

## Using a Joystick

Flight Simulator is most realistic when you use a joystick, yoke, or other controller. You can fly more precisely, and the buttons and controls make it easy to change views, adjust the throttle, extend or retract the landing gear and flaps, and operate other aircraft controls.

Flight Simulator is compatible with joysticks, yokes, game pads, and other controllers supported by Microsoft Windows and the DirectInput device standard. Use the device that works best for you as your primary control, and customize it to suit your needs. Many products feature different configurations, so refer to your controller's documentation for its button assignments.

Before you fly, make sure your joystick or other controller is:

- Plugged into your computer.
- Enabled in Microsoft Windows Control Panel.
- Calibrated properly.

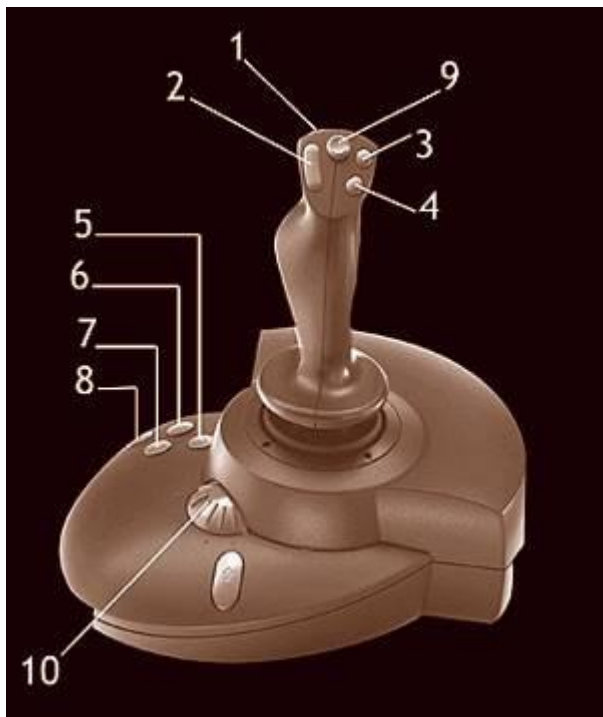
Also make sure you have the latest device drivers. If in doubt, download and install them from the manufacturer's Web site.

### Extreme Control

To make your Flight Simulator experience even more realistic, consider adding yokes, rudder pedals, throttle quadrants, and radio stacks.

### Joystick Commands

Depending on your joystick, you'll probably have buttons for frequently used controls and for cockpit views, but you'll still need to use the mouse or keyboard for other functions.



1. (Trigger) release brakes
2. Cycle views
3. Elevator trim down
4. Elevator trim up
5. Extend flaps
6. Retract flaps
7. Drop objects

- 8. Landing gear up/down
- 9. (Hat switch) Look around
- 10. Throttle control

Here's a list of the default joystick commands:

Action	Command
Apply/release brakes	Button 1 (trigger)
Cycle views (Cockpit, Tower, Track, Spot)	Button 2
Elevator trim down	Button 3
Elevator trim up	Button 4
Extend flaps	Button 5
Retract flaps	Button 6
Drop objects	Button 7
Landing gear up/down	Button 8
Bank left (ailerons)	Move stick left
Bank right (ailerons)	Move stick right
Pitch down (elevator)	Move stick forward
Pitch up (elevator)	Move stick backward
Yaw left (rudder)	Twist stick left
Yaw right (rudder)	Twist stick right
Look ahead/right	Move hat switch up/right
Look right	Move hat switch right
Look back/right	Move hat switch down/right
Look back	Move hat switch down
Look back/left	Move hat switch down/left
Look left	Move hat switch left
Look ahead/left	Move hat switch up/left
Look up	Move hat switch up

### Customizing Joystick Assignments

Change the control assignments to customize the joystick use to suit your flying style.

