Raytheon Beech King Air C90A Pilot's Technical Examination

Version 1.0 2003-01-05

Candidate	Name	
	Licence class	Private/Commercial/ATP
	Licence number	
Examiner	Name	
	Licence number	
	Capacity	
Centre		
Date		200 -- --
Mark	(Pass mark is 70%)	/120 = %

Instructions: *This is an open-book exam, for which you will need access to up-to-date BE90 Pilot's Operating Handbook and technical manuals. For each question, mark the block on the answer sheet corresponding to the most correct answer. The quiz forces you to work through the handbooks. However, you must also remember most of these facts for use during flight!*

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Section A: Engines

1. The compressor bleed valves:

    a. Provide P_3 air for pressurization.
    b. Provide compressor stall protection.
    c. Are closed during start to prevent hot air from entering the cabin.
    d. Are open during start to provide hot air for cabin heating in cold ambient conditions.

2. Two gauges indicate the most critical engine parameters. They are:

    a. ITT and N_1.
    b. ITT and propeller rpm.
    c. Torque and ITT.
    d. Torque and N_1.

3. Gas generator speed and ITT are also known as:

    a. N_1 and T_7.
    b. N_1 and T_5.
    c. N_G and T_7.
    d. G_S and T_4.

4. The maximum continuous ITT limit is:

	-20A engine	**-21 engine**
a.	1090°C	1090°C
b.	750°C	695°C
c.	685°C	685°C
d.	660°C	660°C

5. Maximum ITT in Low Idle is:

	-20A engine	**-21 engine**
a.	775°C	775°C
b.	685°C	660°C
c.	660°C	805°C
d.	No limit	No limit

6. The maximum allowable transient ITT (2 s maximum) during start is:

    a. 1090°C
    b. 805°C
    c. 775°C
    d. 660°C

7. The maximum allowable continuous N_1 is:

    a. 104%
    b. 101,5%
    c. 102,5%
    d. 100%

8. The purge valve:

    a. Removes fuel from the manifold after shutdown.
    b. Opens to remove air from the fuel in the FCU during start.
    c. Should be opened in flight to prevent vapour locks in the FCU.
    d. Is controlled by a switch on the power levers.

9. Oil brands:

    a. May be mixed but only in an emergency.
    b. May be mixed provided they are both natural oils.
    c. May not be mixed at all.
    d. May be mixed provided they are both synthetic oils.

10. Fuel control heat:

    a. Prevents fuel icing.
    b. Prevents icing in the FCU.
    c. Is activated by placing the Start switch to the *Start and Ignition* position.
    d. Is activated whenever the engine lip heat is turned on.

11. Engine speed is controlled by:

    a. The power lever through the N_1 governor.
    b. The condition lever through the N_1 governor.
    c. The propeller through the primary propeller governor.
    d. Both *a* and *b*.

12. In reverse, propeller overspeed is prevented by:

    a. The overspeed governor.
    b. The fuel topping governor.
    c. The primary governor.
    d. The N_1 governor.

13. Forgetting to turn off the starter switch after starting will:

    a. Cause damage to the starter clutch mechanism.
    b. Disable the generator.
    c. Cause the engine to stall and exceed its maximum ITT.
    d. Trip the circuit breaker.

14. If the fuel supply to an engine is interrupted at cruise airspeeds:

    a. The propeller feathers after the engine flames out.
    b. The propeller maintains its rpm after the engine flames out.
    c. The engine will relight without delay when the fuel is turned back on.
    d. ITT will drop but torque will be maintained.

15. According to the manual, the engine controls should be used in the following sequence during all emergency procedures when full power is required:

    a. Condition lever, propeller lever, power lever.
    b. Propeller lever, power lever.
    c. Power lever, propeller lever.
    d. Condition lever, power lever, propeller.

Section B: Propellers

16. The low pitch stop:

    a. Prevents overspeed in reverse.
    b. Allows the blade angle to reduce to a safe value in flight.
    c. Is reset by the pilot for reversing on the ground.
    d. Both *b* and *c*.

