SESSION 60: PRECISION APPROACHES — ILS INTERCEPTION, GLIDESLOPE, AND DECISION ALTITUDE

1. When intercepting the ILS, the pilot first establishes the aircraft on the:

A. Glideslope

B. Missed approach track

C. Localizer course, before glideslope intercept

D. Circling area

2. The glideslope should be intercepted:

A. From above, descending onto it

B. From below, at the published glideslope intercept altitude

C. After passing the runway threshold

D. At the missed approach point

3. Intercepting the glideslope from below at the published altitude protects against:

A. A localizer failure

B. Reverse sensing

C. Marker beacon loss

D. Capturing a false (higher-angle) glideslope

4. Once established on the localizer, a small lateral deviation is corrected with:

A. A large heading change

B. A small heading change toward the needle, then a wind correction angle

C. A power increase

D. A pitch change

5. Once established on the glideslope, the descent rate is controlled primarily with:

A. Pitch, supported by power, to keep the glideslope needle centered

B. Bank angle

C. The localizer needle

D. The heading indicator

6. A glideslope needle deflecting upward (above center) indicates the aircraft is:

A. On the glideslope

B. Right of course

C. Below the glideslope; reduce the descent rate to recapture it

D. Above the glideslope

7. A glideslope needle deflecting downward (below center) indicates the aircraft is:

A. On the glideslope

B. Left of course

C. Above the glideslope; increase the descent rate to recapture it

D. Below the glideslope

8. A useful rule of thumb for the descent rate (fpm) needed to maintain a 3-degree glideslope is approximately:

A. The airspeed in mph times 10

B. A fixed 500 fpm regardless of speed

C. The altitude divided by 10

D. The groundspeed (knots) times 5

9. At a groundspeed of 90 knots, the approximate descent rate to hold a 3-degree glideslope is about:

A. 450 fpm (90 × 5)

B. 900 fpm

C. 300 fpm

D. 150 fpm

10. At a groundspeed of 120 knots, the approximate 3-degree descent rate is about:

A. 600 fpm (120 × 5)

B. 300 fpm

C. 1,200 fpm

D. 250 fpm

11. A stabilized ILS approach is characterized by:

A. Large, frequent corrections

B. Idle power throughout

C. A constant approach configuration, airspeed, and descent rate with small corrections, on speed and on path

D. A steep dive to the runway

12. A wind shift on final that increases the headwind component will tend to:

A. Move the aircraft right of course

B. Have no effect on the glidepath

C. Increase the airspeed

D. Cause the aircraft to go above the glideslope (reduced groundspeed), requiring a slightly higher descent rate

13. A pilot who chases the glideslope with large pitch changes is likely to:

A. Capture the localizer faster

B. Reduce the descent rate

C. Improve the approach

D. Destabilize the approach, over-controlling pitch and airspeed

14. The decision altitude (DA) on an ILS is the altitude at which the pilot must:

A. Begin the glideslope intercept

B. Decide to continue to land (with required visual references) or execute the missed approach

C. Level off and continue

D. Start the approach

15. If, upon reaching the DA, the required visual references are not in sight, the pilot must:

A. Descend slightly to find the runway

B. Execute the missed approach

C. Level off at the DA and continue

D. Circle

16. If, at the DA, the runway environment is in sight and a normal landing can be made, the pilot may:

A. Continue the descent to land

B. Level off at the DA

C. Climb back to the FAF

D. Circle regardless

17. A momentary descent slightly below the DA during the go-around is:

A. A violation in all cases

B. Cause to land regardless

C. Required by the procedure

D. Expected as the aircraft transitions to the climb, since the DA is a decision point, not a hard floor to level at

18. Maintaining the localizer requires the pilot to apply a wind correction angle because:

A. The glideslope changes

B. The DA is fixed

C. A crosswind will drift the aircraft off the centerline without correction

D. The localizer reverses

19. A common ILS error is fixating on one needle; the correct technique is to:

A. Watch only the glideslope

B. Cross-check both the localizer and glideslope (and airspeed/altitude) with a smooth scan

C. Watch only the localizer

D. Watch only the airspeed

20. As the aircraft approaches the runway, the localizer and glideslope become:

A. Less sensitive

B. Inoperative

C. Reverse-sensing

D. More sensitive, requiring smaller, smoother corrections

21. A stabilized approach gate (e.g., on speed, on path, configured by a certain height) is used to:

A. Set the cruise altitude

