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VOLUME I

TACTICAL AIR COMMAND PAMPHLET

FLYING TRAINING

AIRCREW WEAPONS SYSTEM INFORMATION GUIDE

T-29 PILOT/FLIGHT MECHANIC



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DEPARTMENT OF THE AIR FORCE
TACTICAL AIR COMMAND

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Flying Training

AIRCREW WEAPONS SYSTEM INFORMATION GUIDE

T-29 Pilot/Flight Mechanic

This pamphlet is intended to provide aircrews with a standard document to use in conjunction with the flight manual and other applicable operations publications. It is designed to be used by newly assigned aircrew members for upgrade training in their weapons system and for qualified aircrew members to use in continuation training. The pamphlet will be made available to each aircrew member and will be requisitioned through normal publications distribution channels. The contents of the pamphlet address those areas from which annual written examinations and standardization/evaluation visit examinations will be constructed. Unit standardization/evaluation functions will supplement this pamphlet with questions on local area directives/procedures as Chapter 7. Recommendations for revisions or additions to this pamphlet should be submitted IAW AFR 60-9 to HQ TAC/DOV.

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CHAPTER 1

Pre-Take Off Phase

1. Define warning, caution, and notes as used in the flight manual. (Flt Man, Introduction)

2. What is the total volume and gallons usable of the ADI tank? (Flt Man, Sec I)

3. Pressure operated valves in the water injection system prevent flow of water to the engines if engine oil pressure is less than what PSI? (Flt Man, Sec I)

4. When the system is being used, when will water automatically be metered to the engine fuel feed valve? (Flt Man, Sec I)

5. The water-pressure-ON indicator lights illuminate when water at what pressure is available at the inlets of the water injection regulators? (Flt Man, Sec I)

6. The water quantity gage is powered by what bus? (Flt Man, Sec I)

7. What instruments are powered by the 26V AC bus? (Flt Man, Sec I)

8. Augmentor vane actuators are powered by what bus? (Flt Man, Sec I)

9. Augmentor vane position indicators are powered by what voltage?
(Flt Man, Sec I)

10. The augmentor overheat warning bell circuit is protected through what switch or circuit breaker? (Flt Man, Sec I)

11. When is the only time ignition boost current can be supplied to the spark plugs? (Flt Man, Sec I)

12. The tachometers, located on the engine instrument panel, indicate the rpm of what? (Flt Man, Sec I)

13. From where does the tachometer receive its power? (Flt Man, Sec I)

14. From where does the CHT gage receive its power? (Flt Man, Sec I)

15. The CAT gages indicate the temperature of the air where on the engine? (Flt Man, Sec I)

16. Where is the oil temperature bulb located and what does it indicate the temperature of? (Flt Man, Sec I)

17. All fuel consumed by the engine (except the primer) passes through what unit that measures the rate of flow in pounds per hour? (Flt Man, Sec I)

18. With the prop control in full increase RPM, what is the propeller speed in comparison to engine speed? (Flt Man, Sec I)

19. CONDITION: Aircraft ready for takeoff, all checks complete. A propeller will be feathered automatically if engine TOP falls to what PSI after the throttles have been advanced beyond a position corresponding to approximately what manifold pressure. (Flt Man, Sec I)

20. What is the purpose of the test switch when testing the auto feather system? (Flt Man, Sec I)

21. Each engine oil tank has a total usable oil capacity of approximately how many gallons? (Flt Man, Sec I)

22. How much oil is reserved for feathering and reversing? (Flt Man, Sec I)

23. The reserve oil tank has a usable capacity of approximately how many gallons? (Flt Man, Sec I)

24. What is the total amount of usable fuel available, standard atmosphere? (Flt Man, Sec I)

25. The free air temperature is +15°C when you service the aircraft with fuel and the fuel quantity gages in the cockpit indicate 4000 lbs. Later in the day, the FAT has increased to +35°C and you check the fuel quantity gages. You have not defueled or reserviced since the temperature increased. What would the fuel quantity gages indicate? (Flt Man, Sec I)

26. If a fuel quantity gage is functioning properly, what will happen when the test switch is held to the corresponding test position? (Flt Man, Sec I)

27. How are the batteries, rated at 12 volts each, connected to provide a 24 V DC power source? (Flt Man, Sec I)

28. What is the purpose of the load monitoring relays in the aircraft electrical system? (Flt Man, Sec I)

29. The propeller de-ice circuit breakers will respond to an overload in either the DC control circuit or the AC circuits that power the heating elements in the prop blades. What type CBs are these? (Flt Man, Sec I)

