

IFR OPS

Questions 1 to 5 refer to Perth RWY 24 ILS approach plate, dated 25/11/2004.

1 Your aircraft is being flown by the autopilot, coupling both LLZ and GS, and has serviceable failure warning flags for both attitude indicator and heading indicator. RWY 24 at Perth has both HIAL and HIRL operative. What is the landing visibility required?

- (a) 0.8 km
- (b) 1.2 km
- (c) 1.5 km
- (d) 1.8 km.

2 If the aircraft in Question 1 had an unserviceable autopilot and flight director system, what visibility would have to be used, assuming HIAL and HIRL still operative?

- (a) 0.8 km can still be used
- (b) 1.2 km
- (c) 1.5 km
- (d) 1.8 km, LLZ visibility must now be used.

3 If the same aircraft had an unserviceable autopilot and flight director system, and the HIAL system was not available, what visibility would now be used?

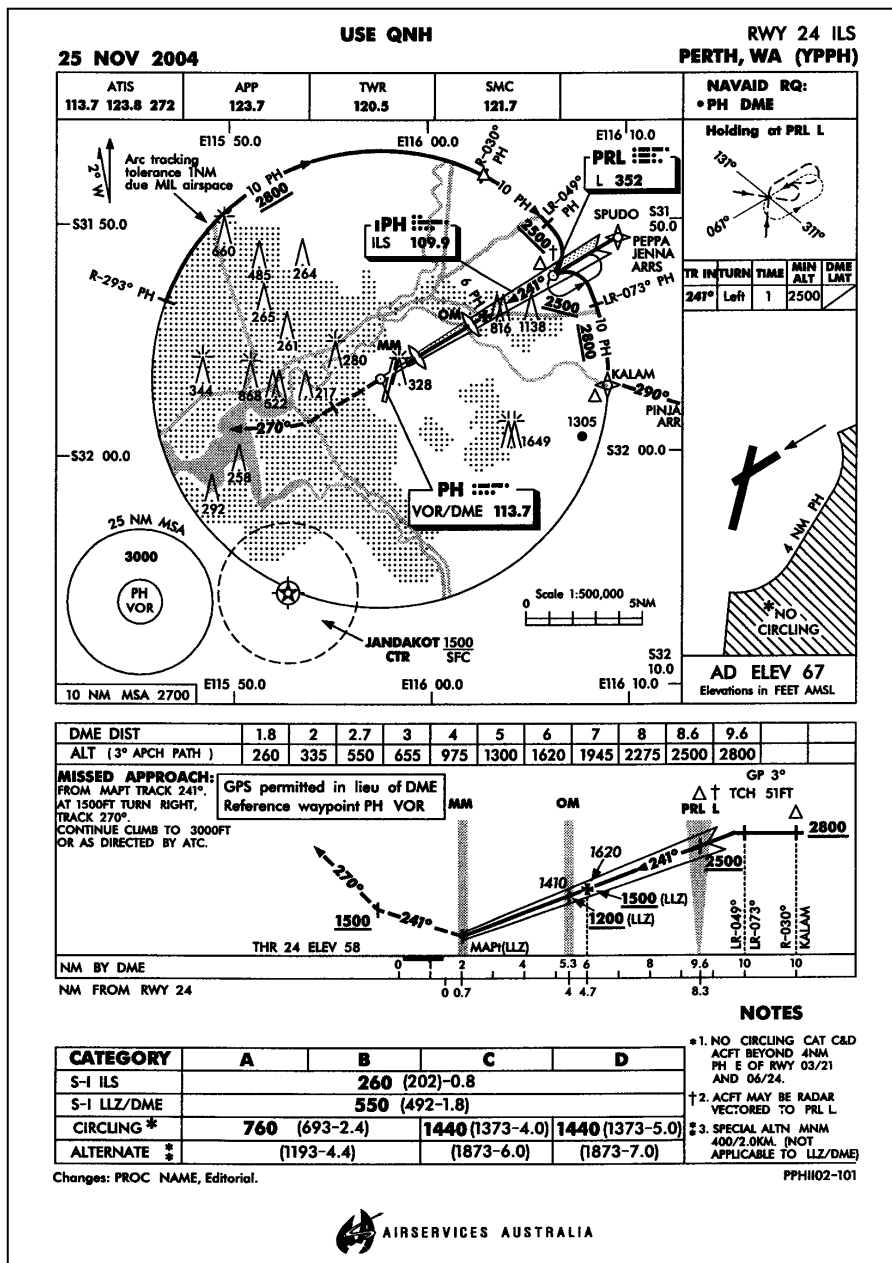
- (a) 1.2 km
- (b) 1.5 km
- (c) 1.8 km
- (d) 2.7 km (1.8 km plus 900 m increase due to inoperative HIAL).

