

FLYING OPS

1 If the observed QNH was 1010.6, the QNH quoted in a METAR would be

- (a) rounded to the nearest whole hPa
- (b) always rounded down so the quoted QNH would be 1010 in this case
- (c) rounded up to 1011 but a lower value such as 1010.4 would be rounded down to 1010
- (d) always rounded upwards so the quoted QNH would be 1011 in this case.

2 Compared to a T-VASIS, a PAPI visual approach system is a

- (a) point source system and therefore non-standard approaches have a minimal effect on the threshold crossing height
- (b) spread source system and therefore non-standard approaches will significantly alter the threshold crossing height
- (c) point source system and therefore non-standard approaches have a significant effect on the threshold

crossing height
(d) spread source system and therefore non-standard approaches will have minimal effect on the threshold crossing height.

3 When established on the correct slope to the runway, a PAPI situated to the right of the runway will indicate four

- (a) light bars alternating red and white
- (b) white light bars
- (c) light bars of which the two left hand bars will be red and the other two will be white
- (d) red light bars.

4 A terminal area forecast (TAF) is a statement of meteorological conditions

- (a) prevailing within a radius of 3 nautical miles from the aerodrome reference point
- (b) prevailing within a radius of 5 nautical miles from the aerodrome reference point
- (c) expected within a radius of 3 nautical miles from the centre of the aerodrome runway complex

(d) expected within a radius of 5 nautical miles from the centre of the aerodrome runway complex.

5 When determining lowest safe altitude, unreported obstacles may exist in navigational tolerance areas up to a height of

- (a) 360 ft
- (b) 360 m
- (c) 330 ft
- (d) 330 m.

6 If an aircraft was cruising for 40 minutes at a true airspeed of 120 knots into a 30 knot headwind, the air distance flown would be

- (a) 120 nautical miles
- (b) 90 nautical miles
- (c) 80 nautical miles
- (d) 60 nautical miles.

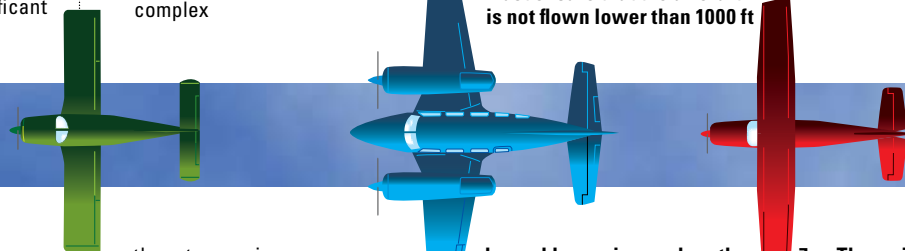
7 An aircraft was flown under the VFR at night through an air distance of 150 nm since the last positive fix. During this time a failure of a normally available navaid occurred. In these circumstances, the pilot must ensure that the aircraft is not flown lower than 1000 ft

above any terrain or obstacle within a circle, centred on the DR position, of

- (a) 50 nm radius
- (b) 35 nm radius
- (c) 10 nm radius
- (d) 5 nm radius.

8 At a non-towered aerodrome, a single runway is established and gliding operations are being conducted on a glider runway strip beside the runway. A glider and tug occupy the runway strip. In these circumstances the runway

- (a) is deemed to be occupied and operations by other aircraft are not permitted
- (b) is deemed to be occupied but other aircraft may commence a takeoff from a position ahead of the glider and tug
- (c) is deemed not to be occupied provided the engine of the tug is not running
- (d) is deemed not to be occupied provided there are no occupants in the glider.



MAINTENANCE

1 Extreme rough running of a piston engine at start-up could be an indication of

- (a) lean mixture due to over-priming.
- (b) the impulse magneto remaining advanced after start.
- (c) a sticking valve, the possible consequences of which could be loss of oil due to a bent push rod tube.
- (d) a sticking valve, which may result in detonation on the cylinder concerned.