#### To change joystick button commands

1. On the **Options** menu, point to **Settings**, then click **Controls**.
2. Click the **Buttons/Keys** tab.

3. Select either the **Normal** or **Slew Mode** option, depending on which mode you want to change commands for.
4. In the **Event** category list, choose the category of events that you want to set.  
For example, select **Autopilot** commands to customize the commands for the autopilot. Your selection determines what appears in the **Assignment list** below, which lists events and their corresponding key and joystick commands.
5. In the **Assignment list**, select the event that you want to set to a different joystick button.
6. Click **Change Assignment** to choose a new joystick button assignment for the event you've selected. The **Select Assignment** dialog box will open.
7. Press the joystick button that you want to use for the selected event. If the button is currently being used and you don't want to replace it, click the **Clear** button.
8. Click **OK**.
9. Make any additional changes you want using steps 3 through 8 above.
10. Click **OK**.

#### **To change joystick axes**

1. On the **Options** menu, point to **Settings**, then click **Controls**.
2. Click the **Joystick Axes** tab.
3. Select either the **Normal** or **Slew Mode** option, depending on which mode you want to change commands for.
4. In the **Assignment list**, select the event that you want to set to a different joystick axis.
5. Click **Change Assignment** to choose a new joystick axis for the event you've selected. The **Select Assignment** dialog box will open.
6. Move the joystick axis that you want to use for the selected event. If the axis is currently being used and you don't want to replace it, click the **Clear** button.
7. Click **OK**.
8. Make any additional changes you want using steps 3 through 8 above.
9. Click **OK**.



## Resetting and Deleting Assignments

- To remove a control assignment from a command you've selected, click the **Delete Assignment** button on the **Buttons/Keys** or **Joystick Axes** tab.
- To cancel any changes you've made to your controller assignments and return to the Flight Simulator default settings, click the **Reset Defaults** button.

## Calibrating Your Joystick

If your joystick seems to be behaving erratically, you may need to calibrate it.



You can calibrate your joystick in the Windows Game Controllers dialog box.

### To calibrate your joystick

Make sure your joystick is plugged in and installed according to the manufacturer's instructions.

1. On the **Options** menu, point to **Settings**, and then choose **Controls**.
2. Click the **Calibrate** tab.
3. Click **Calibrate**.
4. On the **Settings** tab follow the instructions onscreen.

## Adjusting Joystick Sensitivity

Flight Simulator's preset sensitivity for joysticks is in the middle of the range, and the response rate is average. You can adjust these sensitivities; experiment to find the setting you like best.

"Sensitivity" refers to how sensitive the joystick is for a given axis. For example, with high sensitivity, the slightest movement of the joystick will have a large effect on the aircraft's controls in Flight Simulator.

"Null Zone" refers to how much "dead space" there is in a given joystick axis center position. For example, with a large null zone, you will be able to move the joystick slightly before it has an effect on the aircraft's controls in Flight Simulator.

### To adjust the sensitivity of your joystick

1. Make sure your joystick is plugged in and installed according to the manufacturer's instructions.
2. On the Options menu, point to

- Settings, then click Controls.
3. Click the Calibrate tab.
  4. To adjust the sensitivity for all axes simultaneously, click the Simple option, then drag the Sensitivities-all axes and Null zones-all axes sliders to the settings you want.  
-or-  
To adjust the sensitivity for each for each axis separately, click the Advanced option, then select each axis and drag its Sensitivity and Null zone sliders to the settings you want.
  5. Click OK.

#### Note

To reset all sensitivity options to their default values, click the **Reset Defaults** button.

### Adjusting Joystick Forces

If you are using a force-feedback joystick, you can enable or disable any or all force-feedback options:

- Control surfaces: When moving the rudder, elevator, and ailerons, you'll feel control surface forces.
- Stick shaker: If you exceed the maximum speed in a jet, the controller will shake.
- Crashes: If you crash, you'll feel it in the controller.
- Ground surfaces: As you roll across the ramp, taxiway, and runway, you'll feel the bumps through the controller.
- Retractable landing gear: When you retract the landing gear, you'll feel it through the controller.



If you have a force-feedback joystick, you can adjust the forces in the Controls Forces dialog box.

#### To adjust joystick forces

1. On the **Options** menu, point to **Settings**, then click **Controls**.
2. Click the **Forces** tab.
3. Select or clear the desired force feedback options.
4. Click **OK**.

#### Note

To disable all force feedback options, clear the **Enable force feedback** checkbox on the **Forces** tab.