30. What power source is required for the engine fire detection system? (Flt Man, Sec I)

31. Can external power be supplied to both of the unregulated AC buses simultaneously? (Flt Man, Sec I)

32. What indication will you get that the AG hydraulic accumulator is not properly serviced and when will you get this indication? (Flt Man, Sec I)

33. CONDITION: Hydraulic pressure bypass handle-bypass, emergency hydraulic switch - OFF, aircraft on the ground with both engines running. Excluding accumulator, list all item(s) that will be operative. (Flt Man, Sec I)

34. What is the fluid capacity of the main hydraulic resevoir?
(Flt Man, Sec I)

35. When does the hydraulic accumulator pressure gage in the nose wheel well indicate the air pressure in the accumulator? (Flt Man, Sec I)

36. On what control surfaces are flight tabs installed? (Flt Man, Sec I)

37. Is the operation of the nose wheel steering system affected by the position of the landing gear lever? (Flt Man, Sec I)

38. The emergency air system pressure gage is powered by what source? (Flt Man, Sec I)

39. What type fire extinguisher system is used for the reserve oil tank area? (Flt Man, Sec I)

40. Missing CO 2 supply indicator discs of what color would indicate the CO 2 bottles have been discharged by actuation of a fire extinguisher switch? (Flt Man, Sec I)

41. Can the alarm bell be operated with the battery switch in the OFF position? (Flt Man, Sec I)
42. Where is the alarm bell circuit breaker located? (Flt Man, Sec I)
43. Is operation of the main entrance door and stair system affected by the position of the landing gear lever? (Flt Man, Sec I)
44. When may the through-flight checklist be accomplished? (Flt Man, Sec II)
45. If external power is required for anti-icing and de-icing equipment preflight, the alternator selector switch should be placed in what position? (Flt Man, Sec II)
46. Interior inspection: when the landing gear lever is checked DOWN and locked, what additional item(s) should be observed? (Flt Man, Sec II)
47. During cold weather operation below what temperature do you not operate nacelle flaps until preheat has been applied or engine is operating and oil temperature reaches what temperature? (Flt Man, Sec II)
48. If a dash 6 preflight has been accomplished, is it still necessary for the flight crew to check the tail section during exterior inspection? (Flt Man, Sec II)

49. When performing inverter check on "Before Starting Engines" portion of the checklist, what should the inverter voltage reading be? (Flt Man, Sec II)

50. When starting engines on the battery, should you delay the inverter check and keep the switches OFF until one generator is operating? (Flt Man, Sec II)

51. If the fire warning lights do not illuminate within 10 seconds after actuating the test switch, should you assume the fire detection system is inoperative? (Flt Man, Sec II)

52. Is it acceptable to operate the left engine with the rear service door open? (Flt Man, Sec II)

53. During engine start with an APU, do not exceed one minute of continuous cranking. If start is not made, how long a cooling period is required after first and second attempt at starting? (Flt Man, Sec II)

54. When starting engines using battery power, what is the maximum time limit for continuous cranking? (Flt Man, Sec II)

55. A count of how many blades will insure adequate engine pre-oiling when making a cold start. (Flt Man, Sec II)

56. If the engine is started within one hour after shutdown, a count of how many blades is sufficient to detect hydraulic lock? (Flt Man, Sec II)

57. When starting an engine, overpriming must be guarded against to prevent what? (Flt Man, Sec II)

58. The initial RPM surge which occurs during the engine start should not be allowed to exceed what RPM? (Flt Man, Sec II)

59. You should stop the engine and investigate the cause during engine start, if engine oil pressure does not indicate a positive rise within what period of time? (Flt Man, Sec II)

60. May the main entrance door remain open during starting of the right engine as long as a safety man is stationed nearby? (Flt Man, Sec II)

61. What is the maximum RPM allowed until engine oil temperature has warmed up to 40°C? (Flt Man, Sec II)

62. What procedure should be used to prevent and combat lead fouling of spark plugs during prolonged periods of ground idling? (Flt Man, Sec II)

63. After checking carburetor heat, approximately what period of time is required for the carburetor temperatures to stabilize? (Flt Man, Sec II)

