

Lesson 304

Normal Takeoff

Overview

You will perform a normal takeoff after the before takeoff checklist is completed.

Briefing

To begin the takeoff, taxi from the run-up area and stop just prior to the hold short line (Figure 304-1) separating the taxiway from the runway. **Do not** cross this line without a clearance.

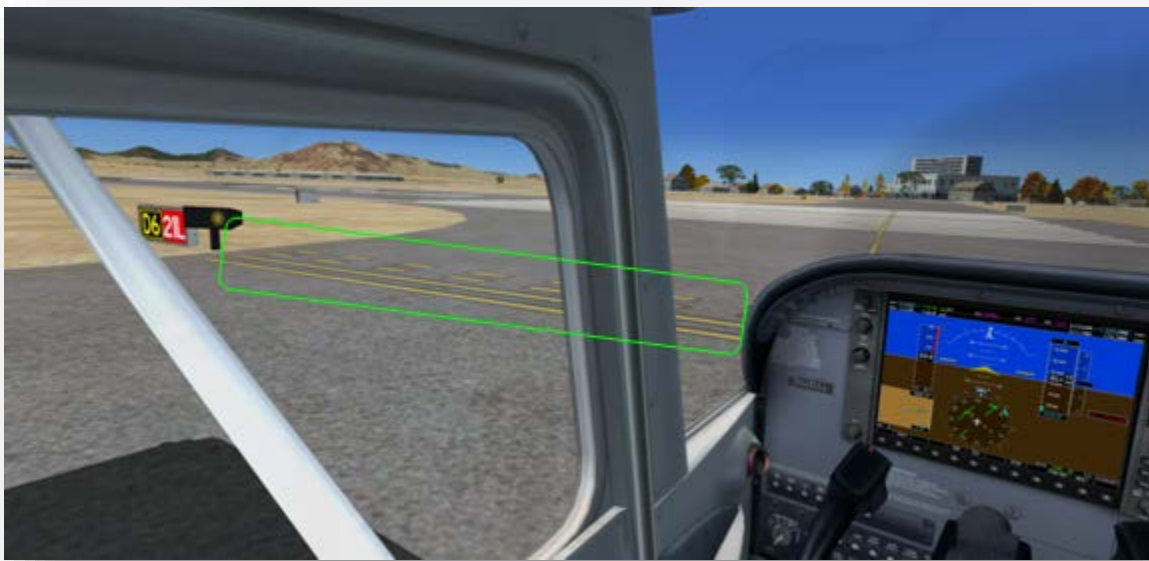


Figure 304-1: Hold Short Line

Upon crossing the hold short line, turn on the taxi and strobe lights as depicted by Figure 304-3.



Figure 304-3: Taxi and Strobe Lights

Verify the pitot heat (Figure 304-4) is OFF if the outside air temperature is above 5°C or 40°F.



Figure 304-4: Pitot Heat

Center the airplane with the runway centerline and verify that the magnetic compass is matching the runway heading as shown in Figure 304-5.