17. The governing range of the primary propeller governor is:

    a. 1800 to 2332 rpm
    b. 1800 to 2200 rpm
    c. 1800 to 2034 rpm
    d. 51% to 101,5%

18. After an engine failure in cruise, with N_1 at 15% due to windmilling, the propeller on the failed engine will:

    a. Feather due to a loss of oil pressure.
    b. Slowly reduce speed to about 1000 rpm.
    c. Remain on speed.
    d. *a* or *b* depending on situation.

19. The overspeed governor:

    a. Is part of the FCU and prevents propeller overspeed beyond 3223 rpm.
    b. Can be reset for testing at 2288 rpm.
    c. Electrically prevents overspeed at 2288 rpm.
    d. Is reset electrically, for testing, to approximately 2000 rpm.

20. With *Autofeather* armed:

    a. A propeller will feather if its power lever is retarded below 200 ft-lbs torque.
    b. Both propellers will feather if both engines should fail sequentially.
    c. Only one propeller will feather, even if both engines failed.
    d. The system may be damaged if left armed during cruise.

21. During cruise (98% N_1) the pilot accidentally moves the *Autofeather* switch to the *Test* position.

    a. Both propellers will feather.
    b. Either propeller will feather--it is impossible to predict which one.
    c. Nothing will happen.
    d. Both the *Autofeather* annunciators will illuminate.

22. Before reversing, the propeller levers should be full forward:

    a. To ensure that the propellers are on the low pitch stops.
    b. To extinguish the the *RVS not Ready* annunciator.
    c. To ensure that maximum reverse is immediately available, provided that the condition levers are in *Hi Idle*.
    d. All of the above.

23. Under normal conditions at cruise speed:

    a. Reverse is not possible in flight, even if the power levers are lifted and moved aft (although the linkages may be damaged in the process).
    b. The power levers may be lifted and moved aft because the design prevents thrust reversal in flight.
    c. Reversing in flight is prevented by the squat switch on the left undercarriage.
    d. All of the above.

24. The propeller may be:

    a. Unfeathered in flight to windmill the engine for a restart.
    b. Feathered in flight with the engine idling.
    c. Positioned in flat pitch for faster taxi speeds.
    d. Feathered at maximum power without ill effect.

Section C: Pneumatic and vacuum

25. Vacuum is generated:

    a. By two pumps on the accessory gearbox of each engine.
    b. By an electrical vacuum pump.
    c. By venting P_3 air overboard through an ejector.
    d. By a vacuum pump on the left engine only.

26. Operation of the *De-ice Single Cycle* switch will result in:

a. Sequencing of pressure and vacuum to all the deice boots continuously for 10 s per cycle.
b. Supplying pressure to all the deice boots for 7 s. When not supplying pressure to the boots, the deice distributor valve applies vacuum to all the boots when the engines are running.
c. Supplying electrical power to the deice boots on the wings and the tailplane for 7 s.
d. Supplying electrical power to the deice boots on the main wings for 6 s, then to the horizontal stabiliser for 4 s.

Section D: Flaps

27. Choose the correct statement:

a. Use of flap improves climb performance.
b. The right inboard flap is the master flap.
c. The flap position transmitter and limit switches are on the left inboard flap.
d. It is advisable to extend approach flap in turbulence to facilitate speed control and stability.

28. Use of flap for takeoff may have advantages, including:

a. Improved single-engine climb performance.
b. Improved accelerate/stop performance.
c. Improved accelerate/go performance.
d. None of the above.

29. If all electrical power fails in flight, the wing flaps:

a. Will remain in their previous position.
b. Will retract due to dynamic pressure.
c. Can be set as required.
d. Can be retracted if required.

Section E: Landing gear

30. The gear limit switches are:

a. Located in the wheel wells.
b. Located on the gear selector handle mechanism.
c. Located on the gear extension system gearbox.
d. Located in the hydraulic system.

