

Marsflight

Immersive and Interactive
Mars Airplane Simulation
Version 1.1 Beta

QUICKSTART

This document will help you become familiar with the operation of MarsFlight Version 1.1 quickly and easily.

Minimum System Requirements

- Pentium 4 (Or equivalent) PC-Compatible computer with 128 MB RAM. Version 1.1 of MarsFlight does not support a Macintosh system, though Macintosh support is planned for a later release of this software.
- An Open-gl graphics board (ATI and Nvidia have been tested) with 128 MB onboard RAM.
- 800 MB Free Hard Disk Space

Optional Requirements

- A 2-axis, 6-button USB joystick with integrated throttle is preferred but not required. Alternatively, the keyboard can be used to maneuver the craft and change views.
- Audio sound card (Soundblaster compatible) and speakers are required if sound effects are desired.

Installing MarsFlight

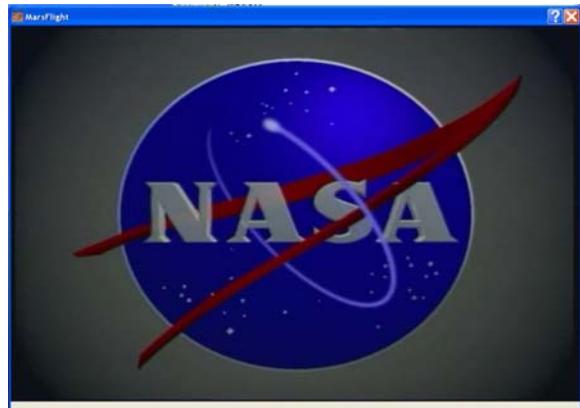
To begin installation, locate and left-click the file “MarsFlight Install” on either the CD you received, or in the directory you downloaded it to (If downloaded from the MarsFlight web site). Follow all on-screen prompts to complete the installation process.

Note: due to the large quantity of high resolution terrain data provided, the installation may require 15-30 minutes to complete depending on the speed and efficiency of your computer.

Running MarsFlight

- 1) Click on the MarsFlight ICON on your desktop.

After the software loads, you should see the NASA logo animation as shown at right.



- 2) When the main menu (shown at right) is displayed, click the blue button “Virtual test flight on Earth”



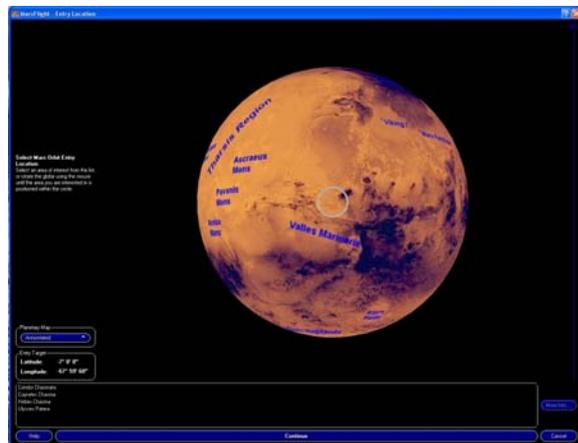
- 3) You will see an animation (shown at right) showing the launch of the Delta rocket that is carrying the Mars Airplane to Mars. If you wish to skip this animation and continue to step 4, left-click the “X” in the upper right corner of this window.



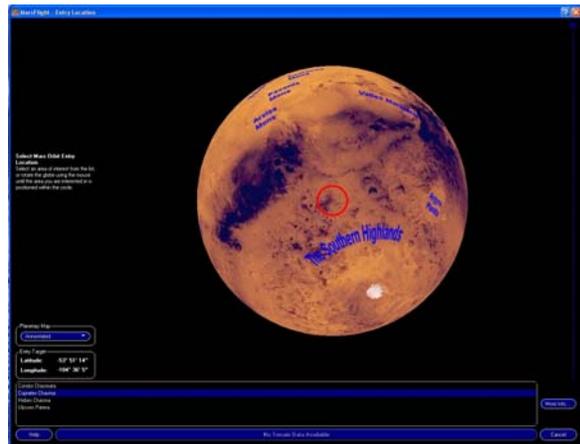
- 4) It is now time to select the region of Mars where you will deorbit and deploy the Mars Airplane over the surface. There are three ways to select this entry point.

