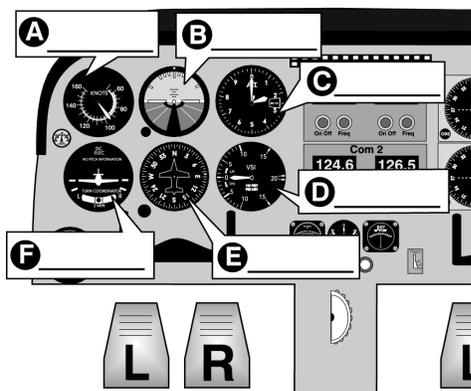


Chapter 5 - Flight Instruments: Clocks, Tops, and Toys



1. [5-1/Figure 1] Label the six main flight instruments:

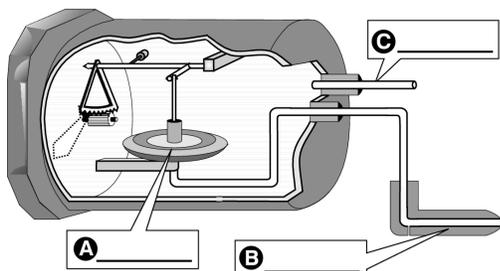


Non-Gyro Instruments

Airspeed Indicator

2. [5-2/Figure 3] Label the parts of the airspeed indicator:

INSIDE A BASIC AIRSPEED INDICATOR



3. [5-3/3/2]

Atmospheric pressure _____ with a gain in altitude.

- A. decreases
- B. increases
- C. equalizes

4. [5-2/3/2]

The pitot system provides impact pressure for which instrument?

- A) Altimeter.
- B) Vertical-speed indicator.
- C) Airspeed indicator.

5. [5-2/3/2 & 5-3/3/3]

If the pitot tube and outside static vents become clogged, which instruments would be affected?

- A. The altimeter, airspeed indicator, and turn-and-slip indicator.
- B. The altimeter, airspeed indicator, and vertical speed indicator.
- C. The altimeter, attitude indicator, and turn-and-slip indicator.

Static Pressure

6. [5-3/3/3]

In addition to the airspeed indicator, two additional instruments also require static air pressure to function: the _____ and the _____.

- A. vertical speed indicator, altimeter
- B. directional gyro, altimeter
- C. attitude indicator, vertical speed indicator



Road Machado's Sport Pilot Workbook

7. [5-3/3/3]

Which instrument(s) will read incorrectly or become inoperative if the static vents become clogged?

- A. Airspeed only.
- B. Altimeter only.
- C. Airspeed, altimeter, and vertical speed.

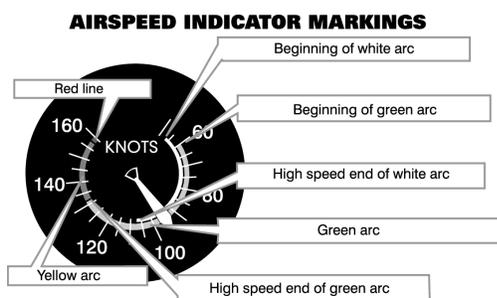
Pitot Tubes

8. [5-4/1/2]

Which instrument will become inoperative if the pitot tube becomes clogged?

- A. Altimeter.
- B. Vertical speed indicator.
- C. Airspeed indicator.

The Airspeed Indicator's Face



9. [5-4/3/1]

The white arc of the airspeed indicator represents the airplane's flap operating range. The beginning or low-speed end of the white arc is the _____ stall speed in the landing configuration (i.e., with flaps fully extended and gear down). This is called _____.

- A. power-on, V_{s1}
- B. power-off, V_{so}
- C. power-off, V_{s1}

10. [5-4/3/1&2]

V_{so} is defined as the

- A. stalling speed or minimum steady flight speed in the landing configuration.
- B. stalling speed or minimum steady flight speed in a specified configuration.
- C. stalling speed or minimum takeoff safety speed.

11. [5-5/1/2]

The high-speed end of the airspeed indicator's white arc is called the _____ speed, or _____.

- A. maximum flap retraction, V_{fe}
- B. minimum flap retraction, V_{fe}
- C. maximum flap extended, V_{fe}

12. [5-5/1/3]

V_{s1} is defined as the

- A. stalling speed or minimum steady flight speed in the landing configuration.
- B. stalling speed or minimum steady flight speed in a specified configuration.
- C. stalling speed or minimum takeoff safety speed.

13. [5-4/Figure 8] Refer to the figure above. What is the full flap operating range for the airplane?

- A. 53 to 107 knots.
- B. 60 to 132 knots.
- C. 132 to 157 knots.

14. [5-4/Figure 8] Refer to the figure at the top/left of this page.

