



# Cross Country Planning Checklist for Student Pilots

**36 Optimized Steps for Planning**

**MOONBASE AVIATION . COM**

# Things to have on hand

- Current Sectional Chart
- Plotter
- E6B / Electronic Flight Bag
- Chart Supplement
- POH/AFM and Supplements for your Aircraft
- Weight and Balance Sheet for your Aircraft
- Compass Deviation Card
- Access to Weather Data
  - 1-800-WX-Brief or [1800wxbrief.com](http://1800wxbrief.com)
  - NOAA Aviation Weather Center - <https://www.aviationweather.gov>
  - FAA TFR List - <https://tfr.faa.gov/tfr2/list.html>
  - FAA NOTAM Search - <https://notams.aim.faa.gov/notamSearch/nsapp.html#/>
  - Foreflight, Garmin Pilot, etc.

# CROSS COUNTRY PLANNING CHECKLIST

	WHAT WE CALCULATE	HOW TO CALCULATE IT
1	Weight and Balance	Weight & Balance worked from POH/AFM and the current empty weight data for your aircraft
2	Plot straight line on course chart	Using your chart and ruler draw a straight line from your departure airport to your landing airport
3	Determine the preliminary checkpoints	Examine your path and correct it for easy to find checkpoints, avoiding terrain, obstacles, airspace, etc. Record the checkpoints in your nav log
4	Gather weather reports and forecasts	Via area forecasts, TAFS, MOS, at your landing/takeoff airports , enroute weather information via winds aloft, area forecasts, AIRMETS/SIGMET/PIREPS
5	Gather known traffic delays	At airports and enroute from TFRs, NOTAMS, and PIREPs

# CROSS COUNTRY PLANNING CHECKLIST

	WHAT WE CALCULATE	HOW TO CALCULATE IT
6	Gather runway lengths, diagrams, other info	From charts (terminal area, sectionals), AFD/Chart supplements. Include departure, destinations, and alternates
7	Determine cruise altitudes	Using chart choose based on terrain, airspace, obstacles, and VFR cruise altitude hemisphere rules
8	Determine distances to checkpoints	Measure on chart using plotter
9	Estimate fuel required for flight (This is not the final calculation)	Use total distance and conservative GPH rate. Include taxi/run-up, approach, descent, and reserve (helps determine if fuel stops needed. 12GPH climb, 10GPH cruise, etc.)
10	True Course to checkpoints	Plotter/Chart

## CROSS COUNTRY PLANNING CHECKLIST

	WHAT WE CALCULATE	HOW TO CALCULATE IT
11	Magnetic Course to checkpoints	True course +/- Variation
12	Record Winds and temperatures for cruise altitudes	Using winds aloft to interpolate at your cruise altitudes
13	Determine total distance to climb	Using Fuel, Time, Distance to Climb chart for your aircraft
14	Adjust checkpoints for TOC	Put a checkpoint at TOC and adjust distances and courses accordingly
15	Altitude & fuel to each checkpoint during climb	Using distance and an interpolated temperature to back calculate altitude on the Fuel, Time, Distance to Climb chart, also calculate fuel to each checkpoint

# CROSS COUNTRY PLANNING CHECKLIST

	WHAT WE CALCULATE	HOW TO CALCULATE IT
16	Determine total distance to descent	Using Fuel, Time, Distance to Descend chart for your aircraft
17	Adjust checkpoints for start of descent	Put a checkpoint at TOD and adjust distances and courses accordingly
18	Altitude to each checkpoint during descent	Using distance and an interpolated temperature to back-calculate altitude on the Fuel, Time, Distance to Descend chart, also calculate fuel to each checkpoint
19	Record winds and descents for climb and descent altitudes	Using winds aloft and TAF/area forecast to interpolate winds at your altitudes
20	Recorded targeted IAS during climb	During climb you will target $V_x$ or $V_y$ , recorded this as your targeted IAS for climb so we can use this to determine TAS

## CROSS COUNTRY PLANNING CHECKLIST

	WHAT WE CALCULATE	HOW TO CALCULATE IT
21	Record targeted RPM for cruise and descent	During cruise and descent you can target an RPM rather than IAS (your pref), record this for all climb and cruise checkpoints so we can use this to determine TAS
22	TAS to each checkpoint during climb	Using your E6B with temperature and altitude at each checkpoint
23	Engine power setting at each checkpoint during cruise and descent	Using your RPM altitude and temperature at each checkpoint determine the Engine Power Setting using the Engine Performance Chart
24	TAS to each checkpoint during cruise and descent	Using your Engine Power Setting and the Best Power Cruise Chart
25	Ground speed to each checkpoint during climb	Use your E6b and calculate using TAS and wind direction and velocity

# CROSS COUNTRY PLANNING CHECKLIST

	WHAT WE CALCULATE	HOW TO CALCULATE IT
26	Wind correction angle to each checkpoint	Use your E6B with magnetic course, wind data
27	Magnetic Heading	Magnetic course correction for wind
28	Time to each checkpoint	Using Distance and Ground Speed to get time (e6b)
29	Fuel used to each checkpoint during cruise and descent	Using time and known fuel bur rate per hour at our cruise power setting (I add 10% as a safety factor)
30	Total Distance	Sum up distance to each checkpoint
31	Total Time	Sum up the time to each checkpoint
32	Total Fuel Used	Sum up the fuel to each checkpoint during climb, cruise and descent as well as total fuel for taxi and run-up, approach landing, and reserves



## CROSS COUNTRY PLANNING CHECKLIST

	WHAT WE CALCULATE	HOW TO CALCULATE IT
33	Takeoff Weight	1 <sup>st</sup> t/o uses our initial calculation, 2 <sup>nd</sup> subtracts fuel burn weight, etc
34	Landing Weight	1 <sup>st</sup> landing uses fuel burned weight based off previous takeoff weight, etc
35	Takeoff Distances	Using flaps as appropriate, ground roll and obstacle clearance charts
36	Landing Distances	Using landing chart as appropriate for obstacles