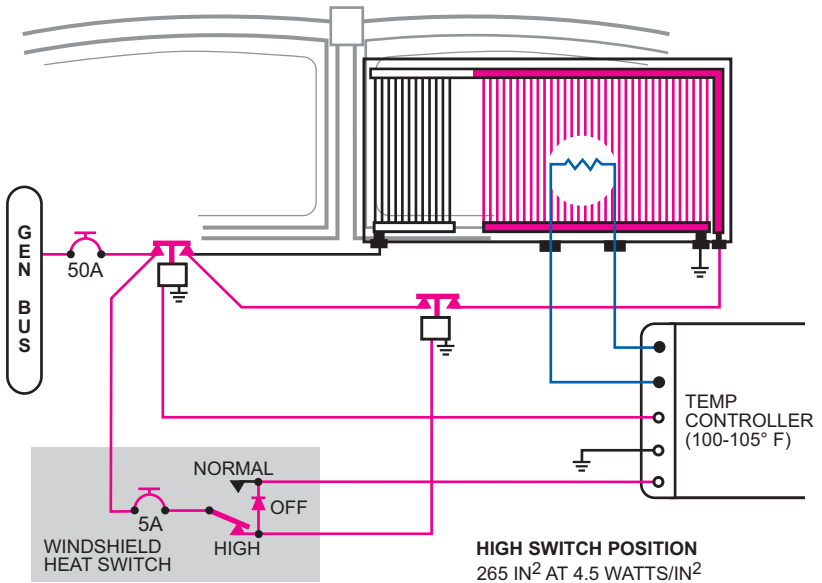
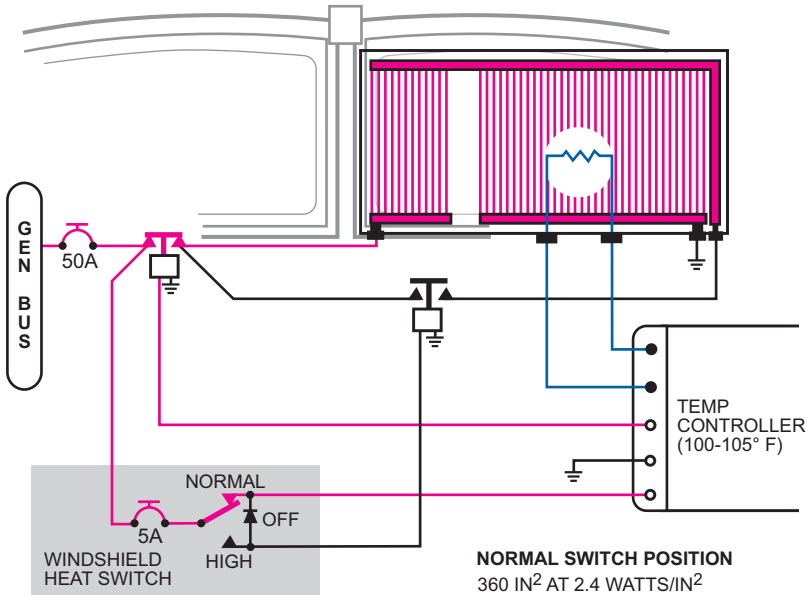
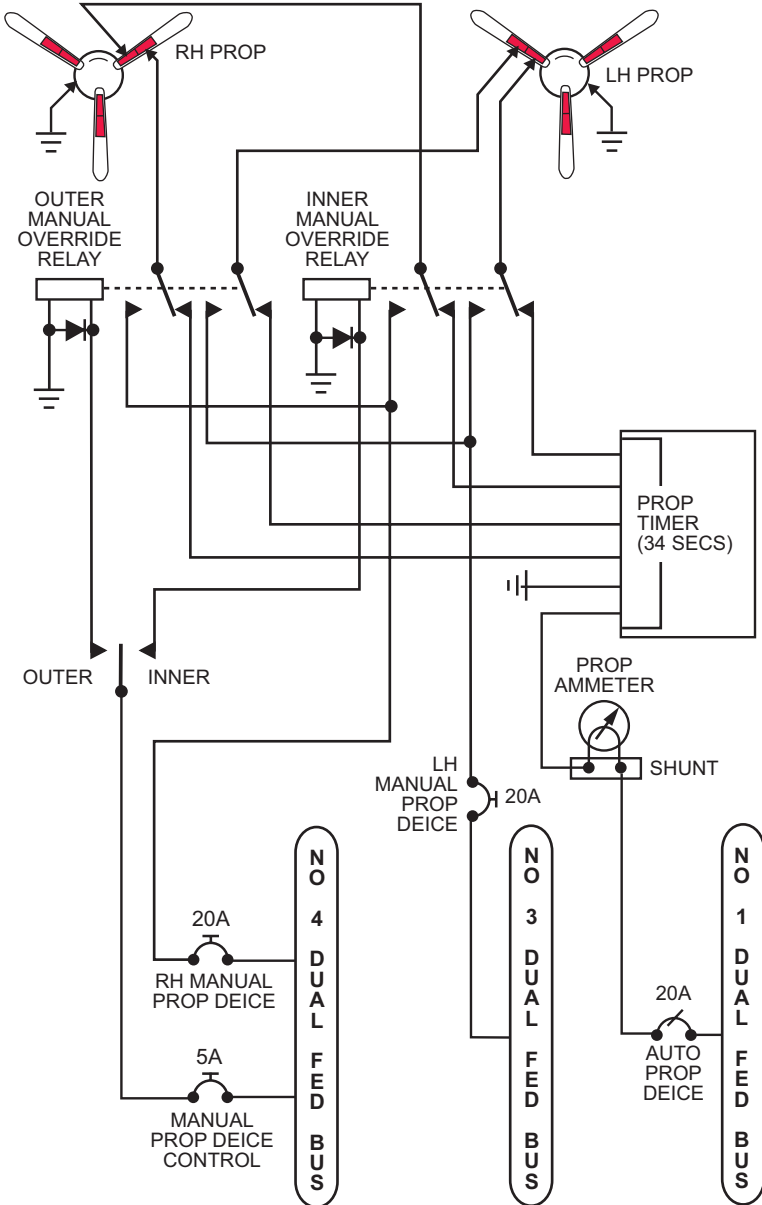