4 An aircraft is flying a LLZ /DME only approach to RWY 24 at Perth. The HIAL system is operative. What visibility must be used?

- (a) 1.2 km
- (b) 1.5 km
- (c) 1.8 km
- (d) 1.8 km plus 900 m increase if HIRL system is not operative.

5 If the aircraft in question 4 was to be flying the LLZ/DME approach and Perth tower advises that the HIAL system is inoperative, what visibility must be used?

- (a) 1.8 km
- (b) 2.4 km
- (c) 1.9 km
- (d) 1.8 km plus 900M increase due to inoperative HIAL, that is, 2.7 KM.



Questions 6 to 9 refer to the Adelaide RWY 23 ILS Approach Plate (25/11/04) and Aerodrome Chart (25/11/04).

6 Having established visual reference at the MDA of 770 feet a "break left for right base RWY 30" is required. The aircraft is a category "B". What visibility must be maintained during this manoeuvre?

- (a) 2.4 km
- (b) 2.4 nm
- (c) 2.66 km
- (d) 2.66 nm

7 The circling visibility referred to in Question 6 needs to be maintained only between the aircraft and approach end of RWY 30, not along the entire flight path while manoeuvring.

- (a) True
- (b) False.

These questions, provided by industry, are for safety promotion only and do not reflect those in the flight crew licensing exam bank of questions.

VFR OPS

- 1 True air speed (TAS) is the**
 - (a) calibrated airspeed corrected for air density
 - (b) indicated airspeed corrected for air density
 - (c) calibrated air speed corrected for pressure height
 - (d) indicated airspeed corrected for pressure height.
- 2 In tracking with a cross wind exactly at right angles to your track**
 - (a) the ground speed would be the same as the true air speed because there would be no head or tail wind component.
 - (b) the ground speed would be the same as the true airspeed because there would be no cross-track component.
 - (c) the ground speed would be more than the true air speed.
 - (d) the ground speed would be less than your true air speed.
- 3 Under schedule 8 of the CARs (1988), a daily inspection of a class B aircraft may only be carried out by**
 - (a) a licensed pilot other than a student pilot.
 - (b) a holder of a commercial pilot licence or higher.
 - (c) a licensed maintenance engineer.
 - (d) a rated flight instructor.
- 4 Pressure height at a given aerodrome**
 - (a) decreases by 120 ft per degree deviation from ISA
 - (b) increases by 120 ft per degree deviation from ISA
 - (c) decreases when the QNH increases
 - (d) increases when the QNH increases.
- 5 Close isobars on a synoptic chart indicate**
 - (a) a weak pressure gradient and light winds
 - (b) a strong pressure gradient and strong winds
 - (c) a weak pressure gradient and strong winds
 - (d) a strong pressure gradient and light winds.
- 6 When a wind is steady, horizontal and flowing parallel to straight isobars it is termed the**



