

How to taxi the DC-3

No matter how many times we have flown the airlines in real life, we would be hard pressed to recall the last time that we boarded an aircraft at the end of the runway. It's time to expose the mystery of taxiing the flight-sim DC-3, and begin or end the flights properly ... at the terminal!

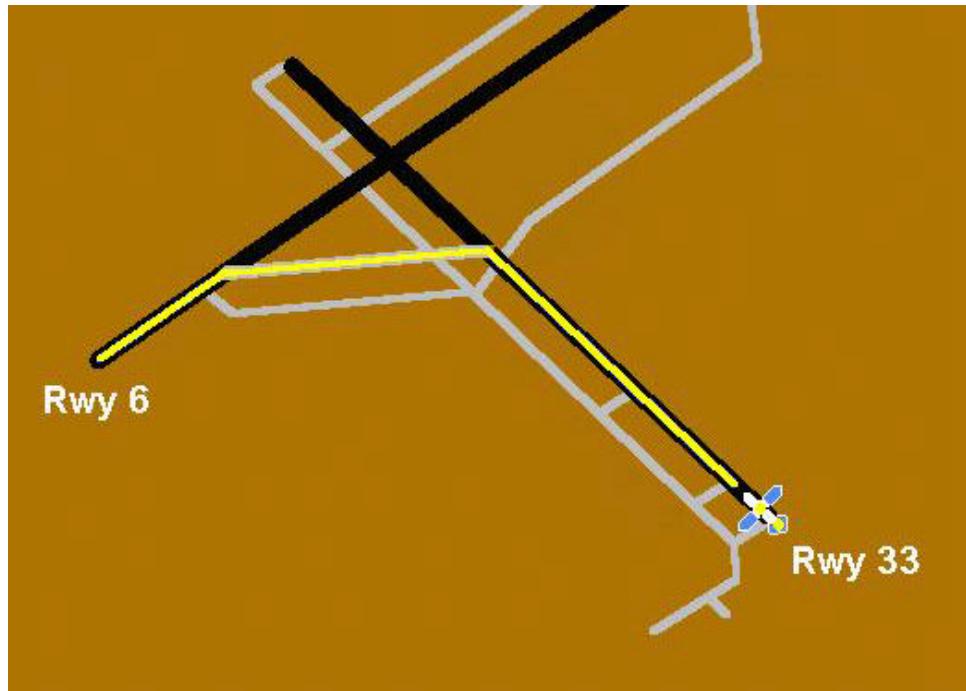
Initially, one is baffled. What's the big deal about turning a DC-3 while departing from a gate or entering a runway -- turn left, left rudder; turn right, right rudder.

It's not that simple, for two reasons:

At slow speeds, insufficient air flows past the rudder for it to be effective.

The DC-3's rudder is small for the size of the aircraft.

This unhappy situation leaves us with two controls to steer the aircraft: the engines and the brakes. Effective use of them, however, especially together, can give us a much sharper turning radius than with a tricycle gear aircraft. So let's mount our trusty DC-3 or R4D and find out whether a mortal truly can taxi the DC-3.



The taxi exercises will be at North Philadelphia Airport, KPNE.
One-hour of flight time will be credited for the exercises described here.

Before we taxi out to the tarmac to give it a go, understand two basic principles:

Use the inside brake, the one nearest the center of the circle, to turn.

Use the outside engine, the one farthest from the center of the circle, to turn.

Not a bit of that information is useful, though, until we solve the visibility problem while taxiing the DC-3. All we can see is the SKY. Trust me, nothing will quite ruin our day so much as taxiing into a fuel truck. Well, taxiing into The Boss's office is a close second.

Simple solution: raise the pilot's seat by pressing SHIFT + ENTER a number of times until you're satisfied with the view ahead. Went too far? ... SHIFT + BACKSPACE brings you back a notch at a time. Now you're speeding down the runway, the tail has raised, and you want a normal view ... a **single** Ctrl + Space Bar does it.

