

**MSA** 1000' above highest point within 5 miles of position.

**Cruising Levels** above 3000'

000° to 179° = ODD  
180° to 359° = EVEN

**IFR Tolerances**

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

**ADF Tracking**

Head of needle left of what your require - Steer Left

Head of needle right of what you require - Steer Right

**Before Initial Approach**

ATIS  
Altimeter QNH  
Avionics, Set Up, IDENT  
Approach Brief

How Long  
How Low  
Which Way

Airspeed - for Approach.

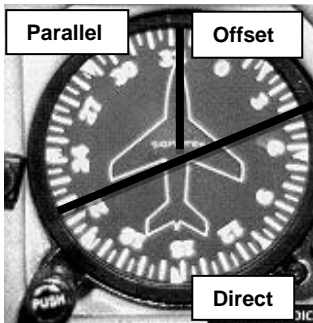
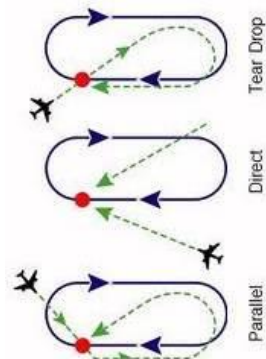
**Final Approach Fix**

Time - Start timer  
Throttle - Reduce power  
Talk - To Tower  
Tyres - Landing Gear Down

**Holds**

**Abeam** ± 90° to Outbound Heading

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



**Radial / Outbound Heading**

determines which type of entry to the hold.

**VOR Hold**

60° to go you should be 10° off track (CDI Needle should move)

**ADF Hold**

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

On all holds use **3 X Drift** on Outbound.

Use **1x Single Drift** on Inbound

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

**For each 10kt of Wind**

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

**Head / Tail Wind Component**

30° off = 9/10  
45° off = ¾  
60° off = ½  
75° Off = ¼  
90° 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 30°

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

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

1000ft = 3nm

**ADF Flying** - 1° deviation of the ADF needle is equal to 100ft per NM

**Timed Turns**

360° = 2 Mins  
180° = 1 Min  
90° = 30 Secs  
30° = 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

IFR / VFR Quick Reference Card

[www.TonyPool.com](http://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) =  $\frac{\text{Wind Velocity}}{\text{NM per minute}}$

WCA (max) =  $\frac{\text{Wind speed} \times 60}{\text{TAS}}$

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

**Flight Plan Sequence**

1. Type of Flight Plan
2. N - Registration
3. Type and Equipment
4. TAS
5. Departure Point
6. Departure Time
7. Altitude
8. Route
9. Destination
10. Time Enroute
11. Remarks
12. Fuel Onboard
13. Alternate
14. Name / Homebase
15. People on board
16. Colour of aircraft

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%.

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.

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

Maximum **Glide speed** = 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.

**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

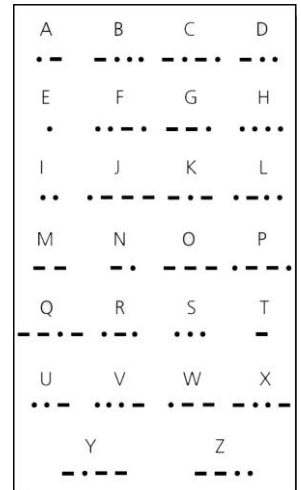
**To Ground**  
Steady Red Stop  
Red Flashes Clear Landing Area  
Green Flashes Cleared to Taxi  
Steady Green Cleared to Take Off  
White Flashes Return to Start Point

**Mandatory IFR Reports**

- . Vacating an altitude
- . Changing altitude when VFR on top
- . Unable, climb or descend 500fpm
- . Missed approach
- . Change in TAS 5% or 10kts
- . Loss or impairment of radios
- . Hazardous or unforeseen weather
- . Time and Alt on reaching Holding fix
- . Departing a Holding fix

**Special Equipment Suffixes**

- /X - No transponder
- /T - Transponder NO mode C
- /U - Transponder with mode C
- /D - DME, NO Transponder
- /A - DME, Transponder Mode C
- /Y - RNAV, NO Transponder
- /C - RNAV, Transponder NO Mode C
- /I - RNAV, Transponder Mode C
- /G - RNAV - GPS Approach



**Groundspeed (kts) / ETA (mins)**

|      | 60kt | 70kt | 80kt | 90kt | 100kt | 110kt | 120kt | 130kt | 140kt | 150kt |
|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 1nm  | 1    | 1    | 1    | 1    | 1     | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   |
| 2nm  | 2    | 2    | 1.3  | 1.3  | 1     | 1     | 1     | 1     | 1     | 0.3   |
| 3nm  | 3    | 2.3  | 2    | 2    | 2     | 1.3   | 1.3   | 1.3   | 1.3   | 1     |
| 4nm  | 4    | 3.3  | 3    | 2.3  | 2.3   | 2     | 2     | 2     | 1.3   | 1.3   |
| 5nm  | 5    | 4.3  | 4    | 3.3  | 3     | 3     | 2.3   | 2.3   | 2     | 2     |
| 10nm | 10   | 8.3  | 7.3  | 6.3  | 6     | 5.3   | 5     | 4.3   | 4     | 4     |
| 20nm | 20   | 17   | 15   | 13   | 12    | 11    | 10    | 9     | 8     | 8     |
| 30nm | 30   | 25   | 23   | 20   | 18    | 16    | 15    | 14    | 13    | 12    |
| 40nm | 40   | 34   | 30   | 27   | 24    | 22    | 20    | 18    | 17    | 16    |
| 50nm | 50   | 43   | 37   | 33   | 30    | 27    | 25    | 23    | 21    | 20    |