

IFR approach quiz: Benalla



PHOTO: DELATTE SHIRE COUNCIL

These questions are based on the Benalla RWY 26L GPS approach dated 12th August, 1999.*

1> In order to qualify for GPS/NPA approaches on other GPS equipment, subsequent to your initial approval, what requirements must be met?

- No requirement once initial approval is obtained.
- No requirement other than to study the operating manual for the GPS concerned.
- Fly 3 such approaches in VMC on the given GPS type, in flight or synthetic flight trainer.
- Pass a separate flight test for each type of GPS equipment that you wish to use.

2> Which of the following is required of the aircraft equipment before flying a GPS/NPA?

- Approach approved TSO129 GPS.
- Approach approved TSO129 GPS, barometric aiding function.
- Approach approved TSO129 GPS, current database.
- Approach approved TSO129 GPS, barometric aiding function, current database.

The weather conditions from the ARFOR for your ETA YBLA indicate CLD: BKN ST 2500, VISIBILITY: 6000M RA, your ETA YBLA is 0500Z, and your inbound track LSALT is 4000.

3> When planning an IFR PVT Flight to BLA which of the following is a true statement concerning the provision of an alternate for YBLA?

- The GPS/NPA at YBLA meets the requirement of having a "Navigation Aid" at the destination, so an alternate is not required.

- The GPS/NPA at YBLA cannot be used to meet destination "Navigation Aid" criteria, but an alternate is not required due to weather being above "No Aid" aerodrome criteria.
- The GPS/NPA at YBLA cannot be utilised to meet destination "Navigation Aid" criteria, so you must refer to the conventional navigation aid approach procedure to decide on alternate criteria.
- The GPS/NPA at YBLA cannot be utilised to meet destination "Navigation Aid" criteria so an alternate will be required since weather is below "No Aid" aerodrome criteria.

4> You are tracking 052M inbound to YBLA and elect to commence your GPS/NPA from BLAEG. In order to track direct to this I.A.F. you must meet which of these requirements?

- Obtain a positive fix within 25 n.m. of YBLA and remain at/above M.S.A. of 5000.
- Obtain a positive fix within 25n.m. of YBLA and remain at/above M.S.A. of 3000. The GPS/NPA may be commenced at this altitude.
- Obtain a positive fix within 10 n.m. of YBLA and remain at/above M.S.A. of 3500. The GPS/NPA may be commenced at this altitude.
- Remain at or above LSALT (4000) for your track of 052M.

5> What is the correct naming radio phraseology to use when advising Melbourne Centre of your intention to track to "BLAEG"?

- "Bravo Lima Alpha Echo Golf".
- "Benalla Echo Golf".
- "Benalla South East Fix".

6> Having programmed the GPS to track direct to "BLAEG", you note this track is 075M. If you maintain this track to "BLAEG", is the aircraft within the capture region?

- Yes.
- No.

7> Until the aircraft reaches 30 nm of YBLA the GPS will be in its "enroute" mode and will then transition to "terminal" mode. What are these respective scales on the GPS navigation receiver if this is the indicator presentation: + + + + + ▲ + + + + +

- 1 "dot" equals 1 nm throughout.
- 1 "dot" equals 1 nm, then 0.06 nm.
- 1 "dot" equals 0.2 nm, then 0.06 nm
- 1 "dot" equals 1 nm, then 0.2 nm.

8> In order for the GPS to achieve its final approach scaling, what parameters must be met, and what is the final scaling?

- The aircraft must be simply positioned at BLAEG and the GPS automatically transitions to ± 0.3 n.m. scaling.
- The aircraft is positioned at BLAEG and the scaling remains at ± 1.0 nm.
- The aircraft is within 2 nm of BLAEG in sequencing mode, the HDG is toward the FAF, RAIM is available and the scaling becomes ± 0.3 nm.
- The aircraft is at BLAEG in sequencing mode, RAIM is available and the scaling becomes ± 0.3 nm.

9> Your aircraft is category "B". If a landing on RWY 26L is anticipated without an actual QNH, what is the appropriate minima?

- 1240 on QNH, visibility 2.4 km.
- 1190 on QNH, visibility 3.5 km.
- 1090 on QNH, visibility 3.5 km.
- 1140 on QNH, visibility 2.4 km.

10> Where is the MAPt (BLAEM) for this procedure if not visual?

- At the runway threshold.
- At the M.D.A.
- At the D.A.
- 0.3 n.m. from the runway threshold.

11> What is the correct procedure to follow for a missed approach?