CASA

- (a) gradient wind, and the gradient force is slightly higher than the Coriolis force.
 - (b) gradient wind, and the gradient force is slightly less than the Coriolis force.
 - (c) geostrophic wind, and the gradient force is slightly greater than the Coriolis force.
 - (d) geostrophic wind, and the gradient force is balanced by Coriolis force.
- 7 After takeoff from a non-controlled airport, a pilot may make a turn contrary to the published circuit direction**
 - (a) when the aircraft has climbed straight ahead to 500 ft above the aerodrome.
 - (b) when the aircraft has climbed straight ahead to 1500 ft above the aerodrome or is at least 3 nm from the aerodrome.
 - (c) when the aircraft has climbed straight ahead to 1000 ft above the aerodrome.
 - (d) under no circumstances.
 - 8 A series of projectiles discharged at intervals of 10 seconds each showing, on bursting, red and green lights or stars**
 - (a) has no aeronautical significance but may be a safety hazard.
 - (b) indicates that the aircraft is in a military firing range.
 - (c) indicates that the aircraft should land at the nearest suitable aerodrome.
 - (d) is a warning that an aircraft is near of a danger area, a prohibited area or a restricted area and should take remedial action.
 - 9 When a VFR flight is conducted above A050 on a heading of 010 (m) for a track of 355 (m), an appropriate cruising level would be**
 - (a) A065
 - (b) A060
 - (c) A070
 - (d) A075.
 - 10 Daylight and darkness graphs give the time in**
 - (a) the local time zone.
 - (b) local mean time (LMT).
 - (c) UTC.
 - (d) GMT.
- These questions, provided by industry, are for safety promotion only and do not reflect those in the flight crew licensing exam bank of questions.*

MAINTENANCE

1 The maximum continuous current rating for an 18 gauge wire in a bundle of other cables is nearest to:

- (a) 10 amps
- (b) 15 amps
- (c) 17 amps
- (d) 20 amps.

2 A hazard with silver plated wire in the presence of water glycol solutions is

- (a) the silver is a catalyst for severe corrosion of associated structure due to skin effect.
- (b) the silver corrodes and provides a greater resistance to DC current due to skin effect.
- (c) a serious inflammability when a DC voltage is applied to silver plated conductors that are saturated with a water/glycol solution.
- (d) a serious inflammability when an AC voltage is applied to silver plated conductors that are saturated with a water/glycol solution.

3 The E gap in a rotating magnet type piston engine magneto is the angle of rotation between the

- (a) full-register position and the point where there is the greatest change in flux.
- (b) neutral position of the magnet and



the point where there is the greatest change of magnetic flux.

- (c) points of minimum and maximum flux.
- (d) points of magnetic saturation and the opening of the points.

4 Magnetic particle inspection is a form of non-destructive testing in which

- (a) opposite magnetic poles are created at either side of a crack in a ferrous material.
- (b) like magnetic poles are created either side of a crack in a magnetic material.
- (c) fluorescent penetrant is attracted to a crack by capillary attraction.
- (d) fluorescent penetrant is attracted to a crack by osmosis.

5 An advantage of a fuel injection system over a carburettor engine is that

- (a) a constant pressure is available at the carburettor.
- (b) aerobatics are permissible because the engine will run inverted.
- (c) there is a more equal distribution of charge to the cylinders.
- (d) the need for leaning the mixture is eliminated.

6 The centrifugal twisting (or turning) moment of a propeller is a force that

- (a) increases with RPM and tends to coarsen the pitch.
- (b) increases with RPM and tends to fine the pitch.
- (c) decreases with RPM and tends to coarsen the pitch.
- (d) decreases with RPM and tends to fine the pitch.

7 When the governor on a variable pitch or constant-speed propeller installation increases the oil supply to the pitch change mechanism, the pitch on the propeller blades is

- (a) made coarser.
- (b) made finer.
- (c) made coarser or finer, depending on the type.
- (d) neither made coarser or finer but the CSU lubrication is always increased.

