NORMAL PROCEDURES TABLE OF CONTENTS

TEMPORARY FAA APPROVED AIRPLANE FLIGHT MANUAL CHANGE

Publication Affected:	Model 525A Citation CJ2 (525A-0001 thru -0299) basic FAA Approved Airplane Flight Manual, Revision 6, dated 15 April 2005.
Airplane Serial Numbers Affected:	Airplanes 525A-0001 thru -0299.
Description of Change:	Section III, Operating Procedures, Normal Procedures, Preliminary Cockpit Inspection, add Note after step 5, page 3-83.
Filing Instructions:	Insert this temporary change in the Model 525A Citation CJ2 (525A-0001 thru -0299) basic FAA Approved Airplane Flight Manual adjacent to page 3-83.
Removal Instructions:	This temporary change must be removed and discarded when Revision 7 has been collated into the basic FAA Approved Airplane Flight Manual.

In Section III, Operating Procedures, Normal Procedures, Preliminary Cockpit Inspection, add the following Note after step 5, page 3-83:

NOTE

Refer to Normal Procedures, Oxygen System, Figure 3-5 for dispatch pressures with less than full oxygen bottle.

APPROVED BY

FAA APPROVED UNDER 14 CFR PART 21 SUBPART J
Cessna Aircraft Co.
Delegation Option Authorization DOA-230594-CE

Barbara J. Davis Asst. DOA Administrator
BJD

DATE OF APPROVAL 19 MAY 2008

NORMAL PROCEDURES

PREFLIGHT INSPECTION

1. Battery - CONNECTED.
2. Engine/Pitot Covers - REMOVED (2 each).

PRELIMINARY COCKPIT INSPECTION

NOTE

Prior to cockpit inspection, check tailcone to ensure battery is connected.

1. Documents - CHECK ABOARD.
   a. To be displayed in airplane at all times:
      (1) Airworthiness and Registration Certificates.
      (2) Transmitter License(s).
   b. To be carried in the airplane at all times:
      (1) FAA Approved Airplane Flight Manual.
      (2) Collins Pro Line 21 Avionics System Pilot's Guide.
      (3) Applicable FMS Pilot's Guide.
2. Flashlight - ABOARD.
3. Portable Fire Extinguisher - SERVICED and SECURE.
4. Microphones, Headsets, and Oxygen Masks - ABOARD.
5. Oxygen Quantity - CHECK.
6. Battery Disconnect Switch - BATT DISC.
7. Battery Switch - BATT (no voltage indication).
8. Battery Disconnect Switch - NORM (24 volts minimum).
9. All Circuit Breakers - CHECK.
10. Generators - GEN (OFF, if external power is to be used for start).
11. PITOT & STATIC Switch - ON - 30 seconds - OFF.
12. Landing Lights - ON - (Check illumination on ground - OFF, if seen from cockpit).
13. Other External Lights and Passenger Advisory Switch - ON. (Check Illumination - OFF, if seen from cockpit).
14. Control Lock - UNLOCKED.
15. Landing Gear Handle - DOWN.
16. Fuel Quantity - CHECK.
17. Elevator Trim - POSITION trim tab indicator within takeoff trim range.
18. Flap Handle - CHECK POSITION.
19. Throttles - OFF.
20. All other switches - OFF or NORM.

NOTE

- Expedite all checks with electrical power on and ensure that the air conditioner switch is OFF, if external power is not used.
- Landing and nav lights may be omitted if night flight is not anticipated.
- External power must be disconnected to complete items 6, 7 and 8. Voltmeter will indicate external power unit voltage, if used, when Battery switch is placed in BATT position, item 7.

EXTERIOR INSPECTION

During inspection, make a general check for security, condition and cleanliness of the airplane and components. Check particularly for damage; fuel, oil and hydraulic fluid leakage; security of access panels; and removal of keys from locks.

