are less civilians to run into there. Be pro-active concerning Restricted Areas - particularly if you have to divert a long way for them. Write the frequency for clearance through the more obvious ones on the map; they are often new terrain and have great targets to look at.

14. When you know the route well, try a few low altitude legs for close up navigation practice; use DG; locate all power lines on the map before you get there.

15. a. Calculate your altitude above destination airport,
b. Divide by 300 foot/minute descent, get minutes for descent. (Use 500 foot/minute at night.)
c. Multiply by 3 miles/minute for start descent.
d. Use 20 mile compass rose to pick the descent point on the map. Trim in a 300 foot/minute descent.
e. Dazzle your passenger with accurate landing times.

Education:

A. What is the yellow on the chart for?

B. What is the distance across all compass roses on all navigation charts.

C. What dimension on every map is 60 NM?

D. Be able to identify and find the peak(s), a ridge pattern, a valley pattern and a saddle on any depicted mountain; be able to identify steep slopes.

E. The peaks are always unique; you don't have to go down but a few lines to get their patterns. Towers, Leaners, Logs, Mercedes, Four Square, Stars.

F. When out and about, spot antennas on mountains and locate on the map.

G. Use your eyes to lay out distances.