64. What is the minimum oil pressure for idle speed? (Flt Man, Sec V)

65. After starting taxi roll, what RPM is required on engines to keep generators in operation? (Flt Man, Sec II)
66. To insure adequate engine cooling while taxiing in reverse, what position should the nacelle flaps be? (Flt Man, Sec II)
67. To check the voltage output on the left generator when performing the engine runup generator check, what position should the volt meter selector switch and the generator switches be? (Flt Man, Sec II)
68. When performing the propeller blade switch check, the RPM should drop and stabilize at approximately what RPM? (Flt Man, Sec II)
69. When performing the reverse check, what RPM should be maintained on the opposite engine to assure generator power on the main bus and prevent excessive drain on the battery? (Flt Man, Sec II)
70. During the propeller reverse check, power should not exceed what limitations? (Flt Man, Sec II)
71. Engine power check is accomplished at what manifold pressure? (Flt Man, Sec II)
72. During engine runup, with throttles set at field barometric pressure, the RPM which should be obtained on T-29A aircraft with no headwind is? (Flt Man, Sec II)

73. During engine runup, with throttles set at field barometric pressure, the RPM which should be obtained on T-29B aircraft with no headwind component is? (Flt Man, Sec II)

74. During engine runup, with throttles set at field barometric pressure, the RPM which should be obtained on T-29 C & D aircraft with no headwind component is? (Flt Man, Sec II)

75. During the engine power check, how many RPM should be added to the allowable limits for each knot of headwind? (Flt Man, Sec II)

76. During engine runup with the throttle set at field barometric pressure, the respective alternator output should be? (Flt Man, Sec II)

77. What is the max permissible mag drop and what is the maximum difference allowed between L & R mags on the same engine? (Flt Man, Sec II)

78. During an ignition system check, operation on a single magneto must not exceed how many seconds. (Flt Man, Sec II)

79. When checking the water injection system during engine runup, advance throttle to what fuel flow? (Flt Man, Sec II)

80. Would decrease in fuel flow when turning the water injection switch OFF be an indication of proper water injection system operation? (Flt Man, Sec II)

81. When performing the propeller auto feather system check, one of the indications that the auto feather actuator switch is set properly is to check for an indication of what TOP when the feathering button light illuminates? (Flt Man, Sec II)

82. During the auto feather test, the flight mechanic should observe the tachometer for what RPM decrease before pulling the feathering button to the neutral position? (Flt Man, Sec II)

83. Prior to accomplishing the thru-flight manual feather check, reduce power to what RPM? (Flt Man, Sec II)

84. How long should the UHF communications radio (AN/ARC 27) be allowed to warmup? (Flt Man, Sec IV)

85. Instrument markings: What color arc indicates that danger may exist under specific conditions? (Flt Man, Sec V)

86. Who may authorize operation with only a pilot and copilot when required for the command mission accomplishment? (Flt Man, Sec V)

87. By using wet power and 115/145 grade fuel on the R2800-99W engine, the available takeoff BHP as compared to dry power and 115/145 grade fuel on a standard day is increased by how much BHP per engine. (Flt Man, Sec V)

88. What is the maximum TOP permitted in auto lean using 115/145 fuel on the R2800-99W engine in both low and high blower? (Flt Man, Sec V)

89. The minimum enroute altitude for a proposed flight is 6000 feet. The forecast temperature at that altitude is +15°C. What is the density altitude at the MEA? (Flt Man, Sec 1-A1)

90. Given: CAT 20°C, press alt 6000 ft, Dew point 60°F. Find: minimum performance TOP (wet) 115/145 fuel. (Flt Man, Sec 1-A2)

91. Given: runway heading - 070°, wind - 020°/25, gusts to 35 knots. Is takeoff recommended? (Flt Man, Sec 2-A3)

92. Given: runway, 5000' long, dry, with distance markers. Conditions, sea level, standard day: wind calm, takeoff ground run 3500', takeoff speed 110 kts, critical field length 4000', refusal speed 85 knots. Find: acceleration checkpoint distance and airspeed. (Flt Man, Sec 2-A3)

93. Given density altitude 8000 ft, min performance TOP 91 PSI, gross weight 34,000 lbs, runway slope 0%, forecast headwind component 20 kts. Find: critical field length, 12° flaps. (Flt Man, Sec 2-A3)

94. Given: runway length 5000' flaps 12°, min per TOP 103 PSI, den altitude - 4200', gross weight 41,500 lbs. Find: no-wind refusal speed. (Flt Man, Sec 2-A3)

