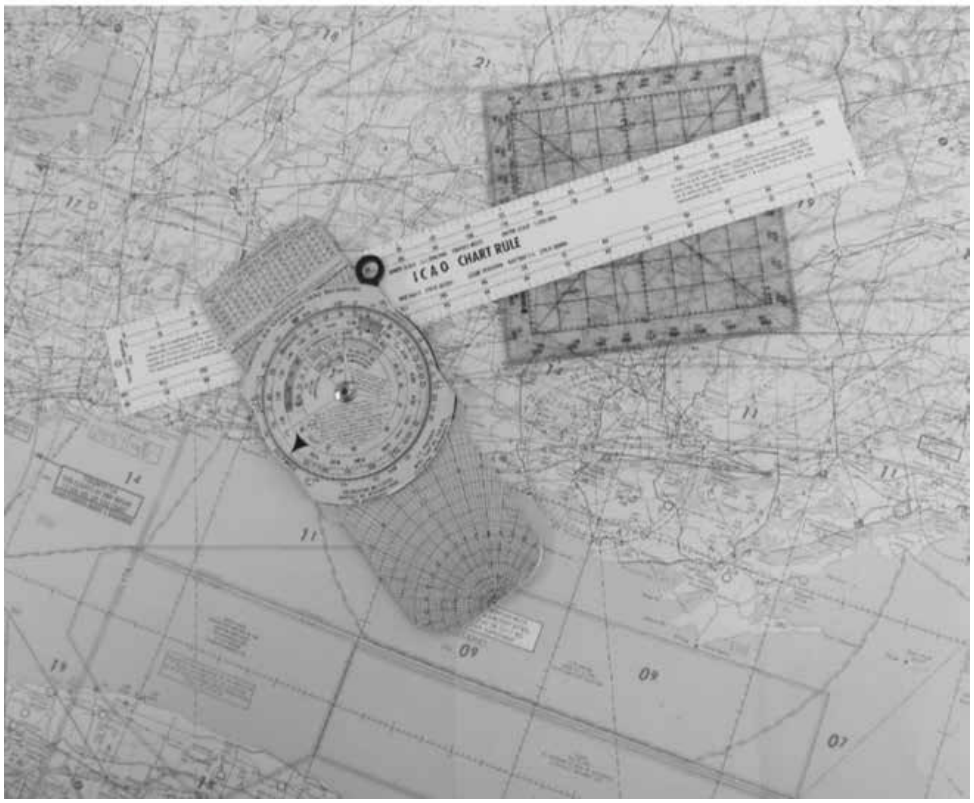
Fly a Cross-Country Flight Using a Flight Simulator



SECTION 1: PLOT A VISUAL FLIGHT RULES (VFR) CROSS-COUNTRY FLIGHT ON A VNC

SECTION 2: DETERMINE AIRCRAFT SPEED

SECTION 3: FLY A CROSS-COUNTRY FLIGHT

SECTION 1
PLOT A VISUAL FLIGHR RULES (VFR) CROSS-COUNTRY FLIGHT ON A VNC

AIRPORT SELECTION

Pilotage

Did you know?

Pilotage is navigating from place to place by following visual landmarks on the ground.

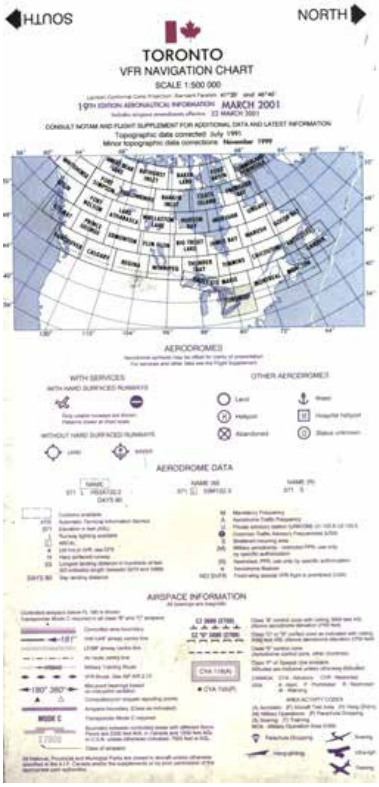


Figure A-1 VNC Cover

Note. From *Toronto VFR Navigation Chart*, by, Department of Natural Resources, 2001, Ottawa, Ontario: Geomatics Canada. Copyright 2001 by Nav Canada.

