

# Flying VFR Outside the UK

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Introduction... been flying out of Shoreham for 12 years.

Got PPL in 2001. Learnt to fly primarily to see Europe.

Flown VFR to various places including Greece and Spain.

1500hrs TT.

Now have a US CPL/IR and UK PPL/IR and fly IFR abroad but have not done IFR trips which in terms of distance or complexity were not previously done VFR.

Presentation is from the perspective of an English-only speaking pilot. If you can speak local languages, various things get a bit easier.

I will have to go through the slides fast and there should be time for questions later. Copies of slides available as handouts.

# What is different abroad?

- Clouds are the same →



- The hills are the same (or bigger) →



- The airplane flies the same way...

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Some of the presentation is tongue in cheek...

Actually the differences are small and mostly operational details. Flying & nav is the same. You do mostly the same things you should be doing in the UK; the diff is that you DO have to actually do them!

The differences are mainly planning / operational...

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Anybody who can fly safely from Shoreham to Lydd, and who follows the right procedures, can fly from Shoreham to Greece or Spain.

- Positives

- Improves fun v. hassle ratio
- More interesting places to fly to
  - a lot of spectacular scenery
- Southern Europe is warmer
  - favours the use of the IMCR at the UK end
- Southern Europe has better food 😊
- Airspace is often more accessible
  - hardly any Class A
  - can fly much higher (Alps etc need oxygen)
  - can fly VMC on top over long distances
- ATC is often more relaxed than UK, esp. on clearances
- Many “big city” airports are cheap
- Great utility value in GA travel, due to the Channel

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Most people give up flying very soon after getting their PPL.

Flying to Bembridge is good fun for a while...

For taking a girl out, LTQ is about the starting point 😊

Lots of great places to see in Europe

Some are incredibly scenic ... Alps, the Adriatic, but even N France is great for a day trip or an overnight stop.

Not limited by extensive UK Class A so not hacking around at 2400ft...

48hr stay at La Rochelle, 1400kg, ~ €60 for 3 people (less for grass parking)

Short trips cannot be beaten using conventional transport.



The Swiss Alps, near Samedan, FL130

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It was suggested that I make the presentation aspirational, so here are some pics  
😊

FL130 is perfectly flyable in an Archer.



Spanish coast

Spanish coast



Northern Spain

More Spain



Right base to Corfu R35

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Greece. Corfu is a great place to stop – a mixture of Italian and Greek. Lovely old architecture.





Monte Cristo Island, near Corsica

Goes back to my childhood, reading Alexander Dumas.



Food...

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The aforementioned food; someone got to a piece of it before me 😊

- **Negatives**

- No UK GAR system → Customs airport as the 1<sup>st</sup> & last stop
- Some countries have extensive low level CAS
  - greater reliance than UK on transit clearances (but usually easy)
- Speaking local language can help
  - especially in S. Europe
  - if comms can't be done by phone, it can take longer to sort things
- More important to stick to correct procedures
  - unfamiliar territory needs better preparation
  - ATC tends to give less slack if they cannot speak fluently
- Accuracy of publications can be variable
  - S. European AIPs poorly updated so Notams etc are vital
- Some airports operate PNR/PPR absolutely rigidly
- Avgas availability poor in some countries
- No “night VFR” in some countries

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Foreign flying can involve various low level aggro – nothing big.

UK GAR allows return from foreign to any airfield or farm strip, with a notification. Nowhere else in Europe has this freedom.

Many international airports are cheap (£10-£20)

Belgium has a lot of CAS down to ~1500ft but you can get clearance. Italy has lots of low level Class A.

Spain, Italy and Greece treat PNR/PPR seriously especially at airports where there is military presence.

Italian airfields often don't sell avgas to visitors, and Greece has little avgas. But even Shoreham has refused landing to non PPR aircraft.

Germany requires night flights on IFR routes.

## Planning – same as UK

- Select airport(s)
- Obtain enroute charts, airport charts and airport data
- Route & navigation planning (GPS, VOR/DME, DR)
- Contact the airport(s) to confirm requirements
- Notams (enroute and airport)
- Get weather
- File flight plan, do PPR/PNR, GAR form
- Check documents to carry
- GO (or not 😊)

# Airport Selection

- International flight → international airports
- “International” = “Customs” in aviation terminology
- ATC at these must be capable of speaking English
  - no requirement for fluent (conversational) English
  - no requirement for English-speaking ground staff ☺
- “Customs” airport required for both in and out flights
  - exceptions are e.g. UK (uses the GAR system)
  - many airports have “exit” Customs only (Switzerland)
- “Customs” airport not required for flight
  - within a country (in Europe)
  - within the Schengen area

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First stop out of the UK, and last stop before return to UK has to be a Customs airport.

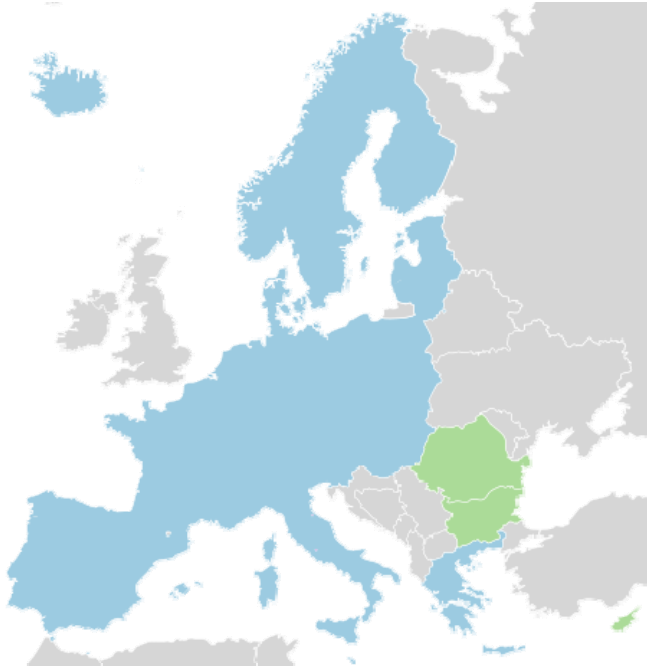
In international terminology, Customs and Immigration are normally under one heading of “Customs”. If it has Customs you can fly there from anywhere in the world (EU etc is irrelevant), otherwise it is national or Schengen only.

At some big airports, almost nobody on the ground speaks English e.g. Zaragoza, Bastia (Corsica), Poitiers (nobody around after last Ryanair flight)

For non-international airports, you are supposed to learn local-language radio calls.

Entry Customs rarely turn up, except at big airports where they may be present continuously. Exit Customs virtually never turn up.

## Schengen Area



**Blue: current members**

**Green: future members**

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Greece signed but disregards it for travel in vehicles, so a Customs airport is still needed (except Kithira LGKC, amazingly)

- Alternates require Customs too (if non-Schengen)
  - Mayday scenario → can land anywhere (but expect “interest” from police or military 😊)
  - debatable whether PNR needs to be done
    - automatic Mayday if landing clearance is refused
    - it is a “fuel below reserves” emergency (unless it isn’t)
  - file a decent airport as the alternate, even if pricey
  - if you are instrument-capable, pick an airport with an IAP, preferably an ILS
  - preferably with avgas 😊
- Avgas 100LL also called “F-3” in Jeppesen guides
- Some French airports are TOTAL card only
  - mostly very small non-Customs airfields
  - may need “help” from an aeroclub member 😊
  - worth carrying enough € cash for a fill-up

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Reason: most checks are based on tipoffs etc so smugglers like to divert elsewhere at last minute, land and clear out the aircraft quick.

A “Low oil pressure” mayday would also work.

“instrument capable” includes IMCR even if illegal (needs Mayday declared)

In far corners of Europe, alternates are sometimes filed to airports with no avgas, so drums would have to be shipped if one landed there.

TOTAL card needs a French bank account.

- Flight outside Europe (except to USA)
  - not hard but there are extra logistical complications
  - permits (incl. overflight only) & visas usually required
    - airline visa waiver not available to GA flights
  - most people pay an “overflight agent” to do the lot
  - Customs airports may be required for flights within the country (e.g. Turkey)
  - Avgas good, sporadic .... nonexistent, and pricey
  - long range aircraft highly desirable
  - bribery necessary in most places (lots of U.S. \$)
  - N-regs may not be popular (M-reg is the best 😊)
  - IFR much preferred to VFR
  - in Africa, might get eaten by cannibals 😊

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Never done it but planned trips to Libya and Egypt (Luxor), gave up, before discovering about overflight agents

Some places are easy e.g. Morocco.

All-Customs requirement in Turkey is apparently to stop smuggling out of historical artefacts.

Avgas can be £3-4 per litre; more if barrels have to be positioned

Might be charged import duty on fuel in tanks (breach of ICAO)

Russia reportedly needs a Russian interpreter aboard on VFR flights.

