

SESSION 58: APPROACH FUNDAMENTALS — PRECISION VS. NON-PRECISION DISTINCTIONS

1. The defining characteristic that distinguishes a precision approach from a non-precision approach is:

- A. The use of GPS
- B. A lower visibility requirement
- C. A longer final approach segment
- D. Electronic vertical (glidepath) guidance to a decision altitude

2. A non-precision approach provides:

- A. Vertical guidance to a DA
- B. Lateral guidance only (no electronic glidepath), flown to an MDA
- C. Both lateral and vertical guidance to a DA
- D. No course guidance at all

3. A classic precision approach is the:

- A. ILS (with localizer and glideslope)
- B. VOR approach
- C. LNAV approach
- D. NDB approach

4. Examples of non-precision approaches include the:

- A. VOR, LOC (localizer-only), and LNAV (GPS) approaches
- B. ILS and LPV
- C. LPV and LNAV/VNAV
- D. ILS only

5. "APV" (Approach with Vertical Guidance) approaches, such as LPV and LNAV/VNAV, are:

- A. True precision approaches by ICAO definition
- B. Non-precision approaches with no vertical guidance
- C. A category providing vertical guidance to a DA but not meeting full precision approach standards
- D. Circling approaches only

6. A precision approach and an APV approach both use a:

- A. Decision altitude (DA), at which a go/no-go decision is made on the glidepath
- B. Minimum descent altitude (MDA)
- C. Step-down dive-and-drive technique
- D. Circling-only minimum

7. A non-precision approach uses an MDA rather than a DA because:

- A. The MDA is always lower
- B. Without electronic vertical guidance, the aircraft descends to a minimum altitude and may not go below it without the required visual references
- C. The MDA is a precision concept
- D. The MDA applies only to circling

8. At the DA on a precision/APV approach, the pilot must:

- A. Continue to descend, or execute the missed approach, based on whether the required visual references are in sight at the DA
- B. Level off at the DA and continue indefinitely
- C. Always land
- D. Always go missed

9. At the MDA on a non-precision approach, the pilot may:

- A. Descend below the MDA immediately
- B. Climb back to the FAF altitude
- C. Continue to the runway regardless of visibility
- D. Continue at or above the MDA to the missed approach point, descending below only with the required visual references

10. The "dive-and-drive" technique on a non-precision approach involves:

- A. A continuous constant-angle descent to the runway
- B. Maintaining the FAF altitude to the MAP
- C. Descending promptly to each step-down/MDA and leveling until the next descent or the MAP
- D. Circling at the MDA

11. The "continuous descent final approach" (CDFA) technique on a non-precision approach involves:

- A. Multiple level-offs at step-downs
- B. Diving to the MDA early
- C. Circling to land
- D. A stabilized, constant-angle descent from the FAF to a derived decision point, avoiding level-offs

12. CDFA is generally preferred over dive-and-drive because it:

- A. Provides a stabilized, safer descent profile reducing CFIT risk
- B. Allows a lower MDA
- C. Eliminates the missed approach
- D. Requires no visual references

13. A precision approach generally offers lower minimums than a non-precision approach because:

- A. The vertical guidance allows a safe descent to a lower height with assured obstacle clearance on the glidepath
- B. It uses GPS
- C. The final segment is shorter
- D. The MDA is higher

14. The ILS glideslope provides:

- A. Lateral guidance
- B. Distance information
- C. Vertical guidance along the descent path to the DA
- D. The missed approach track

15. An LPV approach, despite "Localizer Performance" in its name, is:

- A. A localizer-based approach
- B. A circling approach
- C. An RNAV (GPS) APV approach with WAAS vertical guidance to a DA
- D. A precision ILS

16. A localizer-only (LOC) approach is non-precision because it provides:

- A. Vertical guidance only
- B. Both lateral and vertical guidance
- C. A glideslope without a localizer
- D. Lateral guidance (the localizer) but no glideslope, flown to an MDA

17. When an ILS glideslope is out of service, the approach may be flown as a:

- A. Precision approach with the same minimums
- B. Circling-only approach
- C. Visual approach
- D. Localizer (non-precision) approach to the higher LOC MDA

18. The decision at minimums differs between approach types in that on a precision/APV approach the decision is made:

- A. At the FAF
- B. At the MAP only
- C. At the DA on the glidepath, while on a non-precision approach the aircraft levels at the MDA until the MAP
- D. At the step-down fix

19. The visibility (or RVR) minimum is generally:

- A. The same for all approach types
- B. Lower for precision/APV approaches than for non-precision approaches at the same runway
- C. Higher for precision approaches
- D. Irrelevant to approach type

20. An aircraft's approach category affects the minimums because:

- A. Heavier aircraft fly lower
- B. Faster aircraft use less airspace
- C. The category determines the engine
- D. Higher-category (faster) aircraft require larger protected areas, often raising circling and some straight-in minimums

