

FLYING IN CLOUD

It is possible to climb much higher in a thermal by allowing your sailplane to be drawn up, while still circling, into the cumulus cloud above. When in cloud, your turn indicator and compass are invaluable in maintaining control and ensuring that the exit from the cloud is made on the correct heading.

It is important to note that both thermal strengths and cloud base heights rise during the day to a maximum in the early afternoon. So it is in the simulation; therefore, better progress may be made later in the day in the better weather conditions (see later section on launch times).

DESCRIPTION OF OPERATION

The simulation program runs as follows:

1. Either you or the computer sets the weather
2. Input number of players
3. Input players names
4. A meteorological forecast will now be printed. You should particularly note the thermal strength and wind speed and direction as weak thermals coupled with a strong wind make progress into wind very difficult.
5. The players are now invited to either accept a launch half an hour after the first thermals have developed or request a deferment of the launch for one or two hours (enter 0,1, or 2 as required).

If either a long distance flight is anticipated or the period of time thermals will be produced is short, then acceptance of an immediate launch is advisable. If not, a faster flight can be achieved by deferring the launch and thereby using the strongest thermals only available during the middle of the day.

(Note: During the last two hours of the day the thermal strengths start to diminish before disappearing altogether.)

6. The program now requests coordinates of the two turnpoints around which the triangular task is set. You are launched at position X=20 and Y=20, and the location of the turnpoints are to be in the range X=10 to 70, Y=10 to 70.

It is suggested that as a beginners task the first turn be at X=50 and Y=50; the second turn to be at X=50 and Y = 30.

7. The program now produces the cockpit graphic display and requests the first player to commence the task.

YOUR SAILPLANE'S INSTRUMENTS

Your sailplane is equipped with the following instruments:

1. ASI (located top left): Stands for air speed indicator—your speed is limited to the range 40 to 120 mph.
2. ALT (located bottom left): Displays your altitude above ground level in feet.
3. COM (located top center): Compass gives standard 360° compass readout (360°=North, 270°=West, 180°=South, 90°=East).
4. V-V (located center): This is the most important instrument you have. It is the variometer, the instrument that shows how fast the glider is sinking or rising. An analog (needle type display) is provided. However, you will find that the digital display below is more accurate. A reading of +1 indicates a climb rate of 100 feet per minute and -3 indicates a descent rate of 300 feet per minute.
5. T&S (located to the right of the variometer): This is the turn indicator which indicates, by both analog and digital output, the rate of turn (in degrees).
6. Stopwatch (extreme right): This times your flight. The watch starts automatically at the beginning of the game. However, it will be reset if a relaunch (see section on commands) is executed. The watch is stopped immediately after a valid crossing of the finish line occurs.

CONTROL COMMANDS

Take special note that operation of any of the following control commands can only take place while the symbol (***) is seen immediately to the right of the compass. During the period that control commands are allowed, any combination of commands are allowed.

If your computer does not have a numeric keypad, it is suggested that the following alterations are made to the simulation program:
Change Line 2000 to read — 2000
IFAS="Q"THENS(B)=S(B)+10
Change Line 2010 to read — 2010
IFAS="Z"THENS(B)=S(B)-10
You have made a note of these alterations, haven't you!!

FLIGHT CONTROLS (FOR TRS-80 WITHOUT NUMERIC KEYPAD)

- 4** = Left turn - is incremented in 3 degree units for as long as key is depressed (up to a total of 90°)
- 6** = Right turn - (incremented as above)
- 5** = Neutralizes turn control to the 'straight ahead' position
- Q** = Each press increases the sailplane's speed by 10 mph
- Z** = Each press decreases the sailplane's speed by 10 mph

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- 6** = Right turn - (incremented as above)
- 5** = Neutralizes turn control to the 'straight ahead' position
- 8** = Each press increases the sailplane's speed by 10 mph
- 2** = Each press decreases the sailplane's speed by 10 mph

ADDITIONAL COMMANDS

S = START BUTTON — Once you have been launched the stopwatch timing your flight starts to run. If, however, you wish, for some tactical reason, to take another start, you can fly back to behind the start line (so that X and Y are both less than 20), and then, provided you are below the height of 3,281 feet, pressing the start button will reset your stopwatch to zero. Why should you want to go to this trouble! Well, the experts, always interested in saving minutes or even seconds, like to climb high in a thermal near to the start line and then dive across the line at 120 mph, pressing the start button at just the right moment. This allows them to decelerate, gaining height by converting speed into altitude, thereby saving the time taken to climb, say, 300 feet in the next thermal. That's the theory anyway. Oh! Why 3281 feet? Well, for the uninitiated, that's equal to 1000 meters, the height the FAI, the international aviation ruling body, determines is the maximum start height.