SESSION 32: ATC CLEARANCES — RADAR VS. NON-RADAR ENVIRONMENT PROCEDURES

1. "Radar contact" from ATC means:

A. The pilot must squawk 7700

B. The aircraft has been identified on the controller's radar display

C. The aircraft has lost two-way communication

D. The pilot must begin position reports

2. Once "radar contact" is established, the pilot generally:

A. Must continue all position reports as in a non-radar environment

B. Must squawk standby

C. Is relieved of making most position reports over compulsory reporting points

D. Should switch to the emergency frequency

3. In a non-radar environment, the pilot is responsible for:

A. Providing separation from other IFR traffic

B. Assigning their own altitude

C. Vectoring themselves to the destination

D. Making position reports over compulsory reporting points

4. A compulsory reporting point in a non-radar environment is depicted on the en route chart as:

A. An open (unfilled) triangle

B. A solid (filled) triangle

C. A circle with a dot

D. A square box

5. A non-compulsory reporting point is depicted as:

A. An open (unfilled) triangle

B. A solid (filled) triangle

C. A diamond

D. A star

6. A standard position report in a non-radar environment includes:

A. Only the aircraft identification and altitude

B. Only the next fix

C. The destination and fuel remaining

D. Identification, position, time, altitude, and the next fix with ETA

7. "Radar service terminated" means the pilot should:

