

VFR CROSS COUNTRY PLANNING SHEET

1. Check that your sectional chart is current. Draw course line and pick checkpoints — approximately 1 every 10 nm. Mark checkpoints with a hatch line on the sectional. A good checkpoint is easily identifiable, something you cross, and something that can be backed up by other land marks (i.e. railroads, cities, powerlines, etc).
2. List distances [*in the flight plan form*] between checkpoints measuring in nautical miles using the plotter.
3. Determine altitude based on winds aloft and direction of flight; for indicated altitude more than 3000' agl, use hemispherical rule.¹ based on **Magnetic Course**.²
4. Determine outside temperature at your cruising altitude using average lapse rates.³
5. Determine TRUE AIRSPEED (TAS) from the aircraft performance charts. The performance charts should be used.
6. Using the plotter, measure the **True Course** (T_C), and enter it on the navigation log.
7. On the sectional chart, locate an isogonic line that crosses your line of position and enter the **Magnetic Variation** (VAR) value on the navigation log.⁴
8. Enter the wind direction, speed and temperature of your selected VFR cruising altitude on the navigation log (winds aloft are in TRUE direction).
9. Using the wind side of the flight computer, calculate the **Wind Correction Angle** (W_{CA}), and enter it on the navigation log.
10. Calculate the **True Heading** (T_H) and enter it on the navigational log.⁵
11. Calculate the **Magnetic Heading** (M_H) and enter it on the navigational log.⁶
12. Locate the **Magnetic Deviation** (DEV) using the compass card located in the airplane and enter it on the navigation log. (Enter "0" if not sure).
13. Calculate the **Compass Heading** (C_H) and enter it the navigational log.⁷
14. Using the wind side of the flight computer, calculate the **Groundspeed** (G_S) and enter it on the navigation log.
15. Using the flight computer, calculate the **Estimated Time Enroute** (ETE) it will take to fly between each check point, and enter on the navigation log. (Add 5 minutes to both the first checkpoint's ETE and the last check point's ETE: this allows for pattern work). Write also the **Estimated Time of Arrival** (ETA) for the first checkpoint.
16. Using the flight computer, calculate the estimated fuel it will require to fly between each checkpoint, and enter on the navigation log.
17. At the bottom of the navigation log, enter the fuel reserve of 30 or 45 minutes, then calculate and enter the total fuel and time required.

¹ The rule is "0°-179° ODD plus 500' - 180°-359° EVEN plus 500"

² $MC = TC \pm MV$

³ Average Lapse Rate = 2°C/1000' or 3.5°C/1000'

⁴ Remember the phrase : "east is least & west is best"

⁵ $TH = TC \pm WCA$

⁶ $MH = TH \pm VAR$

⁷ $CH = MH \pm DEV$

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18. Using the POH, calculate the takeoff and landing distances.⁸
19. Using the Airport Facilities Directory (A/FDM), write down all frequencies for both departure and destination airport.⁹ Use also this publication to gather other information.¹⁰
20. Using the POH calculate Weight and Balance & location of the CG before take-off and before landing at the destination airport.
21. Gather information on the weather, including:
 - Synopsys and area weather forecast
 - Adverse weather, including sigmets/airmets
 - Current and forecast en-route & destination weather
 - Winds & temperature aloft forecast
 - Pireps including top levels
 - Freezing levels and/or convective areas
 - Temperature/dewpoint spread
 - Better weather area forecast (where it is located)
 - Alternate airport weather forecast
 - Notams and TFR (if any)
22. Call Weather briefer to get a standard weather briefing¹¹ and OPEN A FLIGHT PLAN
23. Bring with you useful things.¹²
24. Do not forget:
 - private pilot licence
 - medical certificate
 - to check that the plane is properly airworthy

⁸ To determine any other necessary information, especially rate of fuel consumption, runway lengths and rpm settings needed for percent power to be used, in most cases, 65% power should be assumed.

⁹ These frequencies include: ATIS, AWOS, FSS, Tower, Departure, Approach, and CTAF

¹⁰ Additional information include : elevation, runway lengths, obstacles, special procedures, traffic pattern, location of windsock, etc.

¹¹ The toll-free number is 1-800-WX-BRIEF

¹² Such as: SPARE BATTERIES, GPS, BOTTLE OF WATER, FOOD, EMERGENCY RADIO