

# ADVANCED CROSS COUNTRY FLIGHT PLANNING

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- 1) Draw a line on the chart to represent the desired course to fly.
- 2) Find prominent landmarks to use as *checkpoints*.
- 3) On the **Navigation Log**, put the name of your departure airport in the first blank. In the second blank put the letters TOC (Top Of Climb will be explained in step 11). In the remaining blanks list your checkpoints leading up to and including the destination airport.
- 4) Using the **Navigation Plotter**, find:
  - a) Distances in nautical miles in between checkpoints and the total trip distance.
  - b) *True Course* of the line drawn on the chart.
- 5) Select Altitude: East ( $000^{\circ} - 179^{\circ}$ ) = ODD + 500'  
West ( $180^{\circ} - 359^{\circ}$ ) = EVEN + 500'
- 6) Find the *True Airspeed* using the **calculator side** of the **Flight Computer**, or simply use the value provided in your **Pilot's Operating Handbook**.
- 7) Using the **wind side** of the **Flight Computer**, find:
  - a) *Wind Correction Angle* (WCA) using the winds aloft information from the weather briefing. Follow the directions provided on the flight computer.
  - b) *True Heading*, which is your True Course with the WCA applied:

**Add right WCA**  
**Subtract left WCA**

- c) *Groundspeed* (GS) which is read underneath the grommet on the flight computer.
- 8) On the Sectional chart, use the isogonic lines to find *Magnetic Variation*:
  - a) Add (West variation) or Subtract (East variation) to your True Heading. This will give you Magnetic Heading (MH).

**East is Least ( - )**  
**West is Best ( + )**

- 9) On the compass housing in the airplane is a little card. This will tell you how many degrees to adjust for compass deviation. Add or subtract the deviation to your Magnetic Heading. This will give you *Compass Heading* (CH).

**TC  $\pm$ WCA = TH**  
**TH  $\pm$ Variation = MH**  
**MH  $\pm$ Compass Deviation = CH**

- 10) With your Groundspeed figured, you can find estimated time enroute (ETE).
  - a) Find the ETE for each segment in between checkpoints.
  - b) Please note that your very first segment ETE will not be accurate due to the lower groundspeeds associated with climbs to altitude. Some POH's have climb tables to assist the pilot in finding Time, Fuel, and Distance to Climb. If your POH has this table, your second checkpoint on the Navigation Log should be **TOC** (Top Of Climb). The table is only accurate for zero wind conditions, however its use is important in demonstrating accurate cross-country flight planning.
  - c) Add the ETE's together to find a total time enroute figure.
  
- 11) With your ETE and the fuel flow figures from the Pilot's Operating Handbook cruise figures, you can find the fuel burn.
  - a) Add 30 minutes worth of fuel to the estimated fuel burn if the flight is to be flown in Day VFR conditions.
  - b) Add 45 minutes worth of fuel to the estimated fuel burn if the flight is to be flown in Night VFR conditions.
  
- 12) The final stages of the cross-country flight planning process are to:
  - a) Sketch airport diagrams and runway numbers on the navigation log.
  - b) Write down Flight Service Station, ATIS, CTAF, Tower, Ground, Approach, Departure, Center, and all other frequencies pertinent to the flight on the navigation log. These can be found in the Airport Facility Directory (green book).
  - c) Prepare and file a flight plan with Flight Service.
  
- 13) Flight Service will hold a flight plan on file for **one hour** after schedule time of departure. After one hour the flight plan is automatically deleted.
  
- 14) Once the flight plan has been activated, you will have **30 minutes** after your estimated time of arrival (ETA) to close the flight plan. If you forget to close the flight plan with flight service, very costly search and rescue operations will be initiated by the Flight Service Station.

***DON'T FORGET***  
***ACTIVATE AND CLOSE YOUR FLIGHT PLAN WITH***  
***FLIGHT SERVICE***