ACS AREA II — PREFLIGHT PROCEDURES

Sessions 19–28

If Area I established whether the flight should happen, Area II establishes whether the aircraft is ready to fly it. This area shifts the examiner's attention from the planning table to the airplane itself — its systems, its instruments, its required equipment, and its airworthiness for instrument flight. The DPE wants to see that you know not just how to fly the aircraft, but how it works: which instruments draw vacuum and which draw electrical power, what happens when a component fails, what equipment the regulations require for IFR, and how to determine whether an item that's inoperative grounds the flight or merely limits it.

These ten sessions map to the systems-and-equipment knowledge the ACS demands before an instrument flight. Session 19 covers the GRABCARD required-equipment framework. Session 20 covers the AVIATE inspection currency. Sessions 21 through 24 work through the systems whose failures define instrument emergencies — anti-ice and de-ice, the pitot-static system, the vacuum and gyroscopic instruments, and the inoperative-equipment decision process under §91.213, the MEL, and the KOEL. Sessions 25 through 27 cover the navigation and avionics suite: VOR/ILS/DME and marker beacons, GPS/WAAS/RNAV/FMS and the autopilot, and the PFD/MFD/ADS-B/EFB glass environment. Session 28 closes the area with the flight deck check and the integrated airworthiness determination.

This is where abstract concepts meet the specific airplane. The DPE expects you to apply every principle to the aircraft in front of you: which of *your* instruments fail when the vacuum pump quits, what *your* aircraft's KOEL requires for IFR, what *your* equipment list says is inoperative today. Answer these sessions aloud with your own aircraft in mind wherever you can, and return to Chapters 5 and 6 for any system you cannot explain with confidence.

SESSION 19: AIRCRAFT SYSTEMS — REQUIRED IFR EQUIPMENT: GRABCARD

1. The GRABCARD mnemonic lists the equipment required for flight under which conditions?

A. VFR day operations only

B. IFR operations under 14 CFR §91.205(d)

C. Night VFR operations only

D. Sport pilot operations exclusively

2. The "G" in GRABCARD stands for which required IFR equipment?

A. Generator or alternator of adequate capacity

B. Gyroscopic heading indicator only

C. Ground proximity warning system

D. GPS navigation receiver

3. The "R" in GRABCARD represents:

A. RNAV approach capability

B. Radar altimeter

C. Rate-of-turn indicator (turn coordinator)

D. Radio altimeter encoder

4. The "A" immediately following "R" in GRABCARD refers to:

A. An adjustable (sensitive) altimeter

B. An autopilot system

C. An angle-of-attack indicator

D. An ADS-B Out transponder

5. The "B" in GRABCARD stands for:

A. Backup battery system

B. Beacon light system

C. Boost pump for fuel

D. Ball (slip-skid indicator / inclinometer)

6. The "C" in GRABCARD represents:

A. Carbon monoxide detector

B. Cabin pressurization system

C. Clock with a sweep-second pointer or digital equivalent

D. Course deviation indicator

7. The second "A" in GRABCARD refers to:

A. Audio panel

B. Attitude indicator

C. Annunciator panel

D. Anti-collision light

8. The first "R" of the "CARD" portion (the second R in GRABCARD) represents:

A. RNAV equipment

B. Radios appropriate to the ground facilities and navigation equipment for the route

C. Radar transponder only

D. RAIM prediction capability

9. The "D" in GRABCARD stands for:

A. DME for all IFR operations

B. Directional gyro that is electrically powered

C. Directional gyro (heading indicator)

D. Distance measuring equipment above FL240

10. A pilot preparing for an IFR flight finds the clock with a sweep-second capability is inoperative. Regarding GRABCARD:

A. A required item is inoperative; its airworthiness status must be resolved before IFR flight

B. The clock is not a required IFR item and may be ignored

C. A wristwatch automatically satisfies the requirement with no further action

D. The flight may proceed VFR only with no further consideration

11. GRABCARD equipment is required in addition to the equipment already required for:

A. VFR day and VFR night operations

B. Sport pilot operations only

C. Commercial operations exclusively

D. Aerobatic flight only

12. The slip-skid indicator (ball) required by GRABCARD is important in IFR because it:

A. Displays the aircraft's groundspeed

B. Indicates coordinated flight, critical when flying solely by reference to instruments

C. Provides backup attitude information

D. Shows the distance to the next waypoint

13. A generator or alternator is required for IFR because:

A. It powers the landing lights for night approaches

B. It is needed only for engine starting

C. It improves fuel efficiency at altitude

D. It provides the electrical power that IFR avionics and instruments depend on

14. The attitude indicator required by GRABCARD provides:

A. The aircraft's heading reference

B. Coordinated-flight indication

C. Groundspeed and distance information

D. A direct pitch-and-bank reference for instrument flight

15. The sensitive altimeter required by GRABCARD for IFR must be:

A. Adjustable for the current barometric pressure setting

B. A non-adjustable encoding altimeter only

C. A radar altimeter measuring height above terrain

D. Calibrated solely to pressure altitude with no adjustment

16. GRABCARD does NOT, by itself, include which of the following?

A. A turn coordinator

B. A sensitive altimeter

C. An attitude indicator

D. A DME unit for all IFR flights

17. When is DME (or a suitable RNAV substitute) specifically required, beyond the basic GRABCARD list?

A. For all IFR operations regardless of altitude

B. Only for circling approaches

C. Only at non-towered airports

D. At and above FL240 when VOR navigation is used

18. A pilot reviewing GRABCARD before an IFR departure is essentially verifying compliance with:

A. The weight and balance limits

B. The alternate airport requirement

C. The §91.205(d) instrument-flight equipment list

D. The fuel reserve requirement

19. The radios required by GRABCARD must be:

A. Limited to a single communication radio

B. Appropriate to the ground facilities and navigation to be used on the route

C. GPS receivers exclusively

D. Capable of receiving weather broadcasts only

20. A two-way radio failure on an IFR flight relates to GRABCARD because the required radios:

A. Are needed only for the approach phase

B. Must be appropriate to the ground facilities and navigation, and their loss invokes lost-comm procedures

C. Are optional under §91.205(d)

D. Serve only to receive ATIS

21. The heading indicator (directional gyro) required by GRABCARD:

A. Provides a stable heading reference for instrument navigation

B. Indicates the slip-skid condition of the aircraft

C. Replaces the need for a magnetic compass

D. Displays the aircraft's vertical speed

22. Which item is required for VFR (and thus also present for IFR) but is NOT one of the GRABCARD additions specific to IFR?

A. The attitude indicator

B. The sensitive altimeter

C. The magnetic compass

D. The clock with a sweep-second pointer

23. A pilot finds the turn coordinator inoperative before an IFR flight. The correct understanding is:

A. The turn coordinator is optional for IFR

B. A magnetic compass substitutes for it fully

C. A required GRABCARD item is inoperative and must be addressed before IFR flight

D. The flight may proceed if the attitude indicator works

24. GRABCARD verification is part of which broader preflight determination?

A. The weather go/no-go decision

B. The aircraft's airworthiness and equipment status for IFR

C. The weight and balance computation

D. The route selection process

25. The fundamental purpose of the GRABCARD requirement is to ensure that:

A. The aircraft carries the minimum equipment necessary to safely conduct flight solely by reference to instruments

B. The aircraft is equipped for aerobatic maneuvers

C. The pilot has a current medical certificate

D. The aircraft meets noise abatement standards

ANSWER KEY & EXPLANATIONS — SESSION 19

1. B. IFR §91.205(d) — GRABCARD lists the equipment required for IFR operations under 14 CFR §91.205(d).

2. A. Generator/alternator — "G" stands for a generator or alternator of adequate capacity.

3. C. Rate-of-turn (turn coordinator) — "R" represents the rate-of-turn indicator (turn coordinator).

4. A. Adjustable altimeter — The "A" after "R" refers to an adjustable (sensitive) altimeter.

5. D. Ball (inclinometer) — "B" stands for the ball, the slip-skid indicator (inclinometer).

6. C. Clock sweep-second — "C" represents a clock with a sweep-second pointer or digital equivalent.

7. B. Attitude indicator — The second "A" refers to the attitude indicator.

8. B. Radios for route — The "R" in CARD represents radios appropriate to the ground facilities and navigation for the route.

9. C. Directional gyro — "D" stands for the directional gyro (heading indicator).

10. A. Required item inoperative — The sweep-second clock is a required IFR item; its airworthiness status must be resolved before IFR flight.

11. A. Added to VFR day/night — GRABCARD equipment is required in addition to the equipment already required for VFR day and VFR night.

12. B. Coordinated flight — The ball indicates coordinated flight, critical when flying solely by reference to instruments.

13. D. Powers avionics — A generator/alternator is required because it provides the electrical power IFR avionics and instruments depend on.

14. D. Pitch-and-bank reference — The attitude indicator provides a direct pitch-and-bank reference for instrument flight.

15. A. Adjustable for pressure — The sensitive altimeter must be adjustable for the current barometric pressure setting.

16. D. DME for all IFR — GRABCARD by itself does not include a DME unit for all IFR flights.

17. D. FL240+ with VOR — DME (or RNAV substitute) is specifically required at and above FL240 when VOR navigation is used.

18. C. §91.205(d) list — Reviewing GRABCARD verifies compliance with the §91.205(d) instrument-flight equipment list.

19. B. Appropriate to route — The required radios must be appropriate to the ground facilities and navigation to be used on the route.

20. B. Loss invokes lost-comm — The required radios must be appropriate to the route, and their loss invokes lost-communication procedures.

21. A. Stable heading reference — The heading indicator provides a stable heading reference for instrument navigation.

22. C. Magnetic compass — The magnetic compass is required for VFR (and present for IFR) but is not a GRABCARD-specific IFR addition.

23. C. Required item — An inoperative turn coordinator is a required GRABCARD item and must be addressed before IFR flight.

24. B. Airworthiness/equipment — GRABCARD verification is part of the aircraft's airworthiness and equipment status determination for IFR.

25. A. Minimum IFR equipment — The purpose of GRABCARD is to ensure the aircraft carries the minimum equipment necessary to safely fly solely by reference to instruments.