Some places you do not want to force land



# VFR Enroute Charts

- NO legal requirement for a specific chart type, or even a printed chart
- Current printed charts preferred
- National “ICAO” charts (some countries)
  - beware inconsistent presentations (MSA or MEF?)
  - UK, France, Germany have good ones
  - some available in electronic form (for GPS moving maps)
- Jeppesen “VFR/GPS” charts (most of Europe)
  - best general choice (UK, France, Germany do better ones)
  - consistent across whole area, MSA shown
  - airspace labels sometimes ambiguous
  - poor options for GPS moving map use

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In Europe, I don't know of any such law

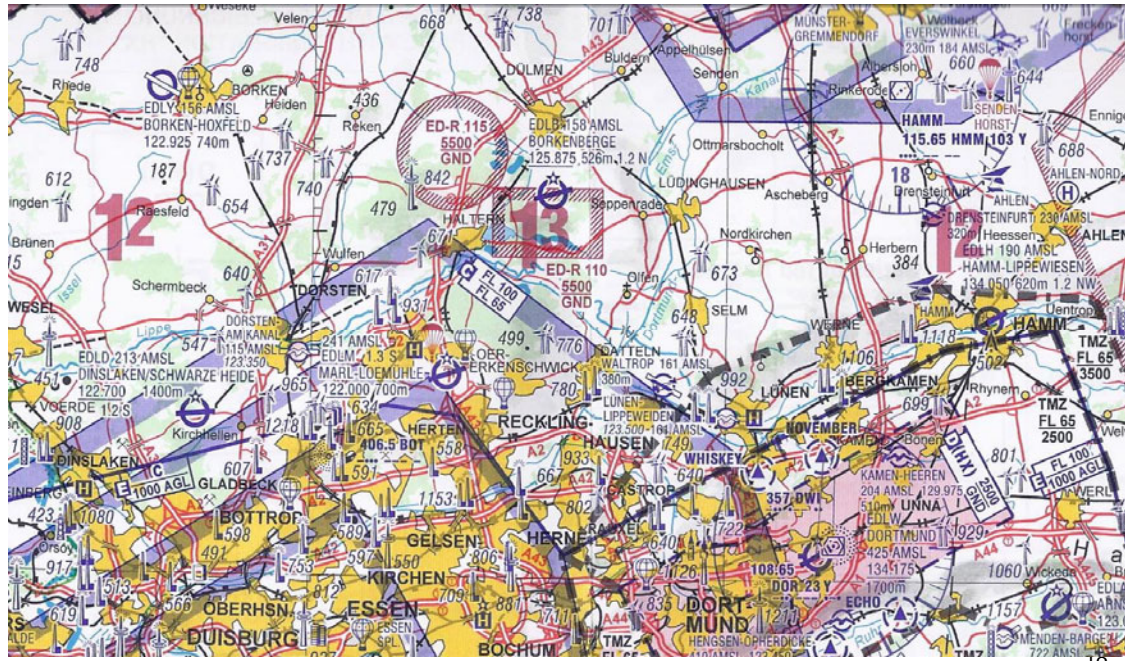
I am into IT, but the big Q with electronic data is what to do about backups? Also Ipad is only just sunlight readable. The backup issue can be solved by printing off required sections of electronic charts, which is what I do for both VFR and IFR. Lots of different points of view among experienced pilots on this one, but I recommend new pilots to use paper charts.

Swiss charts mixed ft and m. Thought hills were bigger than they should have been 😊

Jepp VFR charts very popular for consistent presentation over a large area of Europe.

There is a big bootleg map community, for Memory Map (UK) and Oziexplorer (everywhere).

German ICAO chart



Anybody can read these.

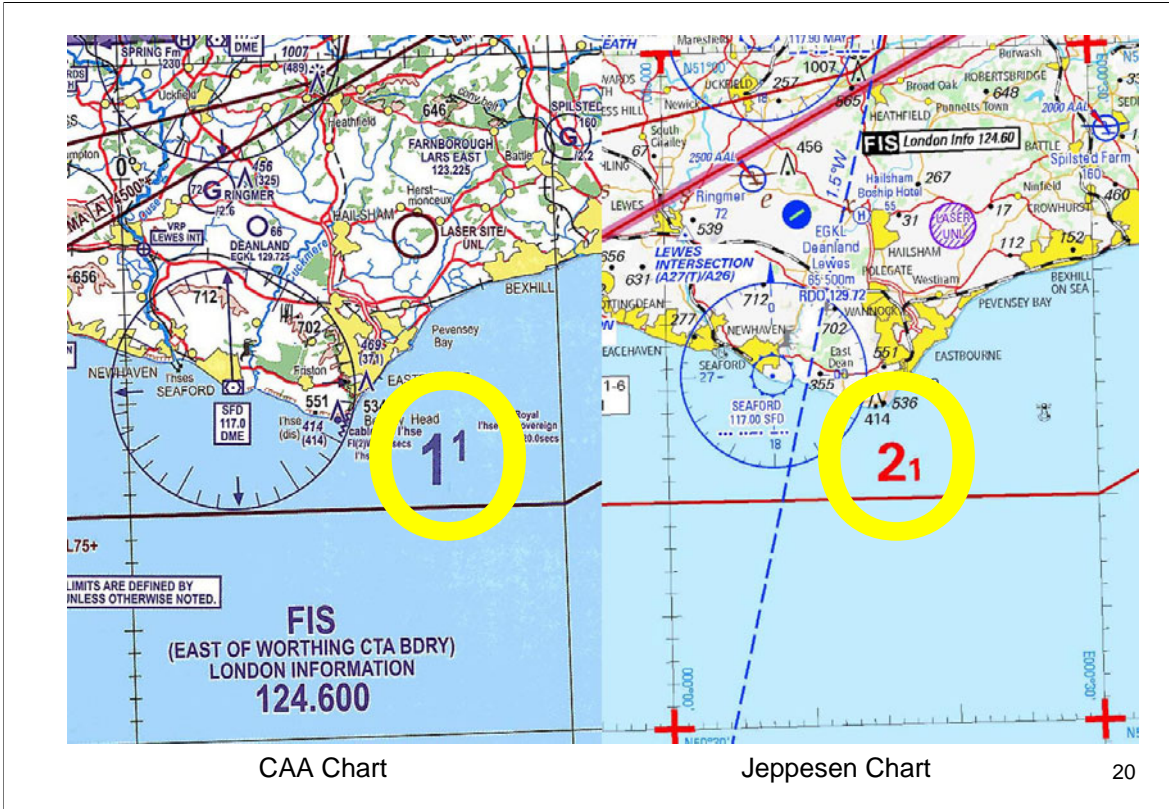
Add 1000ft to the min sector elevations

### Jeppesen "VFR/GPS" chart



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Jepp charts are mostly OK but some bits can be hard to work out especially CAS vertical limits.



A great example of MEF versus MSA

- U.S. ONC/TPC charts
  - no longer published; last updated 1998
  - CAS not shown (can be marked-up from Jepp IFR charts)
  - danger areas shown but out of date
  - informally updated versions exist for Greece
  - believed to be copyright-free, available electronically for GPS moving map use (Oziexplorer)
- Avoid out of date charts sold in UK pilot shops

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Different people have different preferences, as with so much in flying.

ONC relevant for far south Europe, past Croatia. Done for the US military, for many years. Last updated c. 1998. Obviously land doesn't move and most airports don't move. VOR frequencies marked with channel numbers, not frequencies.

Out of date charts are worthless for CAS etc.



## VFR Taxi / Approach Charts & Data

- UK
  - AIP (free, official, high quality, online, few use it ☺)
  - Pooleys etc (convenient, available for Ipad)
  - Notam (persists until published in AIP)
  - always a good idea to call the airport re facilities, PPR, etc
- Rest of Europe
  - AIP (official but variable quality, nearly all online and free)
  - Jeppesen VFR charts (formerly Bottlang Guides) in Jeppview 4 / JeppTC on Ipad – preferred by many but £££
  - airport facilities (fuel, opening hours, PPR, etc) verify with the airport directly with no exceptions
  - Notam (persists until published in AIP, maybe... ☺)

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AIP is the international medium, mandated by ICAO. Has specified sections so one can find stuff. Updated every 28 days – AIRAC cycle.

How many phone airport before flight? The airport usually appreciates it.

The further south, the less reliable the AIPs are (like most other things ☺ ).

To make Jepps affordable, good idea to get friendly with a pilot who has access to Jepp plates ☺ or buy the package as a “club” and share the cost.

Airports know when the national AIP is crap so they put important info into notams.





## VFR Approach Chart – showing VRPs



VFR traffic is generally assigned VRPs to report at (by ATC) - not IFR waypoints.

Applies to both arrival and departure.

Familiarise yourself with the VRPs and query an ATC-assigned VRP which is not readily found.

Having a GPS that shows VRPs can be a huge help.

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LTQ again.

One can laugh at the GPS comment but the reality is that VRPs (UK and abroad) can be very hard to spot, like the notorious Nokia Factory near Farnborough.

Many modern units show VRPs e.g. the current Garmins – 695, Aera, 795.

One of the best things about getting an IR is no longer having to find VRPs ☺



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I was asked by an irate ATCO at La Rochelle to report at Silver Point, which doesn't exist, I did not mishear because it was confirmed by passengers and local pilots who heard the calls on the ground, and it was probably Point S which was south of the airport. "Silver" used instead of "Sierra". It's an Example of ATC speaking only the absolute minimum English, despite LR being an international airport. So, study VRPs before turning up!

Above VRPs are shown OK on Garmin 695 etc.

Notice how southern VRPs tend of start with "S", northern ones with "N", etc. Not universal but a lot of countries do this.

# Route Planning

- Principle same as UK
- Plan A – OCAS route, no ATC clearance needed
- Plan B – desired route, may need ATC clearance



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One can make CAS route the default and be ready to drop down to the OCAS route.