What is the maximum flaps-extended speed?

- A. 53 knots.
- B. 107 knots.
- C. 132 knots.

15. [5-5/1/2] Refer to the figure to the left on this page.

Which color identifies the normal flap operating range?

- A. The lower limit of the white arc to the upper limit of the green arc.
- B. The green arc.
- C. The white arc.

16. [5-5/1/2]

Which V speed represents maximum flap extended speed?

- A. V_{fe}
- B. V_{lof}
- C. V_{fc}

17. [5-5/1/3] Refer to the figure at the top/left of this page.

V_{s1} is the beginning of the green arc represents the power-off stalling speed or _____ flight speed in a _____ configuration.

- A. maximum steady, specified
- B. minimum steady, specified
- C. minimum steady, variable

18. [5-5/1/3] Refer to the figure at the top/left of this page.

Which color identifies the power-off stalling speed with wing flaps and landing gear in the landing configuration?

- A. Upper limit of the green arc.
- B. Upper limit of the white arc.
- C. Lower limit of the white arc.



Chapter 5 - Flight Instruments: Clocks, Tops, and Toys

19. [5-5/1/3] Refer to the figure at the top/left of this page.

Which color identifies the power-off stalling speed in a previous page. Which color identifies the never-specified configuration?

- A. Upper limit of the green arc.
- B. Upper limit of the white arc.
- C. Lower limit of the green arc.

20. [5-5/1/4]

V_{no} is defined as the

- A. normal operating range.
- B. never-exceed speed.
- C. maximum structural cruising speed.

21. [5-5/1/2]

Which V-speed represents the maximum structural cruising speed?

- A. V_{fe}
- B. V_{no}
- C. V_{cs}

22. [5-5/1/2] Refer to the figure at the top/left of this page.

What is the maximum structural cruising speed?

- A. 107 knots.
- B. 132 knots.
- C. 157 knots.

23. [5/1/4]

V_{no} is defined as the

- A. normal operating range.
- B. never-exceed speed.
- C. maximum structural cruising speed.

24. [5-5/2/1] Refer to the figure at the top/left of the previous page. What is the caution range of the airplane?

- A. 53 to 107 knots.
- B. 60 to 132 knots.
- C. 132 to 157 knots.

25. [5-5/2/1] Refer to the figure at the top/left of the previous page. The maximum speed at which the airplane can be operated in smooth air is

- A. 107 knots.
- B. 132 knots.
- C. 157 knots.

26. [5-5/2/3]

What does the red line on an airspeed indicator represent?

- A. Maneuvering speed.
- B. Turbulent or rough-air speed.
- C. Never-exceed speed.

27. [5-5/2/3] Refer to the figure at the top/left of the previous page. Which color identifies the never-exceed speed?

- A. Lower limit of the yellow arc.
- B. Upper limit of the white arc.
- C. The red line.

28. [5-5/3/3]

What is an important airspeed limitation that is not color coded on airspeed indicators?

- A. Never-exceed speed.
- B. Maximum structural cruising speed.
- C. Maneuvering speed.

29. [5-5/3/3]

Which V-speed represents the maneuvering speed?

- A. V_a
- B. V_{lo}
- C. V_{ne}

30. [5-6/1/1]

Which V-speed represents the maximum landing gear extended speed?

- A. V_{le}
- B. V_{lo}
- C. V_{fe}

31. [5-6/1/1]

Which V-speed represents the maximum landing gear operating speed?

- A. V_{le}
- B. V_{lo}
- C. V_{fe}

Indicated Airspeed

32. [5-7/1/2]

The number showing on the airspeed indicator is the _____.

- A. indicated airspeed
- B. calibrated airspeed
- C. true airspeed

Calibrated Airspeeds

33. [5-7/1/4 See Air Error]

Calibrated airspeed is _____ airspeed corrected for _____ or _____ errors.

- A. true, installation, position
- B. indicated, installation, position
- C. indicated, temperature, coriolis

Road Machado's Sport Pilot Workbook



True Airspeed

34. [5-8/1/3]

Airplanes flying at higher altitudes actually move _____ through the air for a given power setting because of the _____ in density.

- A. faster, increase
- B. slower, decrease
- C. faster, decrease

35. [5-9/See TAS & IAS High Altitude Airports]

As altitude increases the indicated airspeed at which a given airplane stalls in a particular configuration will

- A. decrease as the true airspeed decreases.
- B. decrease as the true airspeed increases.
- C. remain the same regardless of altitude.

36. [5-9/See TAS & IAS High Altitude Airports]

When making an approach at a high altitude airport, you should:

- A. approach at a lower than normal indicated airspeed.
- B. approach at a higher than normal indicated speed.
- C. approach at a normal indicated speed.

