PPL - Privileges

3km Vis.
In sight of surface.
10km for SVFR.
NO IFR in Class D

PPL –IMC Privileges

IFR in Class D and E.
Can fly in Cloud
3km for SVFR.
T/O, 1800m - 600ft Cloud Base.
Ldg, 1800m Vis,

DA – **Precision** + 50pec **+200ft**
OR 500 + Threshold

MDA – **Non Precision +200ft**
OR 600 + Threshold

MSA 1000` above highest point within 5 miles.

Quadrantals above 3000`

000º to 089º = ODD
090º to 179º = ODD + 500
180º to 269º = EVEN
270º to 359º = EVEN + 500

IMC Tolerances

± 100ft Altitude
± 10º Heading
± 5º VOR - ± 10º NDB
MDA +50ft – 0ft
Speed within 10kts

ADF Tracking

Req **More** QDM = Steer **Less**
Req **Less** QDM = Steer **More**

Req **More** QDR = Steer **More**
Req **Less** QDR = Steer **Less**
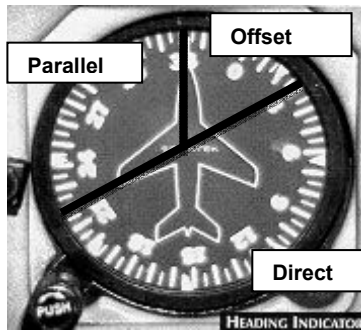
Less is to the **Left**
More is to the **Right**

Before Initial Approach

ATIS
Altimeter QNH
Approach
　　　How Long
　　　How Low
　　　Which Way
Avionics, Set Up, IDENT
Airspeed – for Approach.

Right hand hold **Subtract**
Left hand hold **Add**

Abeam ± 90° to Outbound Heading

Wind Gate & **Offset Entry**
± 30° to Outbound Heading

Parallel / Offset / Direct — HEADING INDICATOR

Radial / Outbound Heading
determines which type of entry to the hold.

VOR Hold
60º to go you should be 10º off track (CDI Needle should move)

ADF Hold
90º to go = 75º to Inbound
60º to go = Inbound Hdg (due to ADF dip.)

On all holds use **2 X Drift** on Outbound.

Use **1x Single Drift** on Inbound

Final Approach Fix

Time – Start timer
Turn – Final Approach Course
Twist – OBS and DI to Course
Throttle – Reduce power
Talk – To Tower
Tyres – Landing Gear Down

Enroute Wind Correction Angle

For practical purposes assume max drift is at 60° to track.

For each 10kt of Wind

TAS 60 Kt = 10º max drift
TAS 90 Kt = 6º max drift
TAS 100 kt = 6º max drift
TAS 120 kt = 5º max drift
TAS 150 kt = 4º max drift

Head / Tail Wind Component

30º off = 9/10
45º off = ¾
60º off = ½
75º 0ff = ¼
90º off = Nil

To regain track. **Double** the degrees off track and **add** the wind correction.

If **more than 3 minutes** from station. Use minimum of 30º

Divide the altitude to lose (in Flight Levels) by 3 to determine **NM distance to start a 3° descent**

$$NM = \frac{Flight\ Level\ to\ lose}{3}$$

ADF Flying – 1° deviation of the ADF needle is equal to 100ft per NM
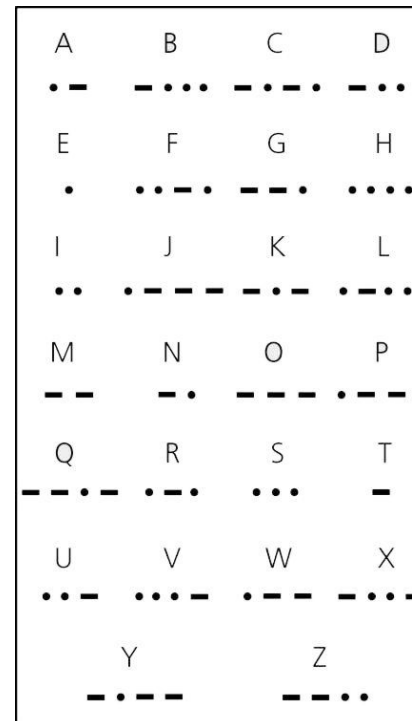
Timed Turns

360º = 2 Mins
180º = 1 Min
90º = 30 Secs
30º = 10 Secs

To make a **6° change** in heading, use a rate 1 turn then immediately level the wings.

To make a **3° change** in heading use ½ a rate 1 turn.

