# WARNING AND TEST

## ANNUNCIATOR PANEL

The annunciator panel is designed to provide the pilot with an easily interpreted display of both normal and abnormal system conditions. Two flashing master warning lights (MASTER WARNING RESET) are used in conjunction with the panel to ensure rapid recognition of any red annunciator light. In addition, the master warning light will flash if both amber GEN OFF lights should illuminate.

The master warning lights can be reset by pressing either light. Resetting the master warning light rearms the system so that it will function should another failure occur.

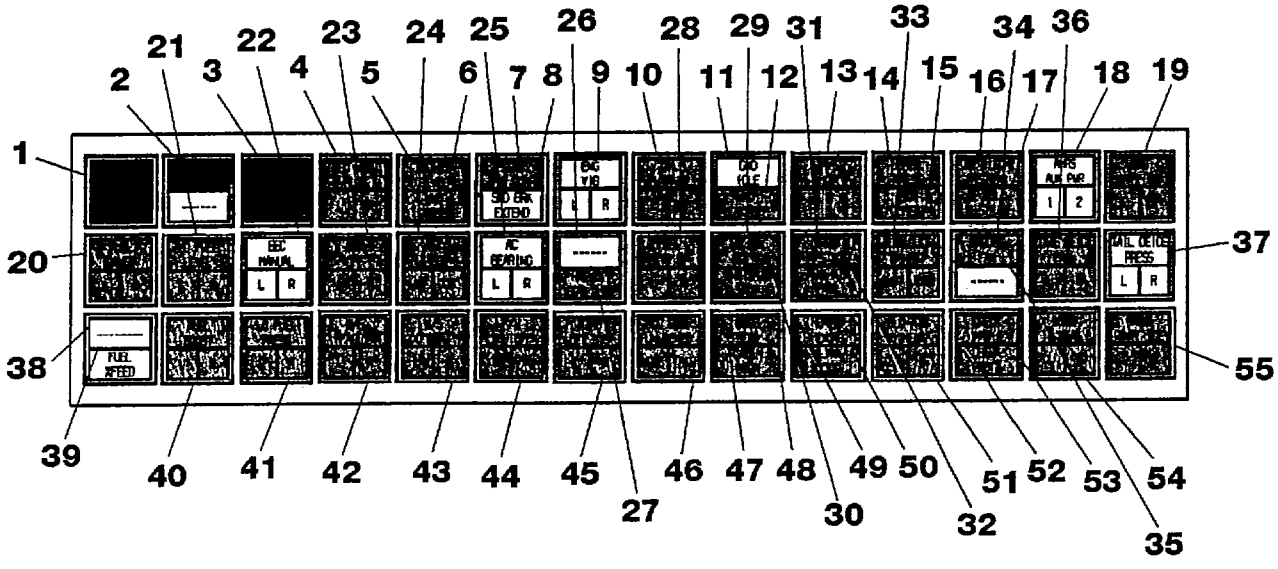
The annunciator system is powered from the main direct current (DC) buses through the WARN LTS 1 and 2 circuit breakers on the left cockpit panel.

All system light bulbs can be tested by placing the rotary TEST selector on the center pedestal to the ANNU position. This will illuminate all lights and cause the master warning lights to flash.

Burned out bulbs can be replaced by pushing in the light assemblies to the left and right of the failed bulb; then use a tool to remove the assembly with the burned out lamp.

If the MASTER WARNING light illuminates in a steady mode, it indicates that there has been a loss of power to the annunciator panel from either the left or right DC electrical bus.

# ANNUNCIATOR PANEL

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1. BATT O'TEMP

The red battery overtemperature light will flash and the master warning will flash if battery temperature exceeds 145°F. Pressing the master warning will cause the flashing annunciator to change to steady on and the master warning to extinguish.

BATT O'TEMP >160°

The red battery overtemperature light and the >160° light will flash and the master warning will flash if battery temperature continues to climb above 160°. Pressing the master warning will cause the flashing annunciator to change to steady on and the master warning to extinguish.

2. CAB ALT

Normal Altitude Mode - The red cabin altitude light will flash and the master warning will flash to advise that the cabin pressure altitude is above 10,000 feet (+350 feet or -350 feet) during operation out of low altitude airports (8.000 feet or less), and anytime airplane altitude is greater than 24,500 feet. Pressing the master warning will cause the flashing annunciator to change to steady on and the master warning to extinguish.