1. Hot Items/Lights - CHECK.
   a. Left and Right Static Ports - CLEAR and WARM.
   b. Left and Right Pitot Tubes - CLEAR and HOT.
   c. Landing Lights - BOTH ON (if not observed from cockpit).
   d. Angle-of-attack Vane - FREE and HOT.
   e. Flashing Beacon Light - ON and FLASHING (if not observed from cockpit).
   f. Emergency Exit Light - ON (if not observed from cockpit).
   g. Right Navigation and Strobe Lights - ON (if not observed from cockpit).
   h. Tail Navigation Light - ON.
   i. Left Wing Inspection, Navigation, and Strobe Lights - ON (if not observed from cockpit).
   j. Lights and Battery Switches - OFF.
2. Left Nose - CHECK.
   a. Baggage Door - SECURE and LOCKED.
   b. Nose Gear, Doors, Wheel and Tire - CONDITION and SECURE.
   c. Nosewheel Centering Lock Assembly - VERIFY FLY PLACARD IS VISIBLE (do not tow airplane with Nosewheel Centering Lock Assembly in FLY position)..
3. Right Nose and Fuselage Right Side - CHECK.
   a. Windshield Alcohol Reservoir Sight Gage - FLUID VISIBLE.
   b. Brake and Gear Pneumatic Pressure Gage - GREEN ARC.
   c. Power Brake Accumulator Charge - LIGHT GREEN ARC (precharged pressure) or DARK GREEN ARC (operating pressure if battery was turned on and circuit breaker was in during cockpit inspection).
   d. Brake Fluid Reservoir Sight Gages - FLUID VISIBLE.
   e. Baggage Door - SECURE and LOCKED.
   f. Oxygen Blowout Disc - GREEN.
   g. Overboard Vent Lines - CLEAR.
   h. Landing Light - CONDITION.
   i. Top and Bottom Antennas - CONDITION and SECURE.
4. Right Wing - CHECK.
   a. Wing Leading Edge Vent - CLEAR.
   b. Fuel Quick Drains - DRAIN and CHECK FOR CONTAMINATION.
   c. Main Gear Door, Wheel and Tire - CONDITION and SECURE.
   d. Engine Air Inlet - CLEAR.
   e. Engine Fan Duct and Fan - CHECK for bent blades, nicks and blockage of fan stators.
   f. Pylon Inlet - CLEAR.
   g. Generator Cooling Air Inlet - CLEAR.
   h. Cabin Escape Hatch - SECURE.
   i. Stall Strip - CONDITION (no nicks or dents), SECURE.
   j. Heated Leading Edge - CONDITION, EXHAUST CLEAR.
   k. Fuel Tank Vent - CLEAR.
   l. Fuel Filler Cap - SECURE.
   m. Static Wicks - CHECK. (Three installed. One may be missing. No more than two total missing on entire airplane.)

(Continued Next Page)

TEMPORARY FAA APPROVED AIRPLANE FLIGHT MANUAL CHANGE

Publication Affected:	Model 525A CJ2 (525A-0001 thru -0299) basic FAA Approved Airplane Flight Manual, Revision 6, dated 15 April 2005.
Airplane Serial Numbers Affected:	Airplanes 525A-0001 thru -0244 incorporating SB525A-27-08.
Description of Change:	Section III, Operating Procedures, Normal Procedures, page 3-84, EXTERIOR INSPECTION checklist, delete a step.
Filing Instructions:	Insert this temporary change in the Model 525A CJ2 (525A-0001 thru -0299) basic FAA Approved Airplane Flight Manual, adjacent to page 3-84.
Removal Instructions:	This temporary change must be removed and discarded once Revision 7 has been collated into the FAA Approved Airplane Flight Manual.

In Section III, Operating Procedures, Normal Procedures, page 3-84, EXTERIOR INSPECTION Checklist, in Item 2. Left Nose – CHECK, delete the following step:

c. Nosewheel Centering Lock Assembly – VERIFY FLY PLACARD IS VISIBLE (do not tow airplane with Nosewheel Centering Lock Assembly in FLY position).

EXTERIOR INSPECTION (Continued)

n. Aileron, Flap and Speed Brakes - CONDITION and SECURE. Assure flap position matches indicator.
o. Hydraulic Reservoir - CHECK.
p. Air Conditioning Exhaust, Lower Antenna and Drains - CONDITION and CLEAR.