2 Switching off the fuel supply to simulate engine failure on engines with a diaphragm type mechanical fuel pumps is

- (a) potentially harmful since the pump actuating arm is powered by the engine cam during the pump intake stroke
- (b) potentially harmful since the pump actuating arm is powered by the engine cam during the pump delivery stroke
- (c) not harmful because the demand on the pump output is governed by the fuel system demand
- (d) not harmful because

the return spring powers the intake stroke.

3 An advantage of a "hot mike" input to a cockpit voice recorder is that

- (a) radio inputs are recorded
- (b) the pilots respiratory rate is recorded and provides a measure of stress
- (c) it permits the recording of cockpit warnings
- (d) it permits the recording of marker beacon transition.

4 Disconnection of a constant speed drive to an AC generator is best carried out

- (a) at normal engine speeds, because the clutch relies on engine speed to lock out
- (b) at slow engine speeds, which results in less clutch stress on disconnect
- (c) at any engine speed, since the clutch separation is electrically powered
- (d) at any speed, since the process is not speed related.

5 Compared to a nitrile rubber type o-ring such as the MS29513 series, a fluorocar-

bon rubber o-ring such as the M83248 series

- (a) has a lower temperature rating and greater chemical solvent resistance
- (b) has a lower temperature rating and lower chemical solvent resistance
- (c) has a higher temperature rating and higher chemical solvent resistance
- (d) has a higher temperature rating and lower chemical solvent resistance.

6 One disadvantage of an autopilot servo utilising a coagulating ferromagnetic clutch is

- (a) the current required to engage the clutch is relatively high
- (b) the current required to release the clutch is relatively high
- (c) coagulation of the ferrite material may result in difficulty in the clutch engaging
- (d) coagulation of the ferrite material when the clutch is de-energised may result in dragging of the clutch and extra control loads.

7 The main purpose of Belleville washers on the mounting bolts in a wooden propeller installation is to

- (a) keep the tension on the mounting bolts since the wood tends to expand in summer
- (b) keep the tension on the mounting bolts during dimensional changes in the wood
- (c) prevent the retaining nuts from rotating due to gyroscopic forces when the propeller rotates
- (d) prevent the retaining bolts from rotating due to precession forces when the propeller rotates.

8 On a typical wooden propeller installation the engine torque is transmitted to the propeller mostly by

- (a) the through bolts in all cases
- (b) the through bushes in all cases
- (c) the through bolts in most cases
- (d) the friction between the faces of the propeller and the mounting plates.

IFR QUIZ

To each of the following questions, match the correct answers as listed to the right. For questions 1 to 9 you will need DAP (E) Sydney RWY 16 ILS or LLZ plate dated 9 June 2005.

1. What is the meaning of the triangle located at 13 DME?
2. What is the meaning of the Maltese cross located at 6 DME?
3. What is the meaning of the star located near the runway intersection?
4. On the plan diagram of the approach plate, what is the significance of the 10 nm circle?
5. What is the significance of the line underneath 4000 on the profile diagram?
6. What is the significance of the lines above and below the 600 on the profile diagram?

7. What is the meaning of the abbreviation "S-I" in the minima boxes at the bottom of the approach plate?

8. What is the meaning of the double asterisks against the word "alternate" in the minima boxes?

9. What is the meaning of the abbreviation "map † (LLZ)" on the profile diagram.

For question 10 you will need the DAP (E) Yarrowee NDB or VOR plate dated 25 NOV 2004.

10. How are the altitudes 3500 and 3000 on the profile diagram to be treated when flying this approach?

For questions 11 and 12 you will need the Charleville RWY 30 RNAV plate dated 25 Nov 2004.

11. What is the meaning of the star symbol located at "BCVED"?

12. What is the meaning of the star symbol located at "BCVEM"?

ANSWER CHOICES

(a). The abbreviation stands for missed approach point on the localizer version of the approach: that is, at 0.6 DME if not visual at the MDA conduct the missed approach.