High Altitude Mode - The red cabin altitude light will flash and the master warning will flash to advise that the cabin pressure altitude is above 14,500 feet (+500 feet or -500 feet) during operation out of high elevation airports (greater than 8,000 feet), with an airplane altitude less than 24,500 feet. Pressing the master warning will cause the flashing annunciator to change to steady on and the master warning to extinguish.

3. LO OIL PRESS L R

The red oil pressure warning light will flash and the master warning flash if oil pressure is below safe limits (20 PSI) in left or right engine. Pressing the master warning will cause the flashing annunciator to change to steady on and the master warning to extinguish.

Figure 2-25 (Sheet 1 of 8)

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| 4. | LO HYD FLOW L R | The amber hydraulic flow low light illuminates steady to advise that left and/or right hydraulic system flow is below approximately 0.35 to 0.55 gallons per minute. If conditions continue for more than five seconds, the amber annunciator will begin to flash steady and illuminate the master caution. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 5. | LO HYD LEVEL | The amber hydraulic low light flashes and the master caution illuminates if the hydraulic system level is below approximately 74 to 76 cubic inches. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 6. | HYD PRESS | On the ground, the amber hydraulic pressure light will illuminate when hydraulic pressure rises above 185 PSIG. The light will extinguish when pressure falls below 150-160 PSIG.<br><br>In the air the amber annunciator, if on for more than 40 seconds, will flash and illuminate the master caution light. Pressing the master caution will cause the master caution to extinguish. |
| 7. | STAB MIS COMP | The amber stabilizer miscompare light and the master caution illuminates steady to advise that a miscompare exists between flap handle position and the horizontal stabilizer position. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 8. | SPD BRK EXTEND | The white speed brake extend light advises that the left and right speed brakes are fully extended. |
| 9. | ENG VIB L R | The white engine vibration light advises that the left and/or right engine vibration has exceeded prescribed limits. |
| 10. | OIL FLTR BP L R | The amber oil filter bypass light flashes and the master caution illuminates to advice that bypass of the left and/or right oil filter is impending. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 11. | GND IDLE | On the ground, the white ground idle light indicates the EEC is in ground idle mode (46%$N_2$).<br><br>In the air, the white annunciator flashes and the master caution illuminates when the EEC is in ground idle mode. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguis<br><br>Once the airplane has transitioned from flight to ground mode, the annunciator will illuminate steady 8 seconds after throttles are positioned to idle. |

Figure 2-25 (Sheet 2 of 8)

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| 12. | NO TAKEOFF | On the ground, the amber no takeoff annunciator will illuminate steadily if one or more of the following conditions exist: Flaps not within takeoff range (less than 7 degrees or more than 15 degrees), elevator out of trim for takeoff, horizontal stabilizer is out of takeoff position, or speed brakes are out of takeoff position.<br><br>As the throttles are advanced beyond climb setting, the no takeoff annunciator will flash and the master caution illuminate if one or more the following conditions exist: Flaps not within takeoff range (less than 7 degrees or more than 15 degrees), elevator out of trim for takeoff or horizontal stabilizer is out of takeoff position. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 13. | P/S HTR<br><br>L R | On the ground, the amber pitot/static heater failure annunciator illuminates steady to indicate an inoperative heating element in the pitot-static system.<br><br>In the air, the amber light flashes and the master caution illuminates steady to advises of an inoperative heating element. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 14. | EMER PRESS | The amber emergency pressurization light flashes and the master caution illuminates to advise that emergency pressurization has been manually selected or automatically activated by an air cycle machine overheat. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 15. | ACM O'HEAT | The amber ACM overheat light flashes and the master caution illuminates to advise of an overtemperature condition of air cycle machine (in excess of 420°F). This light will trip in conjunction with the EMER PRESS light. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 16. | AP PITCH MISTRIM | The amber autopilot pitch mistrim light flashes and the master caution illuminates steady to advise that the autopilot is in an out-of-trim condition, and that a sustained input is being applied to the elevator servo. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 17. | AP ROLL MISTRIM | The amber autopilot roll mistrim light flashes and the master caution illuminates steady to advise that the autopilot is in an out-of-trim condition, and that a sustained input is being applied to the aileron servo. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |

Figure 2-25 (Sheet 3)

18. AHRS AUX PWR 1 2

The white attitude heading reference system light illuminates steady, advising that primary DC power has been lost on the respective AHRS and is operating on secondary power from the AHRS auxiliary battery.

19. ENG ANTI-ICE L R

On the ground, with left and/or right anti-ice switches selected to the WING/ENGINE position, the amber engine anti-ice light will illuminate steady with no illumination of master caution to advise of low temperature in the respective engine inlet. The light will extinguish after respective engines reach normal operating temperature.