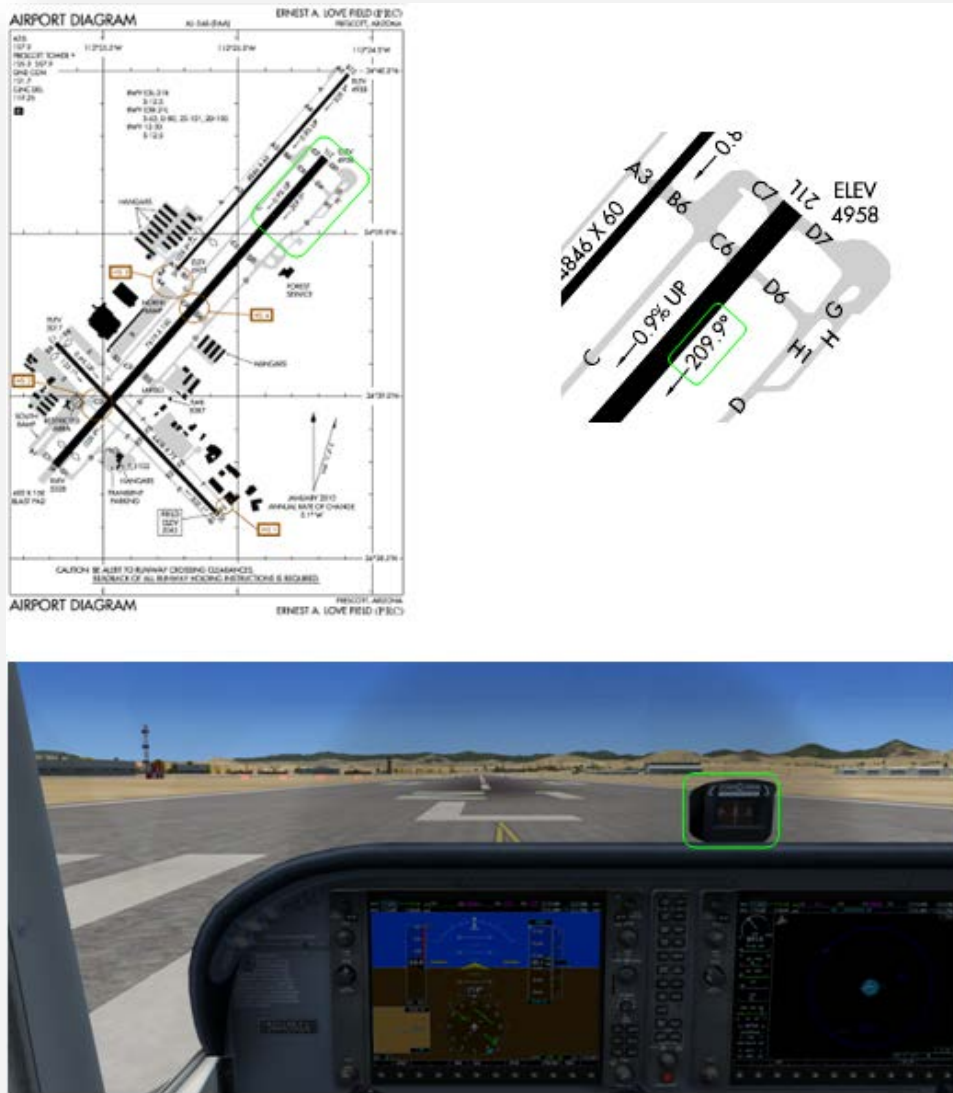


Figure 304-5: Runway Heading

Push the heading bug (Figure 304-6) to orient with the runway heading.



Figure 304-6: Heading Bug

Smoothly advance the power to full, making small corrections with the rudder pedals as necessary to stay on the runway centerline. Keep one hand on the throttle and one hand on the yoke.

You will hear a callout: **“Power indications, engine instruments green, airspeed alive.”**

For **‘Power indications’**, visually check the RPM to verify the engine is producing adequate takeoff power as shown in Figure 304-7.



Figure 304-7: Power Indications

Scan down the engine instruments (Figure 304-8) and verify that they are indicating in the green range.



Figure 304-8: Engine Instruments

If they are, verbally state **"Engine instruments green"**.

Observe the airspeed indicator (Figure 304-9) and note the speed.



Figure 304-9: Airspeed Indicator

If the airspeed gradually rises, state **"Airspeed alive"**.

If at any time one of these indications is not present, abort the takeoff by reducing the power to idle and braking on the remaining runway.

At the rotation speed of 55 knots, verbally state '**Rotate**', and smoothly apply backpressure on the yoke until a V_y pitch attitude (Figure 304-10) is established.

Set a climb speed of 72 knots and continue to climb to a safe maneuvering altitude.



Figure 304-10: V_y Pitch Attitude

Maintain runway centerline until Tower advises you to turn.

End of Briefing
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