5. Right Nacelle - CHECK.
   a. Engine Fluid Drains and TT2 Inlet - CLEAR.
   b. Generator Cooling Air Exhaust - CLEAR.
   c. Oil Filter Differential Pressure Indicator - NOT EXTENDED.
   d. Oil Level - CHECK; Filler Cap and Access Doors - SECURE.
   e. Engine Exhaust and Bypass Ducts - CONDITION and CLEAR.
   f. Thrust Attenuator - CONDITION and SECURE.
6. Empennage - CHECK.
   a. Right Horizontal Stabilizer Deice Boot - CONDITION.
   b. Right Horizontal Stabilizer, Elevator and Trim Tab - CONDITION. Assure trim tab position matches elevator trim tab position indicator.
   c. Rudder and Trim Tab - SECURE and CORRECT SERVO TAB ACTION.
   d. Static Wicks (Rudder, Both Elevators, and Tailcone) - CHECK. (Nine installed. One may be missing. No more than two total missing on entire airplane.)
   e. Vortex Generators - CHECK. (Five each side of vertical stabilizer).
   f. Left Horizontal Stabilizer, Elevator and Trim Tab - CONDITION. Assure trim tab position matches elevator trim tab position indicator.
   g. Left Horizontal Stabilizer Deice Boot - CONDITION.
7. Aft Compartment - CHECK.
   a. Fire Bottle Pressure Gages - CHECK per placard.
   b. Junction Box Circuit Breakers - IN.
   c. Equipment and Junction Box Access Doors - SECURE.
   d. Aft Compartment Baggage - SECURE.
   e. Aft Compartment Light - OFF.
   f. Aft Compartment Access Door - SECURE and LOCKED.
   g. External Power Service Door - SECURE.
   h. Battery Cooling Intake and Vent Lines - CLEAR.
8. Left Nacelle - CHECK.
   a. Engine Exhaust and Bypass Ducts - CONDITION and CLEAR.
   b. Thrust Attenuator - CONDITION and SECURE.
   c. Engine Fluid Drains and TT2 Inlet - CLEAR.
   d. Generator Cooling Air Exhaust - CLEAR.
   e. Oil Level - CHECK; Filler Cap and Access Doors - SECURE.
   f. Oil Filter Differential Pressure Indicator - NOT EXTENDED.
9. Left Wing - CHECK.
   a. Flap, Speed Brakes, Aileron and Trim Tab - CONDITION and SECURE. Assure flap position matches indicator.
   b. Static Wicks - CHECK. (Three installed. One may be missing. No more than two total missing on entire airplane.)
   c. Fuel Tank Vent - CLEAR.
   d. Fuel Filler Cap - SECURE.
   e. Heated Leading Edge - CONDITION, EXHAUST CLEAR.
   f. Stall Strip - CONDITION (no nicks or dents), SECURE.
   g. Engine Air Inlet - CLEAR.
   h. Pylon Inlet - CLEAR.
   i. Generator Cooling Air Inlet - CLEAR.
   j. Engine Fan Duct and Fan - CHECK for bent blades, nicks and blockage of fan stators.
   k. Main Gear Door, Wheel and Tire - CONDITION and SECURE.
   l. Fuel Quick Drains - DRAIN and CHECK FOR CONTAMINATION.
   m. Wing Leading Edge Vent - CLEAR.

(Continued Next Page)

EXTERIOR INSPECTION (Continued)

10. Fuselage Left Side - CHECK.
    a. Wing Inspection Light - CONDITION.
    b. Landing Light - CONDITION.
    c. Cabin Door Seals (primary and secondary) - CHECK for RIPS and TEARS.

CABIN INSPECTION

1. Emergency Exit - SECURE; Handle Lock Pin - REMOVE.
2. Passenger Seats - UPRIGHT and OUTBOARD.
3. Door Entry Lights - OFF.
4. Exit Placards - SECURE.