Windshield Anti-Ice System



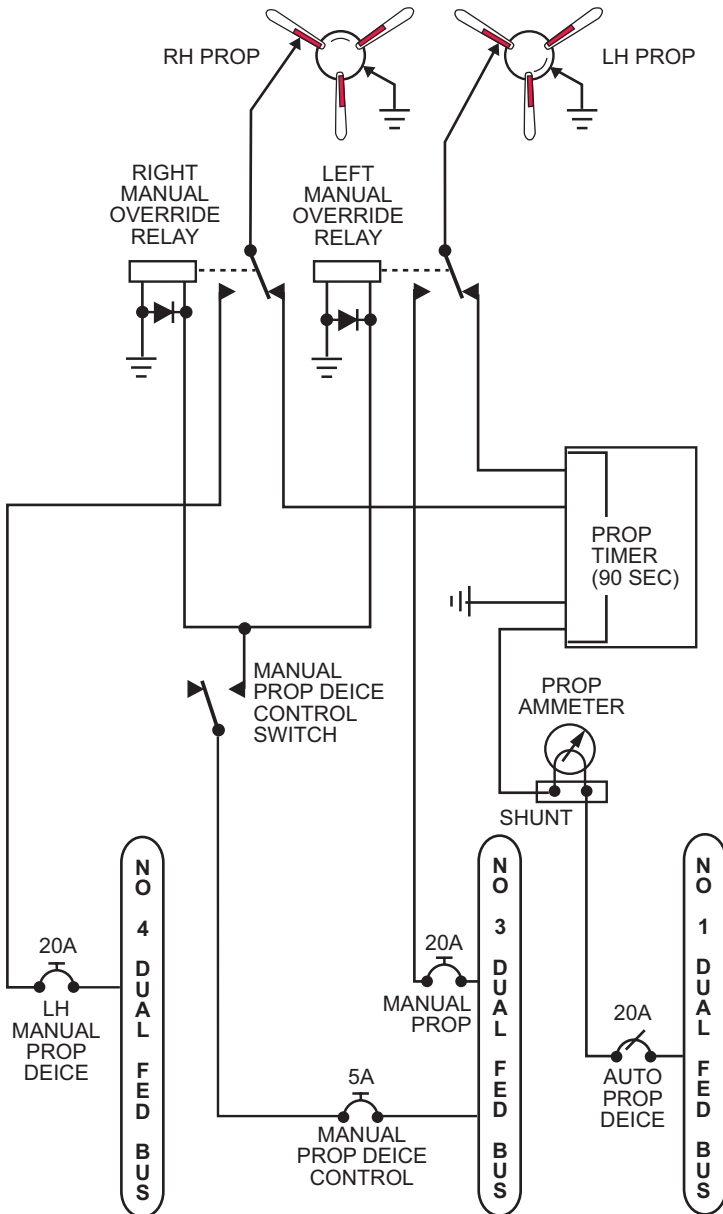
Propeller Deice System

King Air 200 BB-6 to BB-815; BB-817 to BB-824;
BL-1 to BL-29



Propeller Deice System