Obviously the more one relies on CAS transits, the more important GPS becomes because one may have to do unplanned changes. Sometimes ATC clear you DCT to somewhere long way down.

Pic shows a trip down to Santorini. Jepp VFR/GPS charts, ONC charts (2 pieces). Stuck together with little bits of sellotape. Route entered straight into Navbox running on the laptop.

The majority of long VMC-on-top flights involve flying in CAS.

- ICAO airspace rules apply
  - Class A – no VFR unless it touches the ground (CTR)
    - hardly any Class A in Europe, outside UK and Italy
  - Class B,C,D – controlled airspace, needs ATC clearance
    - most N. European ATC is more relaxed than UK
    - some S. European ATC is “difficult”
  - Class E – uncontrolled airspace for VFR, controlled for IFR
    - no ATC clearance needed for VFR
  - Class F,G – uncontrolled airspace
    - no ATC clearance needed, and none possible
  
- Use the available vertical airspace!
  - weather permitting, don’t confine yourself to < 2000ft 😊

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Only country sharing UK’s enthusiasm for Class A is Italy, and as with the UK not for any obvious reason. It should all be Class B-D. France has A above FL200, generally.

It’s obvious from flying around the UK that nearly all UK GA flies below 2000ft.

Flying high is a good habit to get into anyway, for UK too, due to much lower traffic density > 2000ft.

French “airways” cause much confusion to UK pilots who don’t realise it is the airspace CLASS that matters and they are Class E (OCAS) below FL120.

- UK Quadrantal rule not used outside the UK
  - use semi-circular rule i.e.
    - Track 0°—179° FL 35, 55, 75, etc
    - Track 180°—359° FL 45, 65, 85, etc
- VFR traffic entitled to FIS everywhere OCAS
  - outside the UK, FIS is the only service to VFR traffic
- Variable equipment carriage rules (AIP GEN 1.5)
  - Mode S (especially for CAS), ELT/PLB

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FIS = Basic Service in the UK (why????)

London Info has radar but not allowed to say so. Elsewhere in Europe, overt radar cover is normal.

Mode S notified in AIP under Enroute requirements. Not France (Mode C OK), Belgium/Netherlands virtually necessary for CAS and reasonable altitude. Mode S is a lost battle now.

- Good navigation important
  - plan route using IFR waypoints, not village names etc
    - some countries insist on airway routes even for VFR (Greece)
  - request CAS clearances confidently, giving next few waypoints
  - N. European ATC – usually good English, competent
  - former Iron Curtain countries – usually likewise
  - S. European ATC – often poor English, avoid “chat”
  - ATC with poor English pretend they cannot hear you
  - use GPS if possible (not illegal!)
  - NO law on how to navigate (in private flying)
  - NO credit for a bust done using “traditional” navigation
  - respect the MSA →



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IFR waypoints needed also for flight plan filing, notam NRB. One can use VORrrrrddd notation or even lat/long but it's more hassle.

Clearances are very much a case of “ask and you will receive”. Most ATC is really good.

Even after many years of widespread use, GPS is controversial but for no good reason. Use the best tools for the job.

Laws on equipment carriage (see previous slide) but not on equipment usage.

MSA meaningless without accurate navigation. Tendency in “VFR” to ignore the MSA... the problem is that leads to a bigger chance of getting squeezed between terrain and cloudbase. Nobody thinks they will fly into a hill in VMC but this one apparently did.

- Flight Planning Software – Brief Summary

- Navbox

- established > 10 years, ~10000 users, little recent development
    - covers all of Europe, monthly database updates
    - good airfield data; great for contacting airports
    - accurate but bare map data (needs the printed charts for CAS, MSA, etc)
    - Windows, Windows Mobile
    - <http://www.navbox.nl>
    - £113 including 1 year's updates

- SkyDemon

- new, new features added continuously (weather, Notams, FP filing)
    - covers N Europe and a few other countries (not Greece)
    - poor airfield data
    - good map data (arguably sufficient for flight planning)
    - Windows, Windows CE, Ipad, www (browser) version
    - <http://www.skydemon.aero>
    - £119 basic / £179 with GPS moving map function

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Very brief overview because one could spend 2 hours on any flight planning program and it isn't really relevant to foreign flying.

Why use software? One can quickly draw a route, print it off (as a rough diagram), optionally enter the wind data (some progs can get the forecast winds off the net), and instantly print off a wind corrected plot. Most trips can be sorted in minutes. Then, put the route on the real printed chart and check for MSA and the altitude to fly at, etc. Better programs (e.g. Skydemon) are good enough to not need the "printed chart part" but it is debatable as to how much this can be relied on.

My view is that printed charts should be the primary planning reference for MSA and CAS. Not a criticism of any software; merely an observation that most pilots fly with printed charts so errors are much more likely to be seen and reported and fixed. Nothing is perfect, and one does find errors in areas where few people fly. The databases are not produced from machine-readable data, usually.

Navbox not been developed for years. Still has good accurate data, updated monthly. Covers all of Europe inc Croatia, Greece, etc. Notams accessible.

Skydemon is a slick feature-packed program, with notams and weather and flight plan filing (need internet connection obviously). Whether one would rely on the mapdata without a printed VFR chart is up to you (I wouldn't).

- Jeppesen Flitestar VFR – for enroute planning
  - long established but little used for VFR; VFR charts don't show some Class A!
  - worldwide coverage (£££)
  - basic airfield data (in "text pages")
  - various enroute chart formats
  - optional extra "Raster Charts" for most of Europe ~ £300
    - same as the Jepp "VFR/GPS" 1:500k charts (show CAS correctly)
  - online weather and notams
  - Windows, online-database version (JIFP)
  - <http://www.jeppesen.com>
  - £210 including 1 year's updates
- Jeppesen Jeppview 4 – for airport charts
  - airport charts ("Europe VFR" replaces Bottlang Guides) & enroute charts
  - long established
  - can buy coverage down to a single country or trip kits
  - primitive flight planning facilities (no plog)
  - FliteDeck (included) does GPS moving map
- The two integrate if installed together

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Jepp has a confusing product range, some of which is excellent quality.  
 Dreadful customer service – need to buy from Jepp Germany.  
 FS is flight planning, JV is airport chart viewer.

Flitestar is feature packed but clunky and fairly pointless for VFR compared to the other programs. Good for running the Raster Charts. Main value is for IFR (enroute strip charts etc).

Jeppview 4 is very pricey but is worldwide standard for IFR. Need to make friends with airline pilots ☺ Or buy a copy for a whole club/hangar ☺ Replaces the Bottlang VFR Touring Guides.

Flitedeck is clunky and buggy IMHO and won't run Raster Charts.



- PocketFMS
  - long established
  - covers all of Europe
  - optional ICAO charts
  - Windows, Windows CE, iPad, Android
  - online weather and notams
  - <http://www.pocketfms.com/>
  - €150 including 1 year's updates
- Air Nav Pro
  - Ipad, Android
  - £35
- etc

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There have been various American programs which tend to have a very basic European coverage.

America used to publish airspace etc data in machine readable form, which they used to get from national CAAs. In 2006, European CAAs threatened America with withdrawing the data unless the USA stopped publishing it, because the stuff was copyright. So the USA pulled the plug on it, and most of the US apps dropped European coverage... nowadays they have to laboriously get it from the national AIP PDFs, or by ripping off each others' databases ☺

# France

- Lots of low level military airspace
  - generally inactive on weekends
- Nuclear power station etc zones →
- Low level (below-cloud) flight easy; mostly Class G
- Higher level flight FL065-FL115; mostly Class E
  - the best way to do “distances” in France
  - simplified route planning as most military stuff is avoided
  - if VMC on top, need to be able to descend while VMC
  - may need oxygen at the higher end
- FL120-FL195 Class D ... VFR not generally allowed
- <http://flyinfrance.free.fr/> <http://www.flying-in-france.com/>



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Mil airspace can look daunting but most of it is very low. Most is on the east or the west, not much in the middle.

Nuclear power station zones (ZITs) must be avoided – very serious to bust them. DGAC follows it up back to the UK. Fine is reportedly €10,000, plus confiscation of aircraft.

REFER TO CHART ON NEXT PAGE. Often called “airways” by UK PPLs but that is misleading, because it is airspace CLASS that matters (for vFR), not lines on the map showing some routes. UK airways are Class A so no-go, because of Class A, not because the routes are used by jets (much higher up).

The Class E routes also form the lower airways system which goes up to FL200, so IR holders fly the same routes FL070-FL190 and the E/D relevant disappears. Which is another reason they are generally free of interference.