COCKPIT INSPECTION

1. Oxygen Control Valve - CHECK IN NORMAL.
2. Oxygen Masks - CHECKED and PROPERLY STOWED (check mask and microphone).
3. All Circuit Breakers - CHECK.
4. Standby Gyro Switch - TEST (momentary); GREEN LIGHT ON.
5. Standby Gyro - ON; CHECK AMBER LIGHT ON.
6. Battery Switch - BATT.
7. Battery Voltage - CHECK (24 volts minimum).
8. AVIONICS POWER Switch - ON (wait for both AHRS to fully initialize).
9. ATIS/Clearance - CHECK (if required).
10. Rotary Test Switch - WARNING SYSTEMS CHECKED.
11. Radar - OFF or STBY.
12. Battery Switch - EMER (check power to emergency bus items and DC/DC converter operation). With the battery switch in the EMER position, power should be supplied to:

COMM 1	Voltmeter
NAV 1	RH Pitot Static Heater
Overhead Floodlights	Standby Altimeter/Airspeed (Vibrator)
Pilot's and Copilot's Audio Panels	Standby HSI (Copilot's AHRS)
Standby Engine N_1 indicator	Landing Gear Control
Flap Control	Landing Gear Monitor

NOTE

- COMM 1/NAV 1 can be used on emergency bus for clearance/ATIS, without operating other airplane equipment, if needed prior to start.
- Assure proper operation of DC/DC converter by verifying standby HSI HDG flag not present when switching from BATT to EMER.

13. Battery Switch - BATT.

(Continued Next Page)

COCKPIT INSPECTION (Continued)

14. AVIONICS POWER Switch - OFF.
15. Generators - GEN (OFF if external power is to be used for start).
16. Fuel Boost Pumps - NORM.
17. Fuel Transfer - OFF.
18. L AHRS Slave - AUTO.
19. Parking Brake - SET.
20. WINDSHIELD BLEED AIR Manual Valves - OFF.
21. Control Lock - OFF (assure that the handle is fully in and controls and throttles are free).
22. Pilot AHRS REV - NORM (copilot NORM if installed).
23. Landing Gear Handle - DOWN.
24. Landing Gear Lights - CHECK green lights illuminated and unlock light out.
25. ANTISKID Switch - ON.
26. Standby Gyro Caging Knob - UNCAGED and NO FLAG.
27. Engine Instrument Warning Indicators - NO FLAGS.
28. Air Conditioner - OFF.
29. Air Source Select - AS REQUIRED.
30. R AHRS Slave - AUTO.
31. Cockpit Voice Recorder (if installed) TEST Button - PUSH and HOLD for 5 seconds. Verify illumination of test light.
32. Throttles - CHECK OFF.
33. Thrust Attenuator Switch - AUTO.
34. Engine Synchronizer - OFF.
35. All Other Switches - OFF or NORM.
36. Battery - OFF (if there is a delay before engine start, or ON with ground power unit).

QUICK TURN AROUND

1. Standby Gyro - ON/CHECK AMBER.
2. Battery Switch - BATT.
3. Battery Voltage - CHECK (24 volts minimum).
4. External Power - CONNECTED (if applicable).
5. AVIONICS POWER Switch - ON.
6. Rotary Test Switch - AOA (verify satisfactory preflight test), then OFF.
7. AVIONICS POWER Switch - OFF.
8. Generators - GEN (OFF if external power).
9. Fuel Boost Pumps - NORM.
10. All Other Switches - OFF or NORM.
11. Parking Brake - SET.
12. Control Lock - OFF.
13. Landing Gear Handle - DOWN.
14. Landing Gear Lights - CHECK green lights illuminated and unlock light out.
15. Standby Gyro Caging Knob - UNCAGED and NO FLAG.
16. Engine Instrument Warning Indicators - NO FLAGS.
17. Throttles - CHECK OFF.

BEFORE STARTING ENGINES

1. Preflight Inspection - COMPLETE.
2. Wheel Chocks - REMOVED.
3. Cabin Door - CLOSE and LOCK. Check green indicators for proper door pin position, handle vertical and in detent.
4. Passenger Briefing - COMPLETE. (Include, seat/seat belt adjustment, emergency exits, smoking, and oxygen).
5. Seats, Seat Belts, Shoulder Harnesses and Rudder Pedals - ADJUST and SECURE.
6. Fuel Quantity - CHECKED and BALANCED.
7. Flashing Beacon Light - ON.
8. Air Conditioner - OFF.