Using a Visual Flight Rules (VFR) Navigation Chart (VNC), select two airports for the flight senario, including:

1. the departure airport, and
2. the arrival airport.

Coordinates

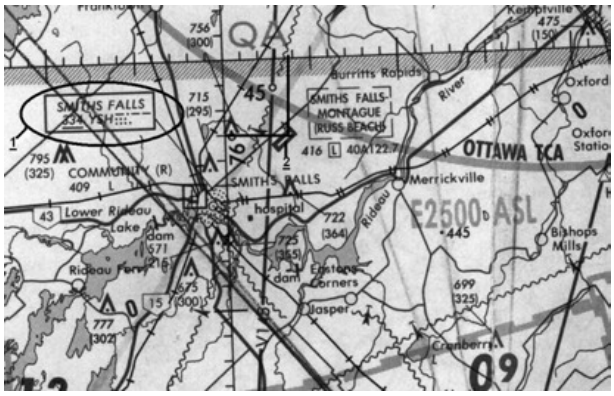


Figure A-2 VNC Map Coordinates

Note. Created by Director Cadets 3, 2009, Ottawa, ON: Department of Defence.

For each airport, identify the following:

- airport idenification letters (1), and
- airport VNC coordinates (2).

***Activate Your Brain #1*:**

What two airports will you be using?

Airports	Coordinates
_____	_____
_____	_____

Distance

Nautical Miles

Measure the distance to each turning point, totaling the distance between the two airports.

You will be flying a Visual Flight Rules (VFR) flight. The route between airports should have highways, rivers, towns / cities, and other landmarks visible from the air.

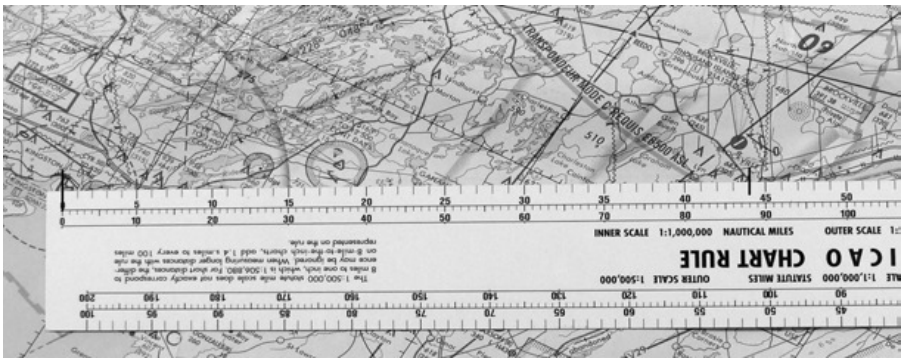


Figure A-3 ICAO Chart Ruler

Note. Created by Director Cadets 3, 2009, Ottawa, ON: Department of Defence.

***Activate Your Brain #2*:**

What is the distance between the two airports? Each turning point will have a distance in nautical miles (record as many turning points as required to arrive at the second airport).

First measurement: _____
Second measurement: _____
Third measurement: _____
Fourth measurement: _____
Fifth measurement: _____
Total distance: _____

Convert the distance from nautical miles to statute miles using a flight comuputer. Using the inside ring, set the nautical miles on the nautical mile mark on the outside ring. Read the number on the second ring corresponding to the statute mile mark on the outside ring.

Figure A-4 Flight Computer

Note. Created by Director Cadets 3, 2009, Ottawa, ON: Department of Defence.

***Activate Your Brain #3*:**

What is the distance between the two airports in statue miles?

Nautical Miles	Statute Miles
_____	_____

Landmarks

Using the VNC, identify landmarks along the flight route that will be visible from the aircraft.