King Air 200 BB-816; BL-30 and Subsequent

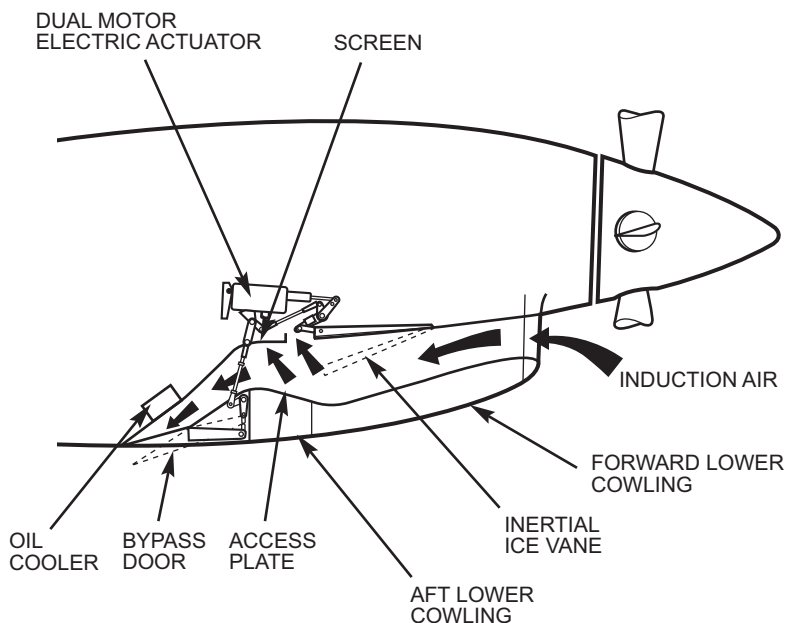


Dual-Motor Inertial Ice Separation System

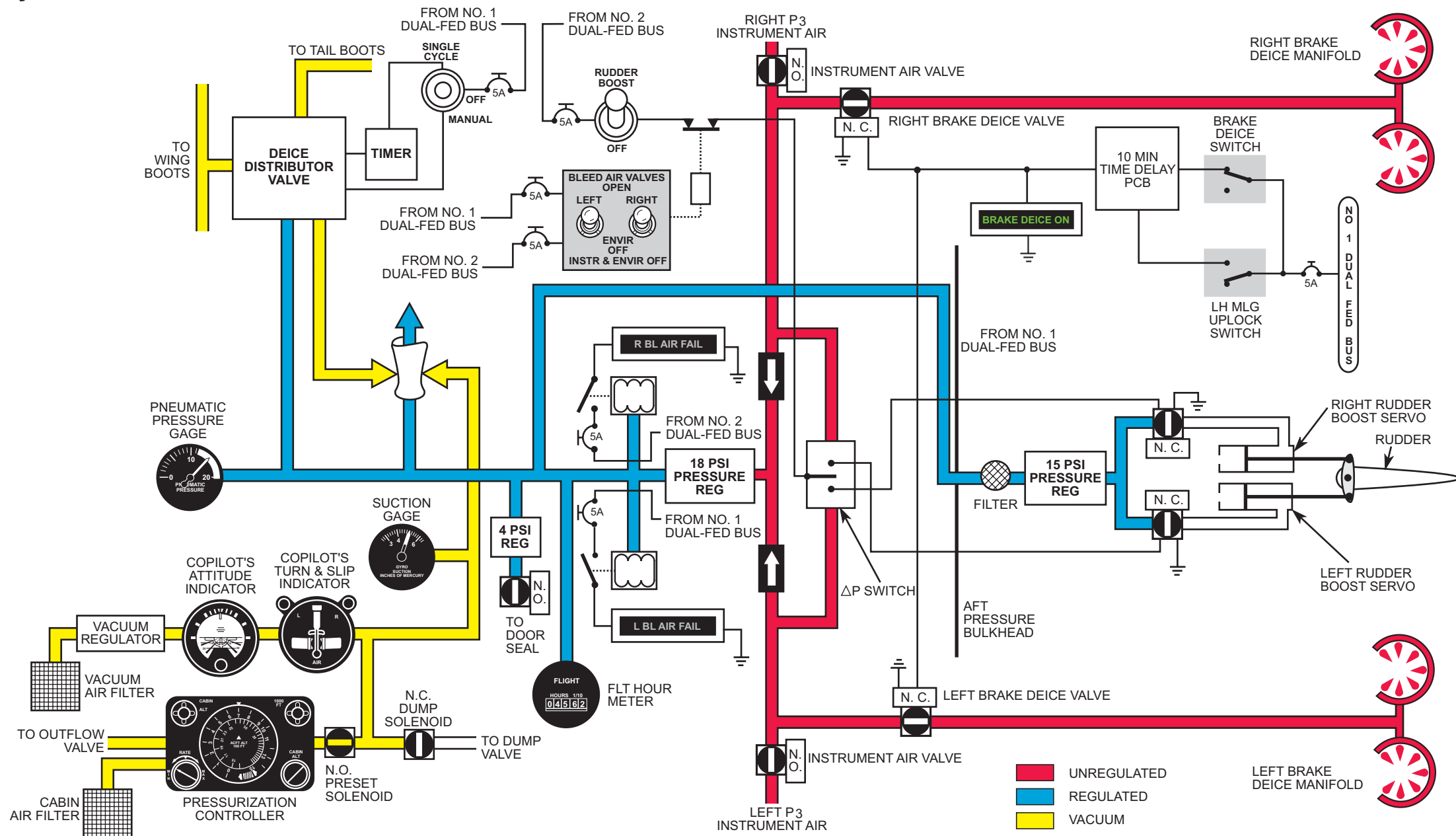
BB-1439, 1444 and subsequent;