After normal operating temperature has been reached, an under-temperature condition will cause the respective annunciator to flash and the mater caution light to illuminate. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

In the air, with left and/or right anti-ice switches selected to the WING/ENGINE position, the amber engine anti-ice light will flash and the mater caution light will illuminate if normal operating temperatures are not reached within 4 minutes and 45 seconds. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

Nuisance trips (less than 5 seconds between resumption of normal temperature and the detection of a new under-temperature condition) are inhibited by circuit logic.

If the respective left and/or right WING/ENGINE anti-ice switches are selected to the OFF position and the respective engine anti-ice fan stator valve is open, the annunciator will flash and illuminate the master caution. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

20. FUEL GAUGE L R

The amber fuel gauge light flashes and the mater caution illuminates to advises that a fault has been detected in the respective fuel gauging system. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

21. LO FUEL LEVEL L R

The amber low fuel level light flashes and the master caution illuminates to advises that a minimum of 360 pounds of fuel remain the respective tank. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

22. EEC MANUAL L R

The white electronic engine control light advises that the EEC is in the manual mode ( a fault has been detected in the system).

23. GEN OFF L R

The amber generator off light flashes and the mater caution illuminates to advises that left and/or right generator is not connected to the airplane bus. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

Failure of the remaining generator will trigger the concurrent and synchronous flashing of L and R annunciator and master warning, and the master caution will change to steady illuminating. Pressing the master warning along will extinguish master and warning and master caution when both generators have been tripped.

Figure 2-25 (Sheet 4)

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| 24. | AFT J-BOX LMT CB | The amber aft j-box LMT light flashes and the master caution illuminates to advise that the left and/or right crossfeed limiters have blown, disabling crossfeed of electrical power from left but to right bus or visa versa. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.<br><br>The amber aft j-box CB light flashes and the master caution illuminates to advises that the left and/or right start control PCB circuit breaker has popped,disabling the electrical start system. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 25. | AC BEARING L R | The white AC bearing light advises the alternator's primary bearing has failed and the secondary bearing has picked up the load. |
| 26. | - - - - - - - | Reserved. |
| 27. | FIRE EXT BOTL LOW | The amber lights flashes and the master caution illuminates steady to advises one or both fire extinguisher bottles have low pressure or may have discharged. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 28. | FUEL FLTR BP L R | The amber fuel filter bypass light flashes and the master caution illuminates steady to advise that bypass of the left and/or right fuel filter is impending. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 29. | LO BRK PRESS | On the ground, the amber low brake pressure light flashes and the master caution illuminates to advise of low system pressure. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.<br><br>In the air, the light will illuminate steady for 20 seconds before it flashes and the master caution illuminates to advise that system pressure is low. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 30. | ANTISKID INOP | On the ground, the amber antiskid inop light flashes and the master caution illuminates to advise that the antiskid system is inoperative. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.<br><br>In the air, the light will illuminate steady for 20 seconds before it flashes and the master caution illuminates to advise that the antiskid system is inoperative. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 31. | STBY P/S HTR | In the air, the amber standby pitot/static heater light flashes and the master caution illuminates steady to advise that the pitot/static heater has failed. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. On the ground, the light will illuminate steady with no master caution illumination to show the pitot-static heater has failed. |

Figure 2-25 (Sheet 5)

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| 32. | AOA HTR FAIL | On the ground, the amber AOA heater failure annunciator illuminates steady to indicate an inoperative heating element in the angle-of-attack vane.<br><br>In the air, the amber AOA heater fail light flashes and the master caution illuminates steady to advises of an inoperative heating element in the angle-of-attack vane. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 33. | AIR DUCT O'HEAT CKPT CAB | The amber air duct overheat light flashes and the master caution illuminates steady to advise that the temperature in either the cockpit or cabin warm air duct has exceeded 300°F. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 34. | RADOME FAN | The amber radome fan light flashes and the master caution illuminates steady to advise that the nose cone mounted radome fan has failed. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 35. | - - - - - - | Reserved |
| 36. | TAIL DEICE FAIL L R | The amber light flashes and the master caution illuminates steady if, after the system is selected on, the respective tail deice valve has a loss of voltage and/or the respective tail deice system has a loss of pressure during the 6 second on cycle time. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 37. | TAIL DEICE PRESS L R | The white light illuminates steady to indicate the tail deice system is operating (pressure greater than 12 PSI). |
| 38. | - - - - - - | Reserved |
| 39. | FUEL XFEED | The white light illuminates steady to indicate the fuel crossfeed has been selected and the fuel crossfeed valve is in the open position.<br><br>If the fuel crossfeed is selected off and the fuel crossfeed valve is not closed, the white annunciator will flash and the master caution illuminate steady on. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 40. | FUEL BOOST L R | Under most conditions, the amber fuel boost on light will illuminate steady to advise that electric power has been applied to the left and/or right fuel boost pump.<br><br>In the air, the amber fuel boost will initially illuminate steady. After 10 seconds, the annunciator will flash and the master caution illuminate steady if the fuel system has low pressure, the airplane is in the air, and the respective throttle is out of cutoff position. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |