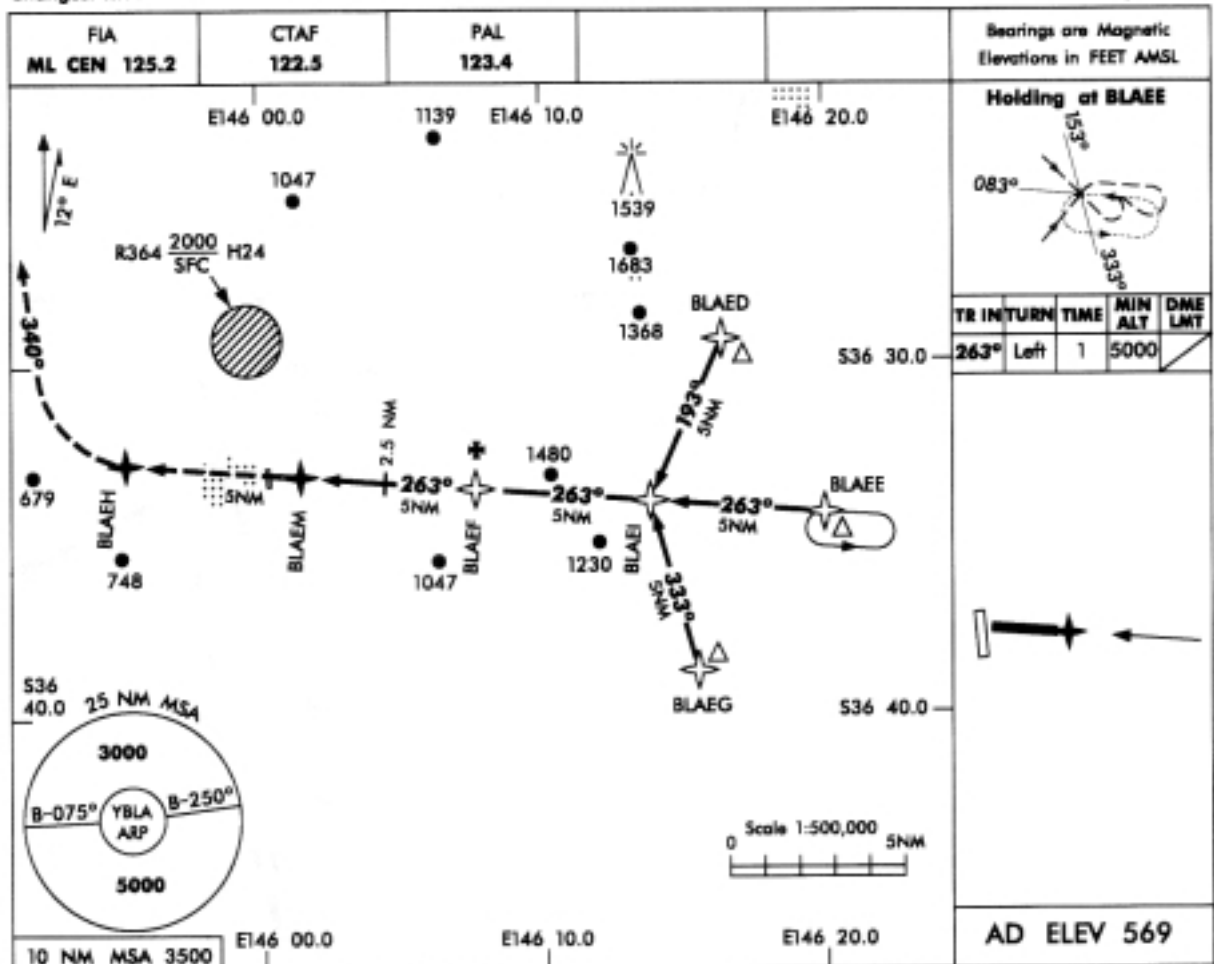
- Establish the aircraft in the climb, select "BLAEG" since the GPS suspended its sequencing at "BLAEM", track to BLAEG then track 340, climbing 3000.
- Select "BLAEG" since the GPS suspended its sequencing at "BLAEM", then establish the climb. TR to "BLAEG", then track 340, climbing 3000.
- Establish the aircraft in the climb, and continue tracking to "BLAEG" since the GPS has automatically sequenced to this waypoint, then track 340, climbing 3000.

* Where questions relate to a typical GPS receiver, the King KLN89B has been used. Terminology and presentation may vary with other GPS equipment.