95. Given: critical field length 4600 ft, runway condition reading (RCR) 6, gross weight 40,000 lbs. Find: corrected critical field length. (Flt Man, Sec 2-A3)

96. Given: runway length - 5000' (level dry), density altitude - sea level, wind - calm, gross weight at takeoff - 40,500 lbs, minimum performance TOP 130 PSI. Find: a takeoff flap setting which would permit clearing power lines 100' high located 1500' beyond the end of the runway if autofeather (right engine) occurred at takeoff point: (Flt Man, Sec 1-A3)

97. Given: takeoff gross weight 41,500 lbs. density altitude - sea level, min performance TOP 110 PSI, wind calm, flaps 0°, assuming acceptable performance from both engines, landing gear up in 6 seconds, climb at takeoff speed, what should your altitude be 3000 ft beyond the takeoff point. (Flt Man, Sec 1-A3)

98. Given: METO power climb SL to 5000, gross weight 42,000 lbs. Find: approximate best climb speed and fuel consumed in climb, using two engines. (Flt Man, Sec 2-A4)

99. During cold weather starts, when should you apply carburetor heat. (Flt Man, Sec IX)

100. The manual that establishes Air Force standards of training, qualification, and currency for all T-29 aircrew members is? (AFM 51-29)

101. Air Force aircraft will not be taxied closer than how many feet to runways on which aircraft are landing or taking off. (Unless terrain requires an exception). (AFR 60-11)

102. Aircraft will not be taxied within how many ft of an obstruction? (AFR 60-11)

103. Is an aircraft being taxied within 25 ft of an obstruction required to have a taxi signal man at each wing tip? (No designated taxi lane.) (AFR 60-11)

104. What lighting is required for night flights? (AFM 60-16)

CHAPTER 2

Takeoff and Climb Phase

1. On take-off, the ADI pump will automatically cut off when water is used down to what level? (Flt Man, Sec I)

2. If takeoff should be attempted with one or both red feathering button lights ON and the auto feather switch in the ON position, what will happen when the throttles have been advanced beyond the 45 in Hg manifold pressure position? (Flt Man, Sec II)

3. If vibration is noticed on take-off, should brakes be applied lightly after take-off? (Flt Man, Sec II)

4. If an UP and locked malfunction occurs when the landing gear is retracted, should you immediately recycle the gear? (Flt Man, Sec II)

5. If the prop reverse override handles will not remain in after takeoff due to malfunction of the electrical circuit, should the reverse lock circuit breaker be pulled? (Flt Man, Sec II)

6. On T-29 A & B model A/C, afterburning may occur during climb if augmentor vanes are closed more than? (Flt Man, Sec IV)

7. On T-29 C & D model A/C, afterburning may occur during climb if vanes are closed more than? (Flt Man, Sec IV)

8. What is the maximum MAP permitted for takeoff on the R2800-97W using normal fuel and ADI? (Flt Man, Sec V)

9. What is the maximum TOP permitted for takeoff on the R2800-99W engine using 115/145 fuel and ADI? (Flt Man, Sec V)

10. What is the minimum water pressure for T-29 A/C? (Flt Man, Sec V)

11. To avoid excessive stress on actuating mechanism, landing gear-retraction should begin prior to reaching what airspeed? (Flt Man, Sec V)

12. Given: gross weight 40,000 lbs, min performance TOP 115 PSI, density altitude 2000, flap setting for 200 FPM single engine rate of climb. Find: corrected rate of climb if landing gear fails to retract. (Flt Man, Sec 2-A3)

13. After taking off from a snow or slush covered runway, what should you do with the landing gear and wing flaps? (Flt Man, Sec IX)

CHAPTER 3

Operational Phase

1. If the augmentor vanes are being used to maintain wing heat and the wing edge becomes overheated, can the augmentor vanes be operated to closed position, even though the overheat condition exist? (Flt Man, Sec I)

2. If an overheat condition occurs in the augmentors during anti-icing operations, how does this affect the warning bell and augmentor vanes? (Flt Man, Sec I)

3. What prevents moving the throttles into the reverse thrust range when the airplane is airborne? (Flt Man, Sec I)

4. What should be visible on the shafts of the reverse propeller override indicator handles when the aircraft is airborne? (Flt Man, Sec I)

5. When feathering action is initiated using the manual system, what holds the button in until the feathering action is completed? (Flt Man, Sec I)

6. If oil transfer is anticipated the reserve oil heat switch must be placed in HEAT position whenever the free air temp is what? (Flt Man, Sec I)