21. A pilot selecting minimums must use the line corresponding to:

- A. The lowest published line regardless
- B. The circling line always
- C. The approach type being flown and the aircraft's approach category
- D. The precision line always

22. On a non-precision approach flown CDFAs, reaching the derived decision point without the required visual references requires the pilot to:

- A. Level at the MDA and continue
- B. Begin the missed approach (treating it like a DA decision point, not descending below MDA)
- C. Descend below MDA to find the runway
- D. Circle at the MDA

23. A "vertical descent angle" (VDA) published on a non-precision approach:

- A. Is a precision glideslope
- B. Guarantees obstacle clearance below the MDA
- C. Replaces the MDA
- D. Provides a recommended constant descent angle for a CDFAs, but does not guarantee obstacle clearance below the MDA

24. The fundamental safety advantage of vertical guidance (precision/APV) is that it:

- A. Eliminates the need for a missed approach
- B. Provides a stabilized descent with assured obstacle protection along the path, reducing the risk of an unstable or low approach
- C. Allows landing in any weather
- D. Removes the need for a current chart

25. The fundamental principle distinguishing the approach types is that:

- A. All approaches are equivalent in safety
- B. GPS approaches are always precision
- C. Precision/APV approaches provide vertical guidance to a DA, while non-precision approaches provide lateral guidance only to an MDA, and each is flown and decided accordingly
- D. The MDA is always lower than the DA

ANSWER KEY & EXPLANATIONS – SESSION 58

1. D. Vertical guidance to DA — A precision approach is distinguished by electronic vertical (glidepath) guidance to a decision altitude.

2. B. Lateral only/MDA — A non-precision approach provides lateral guidance only (no electronic glidepath), flown to an MDA.

3. A. ILS — A classic precision approach is the ILS (localizer and glideslope).

4. A. VOR/LOC/LNAV — Examples of non-precision approaches include the VOR, LOC, and LNAV (GPS) approaches.

5. C. APV category — APV approaches (LPV, LNAV/VNAV) provide vertical guidance to a DA but do not meet full precision approach standards.
6. A. Decision altitude — Precision and APV approaches both use a DA, at which a go/no-go decision is made on the glidepath.
7. B. No vertical guidance — A non-precision approach uses an MDA because, without electronic vertical guidance, the aircraft descends to a minimum altitude and may not go below it without the required visual references.
8. A. Continue or miss at DA — At the DA, the pilot continues to descend or executes the missed approach based on whether the required visual references are in sight.
9. D. At/above MDA to MAP — At the MDA, the pilot may continue at or above the MDA to the MAP, descending below only with the required visual references.
10. C. Dive-and-drive — Dive-and-drive descends promptly to each step-down/MDA and levels until the next descent or the MAP.
11. D. CDFA — A continuous descent final approach is a stabilized, constant-angle descent from the FAF to a derived decision point, avoiding level-offs.
12. A. Stabilized/lower CFIT risk — CDFA is preferred because it provides a stabilized, safer descent profile, reducing CFIT risk.
13. A. Vertical guidance/lower — A precision approach offers lower minimums because the vertical guidance allows a safe descent to a lower height with assured obstacle clearance on the glidepath.
14. C. Vertical guidance — The ILS glideslope provides vertical guidance along the descent path to the DA.

15. C. RNAV APV/WAAS — LPV is an RNAV (GPS) APV approach with WAAS vertical guidance to a DA.

16. D. Localizer, no glideslope — A LOC approach is non-precision: it provides the localizer (lateral) but no glideslope, flown to an MDA.

17. D. LOC non-precision — With the glideslope out, the ILS may be flown as a localizer (non-precision) approach to the higher LOC MDA.

18. C. DA vs. MDA decision — On a precision/APV approach the decision is made at the DA on the glidepath, while on a non-precision approach the aircraft levels at the MDA until the MAP.

19. B. Lower for precision — The visibility/RVR minimum is generally lower for precision/APV approaches than for non-precision approaches at the same runway.

20. D. Larger protected areas — Higher-category (faster) aircraft require larger protected areas, often raising circling and some straight-in minimums.

21. C. Type + category — The pilot selects minimums corresponding to the approach type being flown and the aircraft's approach category.

22. B. Treat as DA decision — On a CDFA non-precision approach, reaching the derived decision point without visual references requires beginning the missed approach (not descending below MDA).

23. D. Recommended angle, no guarantee — A published VDA provides a recommended constant descent angle for a CDFA but does not guarantee obstacle clearance below the MDA.

24. B. Stabilized/protected path — Vertical guidance provides a stabilized descent with assured obstacle protection along the path, reducing the risk of an unstable or low approach.

25. C. Vertical-to-DA vs. lateral-to-MDA — Precision/APV approaches provide vertical guidance to a DA, while non-precision approaches provide lateral guidance only to an MDA, and each is flown and decided accordingly.