- France offers 3 national chart options
  - 1:1M SIA charts (“official” but involve a booklet)
    - buy online [http://www.sia.aviation-civile.gouv.fr/default\\_uk.htm](http://www.sia.aviation-civile.gouv.fr/default_uk.htm)
  - 1:1M Cartabossy charts (very clear but have update issues)
    - buy online <http://www.editerre.fr/produit.php>
  - 1:500k IGN charts (good for low level only, below ~5000ft)
    - available electronically via PocketFMS
  - France is also covered by Jeppesen “VFR/GPS” charts

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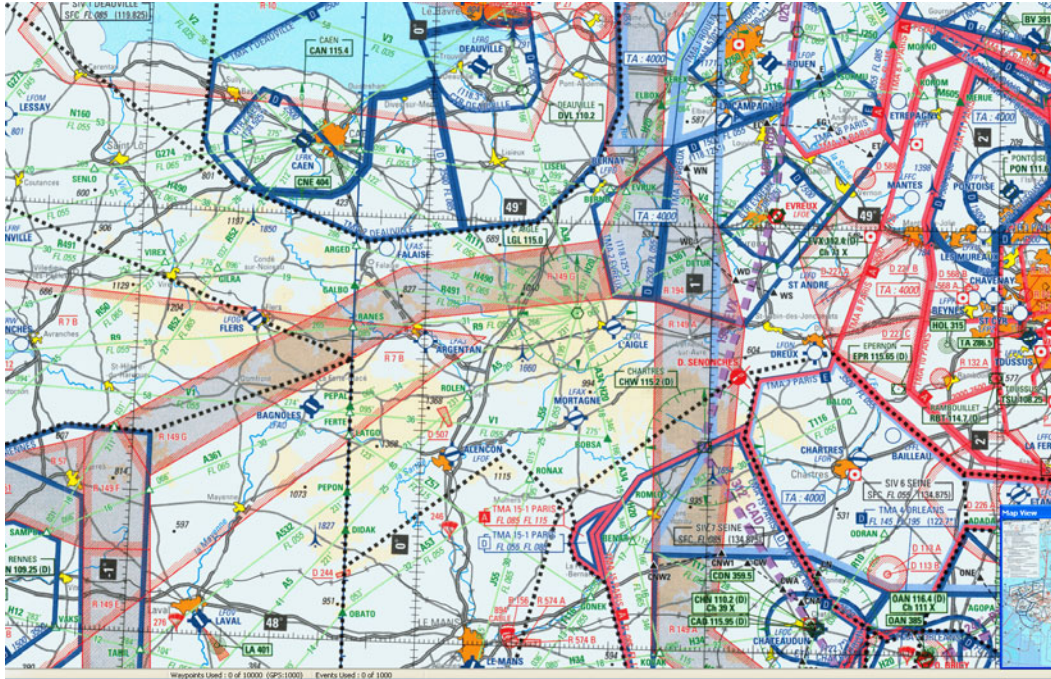
I started with IGNs and never knew one was allowed to fly above 5000ft ☺ There was talk of Memory Map selling IGN but they seem to do non-aviation maps only.

Recent news is that IGNs will be changed to go up to FL115, which is great news as this covers VFR airspace in France (FL120+ is generally Class D and no enroute VFR is allowed there).

SIA ones are easy to use and for the ~£30 you get the whole pack plus 1 update airmailed later in the year.

PASS CHARTS AROUND.

SIA chart



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Good chart but needs a separate handbook to look up the danger areas etc.

I like it because it shows the IFR intersections which makes route planning easy.

Cartabossy chart



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Standalone chart. Ones for sale tend to be previous year's...

French airports  
losing Customs

Conflicting info e.g:

<http://tinyurl.com/cfvvq4n>



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On N coast, it leaves Lille, Le Touquet, Deauville, Caen, Cherbourg. Calais was on the list but seemed to have fought back having spent 100's of k on new facilities. Dieppe is going.

After Pontoise and Toussus gone, no practical Customs airfields for Paris (transport into Paris was never quick). Pontoise claim in emails you can just fly there and nobody cares...

Courchevel lost Customs too!

Socialist Govt might reverse it.

This is a map from Navbox, which shows the IFR intersections.

# Contacting Airports

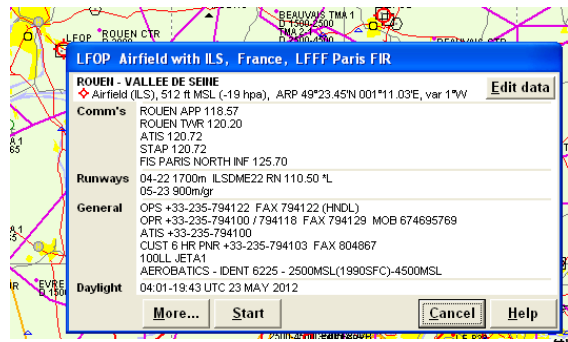
- Why?
  - no airport guide can be relied on completely
  - airport could be affected by an incident, etc, not yet notamed
- Contact the airport with your full details and ask
  - PNR, PPR required?
  - opening hours?
  - avgas available, and (in Italy) can they sell it to visitors?
  - cost?
  - hard parking available?
- “No-Contact No-Fly” policy is a good idea
  - would you fly to an airport if nobody answered the phone?

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Many Italian airports show “avgas” in airport guides but are not allowed to sell it to visitors. The explanation for this varies; some say it is due to aeroclubs using a special concession to get duty-free avgas which they cannot overtly resell. Many more airports say they don't have avgas but actually they do, for the club only. Solution is to do it under the table... need to land there first, or know somebody, and obviously speaking Italian would be a help. Personally I play this stuff totally straight, and check it out officially.

I wouldn't fly to an airport which doesn't reply unless it is a known big H24 one e.g. Prague.

- Where to find contact details?
  - Google for the airport website ☺
  - AIP is “official” - usually better in N. Europe than S. Europe
  - WWW airport guides e.g.
    - <http://www.handbook.aero> - free; best for contact numbers & emails
    - <http://www.acukwik.com> - not free but CD version can run offline
  - some flight planning software
    - Navbox: click on airport to see contact details →
- How to contact?
  - phone the OPS/OPR #
  - phone a handling agent
  - email and fax (may need several attempts)



Airport guides are a guide only. Use them only for contact details (phone fax email www).

Handling agents are normally good to call because they make sure their published numbers work ☺

Fax – still used in aviation especially by airports that are strictly PPR (Corfu etc Zaragoza e.g.) to fax back the stamped permission. Also handy for Special Branch GAR. Most people use email2fax gateways.



# Notams

- Notams are VITAL
  - AIP is ICAO standard but updated every 28 days (maybe..)
  - Notams used to fill in, and for short term stuff (e.g. military activity & RAs enroute)
- Airport Notams especially vital
  - in countries where the AIP is “less good”, Notams are used to publish current airport info continuously
- UK NATS site <http://www.nats-uk.ead-it.com> is good for whole world
  - internal French airport info no longer withheld
  - use Narrow Route Briefing to minimise garbage

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50% of Shoreham visitors didn't get Notams, due to not knowing new ATIS frequency. Many copies of out of date Pooleys on Ebay 😊 17 the other day, which if representative would translate to 884 out of date copies bought by UK pilots each year!

Non international French airports used to omit aerodrome notams from the notam feed to the UK, possibly resulting in the omission of enroute-relevant info like airshows held at an airport.

Under ICAO one was supposed to brief from each country's briefing services but the internet has rendered this meaningless.

- Q) EDXX/QAFXX/IV/NBO/E/000/999/5110N01027E245
- B) FROM: 12/03/28 13:54C) TO: 12/06/26 13:54 EST
- E) THE FEDERAL MINISTRY OF TRANSPORT, BUILDING AND URBAN DEVELOPMENT OF GERMANY DECIDED THAT FLIGHTS CARRYING AIR CARGO AND MAIL DEPARTING AT AN AIRPORT WITHIN THE REPUBLIC OF YEMEN AND FLIGHTS CARRYING AIR CARGO AND MAIL ORIGINATING FROM THE REPUBLIC OF YEMEN ARE NOT ALLOWED TO ENTER GERMAN AIRSPACE NEITHER FOR OVERFLIGHTS NOR FOR LANDINGS. FLIGHTS DEPARTING AT AN AIRPORT WITHIN THE REPUBLIC OF YEMEN CARRYING ONLY PASSENGERS AND CORRESPONDING LUGGAGE BUT NO AIR CARGO AND MAIL ARE ALLOWED TO ENTER GERMAN AIRSPACE EITHER FOR OVERFLIGHTS OR FOR LANDINGS.
- Q) LIXX/QXXXX/IV/NBO/E/000/195/4339N01139E546
- B) FROM: 12/05/04 09:03C) TO: 12/08/01 23:59 EST
- E) 1. ULTRALIGHT MACHINES ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH THE ITALIAN LAW 'DPR 133/2010'. ULTRALIGHT MACHINES FLIGHTS MAY ONLY BE CONDUCTED BY DAY IN ACCORDANCE WITH VISUAL FLIGHT RULES. 2. ADVANCED ULTRALIGHT MACHINES FLOWN BY A SPECIALLY QUALIFIED PILOT MAY: - BE USERS OF ALL AIR NAVIGATION SERVICES - OPERATE IN ALL AIRSPACES OPEN TO VFR. IN ALL AIR- GROUND COMMUNICATIONS WITH ATIS, BOTH IN ITALIAN AND ENGLISH LANGUAGE, SPECIALLY QUALIFIED PILOTS FLYING AN ADVANCED ULTRALIGHT MACHINE SHALL INCLUDE, IMMEDIATELY BEFORE THEIR CALL SIGN, THE EXPRESSION 'ULTRALIGHT'. THE CALL SIGN MAY NEVER BE ABBREVIATED. 3. WHEN FILING A FLIGHT PLAN, SPECIALLY QUALIFIED PILOTS FLYING AN ADVANCED ULTRALIGHT MACHINE, SHALL INSERT: - IN ITEM 9, THE APPROPRIATE AIRCRAFT TYPE DESIGNATOR: ULAC/GYRO/UHEL. - IN ITEM 18, AS APPROPRIATE, THE EXPRESSION 'RMK/ ULAC ADVANCED' OR 'RMK/GYRO ADVANCED' OR 'RMK/ UHEL ADVANCED' 4. THOSE INTENDING TO OPERATE ULTRALIGHT FLIGHTS OVER THE ITALIAN TERRITORY SHALL GET PREVIOUSLY ACQUAINTED WITH THE PROVISIONS INCLUDED IN 'DPR 133/2010', AS WELL AS WITH ALL NECESSARY INFORMATIONS AND APPLICABLE RESTRICTIONS FOR THE PROPER CONDUCT OF FLIGHTS. INFORMATION MAY ALSO BE ACQUIRED AT THE WEBSITE WWW.AECL.IT. REF AIP ENR 1.1

For speed reading, read the E) lines

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Read the E) lines on notams, at least.

