

Microbursts & windshears

1 What is the expected duration of an individual microburst?

- (a) Five minutes with maximum winds lasting approximately 2 to 4 minutes
- (b) One microburst may continue for as long as an hour
- (c) Seldom longer than 15 minutes from the time the burst strikes the ground until dissipation

2 Maximum downdrafts in a microburst encounter may be as strong as:

- (a) 1,500 ft/min
- (b) 4,500 ft/min
- (c) 6,000 ft/min

3 An aircraft that encounters a headwind of 40 kt within a microburst may expect a total shear across the microburst of:

- (a) 40 kt
- (b) 80 kt
- (c) 90 kt

4 Which INITIAL cockpit indications should a pilot be aware of when a headwind shears to a calm wind?

- (a) Indicated airspeed decreases, aircraft pitches up and altitude decreases
- (b) Indicated airspeed increases, aircraft pitches down and altitude increases
- (c) Indicated airspeed decreases, aircraft pitches down and altitude decreases

5 Which condition would INITIALLY cause the indicated airspeed and pitch to increase and the sink rate to decrease?

- (a) Sudden decrease in a headwind component
- (b) Tailwind which suddenly increases in velocity
- (c) Sudden increase in a headwind component

6 Which INITIAL cockpit indications should a pilot be aware of when a constant tailwind shears to a calm wind?

- (a) Altitude increases; pitch and indicated airspeed decrease
- (b) Altitude, pitch and indicated airspeed decrease
- (c) Attitude, pitch and indicated airspeed increase



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7 Which windshear condition results in a loss of airspeed?

- (a) Decreasing headwind or tailwind
- (b) Decreasing headwind and increasing tailwind
- (c) Increasing headwind and decreasing tailwind

8 Which windshear condition results in an increase in airspeed?

- (a) Increasing tailwind and decreasing headwind
- (b) Increasing tailwind and headwind
- (c) Decreasing tailwind and increasing headwind

9 Which is the correct definition of "severe windshear"?

- (a) Any rapid change of horizontal wind shear in excess of 25 kt; vertical shear excepted

- (b) Any rapid change in wind direction or velocity which causes airspeed changes greater than 15 kt or vertical speed changes greater than 500 ft/min
- (c) Any change of airspeed greater than 20 kt which is sustained for more than 20 seconds or vertical speed changes in excess of 100 ft/min

10 Doppler wind measurements indicate that the windspeed change a pilot may expect when flying through the peak intensity of a microburst is approximately:

- (a) 15 kt
- (b) 25 kt
- (c) 45 kt

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Flying operations



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- 1 You are in the cruise in a light piston engine single and find that it is necessary to run with carburettor heat to prevent carburettor ice. In this situation the mixture, compared to the previously established cruise setting:**

 - (a) becomes richer
 - (b) becomes leaner
 - (c) does not change
- 2 For a private flight, an aircraft system failure that caused difficulty in controlling an aircraft is classified as:**

 - (a) a routine reportable matter (RRM) under the *Air Navigation Act*
 - (b) a Routine Reportable Matter (RRM) under the *Transport Safety Investigation Act 2003*
 - (c) an immediately reportable matter (IRM) under the *Air Navigation Act*
 - (d) an Immediately Reportable Matter (IRM) under the *Transport Safety Investigation Act 2003*
- 3 A sign on an aerodrome consisting of a yellow letter "A" on a black background on the left side of the sign and the letters "25" in white letters on a red background on the right side of the sign means that:**

 - (a) you are on taxiway A and taxiing towards runway 25 but no other information is conveyed
 - (b) you are on runway 25 about to approach taxiway exit A
 - (c) you are on taxiway A and the sign is at the holding point for runway 25
 - (d) you are on taxiway A approximately 100 m from the boundary of the flight strip for runway 25
- 4 In airspace where ATC approval is not required to change level, a pilot must report present position and intention to ATC:**

 - (a) within two minutes regardless of the class of flight
 - (b) only if considered necessary for traffic purposes regardless of the class of flight
 - (c) within one minute if either VFR or IFR
 - (d) within one minute for IFR flights and no such requirement for VFR flights
- 5 When receiving an instruction from ATC to change level, a pilot must commence the change of level:**

 - (a) immediately
 - (b) no later than one minute after receiving the ATC instruction
 - (c) no later than two minutes after receiving the ATC instruction
 - (d) promptly but not within any particular time
- 6 Block levels in class E airspace will:**

 - (a) be allocated to any aircraft on request subject to non denial of a particular level to any other aircraft
 - (b) not be allocated to any aircraft
 - (c) not be allocated to civil IFR aircraft but may be allocated to military aircraft
 - (d) not be allocated to military aircraft but will be allocated to civil IFR aircraft
- 7 The radar transponder IDENT function (SPI) should be operated by a pilot:**

 - (a) when asked to squawk
 - (b) when assigned a new transponder code
 - (c) only when requested by a TCAS-equipped aircraft
 - (d) only when requested by ATC
- 8 Civil VFR flights in class E airspace should squawk the following transponder code:**

 - (a) 1200 unless participating in radar information service (RIS)
 - (b) 1200 always
 - (c) 2000 unless participating in RIS
 - (d) 2000 always
- 9 An aircraft engaged in special task operations with the call sign BIRDOG is engaged in:**

 - (a) aerial survey
 - (b) coordination of firebombing aircraft
 - (c) artillery spotting
 - (d) infrared imaging of fires
- 10 For a particular aerodrome for which no discrete MBZ frequency or CTAF has been assigned, the ERSB entry for the ATS communication facilities states: FIA Brisbane Centre 127.1. For a VFR flight, the appropriate frequency for broadcasting an arrival call in the circuit area is:**

 - (a) 123.45
 - (b) 127.1
 - (c) 126.7
 - (d) 119.1

What's the message?

Write an amusing caption of up to 25 words for a chance to win \$100. Send your entry to:

Flight Safety Australia, GPO Box 2005, Canberra ACT 2601 or email to: fsa@casa.gov.au by September 20, 2004.



Quiz answers

Windshear quiz

- 1 (c)
- 2 (c)
- 3 (b)
- 4 (c)
- 5 (c)
- 6 (c)
- 7 (b)
- 8 (c)
- 9 (b)
- 10 (c)

FLOPS quiz

- 1 (a) The heated air, which is less dense, is mixed by the carburettor with the same amount of fuel hence the fuel/air ratio, by weight, increases. When

forced to operate with carburettor heat therefore, further leaning is required to maintain the same fuel/air ratio.

- 2 (b) AIP ENR 1.14 – 7 par. 4.1.1 and see the definition of routine reportable matter in section 3 of the Transport Safety Investigation Act 2003
- 3 (c) AIP AD 1.1 – 19 par.
- 4 (d) AIP ENR 1.7 – 8 par. 4.2
- 5 (b) AIP ENR 1.7 – 7 par. 4.1.1
- 6 (c) AIP ENR 1.7 – 6 par. 3.4.2
- 7 (d) AIP ENR 1.6 – 10 par. 8.1.5
- 8 (a) AIP ENR 1.6 – 9 par. 8.1.3
- 9 (b) AIP GEN 3.4 – 24 par. 4.22.1
- 10 (c) The Multicom frequency, 126.7, is used at those uncontrolled aerodromes without a discrete MBZ frequency or CTAF assigned; reference AIP ENR 1.4 – 6 par. 4.2.5.



Last issue's winning message:

"I don't care how many aeroplanes you bolt to the roof of the building, it still won't fly."

Brett Wilson