

# Learjet Systems Test

1. The DC voltmeter indicates:
  - a. Battery voltage only
  - b. Generator voltage only
  - c. Voltage on the battery buses
  - d. Voltage on the battery charging bus
  
2. Which of the following statements is *correct*?
  - a. The AC voltmeter indicates AC load
  - b. If both 275 amp current limiters fail in flight, the essential buses will remain powered by the generators
  - c. To apply external power to the DC buses, the batteries must be OFF so that GPU power can connect to the battery charging bus.
  - d. The battery will continue to charge with the generators on the line regardless of the battery switch position.
  
3. Regarding ignition during the start sequence:
  - a. It occurs immediately when the START-GEN switch is moved to START
  - b. It is initiated automatically by the speed sensing switch at 10%
  - c. It occurs when the throttle is brought to idle
  - d. It is terminated by the fuel control step modulator when it senses ITT above 500°C
  
4. The standby pumps are used for ALL of the following functions EXCEPT:
  - a. Engine start
  - b. As a backup for the main jet pumps.
  - c. Wing-to-wing crossflow with a wing tank jet pump inoperative
  - d. Wing-to-fuselage transfer of fuel.
  
5. If the high pressure engine driven pump fails,
  - a. The engine will flame out
  - b. The jet pumps will fail also, but the standby pumps will be activated ON by low pressure and it will sustain the engine
  - c. The standby pumps will be inoperative also
  - d. Crossflow must be selected OPEN in order to get high pressure fuel flow from the jet pump.
  
6. When the engine is shut down with the ENG-FIRE T-Handle (emergency shutdown)
  - a. The associated extinguisher will automatically discharge
  - b. The fuel, hydraulic, and bleed air shut off valves close and both extinguishers are armed
  - c. The engine may not be restarted until maintenance is performed to reset the T-Handle
  - d. The generator will continue to function, as long as the engine is windmilling above 20%

- 7 The majority of thrust produced by the TFE731 engine at low altitudes is obtained by
- The fan
  - The LP turbine
  - The compressor which is driven by the fan
  - The HP turbine
- 8 If a thrust reverser should deploy in flight (Dee Howard)
- The engine would automatically shut down
  - The associated throttle would automatically retard to idle
  - It is impossible for the Dee Howard reverser to deploy in flight due to the Auto Stow feature
  - The TR ARM switches should be placed to OFF immediately
- 9 Which of the following is TRUE regarding oil for the TFE731 engine
- Different types of oils may be mixed
  - Quantity should be checked with 30 minutes after shutdown
  - The maximum oil consumption is 4 qts per flight hour
  - The oil consumption figures varies depending on brand of oil.
- 10 The aircraft hydraulic system provides pressure to operate the following systems:
- Landing gear, spoilers, Anti-Skid wheel brakes and nose wheel steering
  - Anti-skid wheel brakes, landing gear, flaps
  - Spoilers, landing gear, thrust reversers, Anti-skid wheel brakes, flaps
  - Flaps, spoilers, landing gear
- 11 Which of the following is INCORRECT regarding the wheel toe brakes?
- May be inoperative with a LOW HYD light illuminated
  - Must be applied with the emergency system if a LOW HYD light is illuminated and the hydraulic pressure is zero
  - Use the same type of approved fluid from the aircraft system
  - Are totally independent of the open center aircraft hydraulic system
- 12 The landing gear switch is prevented from movement on the ground by
- Nothing
  - Hydraulic pressure
  - Locking solenoid
  - Manual lock

- 13 Which statement is *incorrect* regarding the landing gear?
- The EMER GEAR lever is operative with a loss of DC electrical power
  - The pneumatic system should be used to assure positive locking of the actuators following a free-fall gear extension even though all three green lights are illuminated
  - The LDG GEAR circuit breaker on the circuit breaker panel controls the power to the landing gear position light, warning horn, and solenoid lock.
  - The LDG GEAR circuit breaker on the circuit breaker controls the power to the landing gear control valve and, if open, the gear cannot be extended or retracted normally or abnormally.
- 14 When the emergency brakes are used
- The handle should be pumped in order to build up accumulator pressure sufficient to stop the aircraft
  - The toe brakes must also be applied to allow the emergency air pressure to reach the brakes
  - No differential braking is available
  - They will not be available if the gear has been extended with the EMER GEAR lever since that process will take all of the emergency air pressure
- 15 The thrust reversers
- May be deployed only on the ground when the throttles are in IDLE
  - Must have both EMER STOW switch held in EMER for takeoffs to guard against inadvertent deployment during that critical phase of flight
  - May be left in FULL REVERSE until the aircraft is brought to a complete stop
  - Both A and C
- 16 The pressurization outflow valve(s)
- Will fail safe open if electrical power is lost
  - Will function whether vacuum is available or not
  - Are intended for ground use only in the event of a vacuum failure
  - Depends upon vacuum to have any effect on pressurization
- 17 Which statement is CORRECT regarding the aux hydraulic pump duty cycle
- 5 minutes ON, 15 minutes OFF
  - 5 minutes ON, 25 minutes OFF
  - 3 minutes ON, 20 minutes OFF
  - 2 minutes ON, 30 minutes OFF

- 18 Which statement is INCORRECT regarding the PITOT HEAT lights?
- a It will illuminate if power is lost to the pitot probe
  - b It will illuminate if the PITOT-STATIC switch is OFF in flight
  - c It will illuminate if the PITOT-STATIC switch is OFF on the ground
  - d The lights will illuminate in the event of a single generator failure in flight as part of the load shedding feature
- 19 Which statement is correct concerning the engine anti-ice system?
- a. The Engine Anti-Ice switches must be held in the ON position for 12 seconds to insure that the engine inlets receive sufficient heat
  - b. The engine Anti-Ice switches must be turned on PRIOR to entering icing conditions.
  - c. The system should not be used below -40°C
  - d. With the Engine Anti-Ice ON, stall warning will be inoperative
- 20 Regarding the nosewheel steering system, which of the following is *incorrect*?
- a. If the steer lock will not engage steering, the steering can be engaged by pressing and holding the control wheel master switch
  - b. Nosewheel steering is limited to 45 knots ground speed
  - c. Nosewheel steering will be inoperative with a complete AC failure
  - d. The hydraulic system can be used to control the nosewheel steering
- 21 Which of the following is CORRECT?
- a. Spoiler extension is authorized with flaps extended while airborne
  - b. Fuselage fuel is not included in max zero wing fuel weight (ZFW)
  - c. A tailwind component of 10 knots is a limitation
  - d. A crosswind component of 25 knots is a limitation
- 22 Regarding the gust lock
- a. The engines may be started with it engaged
  - b. The aircraft should not be towed beyond 60° with it engaged
  - c. It makes no difference if it is engaged for towing
  - d. Both A and C