Dense Doings

37. [5-9/1/3]

Two atmospheric factors that affect air density, which in turn affects true airspeed, are: _____ and _____.

- A. pressure, temperature
- B. pressure, air movement
- C. temperature, engine power

The Altimeter

38. [5-10/1/4]

What is true altitude?

- A. The vertical distance of the aircraft above sea level.
- B. The vertical distance of the aircraft above the surface.
- C. The height above the standard datum plane.

39. [5-10/1/5]

What is absolute altitude?

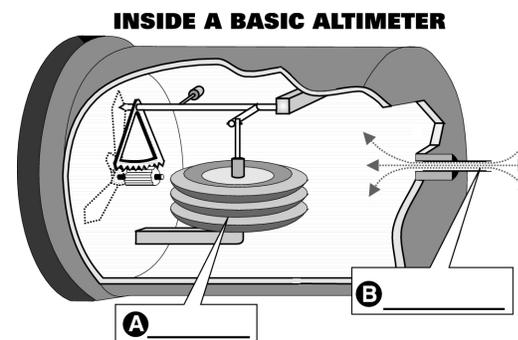
- A. The altitude read directly from the altimeter.
- B. The vertical distance of the aircraft above the surface.
- C. The height above the standard datum plane.

40. [5-10/1/6]

An altimeter works by measuring the difference between sea level _____ and pressure at the airplane's present _____.

- A. temperature, altitude
- B. pressure, airspeed
- C. pressure, altitude

41. [5-10/Figure 18] Label the altimeter's components:



42. [5-11/1/2]

For the purpose of altimeter calibration, a column of mercury will change approximately _____ inch(es) in height for every thousand-foot change in altitude.

- A. one
- B. 10
- C. one-half

Pressure Variations and the Altimeter

43. [5-12/2/1]

Whatever pressure value you set in the Kollsman window, the altimeter assumes this is the new _____ pressure. Now the altimeter measures the difference between the pressure value set in the Kollsman window and the _____ pressure to obtain your height above sea level.

- A. present altitude, dynamic
- B. sea level, outside static
- C. sea level, pitot tube

44. [5-13/1/1 & 5-17/Figure 29]

Prior to takeoff, the altimeter should be set to which altitude or altimeter setting?

- A. The current local altimeter setting, if available, or the departure airport elevation.
- B. The corrected density altitude of the departure airport.
- C. The corrected pressure altitude for the departure airport.



Chapter 5 - Flight Instruments: Clocks, Tops, and Toys

45. [5-13/1/1]

The altimeter setting is the value to which the barometric pressure scale of the altimeter is set so the altimeter indicates

- A. calibrated altitude at field elevation.
- B. absolute altitude at field elevation.
- C. true altitude at field elevation.

46. [5-10-5-18, All] Under what condition is indicated altitude the same as true altitude?

- A. If the altimeter has no mechanical error.
- B. When at sea level under standard conditions.
- C. When at 18,000 feet MSL with the altimeter set at 29.92.

47. [5-14/1/3 & 5-15/Figure 26]

If it is necessary to set the altimeter from 29.15 to 29.85, what change occurs?

- A. 70-foot increase in indicated altitude.
- B. 70-foot increase in density altitude.
- C. 700-foot increase in indicated altitude.

48. [5-14/1/3 & 5-15/Figure 26]

If a pilot changes the altimeter setting from 30.11 to 29.96, what is the approximate change in indication?

- A. Altimeter will indicate .15" Hg higher.
- B. Altimeter will indicate 150 feet higher.
- C. Altimeter will indicate 150 feet lower.

49. [5-15/1/2 & Figure 27]

If a flight is made from an area of low pressure into an area of high pressure without the altimeter setting being adjusted, the altimeter will indicate

- A. the actual altitude above sea level.
- B. higher than the actual altitude above sea level.
- C. lower than the actual altitude above sea level.

50. [5-15/2/1 & Figure 25]

If a flight is made from an area of high pressure into an area of lower pressure without the altimeter setting being adjusted, the altimeter will indicate

- A. lower than the actual altitude above sea level.
- B. higher than the actual altitude above sea level.
- C. the actual altitude above sea level.

Temperature Variation and the Altimeter

51. [5-16/2/4 & Figure 28]

Under what condition will true altitude be lower than indicated altitude?

- A. In colder than standard air temperature.
- B. In warmer than standard air temperature.
- C. When density altitude is higher than indicated altitude.

52. [5-16/2/5 & Figure 28]

Which condition would cause the altimeter to indicate a lower altitude than true altitude?

- A. Air temperature lower than standard.
- B. Atmospheric pressure lower than standard.
- C. Air temperature warmer than standard.