# Weather

- Obviously important
- NO law on where to brief from
- F215 → F415 for near Europe
- F214 → F414 for winds, Europe N of the Alps
- MSLP + TAFs/METARs is more useful generally
  - covers all of Europe and more
  - MSLP goes 120 hours ahead
- GFS provides more info, further ahead
  - <http://ready.arl.noaa.gov/READYcmet.php>
  - nearly all free weather websites get data from GFS

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Not doing a general talk on weather as it would take all day, and anyway I am not a specialist.

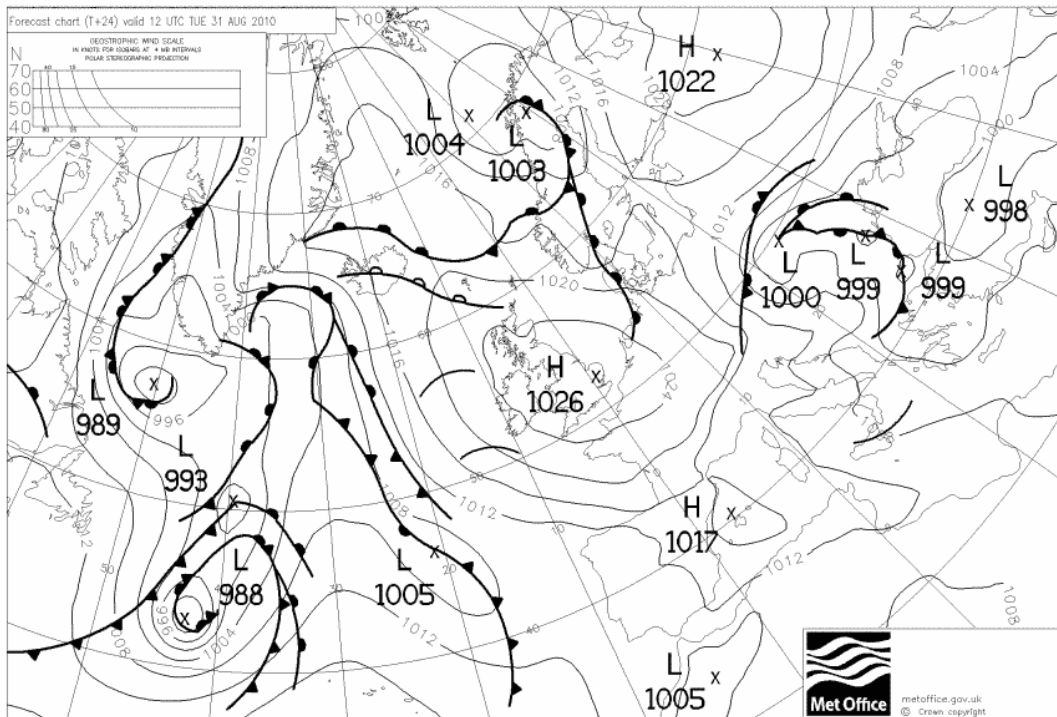
No such thing as “official weather data” (no legislation supports the term).

UK Met Office publishes very little; charge for rest

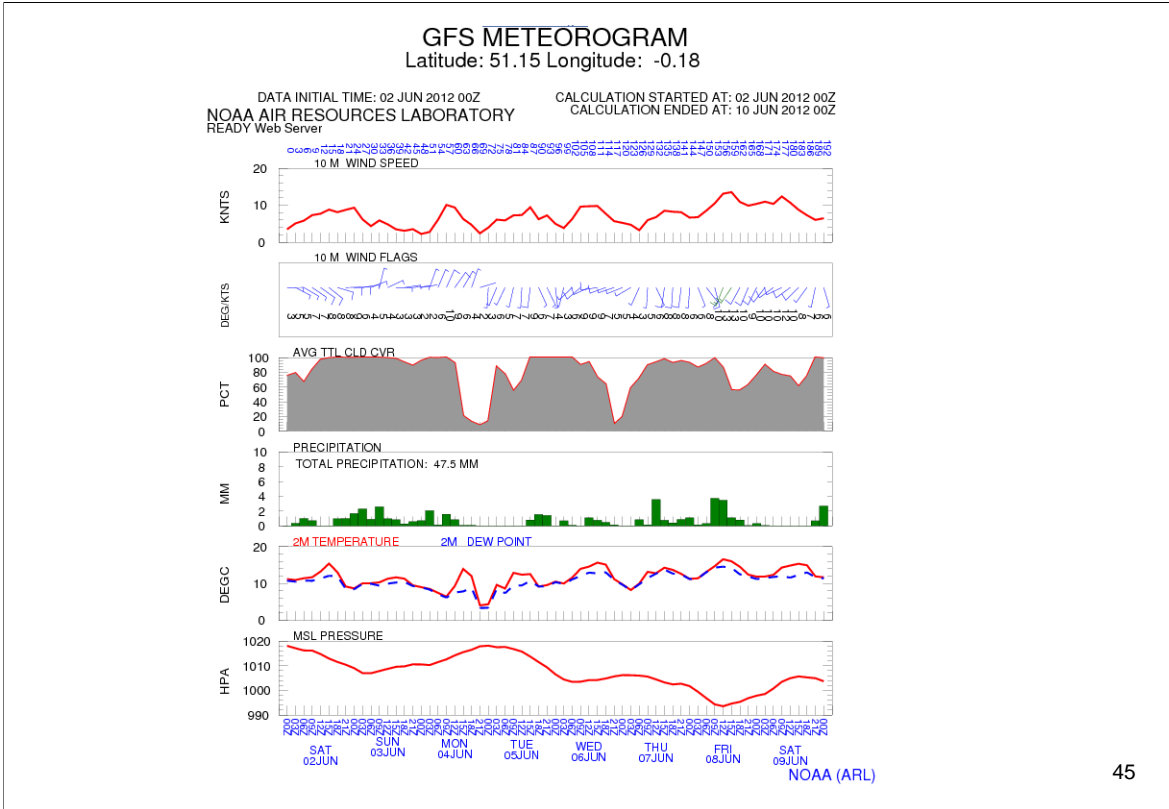
Most of the world uses the US GFS model and most free websites use that.

No such thing as a “more accurate weather website” 😊

Pilots always moan about poor forecasts. Forecast accuracy very dependent on type of weather and it is fairly obvious from the general picture if a forecast is going to be reliable. REFER TO MSLP. Slow changing high pressure easy to forecast. Fast moving simple frontal stuff not too bad. Mixtures that move about in all directions are impossible to forecast even for 24hrs ahead.



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An example of a plot for a particular airport (or lat/long location) from a US GFS site.

- Most VFR flight done below cloud
  - use TAFs & METARs for cloudbase & visibility enroute
  - don't skip MSA planning
  - if flying above, be sure you can get back down VMC
    - obviously requires radio navigation (GPS/VOR/DME)
  - VFR requires VMC i.e. not flying in clouds ☺
    - “in sight of surface” requirement (applicable to UK issued PPLs in all airspace) ended April 2012 for JAA PPLs
    - in Class G, if below 3000ft amsl and in sight of surface, if flying at 140KIAS or less, “VMC” is: clear of cloud and minimum in-flight visibility > 1500m (was > 3000m)
    - local airspace regs may be more strict
- Don't cancel a flight until the morning of the flight
- Make Go/No-Go decision on technical data, not feel
  - avoids gradual loss of confidence

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Below cloud is good because you can't get caught out, but many people press on and get killed.

“VFR” often means MSA is ignored. OK in great vis and high cloudbase but an ignorance of MSA planning makes one more likely to squeeze between rising terrain and lowering cloud.

< 5km needs a bit better nav than DR

TAFs are often pessimistic. PROB30/PROB40 only allowed, PROB30 means it is very unlikely.

Obviously never disregard an obviously duff TAF but old PPL sayings like “better to be down wishing you were up...” are bollocks. There is enough wx data on the internet.

# Flight Plan Filing

- Useful reference: CAA CAP694
- Hand in the handwritten FP
  - at Ops office / Tower / handling agent
  - works at all proper airports; an ICAO obligation
  - unpredictable delay (has to be typed in, etc)
  - can be a huge waste of your time, at the worst time
- Internet filing
  - get a laptop (or Ipad) with mobile internet access
  - need one for weather, notams, etc anyway
  - can be done from hotel or internet cafe
  - might have to pick up a printed version to get airside!

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Accepting handwritten flight plans is an ICAO obligation, but needs staff to be “around” and facilities vary hugely, from fully equipped offices (e.g. Switzerland) to empty airports with 1 cleaning lady mopping the floor.

EXPECT THE AIRPORT TO HAVE \*NO\* FACILITIES.

Mobile internet is THE way.