31. The gear horn will sound, and cannot be silenced by the *Horn Silence* button when the gear is not locked down and:

	Flaps	**Power lever**
a.	Up	$N_1 > 70\%$
b.	Up	$N_1 < 70\%$
c.	Approach	$N_1 < 70\%$
d.	60%	100%

32. The maximum recommended speed for gear extension with the alternate mechanism is:

    a. 130 KIAS
    b. 120 KIAS
    c. 125 KIAS
    d. 130 KIAS

33. Gear retraction on the ground is prevented by the:

    a. Left squat switch removing power from the gear motor on touchdown.
    b. As in *a*, plus a down-lock solenoid hook that prevents the gear selector from being moved inadvertently.
    c. Left squat switch removing power from the control circuit.
    d. Right squat switch removing power from the control circuit and from a selector-retaining solenoid hook on touchdown.

34. The landing gear ***up***-locks consist of:

    a. Mechanical latching lugs on the lift legs.
    b. Over-center travel on the lift legs.
    c. Friction loading of the landing gear actuators.
    d. Electrically operated locking lugs.

35. If the landing gear motor burns out while the landing gear is in transit, the pilot can:

    a. Raise and lower the gear manually.
    b. Allow the gear to free fall and lock down it manually.
    c. Can attempt to land with the gear half extended.
    d. Manually extend and lock the gear down.

Section F: Brakes

36. When the brakes are being applied by both pilots:

    a. The right-seat pilot has control.
    b. The left-seat pilot has control.
    c. The pilot who applied brakes first has control.
    d. The pilot who applies most force has control.

37. The brake fluid reservoir is situated:

a. On the hydraulic power pack.
b. In the tailcone area adjacent to the oxygen filler panel.
c. In the nose compartment on the left side of the front pressure bulkhead.
d. Under the floorboards, forward of the main spar.

38. The brake wear can be checked by:

a. The pilot during a preflight inspection.
b. The pilot during a preflight inspection provided the park brake is on.
c. The pilot provided a helper pumps the brakes during the check.
d. A mechanic using a special tool.

Section G: Pitot-static system

39. Pitot heat usage on the ground is recommended:

a. When the OAT is less than 10°C.
b. Only if visible moisture is seen below freezing.
c. Only for short periods.
d. At all times.

40. The alternate static system:

a. Provides a source of alternate static to both the left and right panel static systems.
b. Provides a static source to the left panel system that may be used without correction.
c. Uses a source behind the aft pressure bulkhead that requires considerable corrections, especially at high speed.
d. May not be used in icing conditions due to the large position error.

41. The static system has three drains. These drains should be serviced:

a. Only on the ground, with the cabin unpressurised.
b. During each periodic inspection.
c. After exposure to moisture such as washing or precipitation.
d. All of the above.

Section H: Ice protection

42. Auto-ignition is **required** to be armed:

    a. For takeoff and landing.
    b. For takeoff, landing and icing conditions.
    c. For takeoff, approach, landing, icing conditions, in precipitation and in turbulence.
    d. At all times, except during a normal ground start.

43. When armed, auto-ignition is active whenever:

    a. Torque is below approximately 400 ft-lbs.
    b. Torque is below approximately 200 ft-lbs.
    c. N_1 is below 70%.
    d. Torque is above 400 ft-lbs.

44. Extension of the ice vanes can be confirmed by:

    a. Increased torque, decreased ITT.
    b. Decreased torque, decreased ITT.
    c. Decreased torque, increased ITT.
    d. Increased torque, increased ITT.

45. The King Air C90 has only one de-icing system:

    a. Pitot heat.
    b. Engine lip heat.
    c. Inertial separators.
    d. None of the above.

46. Windshield heat:

    a. Affects the compass.
    b. Is prohibited on the ground.
    c. Is restricted to flight at temperatures below 5°C.
    d. Is recommended for all flight operations.

47. On the ground, switching on the lip heat:

    a. Locks out windshield heat.
    b. Locks out electric heat.
    c. Has no effect because lip heat is not available on the ground.
    d. None of the above.

48. Electric cabin heat is:

a. Available at all times.
b. Available in the air, provided the windshield heat and engine lip heat are off.
c. Available on the ground, provided engine lip heat is off.
d. Not tied in to the ice protection circuits at all, but only to the environmental system controls.

