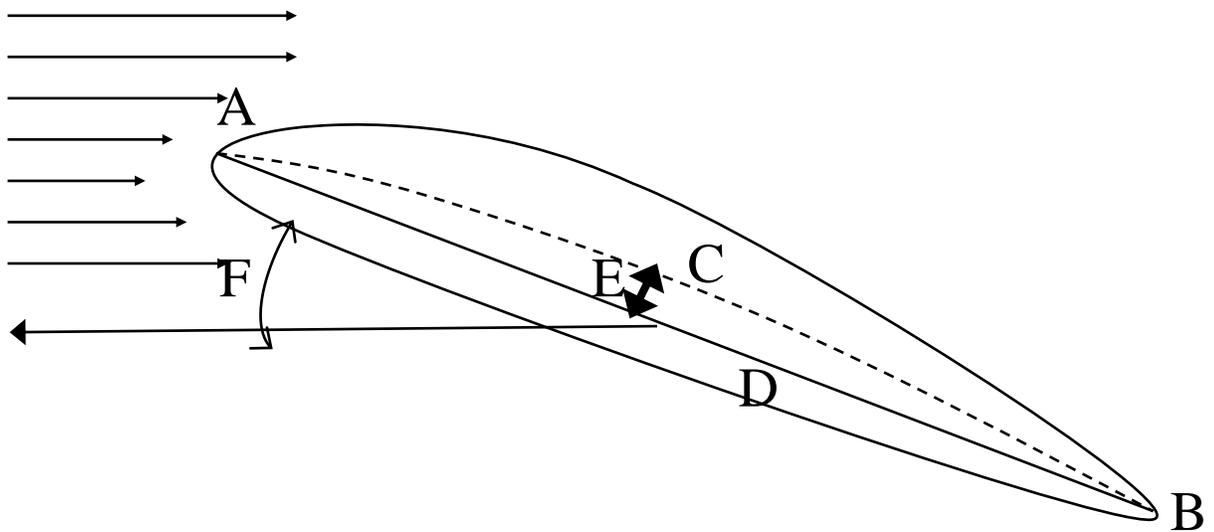


Aerodynamics Quiz

1. Ambient Pressure is the pressure of the
 - a. Pressure of the surrounding medium such as a fluid or a gas which comes into contact with the object
 - b. pressure of the atmosphere at the altitude at which the aircraft is flying
 - c. pressure as the result of the velocity through a fluid or gas
 - d. the feeling in a restaurant or nightclub
2. Static Pressure
 - a. Pressure of the surrounding medium such as a fluid or a gas which comes into contact with the object
 - b. pressure of the atmosphere at the altitude at which the aircraft is flying
 - c. pressure as the result of the velocity through a fluid or gas
 - d. background noise on a long-distance phone call
3. Dynamic Pressure is the ...
 - a. Pressure of the surrounding medium such as a fluid or a gas which comes into contact with the object
 - b. pressure of the atmosphere at the altitude at which the aircraft is flying
 - c. pressure as the result of the velocity through a fluid or gas
 - d. result of Swedish Massage
4. Pressure Altitude
 - a. Pressure differential with respect to Pressure at Sea Level
 - b. Physical distance between aircraft and reference (e.g. Sea Level)
 - c. Difference in density with International Standard Atmosphere (ISA) temperature
 - d. Distance between Center of Earth and parallel surfaces around the spherical earth. Gravitational potential same on a surface
5. Geometric Altitude
 - a. Pressure differential with respect to Pressure at Sea Level
 - b. Physical distance between aircraft and reference (e.g. Sea Level)
 - c. Difference in density with International Standard Atmosphere (ISA) temperature
 - d. Distance between Center of Earth and parallel surfaces around the spherical earth. Gravitational potential same on a surface
6. Density Altitude
 - a. Pressure differential with respect to Pressure at Sea Level
 - b. Physical distance between aircraft and reference (e.g. Sea Level)
 - c. Difference in density with International Standard Atmosphere (ISA) temperature
 - d. Distance between Center of Earth and parallel surfaces around the spherical earth. Gravitational potential same on a surface
7. Geopotential Altitude
 - a. Pressure differential with respect to Pressure at Sea Level
 - b. Physical distance between aircraft and reference (e.g. Sea Level)
 - c. Difference in density with International Standard Atmosphere (ISA) temperature
 - d. Distance between Center of Earth and parallel surfaces around the spherical earth. Gravitational potential same on a surface
8. According to the ISA a decrease in temperature indicates
 - a. an increase in altitude
 - b. a decrease in altitude
 - c. an increase in pressure

- d. transition to the ionosphere
9. Indicated Airspeed
 - a. airspeed measurement from difference in pressures
 - b. airspeed correcting for instrument errors
 - c. airspeed corrected for Compressibility effects
 - d. actual relative speed between aircraft and airmass, corrected for difference in density at different altitudes
 10. Calibrated Airspeed
 - a. airspeed measurement from difference in pressures
 - b. airspeed correcting for instrument errors
 - c. airspeed corrected for Compressibility effects
 - d. actual relative speed between aircraft and airmass, corrected for difference in density at different altitudes
 11. Equivalent Airspeed
 - a. airspeed measurement from difference in pressures
 - b. airspeed correcting for instrument errors
 - c. airspeed corrected for Compressibility effects
 - d. actual relative speed between aircraft and airmass, corrected for difference in density at different altitudes
 12. True Airspeed
 - a. airspeed measurement from difference in pressures
 - b. airspeed correcting for instrument errors
 - c. airspeed corrected for Compressibility effects
 - d. actual relative speed between aircraft and airmass, corrected for difference in density at different altitudes

Elements of a Wing



Match the elements to the numbers

13. Angle-of-Attack

- a.
- b.
- c.
- d.

14. Leading Edge

- a.
- b.
- c.
- d.

15. Meanline

- a.
- b.
- c.
- d.

16. Camber

- a.
- b.
- c.
- d.

17. Chord

- a.
- b.
- c.
- d.

18. Trailing Edge

- a.
- b.
- c.
- d.

19. Which parameter CANNOT be computed if the pitot tube (dynamic pressure sensor) becomes clogged?

- A. Airspeed.
- B. Vertical speed.
- C. Altitude.

20. Which parameter(s) CANNOT be computed if the static vents (static pressure sensors) become clogged?

- a. Airspeed only.
- b. Airspeed and Altitude.
- c. Altitude only.

21. Match the Altitude Measurements with their definitions. Insert the letter (e.g. A) next to the altitude.

Geometric Altitude _____

Density Altitude _____

Geopotential Altitude _____

Pressure Altitude _____

- a. Vertical distance measured by comparison of pressure at aircraft altitude with pressure at reference (e.g. 29.92' Hg, or local pressure at an airport).
- b. Vertical distance measured by comparison of temperature at aircraft altitude with ISA standard temperature reference
- c. Vertical distance between Center of Earth and parallel surfaces around the spherical earth.
- d. Physical distance between aircraft and reference (e.g. mountain top)

22. Which combination of atmospheric conditions will reduce aircraft takeoff and climb performance (i.e. longer takeoff roll and lower rate of climb)?

- a. High temperature, high relative humidity, and high altitude (e.g. Denver on hot humid day).
- b. High temperature, low relative humidity, and low altitude (e.g. Phoenix on a hot summer day).
- c. Low temperature, low relative humidity, and low altitude.