A) One way is to simply press the “Continue” button at the bottom of the screen to accept the default entry location.

B) Another way to select an entry location is to click on one of the “points of interest” shown in the box below the “Entry target” dialogue box, and above the “Help” button. Then click “continue” at the bottom of the window.



C) The last way to select an entry location is to move the cursor within the Mars sphere (globe), then left-click and hold while twirling the sphere until your desired entry location is centered within the white circle in the middle. Then press “Continue” at the bottom of the window”. If the circle turns RED (As shown at right), this means that no terrain data is defined for that area and you will not be able to select that location. Simply move to another location that causes the circle in the middle of the sphere to turn White and click the “continue” button at the bottom of the window.



5) You will see an animation showing the entry and deployment of the Mars Airplane high over the surface of Mars. If you wish to skip this animation and continue to step 7, left-click the “X” in the upper right corner of this window.



6) The main Flightsim window (shown at right) will be displayed and you are now in full control of your mission. The basic controls for maneuvering the aircraft and changing views are shown on the next page. If you are using the keyboard instead of a joystick, click on the “Help” button on the Main Menu screen for a list of keyboard commands (Select the “Flight Simulator” link).



Basic aircraft maneuverability and view selection using a joystick.

FUNCTION	Control
Bank/Turn aircraft Left	Push joystick Left
Bank/Turn aircraft Right	Push Joystick Right
Pitch aircraft Down	Move joystick Forward
Pitch aircraft up	Pull joystick Backward
Increase engine power	Move throttle Up
Decrease Engine Power	Move throttle Down
Rotate onboard camera to change view direction	Press Joystick Trigger
Cycle through a series of external views	Press Joystick button #2

During your flight, the mouse can be used to maneuver the aircraft (as an alternative to or in addition to using a joystick) or to change view direction. There are three separate and distinct mouse functions as follows ...

Mode 1 – Pointer Mode	Mouse pointer is used to adjust window properties.
Mode 2 – Maneuver aircraft	Mouse pointer is used to maneuver aircraft.
Mode 3 – Change view direction	Mouse pointer is used to change view direction.
→ To change between each mode, press the RIGHT mouse button.	

- 7) Your mission ends when you run out of time, fuel, or you crash. When this happens, you will be presented with a statistics screen as shown at right. Following a short delay, the main menu screen will be displayed (GOTO #2) where you can begin a new flight.



Results	
Starting Location	-12°59.400S -63°59.400W
Final Location	-13°00.492S -64°15.755W
Flight duration	3.0 minutes
Distance flown	9.8 miles
Distance from start	9.8 miles
Fuel used	10.3%
Avg. Rate of descent	-964.72 ft/min
Avg. speed	197.4 mph
Status	Crashed

Some additional tips ,,,

1. if you wish to learn about additional commands, functionality, and configuration options for MarsFlight, click on the “Help” button on the MarsFlight Main Menu screen.

2. Most of the Marsflight Windows are resizable and repositionable. If any of the MarsFlight windows are not full screen and centered on your display, you can resize them by left-clicking and dragging on any corner and you can reposition them by left clicking and dragging the top (blue) pane. This works identical to the Windows operating system. When you change window position and size, these values are saved when you exit MarsFlight.
3. If any window overlaps any other window, and you do not desire this, simply clicking on one, will bring it to the top (It will be fully visible).
4. Some of the windows (Such as “Entry Location” and the “Information Browser”) have a “Continue” or “close” button at the bottom of their window. If you do not see a “Continue” or “close” button where you think one should be, you can either reposition and resize the window until the full window is visible, or you could try to hide the Windows Taskbar at the bottom of your screen.
5. Additional help and FAQ’s can be found at <http://education.grc.nasa.gov/MarsFlight>