QUIZ ANSWERS

IFR OPS

- 1** (a) AIP ENR 1.5-33 Para 8.1
- 2** (b) AIP ENR 1.5-33 Para 8.1 (b)
- 3** (b) AIP ENR 1.5-33 Para 8.1(a)
- 4** (c) AIP ENR 1.5-31 Para 5.4.1
- 5** (d) AIP ENR 1.5-31 Para 5.4.1
- 6** (a) AIP ENR 1.5-3 Para 1.7.3 Note 3 Ans. D refers to the size of the circling area but in many bad weather cases the circling area is really defined by the visibility – how far can you see along the flight path and to the runway threshold while manoeuvring.
- 7** (b) AIP ENR 1.5-3 Para 1.7.3 (b)

VFR OPS

- 1** (a) calibrated airspeed (CAS) is IAS corrected for instrument and position area.
- 2** (d) if the wind is 90° to the track the allowance for drift would place the heading into wind, thus incurring a small head wind component

- 3** (a) Schedule 8, CARs (1988)
- 4** (c) pressure height is referenced to 1013 hPa
- 5** (b) Manual of Meteorology Part 2 Chapter 5
- 6** (d) Manual of Meteorology Part 2 Chapter 5; the straight isobars are the key.
- 7** (b) VFR Flight Guide page 207; AIP ENR 1.1 -76 Para. 57.1.1
- 8** (d) CAR 190.
- 9** (a) level is based on track (m) not heading; CAR 173.
- 10** (b) the graph gives an answer in local mean time (LMT); the arc of time, based on the longitude, is applied to the LMT to obtain UTC.

MAINTENANCE

- 1** (a) The maximum continuous current rating for an 18 gauge wire in a bundle of other cables is nearest to approximately 16A in free air; and 18A with a 2 minute rating – AC 43.13-1A figure 11-7 (this circular is superseded but still referenced in FAA publications).
- 2** (c) If the silver plated conductor forms the

anode and there is sufficient proximity through the water/glycol solution to a suitable cathode for a small current to flow, the risk is rapid oxidation and the appearance of an intensely hot flame – AC 43.13-1A paragraph 443 (this circular is superseded but still referenced in FAA publications)

- 3** (b) The greatest change of flux does not occur at the magnetically neutral position but slightly after – Jeppesen Powerplant textbook fig. 7-7.
- 4** (a) Where a crack in a ferrous material intercepts a magnetic flux, opposite poles are created either side of the gap and the fluorescent material is attracted to the site.
- 5** (c) It is difficult to ensure equal charge distribution to each cylinder with a carburettor system.
- 6** (b) The CTM is a component derived from centrifugal force and it acts to fine the blade (Kermode P 151).
- 7** (c) Modern singles tend to have (a) but not always, particularly if aerobatic; modern twins tend to have (b) due to feathering considerations.

What's the message?

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or email to: fsa@casa.gov.au by January 14, 2005.

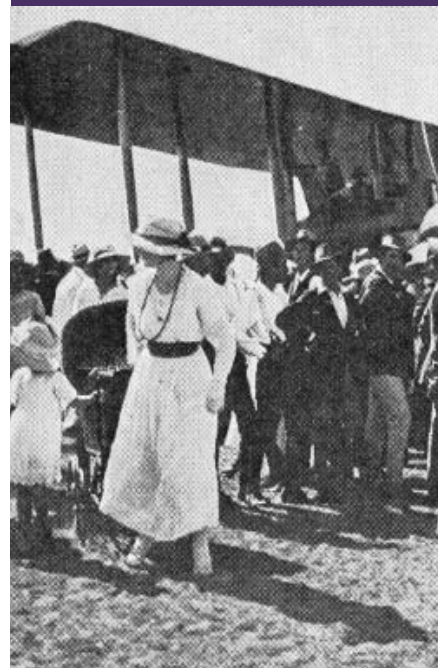
Last issue's winning message:

"Has anyone found the keys to the plane yet?."

- Raffleile Zugare
Roxburgh Park, Vic



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COULD BE
YOURS**

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