7. Will all flow of fuel, oil and hydraulic fluid be shut off if the fluid-OFF handle is pulled out? (Flt Man, Sec I)

8. Is fuel boost pump power sufficient to provide normal fuel pressure at the carburetors if an engine driven fuel pump fails? (Flt Man, Sec I)

9. If the electrical power circuit to the fuel quantity gages fails, how will this affect the gage reading? (Flt Man, Sec I)

10. Regulated 26 volt AC is required to operate what type of gages? (Flt Man, Sec I)

11. Which type circuit breakers may be reset immediately after tripping? (Flt Man, Sec I)

12. Will the regulated AC electrical power system be available after complete DC power failure? (Flt Man, Sec I)

13. If the generator load cannot be equalized to within 10% of the total load, should you discontinue operation of the generator which is not carrying a full share of the load? (Flt Man, Sec I)

14. What will power the attitude and directional indicators in the event alternating current from the main and spare inverters is not available? (Flt Man, Sec I)

15. Excluding early T-29A aircraft, can a failed electrical fuse for the brake pressure gage affect the pressure gage? (Flt Man, Sec I)

16. Is it possible to interselect power output from the left engine alternator to the unregulated AC bus No. 2 or vice versa? (Flt Man, Sec I)

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17. If a flashing alternator failure warning light is encountered when the corresponding alternator switch is first placed ON, what should you do? (Flt Man, Sec I)

18. Which bus provides alternator power for operation of the propeller de-ice system? (Flt Man, Sec I)

19. How many gallons of hydraulic fluid is reserved for use with the emergency hydraulic pump? (Flt Man, Sec I)

20. If, due to a line failure, the normal supply of fluid in the hydraulic system and reservoir has been exhausted, the reserve fluid supply permits the lowering of wing flaps, the charging of the accumulator, and how many brake applications? (Flt Man, Sec I)

21. Can the emergency hydraulic pump be used to operate the wing flaps with the bypass in either position? (Flt Man, Sec I)

22. In case of complete hydraulic failure, will the 1.3 gallons of reserve hydraulic fluid always be available? (Flt Man, Sec I)

23. To prevent overheating of the emergency hydraulic pump, how long can you operate the pump continuously, and how long a cooling period is required? (Flt Man, Sec I)

24. With the hydraulic bypass handle up, what hydraulically operated unit will be inoperative under any condition? (Flt Man, Sec I)

25. With a complete hydraulic failure, can the emergency flap handle be used to operate the wing flap system? (Flt Man, Sec I)
26. What does the emergency air system provide emergency operation for? (Flt Man, Sec I)
27. To what zones in the engine is fire detection available? (Flt Man, Sec I)
28. If the engine fire detection circuit is broken by fire damage, will the warning light remain illuminated until the fire is out? (Flt Man, Sec I)
29. The ventilation door in the nacelle top cowl panel is closed by operation of what system? (Flt Man, Sec I)
30. What should the pressure be when the emergency air cylinder is fully charged? (Flt Man, Sec I)
31. What is the minimum emergency air system pressure? (Flt Man, Sec I)
32. How are coordinated items indicated in the checklist? (Flt Man, Sec II)

33. In addition to using the boost pumps for starting, takeoff, crossfeed and landing they should be used in climb above what altitude? (Flt Man, Sec II)
34. What do the lights associated with the heat source valves indicate on T-29A aircraft? (Flt Man, Sec IV)
35. For normal operation, when icing conditions are encountered, completely close the augmentor vanes and adjust the nacelle flaps (not to exceed midposition) to maintain a desired CHT of? (Flt Man, Sec IV)
36. Maximum wing and tail temperature for anti-icing operation with the structural override limit switch in the OVERRIDE position is? (Flt Man, Sec IV)
37. A reading of what percent on the prop de-icing loadmeter would indicate normal percentage of electrical load being applied to the propellers? (Flt Man, Sec IV)
38. From what bus do the alt. gen. scoop de-icing boot heaters receive power for operation? (Flt Man, Sec IV)
39. In flight, the alt. gen. scoop de-icing boot circuits are controlled by operation of what switch? (Flt Man, Sec IV)
40. What will happen if you are flying and move the pilot's static selection valve while the autopilot altitude control switch is ON? (Flt Man, Sec IV)