49. During pre-takeoff checks of the anti-icing system:

a. The propeller de-ice cannot be checked.
b. The landing gear safety switch prevents checking the inertial separators.
c. The landing gear safety switch prevents checking the engine air inlet boots.
d. Windshield alcohol can be checked.

50. Holding the de-icing boot switch in MANUAL inflates the boots and:

a. Damages the boots if held for more than two minutes.
b. Keeps the boots inflated indefinitely, with no damage.
c. Could cause the boots to separate from the wings.
d. Unloads through the air pressure pump.

51. The inertial separator vanes:

a. Prevent suspended water in fuel from freezing.
b. Must not be used on the ground.
c. Must be used in below-freezing temperatures.
d. Must be used at near-freezing temperatures and visible moisture.

Section I: Pressurisation

52. The outflow valve in the rear pressure bulkhead:

a. Relieves at 4,6 PSI.
b. Is electrically held closed while on the ground.
c. Does not contain a negative pressure relief function.
d. All of the above are correct.

53. The cabin pressure is controlled by:

    a. Modulation of inflow air by the flow control packages on each firewall.
    b. Modulation of the outflow air by the cabin pressure controller through the outflow valve.
    c. A combination of *a* and *b*.
    d. Modulation of the outflow by the cabin pressure controller through the outflow valve and the safety valve.

54. To maintain the pressurisation during a normal descent:

    a. Idle power is sufficient.
    b. At least 65% N_1 should be maintained.
    c. At least 75% N_1 should be maintained.
    d. At least 85% N_1 should be maintained.

55. Selecting the pressurisation switch to DUMP during flight:

    a. Dumps cabin pressure by shutting off bleed air input.
    b. Leaves bleed air supply intact, but opens the safety valve to dump cabin pressure.
    c. Engages electric heat to compensate for loss of hot bleed air.
    d. Leaves bleed air supply intact, but opens the outflow and safety valves to dump cabin pressure.

56. Total loss of electrical power will:

    a. Cause a loss of pressurisation because the dump valve solenoid will open.
    b. Cause a loss of pressurisation because the flow control packages will stop the flow of pressurisation air into the cabin.
    c. Will have no effect because all valves in the pressurisation system are in the normal position (closed or open) during flight.
    d. Both *a* and *b*.

57. In cruise flight at FL230, moving the *Pressurisation* control switch to the *TEST* position will:

    a. Cause the cabin pressurise to maximum differential.
    b. Cause the cabin altitude to descend to sea level.
    c. Cause the cabin to depressurise at leak rate.
    d. Have no effect on cabin pressure.

58. For a 15 minute flight at FL90, from an airfield at 5500’ to a destination at sea level, the best sequence of cabin altitude settings for passenger comfort is:

    a. 10 000’ *ACFT ALT* for the entire flight.
    b. 500’ *CABIN ALT* for the entire flight.
    c. 5500’ *CABIN ALT* for the entire flight.
    d. 5500’ *CABIN ALT* for takeoff, 10 000’ *ACFT ALT* for cruise and 500’ *CABIN ALT* for descent and landing.

59. During level flight at maximum differential pressure, selecting a lower cabin altitude:

    a. Causes the cabin pressure to increase.
    b. Causes the cabin pressure to decrease.
    c. Has no effect on cabin pressure.
    d. Causes the aircraft to descend.

60. The airstair door:

    a. Is a plug-type door, sealed by pressurisation.
    b. Is sealed by an inflatable door seal operated by the left squat switch.
    c. Is sealed by a vacuum generated in the pneumatic system.
    d. Both *a* and *b*.

61. The emergency exit:

    a. Is a plug-type door, sealed by pressurisation.
    b. Is sealed by an inflatable door seal operated by the left squat switch.
    c. Closes tightly against a soft rubber seal to form an airtight connection.
    d. Has a special pressurisation-operated door seal.

Section J: Oxygen

62. The oxygen pressure in the bottle is indicated by a guage:

    a. On the bottle.
    b. On the filler panel.
    c. In the cockpit.
    d. Both *b* and *c*.