STARTING ENGINES

NOTE

In crosswind conditions, starting the downwind engine first (for battery start) will produce a lower start ITT. Otherwise either engine can be started first.

1. Flood and Center Panel Lights - FULL BRIGHT (for night operation).
2. Start Button - PRESS momentarily; button - LIGHTS.
3. Throttle - IDLE at 8% turbine RPM (N_2) minimum and indication of fan RPM (N_1) rotation.

NOTE

- Lower start ITT can be achieved by allowing N_2 to peak (but need not exceed 12% N_2) prior to advancing the throttle lever to idle.
- For tailwind engine starts, ensure proper direction of fan rotation (N_1 increasing) prior to bringing throttle to idle.

4. ITT - CHECK for rise. Abort start if ITT rapidly approaches 1000°C or showing no rise within 10 seconds. Do not exceed 900°C for more than 15 seconds.

CAUTION

IF ENGINE MAINTENANCE HAS BEEN PERFORMED, AIR IN FUEL LINES MAY CAUSE A HOT START. ENSURE THAT PROPER PURGING PROCEDURES HAVE BEEN ACCOMPLISHED PRIOR TO ATTEMPTING A START. BE PREPARED TO ABORT THE START.

5. Engine Instruments - CHECK NORMAL.
6. Fuel, Oil, Generator and Hydraulic Annunciators - EXTINGUISHED.
7. Other Engine - START; repeat steps 2 through 6.
8. External Power - CHECK CLEAR (if applicable).
9. Generators - GEN (if external power was used for start).

(Continued Next Page)

STARTING ENGINES (Continued)

10. DC Amperes and Volts - CHECK
    a. LH Generator - OFF - check L AMP drop, R AMP INCR, voltage 29 ± .25.
    b. RH Generator - OFF - check voltage drops to battery (24 volts minimum).
    c. LH Generator - GEN - check on line, AMPS INCR, voltage 29 ± .25.
    d. RH Generator - GEN - check generators parallel and voltage 29 ± .25.
    e. Battery Switch - OFF - check L AMP and R AMP drop. Volt meter reads 0.
    f. Battery Switch - BATT - check voltage 29 ± .25 volts.

BEFORE TAXI

1. Air Conditioner, Fans, Temperature Control - AS REQUIRED.

NOTE

Air conditioner switch must be in AUTO or FAN and the aft fan must be operating for the automatic cabin temperature control system to function.

2. Lights - AS REQUIRED.

NOTE

Bulb life is extended considerably by using the RECOG/TAXI light position for taxi.

3. AVIONICS POWER Switch - ON.
4. Passenger Advisory Switch - PASS SAFETY.
5. Pressurization - AUTO/SET Destination Elevation.
6. Electric Elevator Trim - CHECK and SET. (Operate electric elevator trim nose up and push AP/TRIM DISC button. Verify elevator trim wheel stops rotating. Trim should not operate while pressing only one side of the split switch. Repeat check for nose down trim. Repeat trim check for copilot's AP/TRIM DISC button. Verify pilot's trim overrides copilot's trim.) Set the trim as required for center-of-gravity.
7. Flaps - CHECK and SET.
    a. Set flaps to GROUND FLAPS and verify both speed brakes deploy.
    b. Advance the throttles to above 85% N_2; verify speed brakes retract and the FLAPS >35° annunciator illuminates.
    c. Retard throttles to idle; verify lights extinguish and speed brakes redeploy.
    d. Set flaps to TAKEOFF AND APPROACH; verify speed brakes retract.
8. Flight Controls - FREE and CORRECT.