BT-35 and subsequent;

BL-139 and subsequent



Deice System



Ice and Rain Protection

Ice and rain protection systems include:

- wing and stabilizer deice boots
- engine air inlet lip heat
- engine inertial separators
- window and windshield heating
- pitot heat.

Wing and Stabilizer Deice Boots

A distributor valve controls the instrument air that inflates and deflates the wing and stabilizer deice boots. Engine bleed air regulated to 18 PSI supplies the pressure for inflation when the DEICE switch is in the SINGLE or MANUAL position. To deflate the boots, bleed air operates a venturi ejector to create a vacuum that deflates and holds the boots down when not in use.

The SINGLE cycle inflates the wing boots for six seconds. A timer switch then deflates the wing boots and inflates the horizontal stabilizer boots for four seconds. With the switch held in MANUAL, all boots inflate simultaneously and remain inflated until the switch is released.

Engine Air Inlet Lip Heat

On **S/Ns BB-2 to 1265; BL-1 to 28**, hot exhaust gases heat the lip around each air inlet to prevent ice formation during inclement weather. A scupper in each engine exhaust stack deflects the hot exhaust gases downward into the hollow lip (overboard at the 6 o'clock position) tube that encircles the engine air inlet.

On **S/N BB-1266 and subsequent and those with Kit 101-9048**, the engine exhaust scupper in the left exhaust stack deflects hot gases into the hollow lip and out through the right exhaust stack.

Engine Inertial Separators

An electrically actuated inertial vane system on each engine prevents ice or other foreign objects such as dust or sand from entering the engine inlet or ice from accumulating on the engine inlet screen. The system extends an ice vane and bypass door to accelerate ice and moisture laden air past the engine screen area to exit overboard through the bypass door.

The ice vane and bypass doors extend or retract simultaneously through a linkage system connected to electric actuators. When the ICE VANE switches are in EXTEND, two green advisory annunciators illuminate as the vane and door extend. When the ice vanes and bypass doors retract (switch in RETRACT), the annunciators extinguish.

A manual mechanical backup system operates the system by flexible cable. If the vanes and doors do not move with 15 seconds after actuation, an amber annunciator illuminates. Pull the ICE VANE CBs on the copilot CB panel to disable electric power and pull the manual T- handle for the appropriate engine to activate the system. If the manual positioning is successful, the amber annunciator extinguishes and the green annunciators illuminate.

Do not attempt to retract or extend electrically until the linkage is properly reset. The vane may be retracted with the manual system. With the manual system, the electric motor switch position must match the manual handle position for a correct annunciator readout. Maximum airspeed for manual extension of ice vanes is 160 kts.

On **S/Ns BB-1439, 1444 and subsequent; BL-139 and subsequent**, the vanes and bypass door are extended or retracted through a linkage system connected to an electric dual-motor actuator. Two switches with positions of MAIN or STANDBY control both the left and right engine system. When either position is selected, the remaining position is used to actuate the backup motor when the main motor is inoperable.

Propeller Deicing

An electrically heated boot for each propeller blade provides automatic and manual anti-ice protection for the propellers. The No. 1 Dual-fed bus powers the automatic system while the No. 3 and 4 Dual-fed bus powers the manual switch.