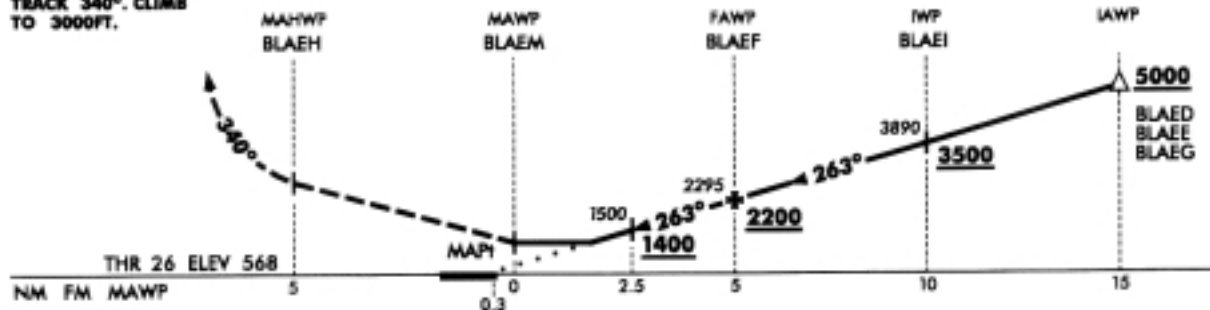
USE QNH

RWY 26L GPS
BENALLA, VIC (YBLA)

Changes: RWY IDENT.



MISSED APPROACH : TRACK DIRECT TO BLAEH THEN TURN RIGHT, TRACK 340°. CLIMB TO 3000FT.



NOTES

- MAX IAS: INITIAL : 210KT.
- YWGT RWY 18 NDB HLDG TOLERANCES INFRINGE HOLDING, INITIAL AND INTERMEDIATE SEGMENTS.

CATEGORY	A	B	C	D
GPS	1190 (621-3.5)			NOT APPLICABLE
CIRCLING	1240 (671-2.4)	1530 (961-4.0)		
ALTERNATE	NOT APPLICABLE			

BLA70GNT

NM FM MAWP	10	9	8	7	6	5	4	3	2	1.5
ALT	3890	3570	3250	2930	2615	2295	1975	1660	1340	1190

AJP Australia

12 AUG 1999

RWY 26L GPS
BENALLA, VIC (YBLA)

Turbine engines

- 1> Which bearing is used to absorb thrust loads?
 - a) Ball.
 - b) Roller.
- 2> Aviation gasoline (AVGAS) is approved for use in turbine engines.
 - a) True.
 - b) False.
- 3> Jet A-1 fuel has more Btu per litre of energy than gasoline.
 - a) True.
 - b) False.
- 4> Approximately how much core (compressor) air flow is used in the combustion process in a turbine engine?
 - a) 25%.
 - b) 50%.
 - c) 75%.
 - d) 100%.
- 5> The ratio of the amount of air that passes through the fan to the amount of air that flows through the core of the engine is called the:
 - a) Stoichiometric ratio.
 - b) Fuel-air ratio.
 - c) By-pass ratio.
- 6> In a centrifugal compressor, kinetic energy is added to the air flow by increasing the air:
 - a) Temperature.
 - b) Pressure.
 - c) Velocity.
 - d) Pressure and temperature.
- 7> Some turbine blades are air-cooled. The air is taken from the:
 - a) Lower stages of the compressor.
 - b) Higher stages of the compressor.
- 8> A labyrinth seal has parts that contact each other to provide the seal.
 - a) True.
 - b) False.
- 9> The most critical parameters for a turbine engine during engine start are:
 - a) RPM and temperature.
 - b) Fuel flow and RPM.
 - c) Temperature and time.
 - d) Temperature and fuel flow.

Flying operations quiz



- 1> Australian registered non-transport category aircraft must carry the original manufacturers Aircraft Flight Manual (AFM) in lieu of the Australian version by:
 - a) 16 August 2002.
 - b) 30 August 2002.
 - c) 30 June 2005.
 - d) 16 August 2005.
- 2> Unlicensed aerodromes not used in RPT operations:
 - a) May be included in ERSA and if so unserviceability will be advised by NOTAM.
 - b) May be included in ERSA and, if so, unserviceability will not be advised by NOTAM.
 - c) Are not included in ERSA.
 - d) Are all included in ERSA but information is limited.
- 3> Pilots entering a defect on a maintenance release should do so in:
 - a) Part 2 in the column headed "Endorsements".
 - b) Part 1 in the column headed "Maintenance Required".
- 4> The manoeuvring speed (V_A) is the:
 - a) Maximum speed for manoeuvring.
 - b) Maximum speed at which application of full available aerodynamic control will not overstress the airplane.
 - c) Maximum speed for manoeuvres involving the approach to the stall.
 - d) maximum speed for full control deflection.
- 5> As the gross weight of a particular aircraft is increased, the published manoeuvring speed (V_A) may:
 - a) Increases.
 - b) Decreases.
 - c) Remains the same.
 - d) Could change in either direction depending on the type of aircraft.
- 6> If an aircraft was parked adjacent to a fenced public viewing area, an engine could not be started unless the distance from that engine to the fence was more than:
 - a) 5 metres.
 - b) 8 metres.
 - c) Within 8 metres if the MTOW did not exceed 5700kg.
 - d) 15 metres.
- 7> Where an aircraft is scheduled to arrive from a single pilot charter such that the tour of duty finished at 2200 local time but is delayed such that the tour finished at 2240, the earliest starting time of the following tour of duty is:
 - a) 0740 provided it ends no later than 1340.
 - b) 0740 provided it ends no later than 1840.
 - c) 0840 regardless of the circumstances.
 - d) 0840 provided it ends no later than 1440.
- 8> A statement in ERSA concerning an aerodrome reads "MIOL FLG R 2 SEC, ELEV 1188FT, 5.7 NM. NNW of ARP". The most correct interpretation of this is:
 - a) A flashing red light 1188 ft above the ground 5.7 nm NNW of Arpia.
 - b) A red light with a 2 second flash at 1188 ft AMSL 5.7 nm NNW of Arpia.
 - c) A medium intensity red obstruction light with a two second flash at 1188 ft AMSL 5.7 nm NNW of the aerodrome reference point.
 - d) A medium intensity red obstruction light on for two seconds flashing at 1188 ft AGL 5.7 nm NNW of the aerodrome.
- 9> With respect to survival equipment carried in aircraft, an earth mat is:
 - a) A conductive mat providing a ground plane for an ELT and capable of extending the ELT range by 50%.
 - b) A waterproof sheet to protect survivors from rising damp.
- 10> For a multi-engine aircraft, life jackets must be carried when operating over water at a distance from land of greater than:
 - a) 100 NM.
 - b) 50 NM.
 - c) 25 NM.
 - d) 10 NM.