OK, send all the gigglers away and we'll get started. First, though, be aware that taxiing is ever so much simpler and more enjoyable if you have rudder pedals. Plus pedals greatly add to the realism of flight (and you'll finally discover why that ball is present in the Turn and Bank indicator.) But be certain that the pedals operate the aircraft's brakes, too.

NOTE: Satisfactory ground steering is impossible unless the Rudder Auto-coordination is OFF!

Brakes-Only steering.

Let's begin with brakes-only steering. To clear the airport of all other aircraft, we affix a "Student Pilot" sign to each side of our fuselage, in such a position to cover the name of the airline. Next, we move the aircraft to Runway 33 at the North Philadelphia airport, PNE or KPNE depending on our flight simulator (no we're not going to take off). Adjust your view and set the props to the High RPM position (full forward or Ctrl + F4). For this situation, leave the engine controls locked so that both throttles advance together, etc. Now advance the throttles sufficiently to taxi down the runway at 15 to 20 kts. Easy on the speed, though ... nothing quite so embarrassing as lifting off while taxiing.

NOTE: FS brakes differ from those on a real aircraft or from those in your car ... they are digital, either fully on or fully off. However, if you use the CH Products Pro Pedals, proportional braking is now available.

Follow this routine (see Figure on page 1):

Taxi to the fourth turn-off, the diagonal taxiway that connects to Rwy 6–24, and tap the left brake (F11 or the left brake pedal) to turn left. If you have rudder pedals, also apply the left rudder pedal.

Proceed up the taxiway and again tap the left brake (F11 or the left brake pedal), and apply the left rudder pedal, to turn left toward the beginning of Rwy 6.

Using Flight Sim's "move" command, move the aircraft to Rwy 6 (Rotates the aircraft 180°) and repeat

the above taxi maneuvers but in the opposite direction, which requires right turns.

Power-Only steering.

We'll repeat the procedures we just did for brakes-only steering, but this time we will control the aircraft's direction with its engines. Again move the aircraft to Rwy 33 and verify that the power controls are synchronized, so that they both move the same amount.

Increase the throttles to begin your straight-ahead taxi up Rwy 33 --10 to 12 knots is a good speed. As you near the fourth turn off, press E + 2, which puts throttle #2, the right throttle, under keyboard or joystick control. Slowly increase the power on the right engine to navigate the turn. You can synch the two throttles together again for the straight portion of the taxi if you wish, by pressing E + 1 + 2.

As you near Rwy 6-24, press E + 2, to unsynch the power controls, and control the left turn by adjusting power to the right engine, and taxi to the end of the runway.

Again rotate the aircraft by "moving" it to Rwy 6 and repeat this procedure in the opposite direction, controlling the left engine for the right turns.

If you have rudder pedals, apply left rudder when turning left, and right rudder when turning right. The new versions of the R4D and Jan Visser's DC-3s have steerable tail wheels to assist in steering.

Brakes and power-control for steering.

This method gives the most control to turn the DC-3. Move the aircraft to Rwy 33, synch the power controls, E+1+2, then taxi up the runway until near the fourth turn off. Unsynch the power controls, tap the left brake (F11) and carefully apply power to the right engine to accurately control the turn onto the taxiway. Repeat that procedure for entering Rwy 24 with another left turn.

Lastly, move the aircraft to Rwy 6 and repeat this procedure, except making right turns by tapping the right brake, F12 and increasing power to the left engine.

One hour Flight Credit for:

- 1) Taxi twice in each direction using **Brakes-Only** steering.
- 2) Taxi twice in each direction using **Power-Only** steering.
- 3) Taxi four times in each direction using **Differential** steering.

Report 60 minutes using the standard PIREP format, flight No. is "Taxi."

Now you can enjoyably include taxiing to and from the Runway as part of every flight.

Good luck, and enjoy! The Boss