VOR Reception Distance

1,000ft = 40nm
2,000ft = 55nm
3,000ft = 70nm
4,000ft = 80nm
5,000ft = 90nm
10,000ft = 125nm

Morse code chart A–Z

Compass Errors UNOS and ANDS

Undershoot **N**orth
Overshoot **S**outh

Accelerate **N**orth
Decelerate **S**outh

VMC Minima

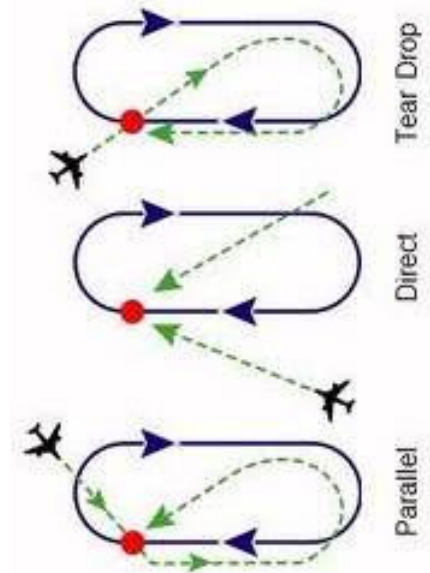### Airspace Class F & G

>3000ft – 1500m, Clear of Cloud
>FL100 – 5000m, 1000ft from Cloud
<FL100 – 8000m, 1.5Km Horizontal, 1000 Vertically

Airspace Class D

>3000ft – 8000m, Clear of Cloud, In sight of surface
>FL100 – 5000m, 1.5Km Horizontal, 1000 Vertically
<FL100 – 8000m, 1.5Km Horizontal, 1000 Vertically

Tear Drop / Direct / Parallel hold entries

IFR / VFR Quick Reference Card

www.TonyPool.com

10/20 Rule. A headwind of 10% takeoff speed will reduce ground roll by 20%

10/20 Rule. A 10% change in aircraft weight will result in a 20% change in takeoff distance.

10/20 Rule. A 10% change in airspeed will cause a 20% change in stopping distance.

Abort the takeoff if 70% of takeoff speed is not reached within 50% of the available runway.

TAS increase 2% for each 1000' in a climb.

$$TAS = IAS (kts) + \frac{FL}{2}$$

Best Cruise climb speed is the difference between Vx and Vy and add this to Vy.

For maximum TAS and Range, Load the airplane as close to the aft Centre of Gravity limit as allowable.

Enroute Wind Correction Angle For practical purposes assume max drift is at 60° to track

$$WCA (max) = \frac{Wind\ Velocity}{NM\ per\ minute}$$

Maximum drift is when the wind is 90° to the track. **For practical purposes assume max drift is at 60°** to track.

Standard Closing Angle.

$\frac{60}{NM\ /\ Minute}$ = Angle to regain track

TAS	NM/Min	SCA	*SCA
90	1.5	40°	20°
120	2	30°	
180	3	20°	

-Fly for **1 min for every mile off track.**

-Add 10 Secs to ETA for every minute flown to regain track

-*SCA Fly 2 mins for every mile

A 3° Rate of Descent (ROD) = 5 x groundspeed .

Add 1 minute to your flight plan for every 1000′ climb to cruise altitude.

A slippery or wet runway may increase your landing distance by 50%.

Plan to touchdown in the first ⅓ of the runway or go around.

For each knot of airspeed above Vref over the numbers, the touchdown point will be 100ft further down the runway.

Weight & Balance – An airplane will be **more stable** and stall at a higher airspeed with a forward CG location.

Weight & Balance – An airplane will be **less stable** and stall at a lower airspeed with an aft CG location.

Density Altitude increases or decreases 120ft for each 1°C that varies from ISA
DA = PA + 120 (OAT – ISA)

Maximum **Glidespeed** = Minimum **Drag** = Maximum **Endurance**, remember this if low on fuel.

Most structural **icing** occurs between 0° to -10°

Difference in Dew point and temperature x 400ft is where you will find visible moisture. i.e. cloud base.

Engine Failure Drill

A = Airspeed – Achieve the best glide speed first.

B = Best Field – Find the best place to make an emergency landing.

C = Checklist – Go through the checklist to restart or secure the aircraft.

D = Distress – Make a Mayday call, 7700 on Transponder

E = Evacuation – Fuel off, doors open, Master off. Seatbelts tight.

Heading
Altitude
Time

FREDA Check

Fuel, Enough for trip, Change or balance tanks.

Radio, Next radio frequency, and radio nav frequency.

Engine, Check Temperature, Pressures, Suction, Ammeter, Carb Heat, Mixture.

DI, Sync DI with compass.

Altitude, Altimeter setting, **A**irspace, Outside **A**ir Temperature.

Light Signals

To Air
Steady Red	Give Way
Red Flashes	Do Not Land
Green Flashes	Return for Landing
Steady Green	You may Land
White Flashes	Land after steady green

To Ground
Steady Red	Stop
Red Flashes	Clear Landing Area
Green Flashes	Cleared to Taxi
Steady Green	Cleared to Take Off
White Flashes	Return to Start Point

SPLITT – Pre Line UP Check

Strobes, On.

Pitot Heat, On. and note outside temperature

Lights, On.

Ice, Check ice on wings.

Transponder, to ALT.

Time, Start timer or turn off and then ON the ADF to reset Fight Time.