63. For the crew to obtain oxygen, once the preflight actions are completed, the pilot should:

    a. Arm the system by pulling the *Pull On System Ready* cable, don the masks and breathe.
    b. Pull out the oxygen cable and plug the masks into the receptacles. Oxygen flow will be indicated by a green indicator in the oxygen supply line.
    c. Both *a* and *b*.
    d. None of the above.

Section K: Cabin and environmental

64. Cabin air is cooled by:

    a. Circulation of pressurisation air over air-to-air heat exchangers in the wing roots.
    b. A vapour cycle air conditioning system.
    c. An air cycle machine in the pressurisation air supply lines.
    d. Both *a* and *b*.

65. With the *Cabin Temperature* mode switch in the *AUTO* position:

    a. Cabin temperature can be controlled by the temperature rheostat.
    b. Cabin temperature is held automatically at a comfortable level without any pilot action required.
    c. Cabin temperature may be controlled by either the rheostat or the *Temperature INC/DEC* switch.
    d. The pilot has no control over the temperature other than switching it off.

66. For maximum cooling on the ground, the pilot should:

    a. Switch *Cabin Temperature Mode* to *MAN COOL* and hold the *INC/DEC* switch to *DEC* for 30 s.
    b. Switch *Cabin Temperature Mode* to AUTO, set the rheostat to maximum DEC, switch the bleed air valves to CLOSED and open all the overhead vents.
    c. Using the air conditioning system is not recommended because of the high electrical loads that would overload the generators and/or may cause high ITTs.
    d. None of the above.

67. Electric cabin heat is locked out on the ground when:

    a. Propeller de-ice is on.
    b. Windshield anti-ice is on.
    c. Engine lip boots are on.
    d. *a* and *b* are correct.

68. With propeller de-ice, windshield anti-ice and engine lip boots off, normal electric cabin heat is:

    a. Operative with the electrical heat switch out of OFF, the bypass valves directing all the bleed air around the intercooler and the mode switch in AUTO.
    b. Operative any time the electric heat switch is out of OFF and the mode switch is on MANUAL HEAT.
    c. Locked out when the vapour cooling system is operating.
    d. All of the above.

69. The four heater panels, when selected on GRD MAX, are:

    a. Turned off automatically on takeoff.
    b. Considered a supplement to bleed air in flight.
    c. Cycled by the automatic cabin temperature control system.
    d. All of the above are correct.

70. The emergency escape hatch:

    a. Illuminates a warning annunciator on the panel when opened.
    b. Can be opened from outside.
    c. Will completely detach when opened.
    d. Is hinged at the bottom and opens outwards when unlatched from inside.

Section L: Electrical

71. Inverter failure:

    a. Will affect some engine gauges.
    b. Will not affect engine gauges.
    c. Will only affect flight instruments that operate on 115 VAC.
    d. Will only affect flight instruments that operate on 28 VAC.

72. Total electrical failure will affect:

    a. All engine gauges.
    b. ITT, N_1 and Prop rpm gauges.
    c. Torque, fuel flow, oil temperature and oil pressure gauges.
    d. Engine gauges not self powered.

73. A reading of 0,5 on both loadmeters:

    a. Indicates a total load of 125 A.
    b. Indicates a total load of 250 A.
    c. Should not be exceeded in High Idle on the ground.
    d. Both *b* and *c*.

74. In the event of a generator failure, the pilot should accomplish the appropriate checklist, and then:

    a. Switch over to the standby generator.
    b. Do a current limiter check.
    c. Do a battery condition check.
    d. Select the other inverter.

75. Failure of the left generator and the left 325 A current limiter will result in:

    a. Having to extend the gear manually.
    b. No major deviation from normal procedures.
    c. Navigation and communication difficulties.
    d. Problems not mentioned above.

76. The 50 A subpanel feeder circuit breakers:

    a. Primarily feed permanently-on items.
    b. Must not be reset if they trip in flight.
    c. May be reset once if they trip in flight.
    d. Can be reset whenever it trips.