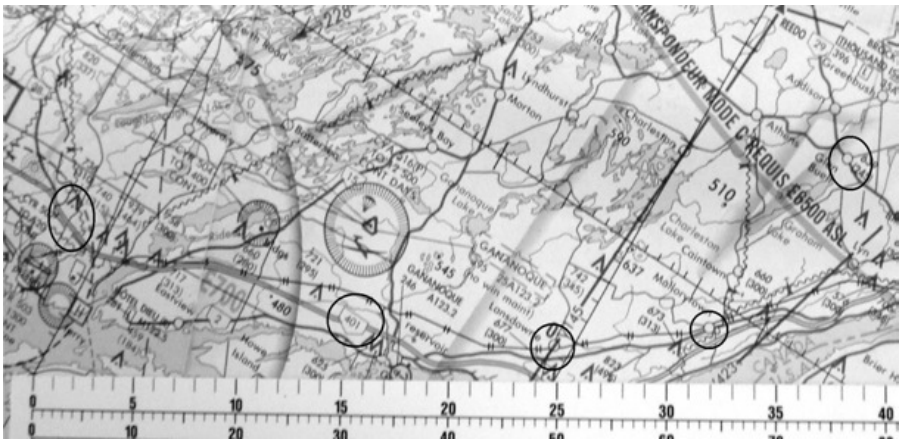


Figure A-5 Landmarks

Note. Created by Director Cadets 3, 2009, Ottawa, ON: Department of Defence.

***Activate Your Brain #4*:**

What are the landmarks you will be following between the two airports? List as many as required.

First landmark: _____
Second landmark: _____
Third landmark: _____
Fourth landmark: _____
Fifth landmark: _____

SECTION 2
DETERMINE AIRCRAFT SPEED

AIRCRAFT SPEED

Calculate the airspeed you will need to fly to arrive at your arrival airport. The formula to calulate is:

Speed (unknown ground speed) X **T**ime (known [.5 hour]) = **D**istance (known)

As the speed is unknown, you will use the formula:

Distance / Time = Speed (D / .5 = S)

***Activate Your Brain #5*:**

What is the aircraft speed required to fly between the two airports?

Distance	Divided by	Time	Equals	Speed
_____	/	.5	=	_____

To finalize your scenario, the following knowns will be set in the simulation program, including:

- clear daylight,
- no wind,
- altitude is 1 200 feet, and
- aircraft to fly, to include:
  - Piper J-3C Cub, or
  - Cessna C172.

Did you know?

The Piper J-3C's maximum speed is 74 kts (85 mph / 137 km/h).

The Cessna C172's maximum speed is 126 kts (203 km/h).

Variations from this criteria can be made to adjust for the area in which you are flying.

Complete the flight plan sheet using the data from the Activate Your Brain boxes.

FLIGHT PLANNING WORKSHEET

Date: _____ **Depart:** _____ **Destination:** _____

Airport, ID and coordinates

Airport, ID and coordinates

Distance to travel: _____
one-way

Altitude: _____

Airspeed: _____

Landmarks	Description of landmark	Time arrived at landmark
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Airports	Timings
Depart 1	
Arrive 2	
Depart 2	
Arrive 1	

SECTION 3
FLY A VFR CROSS-COUNTRY FLIGHT USING A FLIGHT SIMULATOR

Start the flight simulator with the scenario you created.

Using the flight simulator, fly the VFR cross-country flight at 1 200 feet AGL. Once you arrive at the first airport, land and then take off for a return flight to the original airport where you will land and taxi to the gas pumps.

Fill in the times as required during the flight on the Flight Planning Worksheet.

CONCLUSION

The knowledge to fly a cross-country flight has been developed over your four years of cadet training. Users of computer-based flight simulators have enhance their knowledge for future flight training.

Congratulations, you have completed your self-study package on EO C530.01 (Fly a Cross-Country Flight Using a Flight Simulator). Hand your completed package to the Training Officer / Proficiency Level Officer who will record your completion in your Proficiency Level Five logbook.