53. [5-16/Figure 28]

How do variations in temperature affect the altimeter?

- A. Pressure levels are raised on warm days and the indicated altitude is lower than true altitude.
- B. Higher temperatures expand the pressure levels and the indicated altitude is higher than true altitude.
- C. Lower temperatures lower the pressure levels and the indicated altitude is lower than true altitude.

Sensitive Altimeters

54. [5-17/2/1]

If an altimeter setting is not available before flight, to which altitude should the pilot adjust the altimeter?

- A. The elevation of the nearest airport corrected to mean sea level.
- B. The elevation of the departure area.
- C. Pressure altitude corrected for nonstandard temperature.

55. [5-17/2/1] Fill in the blank:

As you progress along your route of flight you should update your altimeter setting to the nearest source within _____ nautical miles of your position.

56. [5-E17/Figure 29]

If an altimeter setting is not available before flight, to which altitude should the pilot adjust the altimeter?

- A. The elevation of the nearest airport corrected to mean sea level.
- B. The elevation of the departure area.
- C. Pressure altitude corrected for nonstandard temperature.

57. [5-17/2/1]

Which of the following is an example of a time where you might use pressure altitude?

- A. When calculating how to lean the mixture.
- B. When using an airplane's performance chart.
- C. When you're planning to fly over a congested area.



Road Machado's Sport Pilot Workbook

Pressure Altitude

58. [5-18/1/1]

What is pressure altitude?

- A. The indicated altitude corrected for position and installation error.
- B. The altitude indicated when the barometric pressure scale is set to 29.92.
- C. The indicated altitude corrected for nonstandard temperature and pressure.

59. [5-17-18, All]

Under which condition will pressure altitude be equal to true altitude?

- A. When the atmospheric pressure is 29.92" Hg.
- B. When standard atmospheric conditions exist.
- C. When indicated altitude is equal to the pressure altitude.

60. [5-18/2/1]

When you set a barometric pressure value of 29.92 into the Kollsman window, the altimeter

- A. always reads true altitude.
- B. reads pressure altitude.
- C. density altitude.

61. [5-18/Figure 30]

If it is necessary to change the setting in the altimeter's Kollsman window from 29.00 to 29.85, what change occurs?

- A. 85 foot increase in indicated altitude.
- B. 850 foot increase in density altitude.
- C. 850 foot increase in indicated altitude.

62. [5-18/Figure 30]

If it is necessary to change the setting in the altimeter's Kollsman window from 30.30 to 30.00, what change occurs?

- A. 30 foot decrease in indicated altitude.
- B. 30 foot increase in density altitude.
- C. 300 foot decrease in indicated altitude.

63. [5-18/Figure 30]

If it is necessary to change the setting in the altimeter's Kollsman window from 29.35 to 29.85, what change occurs?

- A. 50 foot increase in indicated altitude.
- B. 50 foot increase in density altitude.
- C. 500 foot increase in indicated altitude.

64. [5-17-18, All]

When true altitude and pressure altitude are equal, what conditions exist?

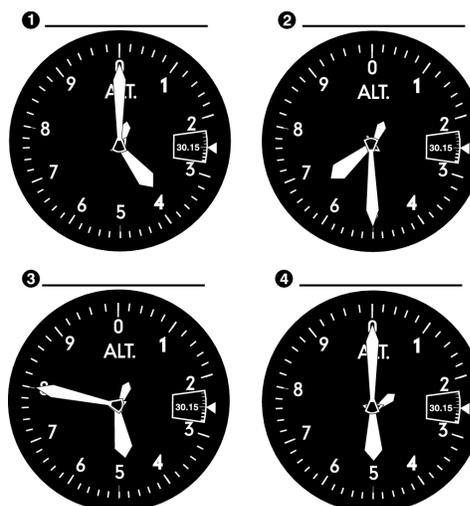
- A. An atmospheric pressure of 29.92" Hg.
- B. Standard atmospheric conditions.
- C. Normal weather conditions.

65. [5-18/3/2]

Pressure altitude is the height above a _____, which is nothing more than a fancy phrase for _____ reference point. This reference point is what the engineer's altimeter would have read if temperature and pressure at sea level were 59°F and 29.92" Hg.

- A. reference point, true altitude
- B. standard day plane, a real
- C. standard datum plane, an imaginary

66. [5-19/Figure 32] Fill in the indicated altitudes:



67. [5-19/Figure 32] Refer to the figures in question 65. Which altimeter(s) indicate(s) more than 10,000 feet?

- A. 1, 2, and 3.
- B. 2 and 4 only.
- C. 4 only.