Figure 2-25 (Sheet 6)

41. LOW FUEL PRESS L R — On the ground and prior to both left and right engine start, the amber low fuel pressure light will illuminate steady to indicate that fuel pressure is below 5.3 to 5.8 PSI in left and/or right systems.

After both engine have been started, the amber low fuel pressure light flashes and the master caution illuminates steady to indicate that fuel pressure is below 5.3 to 5.8 PSI in left and/or right systems. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

42. W/S FAULT L R — On the ground and prior to either engine start, the annunciator will illuminate steady for 8 seconds to advises of a controller failure, and may illuminate in conjunction with the windshield overheat light. After 8 seconds, the fault light flashes and the master caution illuminates steady.

After both engines have been started, the amber fault light flashes and the master caution illuminates steady to indicate a controller failure. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

43. W/S O'HEAT L R — The amber overheat light flashes and the master caution illuminates steady to indicate an overtemperature condition in the left or right electrically-heated windows. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

44. F/W SHUTOFF L R — The amber firewall shutoff light flashes and the master caution illuminates steady to indicate that the left and/or right fuel and hydraulic shutoff valves are closed. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

45. FIRE DET SYS L R — The amber light flashes and the master caution illuminates steady to indicate a failure in the left or right fire detection warning system. Extinguishing bottles and firewall shutoff valves are still operative. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

46. ACC DOOR UNLOCKED NOSE TAIL — The amber light flashes and the master caution illuminates steady to indicate that the nose or tail accessory doors are not in the latched position. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

47. DOOR SEAL — The amber light flashes and the master caution illuminates steady to indicate door seal pressure has dropped below 5.5 PSIG. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

48. CABIN DOOR — The amber light flashes and the master caution illuminates steady to indicate failure or improper position of door switch(es), and/or possible disengagement of the cabin door pin. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.

Figure 2-25 (Sheet 7)

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| 49. | EMER EXIT | The amber light flashes and the master caution illuminates steady indicating potential failure of emergency exit door hinges, or improper position of the emergency door handle. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 50. | LAV DOOR | The amber light flashes and the master caution illuminates steady if the lavatory doors are not in the latched open position with flaps not up or with the airplane on the ground. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 51. | BLD AIR O'HEAT L R | The amber bleed air overheat light flashes and the master caution illuminates steady if left or right engine bleed air temperature is greater than 560°F as measured downstream of the pylon-mounted air-to-air heat exchanger. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 52. | CHECK PFD 1 | The amber check PFD 1 light flashes and the master caution illuminates steady if the pilot's primary flight display (PFD) has a malfunction. Check the pilot's PFD against the standby instruments or the copilot's PFD. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 53. | CHECK PFD 2 | The amber check PFD 2 light flashes and the master caution illuminates steady if the copilot's primary flight display (PFD) has a malfunction. Check the copilot's PFD against the standby instruments or the pilot's PFD. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 54. | WING O'HEAT L R | The amber wing overheat light flashes and the master caution illuminates steady if left or right forward wing spar temperature has exceeded 160°F. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish. |
| 55. | WING ANTI-ICE L R | On the ground, with left and/or right anti-ice switches selected to the WING/ENGINE position, the amber wing anti-ice light will illuminate steady with no illumination of master caution to advise of low temperature (less than 220°F) in the respective wing. The light will extinguish after respective wings reach normal operating temperature.<br><br>After normal operating temperature has been reached, an under-temperature condition will cause the respective annunciator to flash and the mater caution light to illuminate. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.<br><br>In the air, with left and/or right anti-ice switches selected to the WING/ENGINE position, the amber wing anti-ice light will flash and the mater caution light will illuminate if normal operating temperatures are not reached within 4 minutes and 45 seconds. Pressing the master caution will cause the flashing annunciator to change to steady on and the master caution to extinguish.<br><br>Nuisance trips (less than 5 seconds between resumption of normal temperature and the detection of a new under-temperature condition) are inhibited by circuit logic. |

Figure 2-25 (Sheet 8)