(Continued Next Page)

BEFORE TAXI (Continued)

9. Rudder Bias System Check.
   a. Advance left throttle to approximately 70% N_1.
   b. Verify left rudder pedal moves forward.
   c. Return left throttle to idle.
   d. Advance right throttle to approximately 70% N_1.
   e. Verify right rudder pedal moves forward.
   f. Return right throttle to idle.
10. Thrust Attenuators - CHECK/AUTO. Place the thrust attenuator switch in STOW; a white ATTN STOW SELECT advisory light will illuminate, confirm that the white ATTEN UNLOCK L and R lights extinguish, indicating that the attenuator paddles have properly stowed. Advance either throttle beyond 85% N_2 with the thrust attenuator switch in STOW; the MASTER CAUTION will illuminate. Bring the throttles to idle and select the thrust attenuator switch to TEST; the MASTER CAUTION will illuminate. Place the thrust attenuator switch in AUTO with the throttles at idle; the thrust attenuators will be deployed. Advance either throttle above idle; the thrust attenuators will stow and then redeploy when the throttle is returned to idle.
11. ATIS, Clearance, Flight Management System and Charts - CHECK.
12. Takeoff Data (V_1, V_R, V_2, V_{ENR} (V_T), N_1 Speed Setting, Takeoff Field Length and Weight Limits) - CONFIRM for appropriate takeoff flap setting.
13. Avionics - CHECK and SET.
14. Cross Check VOR on Standby HSI and Copilot's HSI with VOR on Pilot's PFD. (If the HSI differs from the PFD by more than 4°, do not use that HSI for VOR navigation.)

NOTE

There is a possibility that the Standby HSI and/or the Copilot's HSI will lose their VOR calibration each time power to the unit is cycled. Once a unit has lost its calibration data, the selected radial will be in error by up to 10°. VOR data displayed on the pilot's or copilot's PFD is not affected. Localizer data is not affected. If VOR check facilities are not available on the ground, perform airborne crosscheck as soon as practical after takeoff.

TAXI

1. Brakes - CHECK.

CAUTION

IF, DURING TAXIING, A NO BRAKING CONDITION IS ENCOUNTERED, OPERATE THE EMERGENCY BRAKE SYSTEM. MAINTENANCE IS REQUIRED BEFORE FLIGHT.

NOTE

If the antiskid is turned off prior to, or during taxiing, it must be turned on prior to takeoff. The antiskid must be turned on and the self-testing sequence completed (ANTISKID INOP annunciator light out) while the airplane is stationary. If the airplane is taxiing when the antiskid system is turned on the antiskid test sequence may not be completed successfully and the antiskid may not be operational during takeoff.

2. Flight Instruments - CHECK.
3. Crew Briefing - COMPLETE.

STARTING ENGINES (Continued)

10. DC Amperes and Volts - CHECK
    a. LH Generator - OFF - check L AMP drop, R AMP INCR, voltage 29 ± .25.
    b. RH Generator - OFF - check voltage drops to battery (24 volts minimum).
    c. LH Generator - GEN - check on line, AMPS INCR, voltage 29 ± .25.
    d. RH Generator - GEN - check generators parallel and voltage 29 ± .25.
    e. Battery Switch - OFF - check L AMP and R AMP drop. Volt meter reads 0.
    f. Battery Switch - BATT - check voltage 29 ± .25 volts.

BEFORE TAXI

1. Air Conditioner, Fans, Temperature Control - AS REQUIRED.

NOTE

Air conditioner switch must be in AUTO or FAN and the aft fan must be operating for the automatic cabin temperature control system to function.

2. Lights - AS REQUIRED.

NOTE

Bulb life is extended considerably by using the RECOG/TAXI light position for taxi.

3. AVIONICS POWER Switch - ON.
4. Passenger Advisory Switch - PASS SAFETY.
5. Pressurization - AUTO/SET Destination Elevation.
6. Electric Elevator Trim - CHECK and SET. (Operate electric elevator trim nose up and push AP/TRIM DISC button. Verify elevator trim wheel stops rotating. Trim should not operate while pressing only one side of the split switch. Repeat check for nose down trim. Repeat trim check for copilot's AP/TRIM DISC button. Verify pilot's trim overrides copilot's trim.) Set the trim as required for center-of-gravity.
7. Flaps - CHECK and SET.
    a. Set flaps to GROUND FLAPS and verify both speed brakes deploy.
    b. Advance the throttles to above 85% N_2; verify speed brakes retract and the FLAPS >35° annunciator illuminates.
    c. Retard throttles to idle; verify lights extinguish and speed brakes redeploy.
    d. Set flaps to TAKEOFF AND APPROACH; verify speed brakes retract.
8. Flight Controls - FREE and CORRECT.

