

Flying Jets



A Boeing 747-400 takes off from Paine Field.

In the world of aviation, the pinnacle of airplane flying is piloting a jet. With their size, speed, and increased complexity, jets offer a challenge unknown to the piston-engine pilot. For Flight Simulator pilots, flying jets is a chance to see what airline and corporate pilots do on the job.

Things happen quickly in a jet, so there's a new set of skills required. Learning it all is part of the fun. You can learn all of the skills required to fly Flight Simulator jets in the Airline Transport Pilot (ATP) section of the **Lessons** with Rod Machado. (Click **Learning Center** and then click the **Lessons** tab.)

The Right Jet for the Job

Flight Simulator features six jet aircraft. To learn more about each of the jets in Flight Simulator, see their **Aircraft Information** articles.

Airbus A321

The largest airplane in the 320 family and the best seat-mile costs of any single-aisle aircraft.



Bombardier Learjet 45

The Learjet makes a good choice for corporate missions, or for fantasizing about what it would be like to have a jet of your own!



Bombardier CRJ700

High cruise speeds and low operating costs make this a logical choice for regional airline routes.



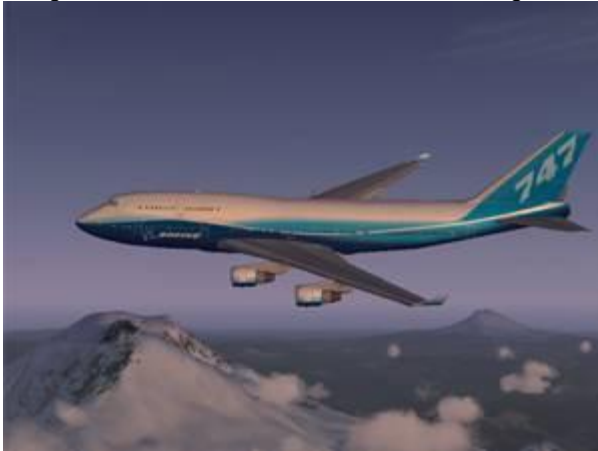
Boeing 737-800

The backbone of many airline fleets, the 737 is suited to short hops between cities as well as flying across continents.



Boeing 747-400

A huge double-decker airliner, the 747 makes a good choice for ocean-spanning long hauls.



A Different Beast

All of what you've learned flying smaller airplanes will be useful as you learn to fly a jet, but you'll also be introduced to new terminology and technology. Some instruments will look different, and there will be a few new controls.

Glass Cockpits

Look at the instrument panel of one of the Flight Simulator jets, and you'll notice it looks different than the panel of a Cessna. Instead of many small round mechanical instruments, there are a few large computer screens. And although the information is virtually the same as what you see on the panel of a smaller piston aircraft, the presentation is different: airspeed and altitude may be presented on "tapes" that run vertically down the left and right sides of the main display. You'll also see a navigation display that looks quite similar to the horizontal situation indicator (HSI) found in many high-end light aircraft. Along the top of the instrument panel you'll see the mode control panel (MCP), which includes the controls for the autopilot and autothrottles. And there are many engine gauges that provide the crew with lots of information about what's happening in each part of each engine.



A Bombardier CRJ700 prepares for takeoff

Autothrottles

An autothrottle works in association with the autopilot to maintain a set speed; a computer controls the throttles, so you don't have to. To learn more about flying using an autothrottle, see **Using an Autopilot**.

Energy Management

Jets are heavy, and they move quickly. You'll learn how to use the aircraft's momentum to manage your speed and altitude so as not to exceed limits, and so you can be at the right speed and altitude when you need to be.

Spoilers

Need to slow down or descend in a hurry? Spoilers are flaps that extend upward and disrupt (spoil) the airflow over the wing, resulting in increased drag. You'll also use the spoilers during landing, to increase drag and slow down. If you arm the spoilers, they'll automatically deploy upon touchdown.



To raise or lower the spoilers

- Press / (FORWARD SLASH)

To arm the spoilers

- Press **SHIFT+/** (FORWARD SLASH)

Thrust Reversers

Once a jet lands, it needs to slow down quickly. In addition to raising the spoilers, you can engage the thrust reversers, which direct air forward out of the jet engines. You'll hear a satisfying roar, and the aircraft will lose speed rapidly. You should never engage the thrust reversers until the wheels touch the runway.