41. How many times can the compass slaving switch be cycled in any 10-minute period? (Flt Man, Sec IV)
42. On the R2800-97W engine, auto lean operation using 115/145 fuel is not permitted above what MAP setting? (Flt Man, Sec V)
43. On the R2800-99W engine, auto lean or manual lean operation using 115/145 fuel is not permitted above what MAP setting? (Flt Man, Sec V)
44. What is the desired CHT for continuous operation? (Flt Man, Sec V)
45. What is the minimum fuel pressure for flight? (Flt Man, Sec V)
46. At what CAT is there danger of carburetor icing? (Flt Man, Sec V)
47. You are cruising in high blower on a C or D model aircraft pulling 1150 BHP, using manual-lean operation with a 7 PSI drop from best power and maintaining CHT at 200°C. The limiting CAT if icing conditions warrant carburetor heat would be? (Flt Man, Sec V)
48. In high blower, what is the maximum engine speed for B, C, and D aircraft? (Flt Man, Sec V)

49. What is the maximum IAS with 39° flaps? (Flt Man, Sec V)

50. What would be the indication that denotation is probably occurring? (Flt Man, Sec VII)

51. What is the recommended manifold pressure for shifting from low to high blower during a climb? (Flt Man, Sec VII)

52. For engine durability, what BHP is recommended for normal cruise? (Flt Man, Sec VII)

53. If, after using prime, it is established that auto-rich is richer than best power, then what will the indication be as the mixture is manually leaned from auto-rich? (Flt Man, Sec VII)

54. When manually leaning, you retard the mixture control for what TOP drop from best power? (Flt Man, Sec VII)

55. What would probably be the first indication of carburetor icing? (Flt Man, Sec VII)

56. If unacceptable spark plug performance (mag drop) is experienced during engine runup, the recommended procedure to correct this condition is: (Flt Man, Sec VII)

57. During flight, periodic spark plug fouling protection is not required when operating above what BHP? (Flt Man, Sec VII)

58. Should you turn the fuel booster pumps on when fuel pressure drops below limits at high altitudes? (Flt Man, Sec VII)

59. What is the first step to be performed when going from normal to crossfeed fuel operation? (Flt Man, Sec VII)

60. During the reverse cycle of the oil transfer pump, the reserve oil quantity gage should be observed for an increase of not more than how many gallons? (Flt Man, Sec VII)

61. When brakes are utilized, as in practicing short field landings, a minimum of how many minutes should elapse between landings when the landing gear is left extended? (Flt Man, Sec VII)

62. For most efficient operation, always turn on and heat soak the anti-icing system at least how many minutes before entering an icing area? (Flt Man, Sec IX)

63. If a thunderstorm penetration is necessary, establish the aircraft attitude and power settings to obtain an airspeed of how many KIAS above stall speed prior to entry into the storm? (Flt Man, Sec IX)

64. May the autopilot be used while flying through a thunderstorm? (Flt Man, Sec IX)

65. In extreme cold weather, what would be the indication of oil congealing in the oil cooler? (Flt Man, Sec IX)
66. Define CRITICAL ALTITUDE. (Flt Man, Sec 1-A1)
67. Define LANDING GROUND ROLL. (Flt Man, Sec 1-A1)
68. Define REFUSAL SPEED. (Flt Man, Sec 1-A1)
69. Given: service ceiling - 8000 ft density altitude, temperature at that level +20°C. Find: service ceiling in terms of pressure altitude, assuming that the standard temperature lapse rate exists. (Flt Man, Sec 1-A1)
70. Given: T-29C/D, altitude - 10,000, mixture-manual lean, RPM - 2200, temperature -5°C. Find: maximum MAP, low blower. (Flt Man, Sec 1-A2)
71. At airfield "X" there is no weather station. The tower reports an altimeter setting of 30.03 in HG. The field elevation is 1500 feet. What is the pressure altitude? (Flt Man, Sec 1-A1)
72. Given: press alt 9000 ft, CAT 0°C. Find: recommended rpm to establish a 700 BHP/ENG power schedule (Flt Man, Sec 2-A2)

73. Given: Gross weight at engine failure - 39,000 lbs, density altitude at engine failure 14,000 ft. Find: distance traveled during driftdown. (Flt Man, Sec 2-A4)

74. Given: gross weight at engine failure 43,500 lbs, density altitude at engine failure 12,000 ft. Find: gross weight at end of driftdown. (Flt Man, Sec 2-A4)

