Dynasty Aviation Inc.
VFR Navigation Log Planning Guide

- The True Course should be drawn on the Sectional Chart in the most direct manner, meaning a straight line from A to B unless restricted by Airspace, Obstacles, or Known Local Procedures.

- Visual checkpoints should be picked either "Left or Right" of the course at an interval of 10 - 15 nautical miles. Do not fly directly over the checkpoints and do not use Private Airstrips as checkpoints due to the difficulty of spotting in the air. VOR cross radials should also be considered as a valid checkpoint.

- Altitude should be chosen based on the following considerations:
    - Airspace / Obstacles / Local Procedures
    - Cloud Base / Ceiling
    - VFR Cruising Altitude (Part 91.159)
    - Cruising Performances (Winds/Temp Aloft)

- Weather Product for Wind to be used during the planning process:
    - KHWO = Wind info from the TAF for KOPF should be used.
    - Enroute = Wind info from Wind/Temp Aloft of MIA should be used.
        - GFA Tool should be used for Enroute cloudbase.
        - Surface Prognostic Chart should be used to identify hazard weather.
    - Destination = TAF should be used if available, or GFA Tool if uncontrolled airfield.

- Formulas for Calculations:
    - Distance = Speed x Time (hr)
    - Speed = Distance / Time (hr)
    - Time (hr) = Distance / Speed
    - Climb ETE = Altitude / Climb FPM
    - Descent ETE = Altitude Loss / Descent FPM (500)

Flight Planning Procedures

1. Start by plotting the True Course on the Sectional Chart and input into the **Route (Track)**

2. Find the **Isogonic** line on the sectional and obtain the **Magnetic Course**.

3. Plot the VFR Checkpoints with KHWO as the initial checkpoint, TOC as the second checkpoint, TOD as the second to last checkpoint and KFMY as the destination checkpoint.

4. Input the chosen altitude in the following format:
    a. ↗ to indicate climbing
    b. ↘ to indicate descending
    c. 2,500 feet MSL should be written as 025 with the last two 0's omitted.

5. Note the wind directions and speed according to the sources provided in this document.

6. Calculate the **Magnetic Heading** using the E6B. (MH = MC +/- WCA).

7. Ground Speed can be calculated using the following parameters.
    a. Climb TAS = 72 kts (Sling) / 75 kts (RV-12)
    b. Cruise TAS = According to the POH Section 5 Performance.
    c. Descend TAS = 85 kts.

8. Top of Climb Calculation (Distance)
    a. Calculate the GS using the Wind Info and the Climb TAS.
    b. ETE can be determined using the POH from dividing the Cruising Altitude by the Climbing FPM (ETE is always in Minutes).
    c. The TOC Distance = GS x (ETE/60)

9. Top of Descent Calculation (Distance)
   a. Calculate the GS using the Wind Info and the Descent TAS (85 kts)
   b. ETE can be determined from dividing the Altitude Loss (Cruise Alt. - TPA) by the Descent FPM of 500 (ETE is always in Minutes).
   c. The TOD Distance = GS x (ETE/60)

10. Input the remaining distance leg in the Nav Log (Omit the Remaining Portion).

11. Calculate ETE using the formula ETE = (Distance / GS) x 60.

12. Calculate Fuel Consumption for Each Leg.
   a. Find the Cruise Fuel GPH in POH Section 5.
   b. Fuel Required Each Leg = GPH x (ETE/60)
   c. (Omit the Remaining Portion, just fill the top box)
   d. Once you add up all the fuel required for each leg, that will be your Enroute Fuel.

13. Total Fuel Required = Taxi/Runup (1.0) + Enroute Fuel + VFR Fuel Reserve.

14. **<u>Important Notes:</u>** Fill in as much blank space as possible on the Nav Log such as noting all the formulas used, all the weather information, the NOTAMs, the Total Required Fuel, Airport Frequencies and perhaps even the runways drawn for the destination airport. ***<u>Less Blank = Less Questions</u>*** from the Examiner.