The Vertical Speed Indicator (VSI)

68. [5-20/1/4]

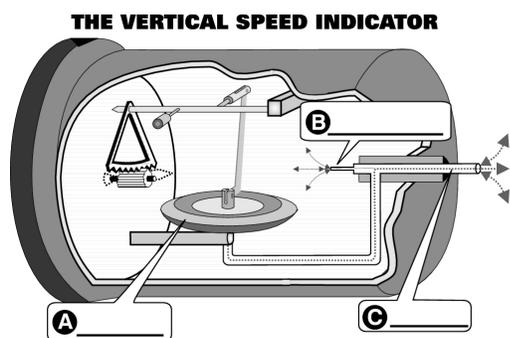
The VSI's needle swings upward or downward reflecting the airplane's rate of climb or descent. The VSI is calibrated to read in _____.

- A. feet per minute
- B. miles per hour
- C. knots per minute

Chapter 5 - Flight Instruments: Clocks, Tops, and Toys



69. [5-20/Figure 34] Label the VSI's components:



The Alternate Static Source

70. [5-21/2/1]

A plugged static port will prevent any static air pressure change, causing the altimeter to freeze at its last indication and the VSI to read _____, regardless of altitude change.

- A. a climb
- B. zero
- C. a descent

71. [5-21/3/1]

If the primary static source becomes plugged, the _____ can be opened. The _____ now becomes the alternate source of static air pressure.

- A. alternate static source, cabin
- B. primary static source, cabin
- C. pitot tube, cabin

The Gyroscopic Instruments

The Attitude Indicator

72. [5-22/1/2]

The attitude indicator helps you determine the airplane's _____ and _____ condition.

- A. yaw, turn
- B. pitch, bank
- C. roll, speed

73. [5-22/2/2]

The attitude indicator's symbolic wings are attached to the instrument's case, while the airplane _____ about a horizon card that's attached to a stabilized gyro.

- A. vibrates
- B. rotates
- C. remains stationary

74. [5-23/Figure 39]

How should a pilot determine the direction of bank from an attitude indicator such as the one illustrated in question 76?

- A. By the direction of deflection of the banking scale.
- B. By the direction of deflection of the horizon bar.
- C. By the relationship of the miniature airplane to the deflected horizon bar.

75. [5-24/1/2]

The attitude indicator shows

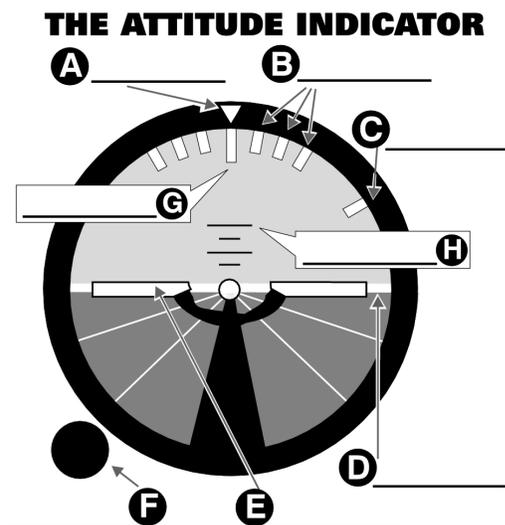
- A. climbs and descents.
- B. pitch and yaw.
- C. bank and pitch.

76. [5-25/1/1]

The attitude indicator is able to display the airplane's attitude because of a gyroscopic principle known as

- A. torque.
- B. rigidity in space.
- C. precession.

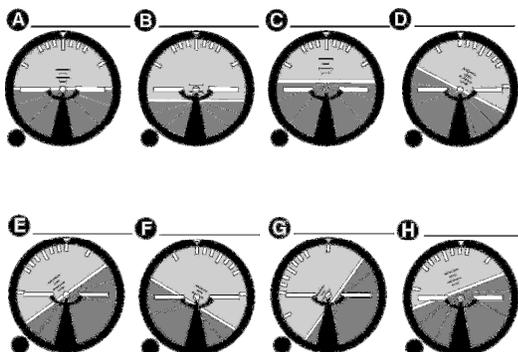
77. [5-22/Figure 38] Label the attitude indicator's components.





Road Machado's Sport Pilot Workbook

78. [5-23/Figure 39] Label the attitude indicators below by indicating the amount and direction of bank and pitch:



79. [5-25/2/3]

Most light airplane attitude gyros are powered by a _____ pump.

- A. vacuum
- B. water
- C. fuel

80. [5-26/Figure 47]

The proper adjustment to make on the attitude indicator during level flight is to align the

- A. horizon bar to the level-flight indication.
- B. horizon bar to the miniature airplane.
- C. miniature airplane to the horizon bar.