77. The minimum battery voltage required for a start using external power is:

    a. 28 V
    b. 24 V
    c. 22 V
    d. 20 V

78. Illumination of the *BAT CHG* annunciator in flight:

    a. Is normal, for short periods.
    b. Is abnormal and requires that a current limiter check be accomplished.
    c. Is abnormal and requires that a battery condition check be accomplished.
    d. None of the above.

79. A popped circuit breaker:

a. Should not be reset in flight.
b. May be reset in flight, except if it is a subpanel feeder breaker.
c. Should be reset in flight.
d. Could be reset in flight, provided that it protects an essential item and is not a subpanel feeder breaker.

80. When using external power, the following precautions should be taken:

a. The GPU voltage must be 28,25 ? 0,25 V, and the current capacity must be at least 1 kA for 1 s and 400 A continuous.
b. The GPU voltage must be 28,25 ? 0,25 V, and the current capacity must be at least 1 kA for 0,1 s and 300 A continuous. The aircraft battery voltage must be at least 20 V.
c. The GPU voltage must be 27,5 to 29 V. The aircraft battery voltage must be at least 22 V.
d. Precautions are not necessary, as a protection circuit will automatically disconnect the external power if the voltage exceeds about 34 V.

81. The battery switch should be on during an external power start:

a. To assist the GPU.
b. To absorb power spikes.
c. To take over the start in the event of a GPU failure.
d. Both *b* and *c*.

82. The aircraft uses two 250 A generators:

a. A loadmeter indication of 1,0 means a 250 A load.
b. The loadmeter indicates bus voltage when the button is pressed.
c. The generator control switches cannot override the starter function.
d. *a*, *b* and *c*.

83. If the battery and generator switches are turned off in flight:

a. The electric boost pumps will cease to function.
b. There will be no effect on transfer pump operation.
c. The crossfeed valve will open due to spring loading.
d. The boost pumps will operate until the battery is depleted.

84. Choose the correct statement:

a. Left and right pitot heads are heated through separate switches.
b. The flaps may be positioned between 0 and 15°.
c. The left pitot heat switch also controls heating of the stall warning vane.
d. Fuel will not flow to keep engines running without boost pumps.

Section M: Fuel

85. To refuel to the full capacity of 384 USG:

    a. Fill only the wings.
    b. First fill the wings, then fill the nacelles.
    c. Fill the nacelles only.
    d. First fill the nacelles, then the wings.

86. Useable fuel capacities (in US Gallons) are:

	Each main	**Each wing**	**Total**
a.	60	132	384
b.	50	162	444
c.	61	161	444
d.	61	131	384

87. Automatic crossfeed is provided to:

    a. Prevent fuel exhaustion when operating with one engine inoperative.
    b. Prevent fuel imbalance.
    c. Prevent damage to the high-pressure fuel pumps.
    d. Ensure adequate fuel supply to either engine during flight with one engine inoperative.

88. When operating with one engine inoperative, and crossfeeding is required, the pilot should:

    a. Do nothing because crossfeed is automatic.
    b. Consult the checklist.
    c. Place the *Crossfeed* switch in the *Open* position.
    d. Place the *Crossfeed* switch in the *Auto* position.

89. Failure of an electrical boost pump (LJ668 and after):

    a. Will be indicated by the illumination of the appropriate *Boost Pump Fail* annunciator.
    b. Will cause the engine to flame out.
    c. Will be indicated by a flashing *Master Warning* annunciator and the *Crossfeed* annunciator.
    d. Cannot be detected in flight.

90. Failure of an engine-driven fuel pump with the *Crossfeed* switch in *Auto*:

    a. Will be indicated by the appropriate *Fuel Press* annunciator illuminating.
    b. Will cause the engine to flame out.
    c. Will be indicated by a flashing *Master Warning* annunciator and the *Crossfeed* annunciator.
    d. Cannot be detected.

91. Fuel anti-ice additives:

    a. May be used at all times.
    b. Are very seldom required for the C90.
    c. Are never required for the C90.
    d. Both *a* and *b*.