75. Given: weight at end of driftdown - 37,000 lbs. Find: final altitude at end of driftdown (density altitude). (Flt Man, Sec 2-A4)

76. Given: altitude 5,000 ft, standard atmosphere, gross weight 38,000 lbs. Find: BHP/eng for maximum endurance, two engine cruise. (Flt Man, Sec 2-A5)

77. Given: T-29D aircraft, planned gross weight at level off - 41,000 lbs, planned altitude for cruise 10,000 ft, standard atmosphere, no wind. Find: using long range power and speed, predicted total fuel consumption for 1800 nm cruise at altitude. (Flt Man, Sec 2-A5)

78. Given: gross weight 36,000 lbs, two engine cruise. Find: TAS which should be obtained when using 1100 BHP/ eng at 20,000 ft. (Flt Man, Sec 2-A5)

79. Except during takeoff and landing, what is the minimum altitude an aircraft may fly at over a metropolitan or congested area? (AFM 60-16)

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80. When oxygen is not available during an unpressurized flight what is the maximum altitude permitted? (AFM 60-16)

81. Does fuel reserve need to exceed one hour? (AFM 60-16)

CHAPTER 4

Letdown and Landing Phase

1. Phase II of the descent checklist must be completed prior to entering what leg of the traffic pattern? (Flt Man, Sec II)

2. During descents, or other low power maneuvers, you should operate the engines with one inch Hg MAP for each 100 RPM. What is the reason for this? (Flt Man, Sec II)

3. May engine blowers be shifted from high to low position during descent with the mixture control levers in either the auto-lean or manual-lean position? (Flt Man, Sec II)

4. An indication of 850 PSI on the air brake pressure indicator would be sufficient for how many brake applications? (Flt Man, Sec V)

5. With a fully charged emergency air cylinder approximately how many brake applications can be made? (Flt Man, Sec I)

6. What is the maximum airspeed permitted with landing gear extended? (Flt Man, Sec V)

7. If brakes are suspected of being in an overheated condition after extensive use, is taxiing at low speeds recommended to obtain additional air cooling? (Flt Man, Sec VII)

8. (Pilots Only): Should you sacrifice altitude for airspeed during a single engine approach, when 1.2 (MIN) stall speed cannot be maintained? (Flt Man, Sec IX)

9. (Pilots Only): While performing a circling approach and maneuvering into the landing position, should you maintain air-speed for approach flap setting(1.4 stall speed minimums)? (Flt Man, Sec IX)

10. Should the selection of a landing flap setting be based on the ability of the corresponding approach flap setting to assure adequate single engine climb performance in the approach configuration in the event of a go-around. (Flt Man, Sec 2-A6)

11. Given: landing flaps 0° , density altitude 1000 ft, landing weight 39,000 lbs, (RCR) 10, wind, calm. Find: landing ground roll using brakes only. (Flt Man, Sec 2-A6)

CHAPTER 5

Post Landing Phase

1. Is the emergency air brake separate from the main hydraulic system. What is required of the brake hydraulic lines after emergency air brake operation? (Flt Man, Sec I)

2. When performing the ENGINE SHUTDOWN checklist, the engines should be maintained at what RPM and for how long to scavenge the oil sump? (Flt Man, Sec II)

3. If parking brakes are required after the last flight of the day, the hydraulic by-pass handle should be left in what position? (Flt Man, Sec II)

4. With a fully charged accumulator the parking brakes will hold for how long? (Flt Man, Sec II)

5. When applying the gust lock, the controls are locked in what sequence? (Flt Man, Sec II)

6. Oil dilution shall not be attempted when oil temperature is above what temperature? (Flt Man, Sec IX)

CHAPTER 6

Contingencies

1. The urgency of certain emergencies requires immediate and instinctive action by the aircrew members. How are these checklist items indicated in the checklist? (Flt Man, Sec III)

2. If unidentifiable odors are encountered during flight, what action should be taken? (Flt Man, Sec III)

3. If an induction fire develops during the starting procedures, what action should be taken? (Flt Man, Sec III)

4. After an engine is shutdown during ground operation due to fuel press drop, you should: (Flt Man, Sec III)

5. If an engine failure occurs immediately after takeoff and a decision to crash land (gear up) is made, just before making contact with the ground, the flight engineer should? (Flt Man, Sec III)

6. When feathering a propeller, how long will the red light in the manual feathering button for the failed engine stay on? (Flt Man, Sec III)