The Heading Indicator

81. [5-27/2/2]

To receive accurate indications during flight from a heading indicator, the instrument must be

- A. set prior to flight on a known heading.
- B. calibrated on a compass rose at regular intervals.
- C. periodically realigned with the magnetic compass as _____ the gyro precesses.

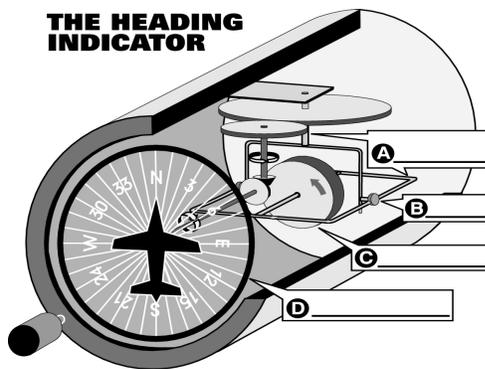
82. [5-E27/2/1]

The heading indicator must be periodically reset to a known heading because of something known as

- A. gyroscopic drift.
- B. acceleration errors.
- C. turning errors.

83. [5-E27/Figure 50] Label the parts of the heading indicator:

THE HEADING INDICATOR



84. [5-28/1/3]

If you're instructed to turn to a particular heading, simply look for the number on the instrument and turn in the _____ direction toward it.

- A. longest
- B. most scenic
- C. shortest

The Turn Coordinator

85. [5-29/1/1]

The turn coordinator is actually a _____ instrument that provides information on your airplane's direction of _____, rate of heading change and whether the airplane is _____ or _____ in the turns.

- A. magnetic, turn, slipping, skidding
- B. gyro, roll, slipping, skidding
- C. gyro, pitch, climbing, descending

86. [5-29/2/2]

Unlike the spinning gyros in the attitude indicator and heading indicator, the turn coordinator's gyro is usually spun by _____.

- A. electricity
- B. vacuum power
- C. air pressure

87. [5-29/2/2]

The turn coordinator's gyro is electrically powered to keep at least one gyro instrument operating during a rare failure of the airplane's _____.

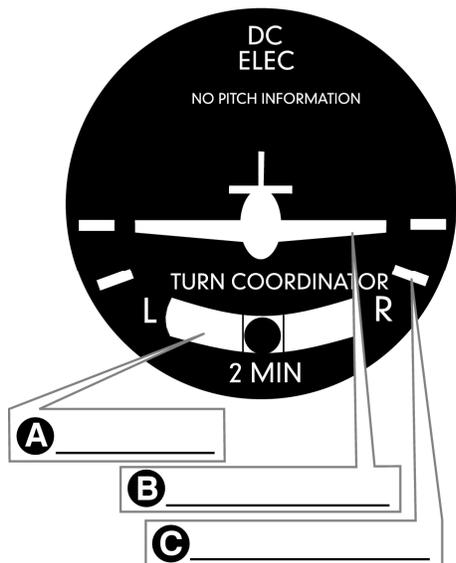
- A. gear
- B. mechanical fuel pump
- C. vacuum pump



Chapter 5 - Flight Instruments: Clocks, Tops, and Toys

87. [5-29/Figure 54] Label the parts of the turn coordinator:

TURN COORDINATOR



88. [5-30/1/2]

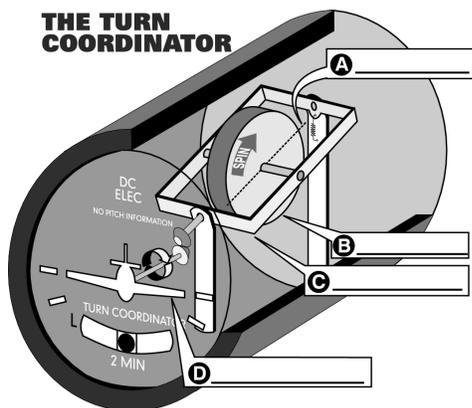
Even though it may appear to, the turn coordinator doesn't show _____ angle. Don't be fooled by this. Only direction of _____ and _____ are derivable from the turn coordinator.

- A. pitch, climb descent
- B. bank, pitch, yaw
- C. bank, roll or yaw, rate of turn

89. [5-30/Figure 57]

- A turn coordinator provides an indication of the
- A. movement of the aircraft about the yaw and roll axes.
 - B. angle of bank up to but not exceeding 30 degrees.
 - C. attitude of the aircraft with reference to the longitudinal axis.

