

## FlightGear Short Reference

*FlightGear* is a free flight simulator developed collectively over the Internet under the GPL.

**Main Web site:** <http://www.flightgear.org/>

**Program Start:** Linux/UNIX via the script `runfgfs` under `/FlightGear`,  
Windows via the Batch file `runfgfs.bat` under `/FlightGear`

**Engine Start:** Put ignition switch to "BOTH". Set mixture to 100%. Set throttle to about 25%.  
Operate starter using the SPACE key. Set throttle back to idle after starting the engine. Release parking brake, if applied.

### Keyboard controls:

Tab. 1: Main keyboard controls on the numeric keypad with activated `NumLock`. [U.S. keyboard uses "." instead of ";"]

Key	Action
9/3	Throttle
4/6	Aileron
8/2	Elevator
0/,	Rudder
5	Center aileron/elevator/rudder
7/1	Elevator trim

Tab. 2: View directions accessible after de-activating `NumLock` on the numeric keypad.

Numeric Key	View direction
Shift-8	Forward
Shift-7	Left/forward
Shift-4	Left
Shift-1	Left/back
Shift-2	Back
Shift-3	Right/back
Shift-6	Right
Shift-9	Right/forward

Tab. 3: Display options.

Key	Action
P	Toggle instrument panel on/off
c	Toggle 3D/2D cockpit (if both are available)
s	Cycle panel style full/mini
Shift-F5/F6	Shift the panel in y direction
Shift-F7/F8	Shift the panel in x direction
Shift-F3	Read a panel from a property list
i/I	Minimize/maximize HUD
h/H	Change color of HUD/toggle HUD off forward/backward
x/X	Zoom in/out
v/V	Cycle view modes forth an back
Ctrl-c	Set view modes to pilot's view
W	Toggle full screen mode on/off (3dfx only)
z/Z	Change visibility (fog) forward/backward
F8	Toggle fog on/off
F2	Refresh Scenery tile cache
F4	Force Lighting update
F9	Toggle texturing on/off
F10	Toggle menu on/off

Tab. 4: Autopilot and related controls.

Key	Action
Ctrl + A	Altitude hold toggle on/off
Ctrl + G	Follow glide slope 1 toggle on/off
Ctrl + H	Heading hold toggle on/off
Ctrl + N	Follow NAV 1 radial toggle on/off
Ctrl + S	Autothrottle toggle on/off
Ctrl + T	Terrain follow toggle on/off
Ctrl + U	Add 1000 fto your altitude (emergency)
Enter	Increase autopilot heading
F6	Toggle autopilot target: current heading/waypoint
F11	Autopilot altitude dialog
F12	Autopilot heading dialog

Tab. 5: Special action of keys, if autopilot is enabled. [U.S. keyboard uses "." instead of ";"]

Key	Action
8 / 2	Altitude adjust
0 / ,	Heading adjust
9 / 3	Autothrottle adjust

Tab. 6: Engine control keys

Key	Action
SPACE	Fire starter on selected engine(s)
!	Select 1st engine
@	Select 2nd engine
#	Select 3rd engine
\$	Select 4th engine
{	Decrease Magneto on Selected Engine
}	Increase Magneto on Selected Engine
~	Select all Engines

Tab. 7: Miscellaneous keyboard controls.

Key	Action
B	Toggle parking brake on/off
b	Apply/release all brakes
g/G	Toggle landing gear up/down
,	Left gear brake (useful for differential braking)
.	Right gear brake (useful for differential braking)
l	Toggle tail-wheel lock
] / [	Extend/Retract flaps
p	Toggle pause on/off
a/A	Speed up/slow down (time acceleration)
t/T	Time speed up/slow down
m/M	Change time offset (warp) used by t/T forward/backward
Shift-F2	Save current flight to <code>fgfs.sav</code>
Shift-F1	Restore flight from <code>fgfs.sav</code>
F3	Save screen shot under <code>fgfs-screen.ppm</code>
Shift-F4	Re-read global preferences from <code>preferences.xml</code>
Shift-F9	Toggle data logging of FDM on/off
ESC	Exit program

**Mouse controlled functions:** There are three mouse modi. In the usual mode (pointer cursor) panel's controls can be operated with the mouse. To change a control, click with the left/middle mouse button on the corresponding knob/lever. While the left mouse button leads to small increments/decrements, the middle one makes greater ones. Clicking on the left hand side of the knob/lever decreases the value, while clicking on the right hand side increases it.

Right clicking the mouse activates the simulator control mode (cross hair cursor). This allows control of aileron/elevator via the mouse in absence of a joystick (enable `--enable-auto-coordination` in this case).

Right clicking the mouse another time activates the view control mode (arrow cursor). This allows changing direction of view via the mouse.

Right clicking the mouse once more resets it into the initial state.