B. Ensure the approach is stable by a defined point, prompting a go-around if not

C. Replace the DA

D. Determine the alternate

22. A pilot slightly high on the glideslope at the FAF should:

A. Smoothly increase the descent rate to recapture the glidepath, avoiding an abrupt dive

B. Maintain altitude to the runway

C. Level off

D. Begin the missed approach

23. The airspeed on an ILS final should be:

A. A stable, appropriate final approach speed for the configuration

B. Maximum cruise speed

C. Constantly varying

D. The minimum controllable airspeed

24. A pilot who reaches the DA and continues to descend without the required visual references has:

A. Flown a proper approach

B. Satisfied the missed approach

C. Committed a serious deviation that risks controlled flight into terrain

D. Executed the approach correctly

25. The fundamental skill of flying the ILS to the DA is to:

A. Capture the glideslope from above quickly

B. Fly a stabilized, on-speed, on-path approach with small corrections and make a timely, correct decision at the DA

C. Use large pitch changes to hold the glideslope

D. Disregard the localizer near the runway

ANSWER KEY & EXPLANATIONS — SESSION 60

1. C. Localizer first — Intercepting the ILS, the pilot first establishes on the localizer course before glideslope intercept.

2. B. From below at intercept altitude — The glideslope is intercepted from below at the published glideslope intercept altitude.

3. D. Avoid false glideslope — Intercepting from below at the published altitude protects against capturing a false (higher-angle) glideslope.

4. B. Small heading change + WCA — A small lateral deviation is corrected with a small heading change toward the needle, then a wind correction angle.

5. A. Pitch + power — The descent rate on the glideslope is controlled primarily with pitch, supported by power, to keep the needle centered.

6. C. Below GS — A glideslope needle above center means the aircraft is below the glideslope; reduce the descent rate to recapture it.

7. C. Above GS — A glideslope needle below center means the aircraft is above the glideslope; increase the descent rate to recapture it.

8. D. GS × 5 — The descent rate (fpm) for a 3-degree glideslope is approximately the groundspeed (knots) times 5.

9. A. ~450 fpm — At 90 knots, the 3-degree descent rate is about 90 × 5 = 450 fpm.

10. A. ~600 fpm — At 120 knots, the 3-degree descent rate is about 120 × 5 = 600 fpm.

11. C. Stable config/speed/rate — A stabilized ILS approach has a constant configuration, airspeed, and descent rate with small corrections, on speed and on path.

12. D. Increased headwind → high — An increased headwind reduces groundspeed and tends to put the aircraft above the glideslope, requiring a slightly higher descent rate.

13. D. Destabilize — Chasing the glideslope with large pitch changes destabilizes the approach, over-controlling pitch and airspeed.

14. B. Land or miss decision — The DA is the altitude at which the pilot decides to continue to land (with required visual references) or execute the missed approach.

15. B. Missed approach — If the required visual references are not in sight at the DA, the pilot must execute the missed approach.

16. A. Continue to land — If the runway environment is in sight and a normal landing can be made at the DA, the pilot may continue the descent to land.

17. D. Decision point, not a floor — A momentary descent slightly below the DA during the go-around is expected as the aircraft transitions to the climb, since the DA is a decision point, not a hard floor to level at.

18. C. Crosswind drift — Maintaining the localizer requires a wind correction angle because a crosswind will drift the aircraft off the centerline.

19. B. Cross-check both — The correct technique is to cross-check both the localizer and glideslope (and airspeed/altitude) with a smooth scan.

20. D. More sensitive — Near the runway, the localizer and glideslope become more sensitive, requiring smaller, smoother corrections.

21. B. Stabilized gate — A stabilized approach gate ensures the approach is stable by a defined point, prompting a go-around if not.

22. A. Smooth recapture — Slightly high at the FAF, the pilot smoothly increases the descent rate to recapture the glidepath, avoiding an abrupt dive.

23. A. Stable final speed — The airspeed on final should be a stable, appropriate final approach speed for the configuration.

24. C. Serious deviation/CFIT — Continuing below the DA without the required visual references is a serious deviation that risks controlled flight into terrain.

25. B. Stabilized + timely decision — The fundamental skill is to fly a stabilized, on-speed, on-path approach with small corrections and make a timely, correct decision at the DA.