A. Resume position reporting and self-navigation responsibilities as appropriate

B. Squawk 1200 immediately

C. Cancel the IFR flight plan

D. Begin a descent

8. Radar vectors are headings issued by ATC to:

A. Cancel the clearance

B. Guide the aircraft for separation, sequencing, or navigation

C. Establish the transponder code

D. Assign the cruising altitude

9. When being radar vectored, the pilot should:

A. Fly the assigned heading and expect further instructions

B. Navigate direct to the destination instead

C. Resume the filed route immediately

D. Enter a holding pattern

10. A pilot being vectored off a published route is still responsible for:

A. Nothing; ATC assumes all responsibility

B. Self-separation from other IFR traffic

C. Assigning their own altitude

D. Maintaining terrain awareness and querying ATC if a vector seems unsafe

11. Even with "radar contact," certain reports remain mandatory. One such report is:

A. Leaving an assigned altitude

B. Crossing every VOR

C. Each 10 nautical miles flown

D. Every frequency change

12. A mandatory report regardless of radar coverage is:

A. Passing each non-compulsory reporting point

B. When unable to climb or descend at least 500 fpm

C. Reaching cruise airspeed

D. Every fuel state change

13. A pilot must report to ATC when:

A. The autopilot is engaged

B. The aircraft levels off at cruise

C. A previously assigned altitude is vacated, and when an altitude change is made under VFR-on-top

D. The landing gear is extended

14. A required report under both radar and non-radar conditions is:

A. Each 100 nautical miles

B. When the average true airspeed at cruise varies from the filed value by 5% or 10 knots, whichever is greater

C. Every heading change

D. Reaching the holding fix only

15. A safety-alert mandatory report is when the aircraft experiences:

A. A smooth ride at cruise

B. Loss of nav/comm capability, or a malfunction affecting the flight in controlled airspace under IFR

C. A normal frequency change

D. A routine altitude assignment

16. In a non-radar environment, ATC separates IFR aircraft using:

A. Visual observation from the tower

B. Pilot-reported see-and-avoid

C. Time, distance, and altitude based on pilot position reports

D. ADS-B traffic display only

17. A pilot who loses radar contact (e.g., flying into a non-radar area) should:

A. Cancel IFR

B. Squawk 7600

C. Climb to the MEA

D. Resume position reporting over compulsory reporting points

18. When ATC says "report passing FRAME intersection," the pilot must:

A. Make a specific report when crossing FRAME

B. Hold at FRAME

C. Descend at FRAME

D. Change frequency at FRAME

19. A required report when not in radar contact is:

A. Every routine heading change

B. Reaching a holding fix and the time and altitude (and reporting leaving the holding fix)

C. Each fuel state

D. Engaging the autopilot

20. The fundamental difference between the radar and non-radar environments is that in the radar environment:

A. ATC can observe the aircraft's position directly, reducing the need for pilot position reports

B. The pilot provides all separation

C. No clearance is required

D. The aircraft need not maintain an assigned altitude

21. A "no-gyro vector" is a radar service in which ATC:

A. Restores the aircraft's gyros remotely

B. Provides a backup attitude reference

C. Issues turn commands ("turn left," "stop turn") the pilot executes by reference to the turn coordinator

D. Takes control of the aircraft

22. A pilot under radar vectors who is then told "resume own navigation" should:

A. Continue the assigned heading

B. Navigate via the cleared route/own navigation from the present position

C. Enter a hold

D. Squawk standby

23. When ATC issues a vector, the pilot may query the controller if:

A. The vector is toward the destination

B. The vector is a standard heading

C. The vector seems to head toward terrain or away from a safe path

D. Never; vectors must always be flown without question — (see note)

24. A mandatory report that applies in both environments is:

A. Reaching cruise airspeed

B. Every VOR passage in radar contact

C. When leaving a holding fix or clearance limit, and a missed approach

D. Engaging the autopilot

25. The fundamental responsibility shift from radar to non-radar is that the pilot must:

A. Resume detailed position reporting because ATC can no longer observe the aircraft directly

B. Provide their own separation from IFR traffic

C. Assign their own altitude

D. Cancel the IFR clearance

ANSWER KEY & EXPLANATIONS – SESSION 32

1. B. Identified on radar — "Radar contact" means the aircraft has been identified on the controller's radar display.

2. C. Relieved of most reports — Once radar contact is established, the pilot is generally relieved of most position reports over compulsory reporting points.

3. D. Position reports — In a non-radar environment, the pilot is responsible for making position reports over compulsory reporting points.

4. B. Solid triangle — A compulsory reporting point is depicted as a solid (filled) triangle.

5. A. Open triangle — A non-compulsory reporting point is depicted as an open (unfilled) triangle.

6. D. ID/position/time/alt/next fix — A standard position report includes identification, position, time, altitude, and the next fix with ETA.

7. A. Resume reporting/self-nav — "Radar service terminated" means resume position reporting and self-navigation responsibilities as appropriate.

8. B. Guide for separation/sequencing — Radar vectors are headings issued to guide the aircraft for separation, sequencing, or navigation.

9. A. Fly heading, expect more — When being vectored, the pilot flies the assigned heading and expects further instructions.

10. D. Terrain awareness/query — A pilot being vectored is still responsible for terrain awareness and querying ATC if a vector seems unsafe.

11. A. Leaving assigned altitude — Leaving an assigned altitude remains a mandatory report even with radar contact.

12. B. Unable 500 fpm — Being unable to climb or descend at least 500 fpm is a mandatory report regardless of radar coverage.

13. C. Vacating altitude/VFR-on-top — The pilot must report vacating a previously assigned altitude, and altitude changes under VFR-on-top.

14. B. TAS variance — A required report (both environments) is when cruise true airspeed varies from filed by 5% or 10 knots, whichever is greater.

15. B. Loss of nav/comm or malfunction — A safety-alert mandatory report covers loss of nav/comm capability or a malfunction affecting IFR flight in controlled airspace.

16. C. Time/distance/altitude — In non-radar, ATC separates IFR aircraft using time, distance, and altitude based on pilot position reports.

17. D. Resume reporting — Losing radar contact requires resuming position reporting over compulsory reporting points.

18. A. Report at FRAME — "Report passing FRAME" requires a specific report when crossing FRAME.

19. B. Holding fix report — A non-radar required report is reaching a holding fix (time and altitude), and reporting leaving it.

20. A. ATC observes directly — In the radar environment, ATC can observe the aircraft's position directly, reducing the need for pilot position reports.

21. C. Turn commands — A no-gyro vector is a radar service where ATC issues turn commands the pilot executes by reference to the turn coordinator.

22. B. Own navigation — "Resume own navigation" means navigate via the cleared route/own navigation from the present position.

23. C. Query if unsafe — A pilot may query the controller if a vector seems to head toward terrain or away from a safe path.

24. C. Leaving fix/missed approach — A report in both environments includes leaving a holding fix or clearance limit and executing a missed approach.

25. A. Resume reporting — The fundamental shift from radar to non-radar is resuming detailed position reporting because ATC can no longer observe the aircraft directly.