Some airports won't let you airside unless you are holding a printed FP, stamped to say you have paid the fees. Happened in Spain; not sure if current.

- Internet flight plan filing options:
  - AFPEX
    - needs a Windows laptop (basically – needs Java support)
    - straightforward - if you ignore the other 99% of features
    - VFR flight plan addressing is messy for long legs
    - a good backup for better methods below ☺
    - has a 24 hour helpdesk
    - free text message feature (looks great but almost nobody replies ☺)
  - EuroFPL
    - a normal website; works on all devices
    - free; paid-for version supports SMS functionality
  - RocketRoute
    - a normal website; works on all devices
    - free for basic functionality
  - Homebriefing (etc...)
  - some flight planning software can file flight plans

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AFPEX can be run on Android and even on Ipad over Remote Desktop etc (painfully).

EuroFPL can use SMS to cancel or delay which is nice if there is no internet access or you have just a basic phone.

RocketRoute is fairly similar functionally to EuroFPL (but different).

EuroFPL & RR have extra features for IFR, some of which are slick.

HB was the original one, run by Vienna ATC. 37 euros for 10 flight plans.

Skydemon can file flight plans, as can Rocketroute



- What does a VFR flight plan actually do?
  - legal requirement for flying to a foreign country
  - non-arrival triggers search & rescue
  - handling agents can usually see them (put the coffee on ☺)
  - almost never does PNR/PPR or any permission request
  - VFR FP is almost never refused/rejected
  - sometimes required within a country (Spain, CAS)
- Avoid using DOF/ on VFR flight plans
  - it isn't implemented by the system; relies on "nail in wall"
  - many flight plans with DOF/ mysteriously "disappear"
- On day trips, file both flight plans back home
  - quicker to delay or cancel a flight plan, than to file one
- Can depart up to 60 minutes late (VFR)

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Flight plans are sent via AFTN, like email. Printed out (etc) and not stored anywhere – except in databases of internet filing services, and national security databases (retrieved upon plane going missing)

No point in filing a VFR FP with say Mode C, through Mode S mandatory airspace, and thinking that "acceptance" means you are good to go. Declared equipment is NOT checked (except on IFR ones, 8.33 above FL195 etc).

Not checked for CAS – can file Shoreham to Aberdeen at 2000ft DCT ☺ The CAS controlling unit will most likely not even see the FP unless they are explicitly addressed, and then they will ignore it anyway unless you are landing there.

Not checked for airport opening. Can file Shoreham to Lydd for 3am.

Can file a FP to Lydd to arrive at midnight... etc. or to Shoreham to arrive at 0830L (does not do PPR). One chap did exactly that a while ago and ATC would not let him land even though there was no traffic. He had to fly around for 30 mins. He said he had filed a flight plan which was not refused so...

Lelystad is the only case I have come across where the FP is used to do the Customs PNR. Pragmatic but extremely rare.

FP required for CAS but most countries, like the UK, allow airborne filing. Spain is one exception – needs a written one for CAS.

If a FP was to be rejected, think about how that would be communicated to you? You might be airborne by then. Only time I've seen VFR FPs rejected was by Montenegro/Albania in 2004/2005 (Trieste-Corfu). Message sent back to the

# PNR/PPR

- Flight plan does not constitute PNR or PPR request!
- In S. Europe, transmit PNR/PPR in writing
  - email or fax
  - get a written reply and have it handy in the cockpit
- PNR is really PPR (how do you know they got it?)
- Landing clearance will be refused in some countries
  - Italy, Spain, Greece
  - have to fly to the alternate
- Most H24 airports (non UK) don't need PNR/PPR
- Handling agent can often organise this efficiently

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Aviation is full of restrictive working practices - Arthur Scargill was in the wrong business.

Handlers can often sidestep PNR/PPR.

France & Germany rarely acknowledge PNR or PNR/Customs, but they don't appear to ever refuse a landing clearance anyway.

Some UK ATC airfields have refused landing clearance without PPR, in the past.

Gatwick is 24hrs PPR ☺

In s. Europe, not unknown for handling agent to channel some of his fee to the airport manager... parking magically appears IF you book via the handler.

# GAR Form

- Goes to Customs / Immigration / Police (Sp. Branch)
  - notification requirement varies according to airport category
- Contact numbers vary according to area
  - Official site with contact numbers etc: <http://tinyurl.com/d77bvyg>
  - [ncu@hmrc.gsi.gov.uk](mailto:ncu@hmrc.gsi.gov.uk) does both C & I (no fax needed)
- Police notification required for CTA only
  - Ireland (N & S), IOM, Channel Islands
  - sidestepped by flying via an airport designated under the Terrorism Act, or via e.g. France (Cherbourg ☺)
- Before departure, do GAR for both out & return flights
  - easy to forget the return one, which normally does matter
- Keep evidence of transmission

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In Europe, the GAR form (also called GENDEC) is an almost entirely British thing. I have seen only Greece operate it; the Greek airport of departure gives it to you, you sign it to say you don't have tuberculosis, and then somebody stamps it ☺

GAR form notification requirements are a mess and hard to work out, and potentially each UK airport may have special unpublished requirements.

For example the notification requirements on the Shoreham airport website appear to exceed those specified on the GAR form itself.

Simplest way to work it is this:

Special Branch applies to CTA only so is quite simple. Do Special Branch notification 100% absolutely, 12hrs PNR for Shoreham.

The other two (C & I) apply potentially to all flights so notify both of them on every flight, out and inbound. The [ncu@hmrc.gsi.gov.uk](mailto:ncu@hmrc.gsi.gov.uk) email is all that is needed for non CTA flights i.e. fax no longer needed.

Police (a.k.a. S/Branch) insist on the PNR period absolutely.

S/Branch like to use “permission” instead of “notification” which is not supported by the law. They phone back with a “permission number”. If you have notified them, they cannot prevent the flight – short of arresting you.

C&I are more relaxed. They get all flight plans copied to them and keep a general watch on flights, most of which are aircraft well known to them.



## GAR Requirements for Shoreham

### Advance Notification of flights from Sussex

	Common Travel Area	European Union	Outside EU
Police	√	<b>X</b>	<b>X</b>
Customs	<b>X</b>	√	√
Immigration	<b>X</b>	<b>X</b>	<b>X</b>

### Advance Notification of flights to Sussex

	Common Travel Area	European Union	Outside EU
Police	√	<b>X</b>	<b>X</b>
Customs	<b>X</b>	√	√
Immigration	<b>X</b>	√	√

NB. The Common Travel Area (CTA) consists of Great Britain, the Irish Republic, the Channel Islands and the Isle of Man.

No "harm" in sending the GAR to both Customs & Immigration for every foreign flight, both out and return

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Most people do both Customs and Immigration for every flight (simple).

Some people just send it to all three....

The above instructions do not quite correspond to the GAR form requirements, which are NO notification required for outbound flights to the EU. This is an example of the authorities having given a private notice to an airport asking for extra requirements, which makes a mockery of the system because how are you supposed to find out if the extra requirements exist? Airport website maybe...

A UK airport demanding to receive a GAR form for itself (not that unusual) is usually a breach of the DPA. The form goes only to Govt agencies.

# Documents

- All Aircraft – ICAO Article 29 to get started, also EASA
  - noise certificate (Germany, Switzerland)
    - doesn't usually matter but might get charged more...
    - G-reg <http://tinyurl.com/bwu76xx> N-reg <http://tinyurl.com/c6bn2xw>
- G-reg
  - Certificate of airworthiness
  - Certificate of registration
  - Insurance certificate
  - Pilot's License
    - showing appropriate privileges for the aircraft and flight rules used
    - English Language Proficiency statement
  - Interception procedures
  - Aircraft radio licence
  - POH

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Most of these should be carried in the UK, too 😊

In theory, one needs to consult every country's airspace regs – impossible.

EASA are making it uniform for the EASA OPS contracting states.

Noise cert can reduce landing fees. Often supplied by manufacturer so check POH etc.

G-reg requirements recently amended by EASA OPS regulation.

EU Customs (non UK) not allowed to query VAT status of a G-reg.

Saw a website the other day stating that only JAA-accepted licenses are good for flying to Europe (rubbish – if your license issue country matches the country of aircraft registry you have worldwide VFR privileges, and if you have an IR on that license then you have worldwide IFR privileges – NONCOMMERCIAL only). No 2 out of 3 rule (a myth).

There is some talk of an EASA reg requiring a Journey Log having to be carried, showing at least flights out of the home country. Obviously this would be daft for internal flights.

- N-reg

- Certificate of Registration
- Certificate of Airworthiness
- Radio station authorisation (for any N-reg aircraft outside the USA)
- FCC Restricted Radiotelephony Operator Permit (for each pilot)
- POH (known in the USA as the "Flight Manual")
- Weight and Balance schedule
- Pilot Identification (a **passport** is the only legal option for non-Americans and must be carried on all flights incl. domestic - ref: FAR 61.3 (a) (2) & FAA legal seminar UK 2010)
- Insurance Certificate
- Pilot's License
  - showing appropriate privileges for the aircraft and flight rules used
  - English Language Proficiency statement
- Pilot's medical certificate
- Interception procedures
- Certificate of Free Circulation for VAT! try: <http://www.forestaviation.co.uk>

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N-reg syndicates need a radio operator permit for each member, as well as one for the aircraft (the US trustee would normally supply the latter one).

ELP statement done automatically by the FAA on full PPLs - \$2 ?