To engage the thrust reversers

- Press and hold **F2**.

To return to normal power (below 60 knots)

- Press **F1**.

Autobrakes

Many jets (including all of the Boeing jets in Flight Simulator) are equipped with autobrakes that make braking upon landing an easy task. Set the autobrakes to **1**, **2**, or **3** before your final approach, and the airplane will smoothly stop itself upon touchdown; the higher the number, the more rapid the deceleration. A setting of 1 or 2 is typical. Max is used only in emergencies. The autobrakes can also be set to **RTO** (Rejected Takeoff) for takeoff. If the airspeed rises above 80 knots and the throttles go to idle (if you abort the takeoff), maximum braking will automatically be applied.



Boeing
737-800



Airbus A321

To set the autobrakes

- Use the mouse to set the Autobrake switch to **RTO**, **1**, **2**, or **3**.

Pushback

Jets parked at a gate must be "pushed back" before they can taxi to the runway. In the real world, this task is accomplished by a "tug," a small tractor designed for the job. When you're parked at a gate in Flight Simulator, you'll need to have your aircraft pushed back before you can request a taxi clearance from Air Traffic Control.

To get a pushback

1. Press **SHIFT+P** to push straight back.
- or -
2. Press **SHIFT+P** and then press **1** to turn the tail of the aircraft to the left as it pushes back.
- or -
3. Press **SHIFT+P** and then press **2** to turn the tail of the aircraft to the right as it pushes back.
4. Press **SHIFT+P** again to stop moving back.

The Simplified Way: Just Go For It

There are two ways to fly jets in Flight Simulator: the realistic way, and the simplified way. If you want to learn to fly jets realistically, read the next section, then take the ATP training in the **Lessons**. But if you just want to take a jet up and see what it's all about, here's all you need to know to get started.

To fly a jet the simplified way

1. Line up on the centerline of a long runway.
2. Extend the flaps down two or three notches: Press **F7**.
3. Release the brakes: Press **PERIOD**.
4. Apply full power: Move your joystick's throttle control or press **F4**.
5. At 150 to 160 knots, pitch up smoothly to 20 degrees nose up.
6. Raise the landing gear: Press **G**.
7. At 1,000 feet AGL, pitch down to 10 degrees nose up, and reduce power with your joystick's throttle control or by pressing **F2**.
8. Retract the flaps: Press **F6**.
9. Climb to cruising altitude.
10. Power back to idle to initiate the

descent.

11. Approximately 15 miles from the airport, reduce your speed to 180 knots by adding some flaps (press **F7**) and using the spoilers if necessary: Press **/ (FORWARD SLASH)**.
12. As you begin the approach at approximately 2,000 feet AGL, make sure the spoilers are down, start reducing speed to 150 knots, lower the landing gear, and add the rest of the flaps: Press **G** and **F7**.
13. Arm the spoilers and set the autobrakes: Press **SHIFT+ / (FORWARD SLASH)**, and click the autobrake knob to the desired setting.
14. Maintain 140 to 160 knots during the approach (the more fuel, the faster), and a 500 fpm descent rate. Keep the runway numbers in the center of the windscreen.
15. As you cross the runway threshold at 50 feet, reduce power to idle, and flare slowly: Press **F1**.
16. As the main wheels touch first, slowly let the nose come down. The spoilers will deploy and the autobrakes will start slowing the aircraft.
17. Engage the thrust reversers: Press **F2**.
18. At 60 knots, disengage the thrust reversers: Press **F1**.
19. Taxi to parking.

The Realistic Way: Lessons

Real-world airline pilots are required to hold an Airline Transport Pilot certificate, considered the PhD of flying. In Flight Simulator, you have two choices for transitioning to jets:

- Click **Missions** on the main menu, then choose **Tutorial 8: Transitioning to Jets** from the **Missions** list.
- Click the **Lessons** tab in the [Learning Center](#), scroll to the bottom of the page, and click **ATP Lessons Overview**. Rod Machado will guide you step-by-step through the ATP lessons.