On **BB-2 to 815, 817 to 824, and 991; BL-1 to 29**, the propeller deicing system is an inner and outer heating element on each propeller blade. With the PROP switch in AUTO, the deicer timer cycles power for approximately 30 seconds each to the RH outboard, RH inboard, LH outboard, and LH inboard heating elements. If the automatic system fails, hold the PROP MAN switch in either INNER or OUTER to power the corresponding heating elements through a manual override relay.

On **BB-816, 825 to 990, 992 and subsequent; BL-30 and subsequent, and all four-bladed props**, each propeller blade has a single heating element. With the PROP switch in AUTO, the deicer timer cycles power to the right and then left propeller heating elements for 90 seconds each. If the automatic system fails, hold the PROP MAN in MANUAL to power the heating elements through the manual override relays.

Windshield Anti-Icing

Electric heating elements embedded in the windshield laminations provide protection against the formation of ice, while air from the cabin heating system prevents fogging. Heavy duty windshield wipers provide improved visibility during rainy flight conditions.

With the pilot or copilot WSHLD ANTI-ICE switch in NORMAL, an automatic temperature controller senses the windshield temperature and then attempts to maintain it at approximately 100 to 105°F by energizing the normal heat relay as necessary. In this mode, both the inboard and outboard areas of the windshield are heated.

With the switch in HI, the “high” heat relay switch is energized to apply heat to a more concentrated, essential viewing area of the windshield. The outboard two-thirds of the windshield is heated.

If the NORMAL position is insufficient to raise the windshield temperature above freezing, switching to HI nearly doubles the available heat to the smaller windshield area.

Brake Deice

An optional brake deice system uses instrument bleed air to warm the main wheel brakes to prevent ice and slush build-up.

With the BRAKE DEICE switch in ON, the left and right solenoid shutoff valves in the wheel well open to admit bleed air to a distributor manifold. The manifold then directs bleed air toward the brake assembly.

To prevent overheat damage, a timing circuit turns the deice system off 10 minutes after gear is retracted by closing the solenoid valve.

CAUTION: Use of brake deice during engine-out procedures substantially reduces the effectiveness of rudder boost assistance. Turn brake deice off for takeoff.

Pitot and Stall Warning Vane Anti-Icing

Electrical heating warms the pitot masts and stall warning vane. The static plates are unheated.

With the PITOT switches on, the No. 1 Dual-fed (left pitot) and No. 2 Dual-fed (right pitot) buses power the heating elements with 28V DC

With the STALL WARN switch on, the No. 2 Dual-fed bus powers the vane heating element. To prevent stall warning vane from overheating, a safety switch through the left main landing gear limits voltage. With weight-on-wheels, the heating element only receives 12V DC. Once airborne, the heating element receives 28V DC.

Ice and Rain Protection

Surface Deice System

Power Source	Bleed air No. 1 Dual-Fed bus
Distribution	Wing leading edge boots Horizontal stabilizer leading edge boots
Control	DEICE CYCLE switch SINGLE – inflation/deflation of wing boots, then horizontal stabilizer boots MANUAL – inflation of all boots simultaneously
Monitor	Visual monitoring for wing Pneumatic gages
Protection	Circuit breakers

Prop Heat System

Power Source	No. 1 Dual-Fed bus (auto) No. 3 and 4 Dual-Fed bus (manual)
Distribution	Heated boot for each propeller blade
Control	Switches PROP AUTO PROP MANUAL INNER/OUTER (200 only)
Monitor	Prop ammeter Loadmeters
Protection	Circuit breakers/circuit breaker switch (auto)

Brake Deice

Power Source	Engine P ₃ bleed air
Control	BRAKE DEICE switch
Monitor	BRAKE DEICE ON annunciator
Protection	10-minute timer, CB

Pitot Heat

Power Source	Dual-Fed buses Nos 1/2
Control	PITOT circuit breaker switches
Protection	2-minute ground operation limit

Stall Warning Heat

Power Source	Dual-Fed bus No. 2
Control	STALL WARN circuit breaker switches Landing Gear safety switch
Protection	CIRCUIT BREAKER SWITCH

Fuel Vent Heat

Power Source	Dual-Fed buses Nos 1/2
Control	FUEL VENT circuit breaker switches

Windshield Heat

Power Source	L/R GEN bus
Control	WSHLD ANTI-ICE switches
Protection	Circuit breaker (5A) Temperature sensing element Temperature controller 50A current limiters

Ice Vanes

Power Source	Dual-Fed buses Nos 1/2
Control	ICE VANE switches VANE MANUAL PULL handle
Monitor	ICE VANE amber and green annunciators
Protection	Circuit breakers Manual override system