(b). It means "not below 4000" for commencement of the approach

(c). These altitudes are to be treated as "at or above" altitudes as they are shown on old, non PAN-OPS charts

(d). This symbol refers to the initial approach fix (IAF) whereby the applicable speed range applies for the category or aircraft.

(e). The scale is correct for the location of obstacles, spot heights etc.

(f). It is a "fly over" waypoint whereby turn anticipation cannot be used.

(g). This symbol is the final approach point (FAP) on an ILS

and would be known as the final approach fix (FAF) on a non-precision approach.

(h). The abbreviation stands for "straight in" whereby the minima is for landing on that stated runway as distinct from a circling minima.

(i). This symbol is a "fly by" waypoint whereby turn anticipation can be used to take radius of turn into account for intercepting the next track.

(j). It is a requirement to be at this altitude before commencing the turn.

(k). This means that special alternate minima (located to the right under "notes") may be applicable if the aircraft is suitably equipped, typically duplicated navigation aids as per AIP ENR 1.5-31.

(l). It is the aerodrome beacon, typically alternating white and green as shown on the aerodrome chart page 2.

ADVERTISEMENTS

FLYING OPS

- 1 (b) GEN 3.5 para. 12.16.
- 2 (a) AD 1.1 para 5.1.2.; (b) applies to T-VASIS.
- 3 (c) AD 1.1 para. 5.1.2
- 4 (d) GEN 3.5 para 3.3.
- 5 (a) GEN 3.2 para 2.2.1
- 6 (c) air distance is not affected by wind component.
- 7 (b) 20% of air distance + 5NM; GEN 3.3 para. 3.7.
- 8 (b) ENR 5.5 para. 1.2.4

IFR**Q. ANSWER REFERENCE**

1. (d) DAP 0-2
2. (g) DAP 0-2
3. (l) DAP 0-2, 0.6
4. (e) DAP 0-3, 1.1
5. (b) DAP 0-3
6. (j) DAP 0-4
7. (h) DAP 0-5
8. (k) DAP 0-5 AIP ENR 1.5 PARA 6.2

9. (a) DAP 0-4 AIP ENR 1.5 PARA 1.10
10. (c) DAP 0-4 NOTE
11. (i) DAP 0-2
12. (f) DAP 0-2

MAINTENANCE

- 1 (c) references FAA alerts and Lycoming articles.
- 2 (a) the diaphragm is being forced against a blocked inlet.
- 3 (b) the area microphone on the CVR panel picks up other cockpit sounds; noise cancelling microphones attenuate distant sounds.
- 4 (a) the mechanism relies on engine speed to properly separate and lock out the dog clutch.
- 5 (c)
- 6 (d)
- 7 (b)
- 8 (d)

WINNER FOR LAST ISSUE'S AMUSING CAPTIONS:

Left: So that's what they mean when they say "Fly in formation and do a fly past the crowd!"

Right: "The reindeer went on strike so I had to hitch a ride on VH-NRT (No Reindeer Tonight!)."

— *Fran West, Coromandel Valley SA*

Subscribe to the CASA CD-ROM library



Australian Government
Civil Aviation Safety Authority

The CD includes:

- Civil Aviation Legislation
- Civil Aviation Regulations
- Civil Aviation Safety Regulations 1998
- Civil Aviation Act 1988
- Civil Aviation Orders
- Manuals of Standards (Parts 60, 65, 139, 139H, 143, 171, 172, 173 & Sub Part 91.U)
- Australian Technical Standing Orders
- Airworthiness Directives issued under CAR 1998 Part 39
- Airworthiness Bulletins
- Civil Aviation Advisory Publications
- Advisory Circulars
- CASA's Procedural Manuals and Forms
- Visual Flight Guides (Archerfield, Melbourne, Sydney Basin and Jandakot Airports)
- VFR Flight Guide

12 months
for only \$216

more information @ www.casa.gov.au/rules/cd_lib/index.htm