92. Transfer of fuel from the fuel tank in the wing root to the nacelle:

    a. Is automatic (i.e. needs no pilot action).
    b. Is monitored by an annunciator through a pressure switch in the crossfeed line.
    c. Can be prevented altogether by placing the *Transfer* switch in the *Off* position.
    d. Will take place, provided the switch is in the *On* position.

93. The wing root tank is kept full from the outer wing tanks by gravity. When the outer wing tanks are empty and the transfer pump becomes inoperative, on that wing:

    a. 61 USG is usable.
    b. 28 USG is unusable.
    c. 105 USG is unusable.
    d. 77 USG is usable.

94. Use of aviation gasoline (Avgas) as a fuel for PT6A engines:

    a. Is never allowed.
    b. Is allowed at all altitudes and under all conditions for 150 hours between overhauls.
    c. Is allowed without restrictions.
    d. Is recommended under certain circumstances.

95. Use of aviation gasoline (Avgas) as a fuel for PT6A engines:

    a. May not be mixed with kerosene in the fuel tanks.
    b. May be used for 150 hours cumulative between engine overhauls.
    c. Cannot be used at all.
    d. May be used in an emergency at lower power settings.

96. Fuel is heated before entering the FCU by:

a. Hot air from the engine oil cooler.
b. An electric element and heated tank vents.
c. Engine oil, through a heat exchanger.
d. Anti-ice boots.

97. The *Fuel Control Heat* switch:

a. Must be turned on after engine start, regardless of ambient temperature.
b. Controls fuel temperature.
c. Is required only when visible moisture or visible airframe icing is present.
d. Should not be used on the ground.

98. If the *Crossfeed* annunciator suddenly illuminates in flight:

a. A boost pump has failed.
b. An engine-driven fuel pump has failed.
c. The crossfeed system has failed, and fuel cannot be cross-fed.
d. The fuel transfer system has failed.

99. If a boost pump has failed and/or crossfeed is not available, operation of the engine-driven fuel pump is permitted:

a. For ten hours before pump overhaul.
b. For ten hours below 8000’.
c. Indefinitely, but only below 8000’.
d. Only for a few seconds, as the engine will flame out without boost pump pressure.

Section N: Weight and Balance

100. Maximum operating weights (in pounds) are:

	Ramp	**Takeoff**	**Landing**
a.	9605	9550	8500
b.	9355	9300	8835
c.	9055	9000	8550
d.	9710	9650	9168

Section O: True or False

101. Engine gas generator idle speed will increase with increasing field elevation.
102. Prolonged use of 115/145 Avgas will cause power deterioration due to coating of compressor blades.
103. Maximum allowable oil consumption is 1 US Quart per 9 hours.
104. A negative-ground power source is required to keep air conditioning operational when the engines are not running.
105. The generator load control meter indicates fractions of load, and shows voltage when the button is pressed.
106. The fuel crossfeed valve is spring-loaded to the closed position.
107. Any indicator light on the annunciator panel will also trigger the flashing red light.
108. The vapour-cooling system may be used in flight and on the ground.
109. The propeller reversing system may be activated with the engines shut down without damaging the linkages.
110. If the boost pump fuses are blown at the battery emergency bus, boost pumps are inoperative in normal flight.
111. Failure of the AC-powered instruments in flight can normally be corrected by switching to the other inverter.
112. If the Left current limiter is blown, the Left generator is rendered inoperative because it will be impossible to get DC excitation voltage to the Left generator.
113. With the *Vent Blower* switch on AUTO and *Cabin Temp Mode* in any position except OFF, the vent blower will run continuously.
114. With the propeller synchronisation system energised, the right propeller will feather automatically when the left propeller is feathered.
115. Closing both bleed air valves in flight causes the cabin pressure to dump.
116. The current limiters may be ground checked by turning the battery switch on and pressing both loadmeter buttons.
117. The minimum N_1 for an air start is 12%.
118. The battery switch is normally ON when using a power cart for starting.
119. Auto-ignition is used only in icing conditions.
120. In pressurised flight, the ventilation blower draws in outside air through the ram air vent and circulates it through the cockpit and cabin.