90. [5-29/Figure 55] Label the parts of the turn coordinator:



The Magnetic Compass Acceleration Deceleration Error

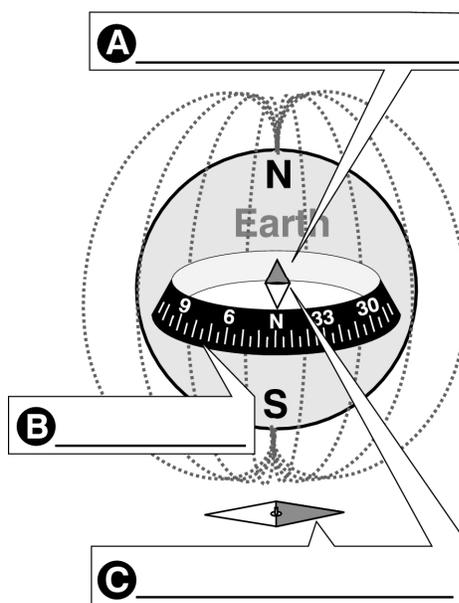
92. [5-31/2/3]

A magnetic compass responds to that phenomenon of the earth's magnetic pole, otherwise known as its _____.

- A. flux magneto
- B. magnetic field
- C. magnetic dip

93. [5-31/Figure 60] Label the parts of the compass:

THE MAGNETIC COMPASS NEEDLE



94. [5-32/2/1]

One side of the needle is called the _____ and it always points towards the earth's magnetic north pole.

- A. north-seeking end
- B. south-seeking end
- C. east-west seeking end

95. [5-33/2/1]

Just like skis following dipping terrain, the magnetic compass needle wants to tilt downward with the magnetic field. This is called _____.

- A. magnetic droop
- B. magnetic dip
- C. magnetic tilt

Road Machado's Sport Pilot Workbook

Northerly Turn Errors

96. [5-34/1/2]

In the northern hemisphere, the magnetic compass will normally indicate a turn toward the south when

- A. a left turn is entered from an east heading.
- B. a right turn is entered from a west heading.
- C. the aircraft is decelerated while on a west heading.

97. [5-E34/1/2]

In the northern hemisphere, if an aircraft is accelerated or decelerated, the magnetic compass will normally indicate

- A. a momentary turn.
- B. correctly when on a north or south heading.
- C. a turn toward the south.

98. [5-E34/1/2]

In the northern hemisphere, the magnetic compass will normally indicate a turn toward the north when

- A. a left turn is entered from an east heading.
- B. a right turn is entered from a west heading.
- C. the aircraft is accelerated while on a west heading.

99. [5-34/3/2]

In the northern hemisphere, a magnetic compass will normally initially indicate a turn toward the east if

- A. an aircraft is decelerated while on a south heading.
- B. an aircraft is accelerated while on a north heading.
- C. a left turn is entered from a north heading.

100. [5-35/1/2]

In the northern hemisphere, a magnetic compass will normally initially indicate a turn toward the west if

- A. a left turn is entered from a north heading.
- B. a right turn is entered from a north heading.
- C. an aircraft is accelerated while on a north heading.

101. [5-35/1/3]

During flight, when are the indications of a magnetic compass accurate?

- A. In straight-and-level unaccelerated flight.
- B. As long as the airspeed is constant.
- C. During turns if the bank does not exceed 18 degrees.

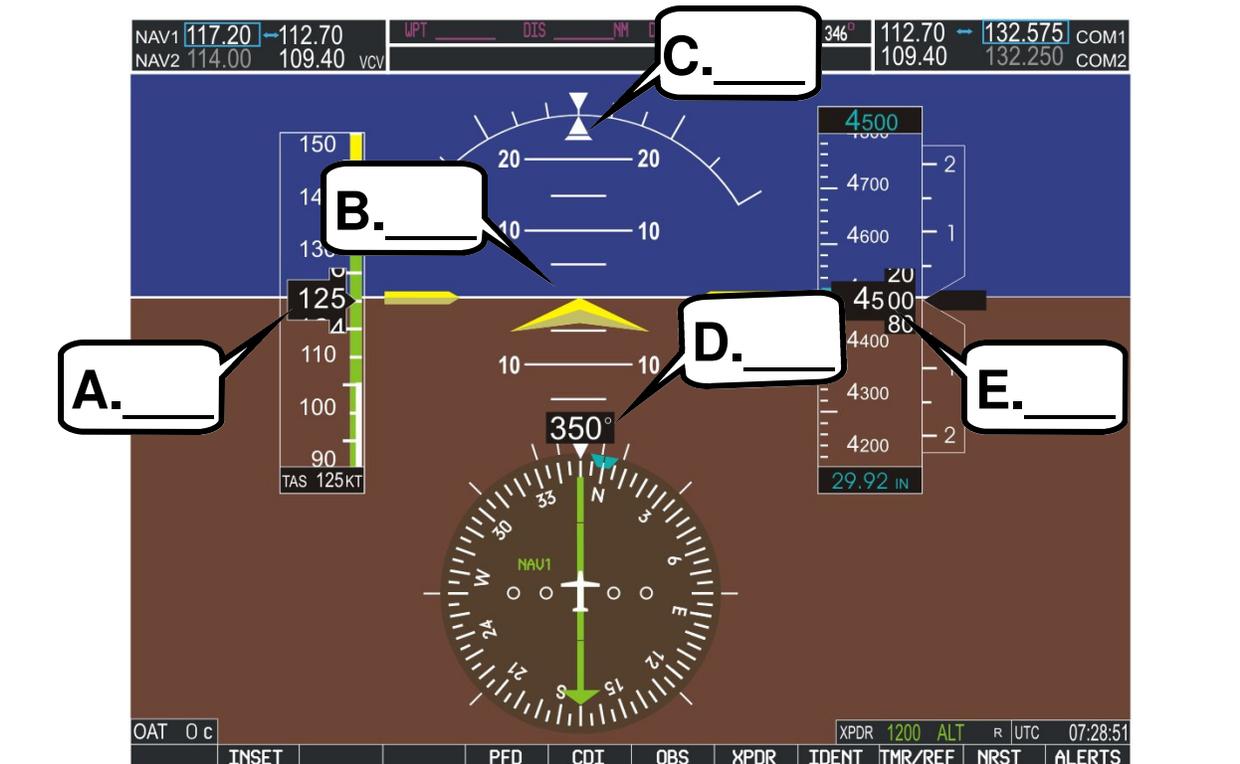
102. [5-37 through 5-40 all]