What's the message?



In 25 words or less, tell us what you think is the message to be inferred from the photo. The best entry receives \$50 worth of safety aviation products.

Send your entry to: The Editor, Flight Safety Australia, GPO Box 2005, Canberra ACT 2601 or email to:

fsa.magazine@casa.gov.au
by 10 September, 2002.

Last issue's message

"This is your captain speaking. All those passengers previously seated in economy welcome to First Class."

Winner:

Bruce Baxter
Brisbane, QLD



1. a) Ball. Ball bearings absorb axial and radial loads. Roller bearings absorb radial loads only.
2. a) True. AVGAS is a wide cut fuel. Most turbine engine manufacturers, subject to certain restrictions, approve the use of wide cut fuels as an alternative or emergency only use fuel.
3. a) Even though gasoline has a higher Btu than Jet A-1 by weight, Jet A-1 has a higher specific gravity, which equates to higher Btus by volume.
4. a) 25%. Approximately 75% of the core airflow is used as cooling air to protect

Maintenance quiz

- 1. c) CAO 40.2.1 para 13.4A
- 2. d) AIP GEN 1.5 - 15 para 8.5.4.2
- 3. d) AIP GEN 1.5 - 16 para 8.5.4.2
- 4. a) YBLA Rwy 26L GPS approach
- 5. b) AIP GEN 3.4 - 38
- 6. a) AIP ENR 1.5 - 14 para 2.4.1 C Fig.
- 7. d) GPS receiver manual
- 8. c) GPS receiver manual
- 9. b) YBLA Rwy 26L GPS approach
- 10. d) YBLA Rwy 26L GPS approach
- 11. a) YBLA Rwy 26L GPS approach

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Answers

the combustion chamber materials from the 900°C+ combustion temperatures.

- 5. c) By-pass ratio.
- 6. c) Velocity. Unlike an axial compressor, a centrifugal compressor impeller adds kinetic energy by increasing the velocity of the air flow. The compressor diffuser vanes converts the kinetic energy to pressure energy.
- 7. b) Higher stages of the compressor. The temperature of the gas from the higher stages, even though quite high, is sufficient to cool the turbine blade operating at a much higher temperature.
- 8. b) False.
- 9. c) Temperature and time. During the engine start, there is little, if any, effective cooling airflow. Once combustion commences, the combustion chamber and turbine entry components are subject to temperatures approaching material thermal limits. The temperature and the length of exposure to that temperature are the most critical of all turbine engine operating parameters.
- 1. a) CAR (1988) 54; CAAP 54-1(2)
- 2. b) ERSA INTRO-2
- 3. a) Part one is used only for scheduled maintenance falling due during the currency of the maintenance release (MR) and is completed by the person issuing the MR.
- 4. b) c) & d) FAR 23; GAMA format flight manuals; CASA Civil MK I & II flight manuals
- 5. a) VA is related to the stall speed; stall speed increases with aircraft weight
- 6. d) Not less than 15 metres from an exposed public area: VFG page 19, CAO 20.9
- 7. a) The 9 hour rest period may commence up to 1 pm local time provided the following tour of duty does not exceed 6 hours. CAO 48.1.1.2
- 8. c) ERSA
- 9. a) ERSA EMERG-7
- 10. b) CAO 20.11

Flying operations quiz