N-regs vulnerable to VAT document inspection / impounding. Cert of Free Circ no longer obtainable FOC. Can get it by declaring a value and paying the VAT. Or maybe collecting the paper trail... Don't buy an N-reg aircraft unless it comes with a CofFC, a C88, some official evidence of VAT paid, or you discount the price by 20% 😊

N-reg is no more likely to be an illegal import than G-reg but an EU country is not permitted to query the VAT status of a visiting aircraft unless it is non EU reg, or its own reg.

Forest Aviation is just a VAT consultancy who have apparently helped out a few people.

- Non EU citizens may need visas
  - UK visa is usually no good for rest of Europe
    - need a Schengen visa, or a country-specific visa, as well
  - many non-European FTO students cannot leave UK!
  - big penalties on the “operator” (i.e. you)
  - list of countries: <http://tinyurl.com/y9z6abg>
  - wiki page on European visa policy: <http://tinyurl.com/37h49x5>
- Cost Sharing
  - G-reg - believed to be generally legal around Europe
    - virtually impossible to verify; there may be an EASA regulation on it
  - N-reg - illegal in UK airspace (ANO Article 225) and probably elsewhere; complicated FAA rules: <http://tinyurl.com/79ynksu>
  - must avoid any possibility of a “paying passengers” scenario
    - ➔ passenger liability (post crash) or cabotage

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Can fly your new Russian girlfriend (with a UK visa) within the UK but cannot fly (or even drive) her out to LTQ unless she has a Schengen visa.

Quite a lot of people temporarily in the UK (flight training?) cannot legally travel outside the UK. Have a UK visa but don't have a Schengen visa.

The operator is liable – hefty fine – so be very careful with passengers and ASK to see their papers. Change of getting caught is pretty high especially if they look non-European.

Cost sharing is a tricky one, with each country potentially having its own regs on pilot compensation. Need to be careful to avoid constructing a scenario which, post-accident, could look like paying passengers were carried (Cabotage if done within another country). There is a letter from French Customs saying Cabotage is not applied on private flights, but obviously if they go after you for Cabotage then they have already decided it wasn't a private flight 😊

The risk is a) doing repeated flights to high profile sports events and b) post-crash; it is usually in the financial interest of injured passengers to make the pilot appear negligent as that is (under the UK Civil Aviation Act) the only way to create a liability to passengers IF insurance doesn't pay out. Graham Hill is a classic case.



# Flying

- Flying is just the same 😊
- Have a list of FIS frequencies along the route

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Normally one is given the next frequency by ATC  
Not all ATIS has an intelligible English portion



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Final approach to Sitia in Crete.  
A FISO airport (not ATC) with a massive runway.

## After Landing

- Always refuel immediately
  - request fuel while still active on ground/tower frequency
  - airside personnel are on the ball (not at lunchtime in France 😊) and have an incentive to get you off airside
  - refuse to leave aircraft until refuelled
- Not all handling agents are evil moneygrabbers
  - some airports regard aviation as something best avoided
  - the handler is commercially motivated; good English
  - they answer emails & refill paper in their fax machine 😊
  - PNR/PPR may be sorted instantly
  - may be able to negotiate cost (before flying there 😊)

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NO incentive for anybody to expedite your DEPARTURE 😊

Historically, “handling” is how aviation has always worked... at a functional airport they don't add anything, but can be useful.

- Note procedure for getting back out (to airside) later
  - some airports are deserted at times (even big ones)
- Be diligent in paying for landings etc
  - avoids bank transfer fees later
  - airports use various means to trace “non-payers” (v. slow)
  - N-reg owners usually untraceable (Trustee gets the bill 😊)
  - always leave your contact details with Admin
- Keep all receipts for 1 year+
  - many airports have badly organised accounts (UK too)
- At unmanned/non-ATC airports: close flight plan
  - a phone call (France: 0810 437 837 (0810 IFR VFR))  
or can use last ATC frequency one was in contact with
  - get a big S&R bill otherwise...

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Bournemouth / East Midlands very bad for accounting errors.

# Departure

- At bigger airports, allow extra time to get to airside
- Study airport diagram before startup
- Request departure clearance (Delivery/Gnd/Twr)
  - unless definitely not required
- Request startup clearance (Gnd/Twr)
  - unless definitely not required
- Taxiing is confusing for everybody, even airline pilots
  - getting lost is completely normal – request taxi instructions if in any doubt whatever

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I aim to be at the airport 1 hour before EOBT.

Departure clearance is usually something trivial like left turn after departure, report at XX, not above 2000ft. Important to know exactly what to do when in the air. Ask for it on VFR flights too.

## Misc Tips

- Get a laptop or Ipad with 3G internet access
  - get the 3G adaptor unlocked (Ipad-3G's one already is)
    - enables the use of locally bought “data” SIMs
  - can also use a 3G phone as a “modem”, connected to computer via bluetooth or (preferably) via WIFI; also see E585 and (for Nokia phones) Joikuspot
- Plan stops at “nice” places only (avoids pressure, etc)
- Passengers...
  - make it clear that delays are possible & who is responsible
    - trips with some passengers not possible unless weather is “perfect”
- Don't fly to/via Jersey with near-empty tanks
  - claim the duty drawback on the full tanks, instead

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Independence is really desirable for any “travelling”.

WIFI is dead for most practical purposes when out and about.

How many don't know how to get a 3G connection? (GPRS in non 3G areas; connection works the same, just a lot slower)

Locally bought SIMs are by far the cheapest way to get internet access; worth getting if staying in the same country for a few days +

Using a phone is also called “tethering”. Unlocked Iphone4 from the Apple shop can be thus used, and for newer Nokia phones you have Joikuspot.

Some networks ban tethering but there is no evidence they have the practical means to detect you are doing it.

E585/E586 – a very handy gadget for travelling

WIFI availability is nothing like it was 5-10 years ago and often one goes to some country and every single wifi AP is a commercial one, which incidentally screws up 3G access because the Ipad or whatever is trying to use wifi preferentially and sees an unencrypted wifi AP but is too stupid to realise it won't connect...

I have nearly had to buy airline tickets 2 x.

Sometimes one chooses a stop for an Easyjet or Ryanair connection to UK.

- Long range aircraft better than a bit more speed
  - avoiding fuel-only stops is highly desirable
  - learn to use the mixture control to set up peak-EGT
    - 20-30% more range than flying full-rich
    - use in cruise, or descent, only
- Lightweight reflective cockpit cover for hot places
  - <http://www.aircraftcovers.com/> or <http://www.cambraicovers.com/>
- A basic toolkit and a few spares
- Cleaning, deicing, spare oil, etc
- Batteries charged / chargers
- Assume any electronic device will pack up 😊
- Do a “leaving home” checklist (passport, etc)

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Obviously a long range aircraft helps a lot. TB20 will do ~1300nm zero-fuel; Corfu is 1150nm. But a PA28 Warrior or Archer will reach most of N France, from UK south coast.

Lyco authorised generally below 75% of max HP so cruise and descent only; climb with all 2 or 3 levers fully forward.

Bruce's Custom Covers / Cambrai Covers. I got one made before going to Spain/Greece in 2003. Also stops people casing the joint when parked 😊

I use electronic tools to generate plogs etc but fly with everything printed on paper (doesn't need backups).

- Get yourself an IR ☺
  - aircraft performance (v. weather) the only limiting factors
  - easy automated Eurocontrol route generation
  - no more looking for VRPs (if airport is IFR capable)
  - fly high, for safety over water and mountains
  - IFR in CAS does require good aircraft performance
  - £15000+ for JAA SE IR (no credit for IMC Rating)
  - better options may arrive 2014/2015



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IR flying is 99% VMC. CAS irrelevant. No need for VFR charts (unless flying VFR sections). IFR charts can be printed off from flight planning software.

Don't really need VFR charts except for emergencies, or flying with Z or Y flight plans.

Performance is important if one is to fly in non CAVOK conditions, and Eurocontrol min routings are FL070+, with FL100/120 much better.



- Email2fax and Fax2email
  - desirable for serious S. European touring
  - fax more likely to work than email for initial contact
  - PPR confirmations most easily returned by fax
  - fax2email potentially free but maybe not with a usable fax#
  - useful for cost saving in business generally
    - much cheaper & more convenient than a dedicated fax line
    - incoming faxes can be delivered to multiple email addresses
  - the cost can be shared among a club or group
  - <http://www.interfax.net/en>
  - <http://www.edgetelecom.co.uk/fax-to-email>

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Fax little used on today's business communications but remains very useful at times, basically when phone and email contact cannot be established.

Should have a geographical (not 0870 etc) number for incoming faxes.

Fax generally useful where emails bounce back, etc.

Any number of people can share the facility to transmit a fax (confirmation email will go to a particular address though)

Edge Telecom lot cheaper than Interfax for fax2email (geographical number ~£36/year)

# Portable Oxygen

- Needed above ~ 10,000ft (day) ~ 5000ft (night)
  - regulatory requirements are less strict
- Get a large cylinder
  - “variable” refilling options back home (mostly scuba shops)
  - virtually nonexistent refilling options when travelling
- Mountain High is the best system
  - large but lightweight composite cylinder
  - O2D2 electronic demand regulator
  - simple (lowest cost) cannulas
  - longest trip possible without a refill
- **NO** regulatory approvals needed for portable kits

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Abroad, the airspace often opens up high altitude flying which is not possible in the UK except for little bits of airspace.