Label the figure of the PFD below.

103. [5-41/1/2]

Modern PFD use ___ to determine attitude and heading

- A. Spinning gyros
- B. Solid state gyros with no moving parts
- C. The pito tube





Chapter 5 - Flight Instruments: Clocks, Tops, and Toys

104. [Bonus question]

Name the four fundamentals involved in maneuvering an aircraft.

- A) Power, pitch, bank, and trim.
 - B) Thrust, lift, turns, and glides.
 - C) Straight-and-level flight, turns, climbs, and descents.
-



Road Machado's Sport Pilot Workbook

1. A/airspeed indicator, B/attitude indicator, C/altimeter, D/vertical speed indicator, E/heading indicator, F/turn coordinator
 2. A/expandable capsule, B/ pitot tube, C/static line (or source)
 3. A
 4. C
 5. B
 6. A
 7. C
 8. C
 9. B
 10. A
 11. C
 12. B
 13. A
 14. B
 15. C
 16. A
 17. B
 18. C
 19. C
 20. C
 21. B
 22. B
 23. C
 24. C
 25. C
 26. C
 27. C
 28. C
 29. A
 30. A
 31. B
 32. A
 33. B
 34. C
 35. C
 36. C
 37. A
 38. A
 39. B
 40. C
 41. A/expandable capsule, B/static line (or source)
 42. A
 43. B
 44. A
 45. C
 46. B
 47. C
 48. C
 49. C
 50. B
 51. A
 52. C
 53. A
 54. B
 55. 100
 56. B
 57. B
 58. B
 59. B
 60. B
 61. C
 62. C
 63. C
 64. B
 65. C
 66. 1/4,000 feet, 2/6,500 feet, 3/4,800 feet, 4/15,000 feet
 67. C
 68. A
 69. A/expandable capsule, B/calibrated leak, C/static source
 70. B
 71. A
 72. B
 73. B
 74. C
 75. C
 76. B
 77. A/vertical indicator, B/10 degree bank lines, C/60 degree bank line, D/horizon line, E/artificial airplane wing, F/adjustment knob, G/sky pointer, H/degree pitch line
 78. A/straight & level, B/pitch up, C/pitch down, D/left turn, 30 degree bank, E/right turn, 30 degree bank
F/pitch up, left turn, 30 degree bank,
G/pitch up, right turn, 60 degree bank
H/pitch down, right turn, 20 degree bank
 79. A
 80. C
 81. C
 82. A
 83. A/gimbal, B/swivel point, C/gyro, D/face card
 84. C
 85. B
 86. A
 87. C
 88. A/inclinometer, B/rate of turn needle, C/standard rate turn index
 89. C
 90. A
 91. A/gimbal roll axis, B/gyro, C/gimbal, D/turn needle
 92. B
-



Chapter 5 - Flight Instruments: Clocks, Tops, and Toys

93. A/north seeking end, B/compass card, C/
compass needle

94. A

95. B

96. C

97. B

98. C

99. C

100. B

101. A

102.

A. Airspeed Indicator

B. Attitude Indicator

C. Slip-Skid Indicator

D. Heading Indicator

E. Altimeter

103. B

104. A

