

Directions: Pair up with your “stick buddy” and set up the computer with “Prepar3D” and joystick. Work together to set up each Scenario and answer the questions as specifically as possible. General Answers won’t work.

1. Set up at any runway at Waterbury-Oxford (KOXC). Line up with the runway with the parking brake set on.
2. Set Flaps full down
3. Mixture Rich
4. Full Throttle
5. Release Brakes
6. Keep plane centered on runway
7. Keep plane on runway until 65 knots
8. Slight back pressure on the joystick (yoke)
9. Climb at 500-1000 fpm, not more!
10. Raise Flaps after reaching 1000 feet
11. Level off at 3000 feet
12. Set RPM at 1800
13. Trim aircraft so not climbing or descending when controls are released
14. Check for coordinated flight, look at the turn coordinator and see if the "ball" is centered, “yaw” the plane, to center the “ball” if needed. Meaning “step on the ball”. In other words, if the “ball” slides to the left or right, twist the joystick left or right which is the same as pushing on the left or right pedal to adjust the “ball” to stay centered

Scenario #4:

1. Make sure the airplane is trimmed well (not pitching up or down when controls are let go) and pull back on the yoke or stick to set and maintain a pitch angle of approximately 10° nose up
2. After pitching up, maintain the nose up attitude only with joystick or yoke, do not use throttle.
3. Wait 10 seconds, observing what happens to the airplane. Write what you observe.

4. WHY is the airplane climbing?

5. Why is the airspeed decreasing?

6. Why does the airplane eventually stop climbing?

7. Return the airplane to straight and level flight at 3000 feet.

Scenario #5:

1. Make sure the airplane is trimmed well (not pitching up or down when controls are let go) and push forward on the stick to set and maintain a pitch angle of approximately 10° nose down. Don't use the throttle.
2. After pitching down, maintain the nose down attitude using joystick inputs
3. Wait 10 seconds, observing what happens to the airplane. Write what you observe.

4. WHY is the airplane descending?

5. Why is the airspeed increasing even though we did not touch the throttle?

6. Return the airplane to straight and level flight at 3000 feet.

Scenario #6:

1. This time, slow the airplane down to 70 KIAS (knots indicated airspeed) using power reduction and nose trim pitch so you maintain straight and level flight.
2. Now simulate a lost engine by powering back the throttle to idle.
3. Wait 10 seconds, observing what happens to the airplane. Write what you observe.

4. WHY is the airplane descending?

5. If you try to maintain altitude with a lost engine, what will happen to airspeed?

- Without using throttle, try to fly the airplane at 70-80 KIAS and find a landing spot. Were you able to find a place to land your airplane without hitting any obstacles?

- Return the airplane to straight and level flight at 3000 feet.

Scenario #7:

- Again, slow the airplane down to 70 KIAS using power reduction and nose trim pitch so you maintain straight and level flight.
- Instead of losing an engine, we will try to change our altitude with only the throttle.
- Slowly increase airspeed with throttle so the airspeed reaches 100 KIAS then leave the throttle in this position.
- Wait 10 seconds, observing what happens to the airplane. Write what you observe.

- WHY is the airplane ascending? Be specific.

- Now reduce airspeed back to 70 KIAS, maintain pitch of the aircraft. Wait 10 seconds, observing what happens to the airplane, write what you observe?

7. Why is the airplane descending? Be Specific

8. Return the rpm's to 1800 and return the airplane to straight and level flight at 3000 feet.

Scenario #8:

1. Once established at straight and level flight, set RPM to 1800
2. Fully "yaw" the plane either left or right with the rudder, (joystick or foot pedals) .
3. Wait 10 seconds, observing what happens to the airplane. Write what you observe.

4. WHY is the airplane behaving this way? Be specific.

5. Did the airplane begin to roll after a few seconds? Why.

6. Return the airplane to straight and level flight at 3000 feet.