I got oxygen early on, 2003, for flying over Pyrenees.

Oxygen required for flying over mountains or weather. Not required in the UK except for high altitude IFR flying.

PA28-181 can do ~FL140 so oxygen is not just for high performance aircraft.

The **FAA** requires that all pilots flying their aircraft above 12,500 feet for 30 minutes or longer or at 14,000 feet or above during the entire flight must use supplemental oxygen. Passengers must have oxygen available (but don't need to use it) above 15,000ft.

The UK **CAA** makes oxygen mandatory for more than 30 minutes between FL100-FL130 and at any time above FL130. Passengers are "recommended" to use it above FL130 but it's availability to passengers does not appear to be mandatory.

EASA regs? Not sure.

One gets pretty tired at/above 10k for 1-2hrs+. May not be obvious to oneself!



“48 cu. ft.”  
composite  
cylinder  
“540” thread



1<sup>st</sup> stage  
regulator  
(4 outlets)



plain cannula



O2D2 electronic  
demand regulator  
(2 persons)

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Also one needs a mask, for people with a blocked up nose, or e.g. a child or somebody sleeping with mouth open.

Plus a blood oxygen meter.

Best tip is to buy a BIG cylinder (least refilling hassle) but composite ones are light.

It is very comfortable; one can talk, eat, drink and forgets about the cannula very quickly.

O2D2 regulator automatically adjusts for altitude and works well at FL200, even though cannulas are not supposed to work > FL180.

Oxygen is really necessary for IFR. People do fly IFR (CAS enroute, sometimes called “airways”) without it but they often get poor routings. Much of the time they sit in cloud if there is any. The whole point of IFR is to not fly in IMC ☺

# Duty Drawback

- Claim on entire fuel tank content that was exported
  - not just the fuel that was used on the foreign trip!
  - can claim only once for any given fuel (requires admin)
- A lot safer than flying to Jersey with near-empty tanks
- Causes political problems in syndicates
  - one member doing lots of short trips abroad and pocketing the entire drawback each time ☺
  - may need rules e.g. drawback goes to the syndicate
- Can claim up to 2 years back
- Drawback rate is approx £0.40 per litre
  - <http://www.hmrc.gov.uk/budget2011/tiin6330.pdf>

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Worth a LOT of money. £130 on a TB20

Sounds too good but is true. Same as duty free shopping – you bring it back home afterwards.

Can also do duty drawback claim on the fuel in the tanks on the flight to Jersey but not a lot of benefit if you want lots of cheap fuel from Jersey...

Common abuse in syndicates is 1 member flying e.g. Lydd to LTQ, £130 drawback covers cost of the whole trip; subsidised by other members IF foreign trip was short. Not illegal; just unfair to the others.

Complicated with wet hire.

Watch out for members claiming drawback quietly.

# Safety / Legal

- Life raft for flying over the Channel
  - wear life jackets but they are not a realistic life saver alone, due to hypothermia
  - passenger briefing essential
  - try to ditch near a small ship/boat
  - Survival Products rafts ~7kg/£1000 →
- Fly high over water; just below CAS
- Know your aircraft range / fuel burn
  - verify it with 2 flights / 2 refuels
- Always physically verify fuel on board
  - never rely on school/club “flying log” records (G-OMAR)
  - standard fuel gauges are usually rubbish



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These apply to all serious flying, not just outside the UK.

Always have an escape route when flying.

Engine doesn't know you are over water, and straight engine failures on certified avgas engines are extremely rare, of the order of 50-100k hrs MTBF.

Most ditchings involve pilot error.

Life raft about £1000+, overhaul every few years £150. Very reliable. Procedure should be followed (don't throw it in the water and hope to swim after it ☺).

Don't lend your raft to anybody else. They may unpack it to see what's inside. I had to have mine overhauled after one such “loan”. You wouldn't lend your parachute to somebody...

Survival suit is good but uncomfortable and highly unattractive for passengers. Lunch at LTQ is an unattractive proposition if wearing a suit on the way.

Fuel burn must be planned. Gauges cannot be relied on, unless it is a totaliser (Shadin or JPI). You have to know the actual fuel burn at a specific power setting, and you fly at that power setting.

High altitude... you will still ditch but have more time to sort things. In French

- Fuel Reserve Rules

- standard for IFR: destination – alternate – 45 mins cruise
- under old CAA regime, no reserve requirements for VFR !
- under EASA OPS (Part-NCO), aligned with FAA (ICAO) rules
  - Not law yet
- N-reg (IFR): destination – alternate – 45 mins
  - alternate not always required (“1-2-3 rule”)
  - FAR 91.167
- N-reg (VFR): destination – 30 mins (day); 45 mins (night)
  - FAR 91.151
- above regs can be unsafe!
  - picking a nearby alternate may meet the regs but is likely to be useless as much bad weather is widespread
  - 30/45 mins’ reserve meaningless given the usual crap fuel gauges
  - plan a “weather” alternate and a “crash” alternate

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Mentioned only because this is applicable more to longer trips.

EASA OPS NPA in 2011... not sure what the latest is on fuel reserves for private flight.

Legal is not necessarily safe, because bad wx can cover a large area and 30/45 mins at 100kt is not very far.

In the TB20 I have ~9hrs endurance and always keep a 2hr reserve, not 30 or 45 mins.

Plan two alternates – 1) weather alternate 2) crash alternate (blocked runway case). A lot of airports (especially UK – anally “safety” minded) close totally if there is a mishap anywhere on the airport that needs the attendance of even 1 fire crew member.

- Don't be afraid to declare a Mayday (clearly)
  - ATC often cannot do “conversational English”
- Keep decision-making in the cockpit
  - draw clear lines on fuel etc and declare a Mayday if crossed
- If not VMC, maintain your own obstacle awareness
  - ATC responsible for obstacle clearance only when vectoring
    - reported cases of vectoring into terrain
- Low time PPL fatal accident stats no worse than high time instrument pilots
  - but most IR holders get killed doing dodgy VFR, not flying “classical IFR” procedures
- ICAO member States enforce busts etc for each other
  - UK CAA will go after you on their behalf

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No use telling them (in a non-Mayday initial call) you are short of fuel; “short of” may not be understood as it is not aviation language.

ATC may give conflicting instructions. Various crashes over the years, including commercial ones, resulted from a series of ATC instructions which led the pilot around until he fell below reserves. Nowadays they have absolute rules and if the line is crossed it is an emergency and a procedure is followed, preferably with ATC assistance but ultimately also without.

Low time PPLs should not be afraid. I was doing the long trips at PPL+100hrs. Admittedly in a high perf aircraft, but that affects only the routes over high terrain.

Classical IFR (SID, enroute, STAR, IAP) is extremely safe unless a huge error is made, in IMC.

If you do a CAS bust abroad and somebody gets upset about it, the UK CAA will eventually follow it up on their behalf, under the ICAO treaty. Not like driving a foreign reg car in the UK. But subject to local (UK) law etc.

- IMC Rating outside UK airspace
  - IFR privileges of the IMCR are not valid
  - cannot request or accept an “IFR clearance”
  - does legalise “VMC On Top” for UK (non-JAA) PPL
    - removes requirement for “sight of surface”
    - “sight of surface” requirement gone for JAA PPLs from 4/2012
- IMC Rating appears “safe” till 2014 at least

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Not illegal for a plain PPL to ask for and fly e.g. an ILS in VFR conditions.

Can fly an instrument approach in VFR conditions

- must not request or accept an “IFR clearance”
- safety pilot needed for lookout if the flight is a “practice” flight (ambiguous, obviously)
- ANO Article 24 and EASA FCL 600 refer (ambiguous)

VMC On Top (without sight of surface) is legal for UK JAA PPL since April 2012 anyway (EASA FCL).



# Resources

- MSLP charts <http://www.mwis.org.uk/synoptic.php>
  - watch chart dates!
  - otherwise use <http://www.avbrief.com/briefingservices.html>
- TAFs/METARs <http://www.avbrief.com/pda/opmet.html>
  - especially for phones <http://yaws.mobi/>
- Radar <http://www.meteox.com>
  - especially for phones <http://pda.meteox.co.uk/>
- Lightning <http://www.blitzortung.org/Webpages/index.php>
  - real time lightning data for all of Europe
- European AIPs: <http://tinyurl.com/d75ha2x> or <http://tinyurl.com/bp9bbjx>
  - direct links to national AIPs

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MWIS charts sometimes duplicated so check dates. Avbrief does it properly.

Always check date on tafs and metars. Fairly common problems with out of date info, caused by most weather websites ripping it from other websites and having problems with stripping off unwanted HTML formatting codes, etc.

- Eurocontrol AIP collection: <http://tinyurl.com/d7yjr9a>
  - all European AIPs in one place
  - needs registration (free)
- Route Notams <https://www.ippc.no/ippc/narrowroutebriefingchoice.jsp>
  - doesn't need a login

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Eurocontrol site is a bit horrid... bookmarks change every so often.

Norwegian notam site requires no login but Notams are not reliably presented (ambiguous time limits in use).

# Thank You

- Original author contact: peter@peter2000.co.uk
- <http://www.peter2000.co.uk/aviation>
- European GA forum: [www.euroga.org](http://www.euroga.org)

Disclaimer: Nothing here replaces official information.  
Charts shown here are mostly out of date.

November 2012

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VFR and IFR trip writeups and other stuff