7. During auto-feather operation, when will the green auto-feather indicator on the pedestal go out? (Flt Man, Sec III)

8. What are the primary instruments to be observed for identifying a failed engine in flight? (Flt Man, Sec III)

9. To prevent overspeeding in the event of a propeller malfunction, during engine restart in flight, the maximum recommended airspeed is? (Flt Man, Sec III)

10. When restarting an engine in flight, what do you watch for before releasing the feathering button? (Flt Man, Sec III)

11. What will holding the manual feathering button out longer than necessary when unfeathering cause, if the circuit is defective? (Flt Man, Sec III)

12. What would black or bluish-gray smoke from augmentor tubes and nacelle flaps indicate and what action is to be taken? (Flt Man, Sec III)

13. Dense white smoke from the augmentor tubes and/or nacelle flap(s) would probably be caused by? (Flt Man, Sec III)

14. If inadvertent propeller reversal has been encountered, and corrective action completed, may you restart the engine in flight if the propeller reverse circuit breaker is left in the "pulled" position? (Flt Man, Sec III)

15. When do you consider a prop to be a runaway propeller? (Flt Man, Sec III)

16. What is considered to be an overspeeding propeller? (Flt Man, Sec III)

17. What type circuit breaker is the feathering pump control circuit breaker and can it be held in the reset position? (Flt Man, Sec III)

18. In event a propeller will not feather by any means, how can minimum propeller drag be accomplished? (Flt Man, Sec III)

19. If a propeller fails to feather and it can be definitely determined that a fire or fire hazard does not exist what should you do? (Flt Man, Sec III)

20. During cruise, if RPM cannot be stabilized and the engine is running smoothly, what should you do to try to overcome this condition? (Flt Man, Sec III)

21. In the event of electrical fire, when cause cannot be determined, before turning off all electrical switches, the props should be set for? (Flt Man, Sec III)

22. When using CB to fight a fuselage fire below the floor, what should you do? (Flt Man, Sec III)

23. How should you remove smoke and fumes from the fuselage when the cabin is pressurized on D coded aircraft? (Flt Man, Sec III)

24. What should you do in event of a wing fire during flight? (Flt Man, Sec III)

25. What is the alarm bell signal for bailout, crash landing, and ditching? (Flt Man, Sec III)

26. What types of emergency descents are recommended and when will each be used? (Flt Man, Sec III)

27. With the hydraulic pressure bypass handle in the up (bypass position) can the landing gear be raised hydraulically?

28. What position should the alternator switches be during flight and why? (Flt Man, Sec III)

29. What indications will you have of oil ingestion and what is the recommended action? (Flt Man, Sec III)

30. Alternator - generator scoop de-icing receives its power from? (Flt Man, Sec III)

31. Power failure in the circuits of some instruments will cause the indicators to freeze, thus giving a false indication. Name the instruments that would freeze. (Flt Man, Sec III)

32. Any interruption in the DC power supply system trips what circuit breaker automatically? (Flt Man, Sec III)

33. Do not operate the emergency hydraulic pump continuously for longer than how many minutes? (Flt Man, Sec III)

34. Briefly explain procedure used when operating the wing flaps with the emergency wing flap handle and why this procedure is used. (Flt Man, Sec III)

35. What procedure should be used when extending the landing gear with the landing gear lever jammed in the up position? (Flt Man, Sec III)

36. What procedure should be used for prolonged operation under simulated single engine conditions? (Flt Man, Sec III)

37. In the event of a malfunction in the heat source valve electrical control circuits, how can they be operated? (Flt Man, Sec IV)

38. When using the structural override switch, what precaution must be taken? (Flt Man, Sec IV)

39. What should you do if you had a reading of 55% on the prop de-ice loadmeter? (Flt Man, Sec IV)

40. Give the Bold Face procedures for Hydraulic System failure on the ground. (Flt Man, Sec III)

41. List the Bold Face procedures for engine fire on the ground. (Flt Man, Sec III)

42. List the Bold Face procedures for engine failure in flight. (Flt Man, Sec III)

43. List the Bold Face procedures for runaway propeller. (Flt Man, Sec III)

44. List the Bold Face procedures for smoke and fumes in the aircraft. (Flt Man, Sec III)

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45. List the Bold Face procedures for hydraulic system failure on landing. (Flt Man, Sec III)

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CHAPTER 7

Local Area

The unit supplement to this pamphlet will consist of questions on local area directives and procedures developed by the standardization/evaluation function.



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