(Continued Next Page)

BEFORE TAXI (Continued)

9. Rudder Bias System Check.
   a. Advance left throttle to approximately 70% N_1.
   b. Verify left rudder pedal moves forward.
   c. Return left throttle to idle.
   d. Advance right throttle to approximately 70% N_1.
   e. Verify right rudder pedal moves forward.
   f. Return right throttle to idle.
10. Thrust Attenuators - CHECK/AUTO. Place the thrust attenuator switch in STOW; a white ATTN STOW SELECT advisory light will illuminate, confirm that the white ATTEN UNLOCK L and R lights extinguish, indicating that the attenuator paddles have properly stowed. Advance either throttle beyond 85% N_2 with the thrust attenuator switch in STOW; the MASTER CAUTION will illuminate. Bring the throttles to idle and select the thrust attenuator switch to TEST; the MASTER CAUTION will illuminate. Place the thrust attenuator switch in AUTO with the throttles at idle; the thrust attenuators will be deployed. Advance either throttle above idle; the thrust attenuators will stow and then redeploy when the throttle is returned to idle.
11. ATIS, Clearance, Flight Management System and Charts - CHECK.
12. Takeoff Data (V_1, V_R, V_2, V_{ENR} (V_T), N_1 Speed Setting, Takeoff Field Length and Weight Limits) - CONFIRM for appropriate takeoff flap setting.
13. Avionics - CHECK and SET.

TAXI

1. Brakes - CHECK.

CAUTION

IF, DURING TAXIING, A NO BRAKING CONDITION IS ENCOUNTERED, OPERATE THE EMERGENCY BRAKE SYSTEM. MAINTENANCE IS REQUIRED BEFORE FLIGHT.

NOTE

If the antiskid is turned off prior to, or during taxiing, it must be turned on prior to takeoff. The antiskid must be turned on and the self-testing sequence completed (ANTISKID INOP annunciator light out) while the airplane is stationary. If the airplane is taxiing when the antiskid system is turned on the antiskid test sequence may not be completed successfully and the antiskid may not be operational during takeoff.

2. Flight Instruments - CHECK.
3. Crew Briefing - COMPLETE.

BEFORE TAKEOFF

1. Anti-Ice/Deice Systems - CHECK (when icing conditions are anticipated). Set engine speed above 75% N_2 and turn on the engine and wing anti-ice and tail deice. Check for annunciators to illuminate and extinguish (approximately 1 minute). Turn wing and engine anti-ice off until ready for takeoff. Open the WINDSHIELD BLEED AIR manual valves; turn on the WINDSHIELD BLEED LOW; check flow and turn the anti-ice switches off and close the manual valves. Check for proper sequencing of the TAIL DEICE annunciators.

CAUTION

- DO NOT OPERATE WINDSHIELD ANTI-ICE ON THE GROUND AT HIGH ENGINE RPM.
- LIMIT GROUND OPERATION OF PITOT & STATIC HEAT TO TWO MINUTES TO PRECLUDE DAMAGE TO THE PITOT & STATIC HEATER.
- DO NOT CONTINUE OPERATING WING/ENG ANTI-ICE ON THE GROUND AT HIGH ENGINE RPM AFTER ANTI-ICE ANNUNCIATORS HAVE EXTINGUISHED.
- DO NOT OPERATE TAIL DEICE BOOTS WHEN INDICATED RAT IS BELOW -35°C (-31°F). BOOT CRACKING MAY RESULT.

2. Passenger Seats - CHECK FULL UPRIGHT and OUTBOARD.
3. Cockpit Air Distribution - AS REQUIRED.
4. Air Source Select - BOTH.
5. Flaps - SET FOR TAKEOFF.
6. Trim - SET FOR TAKEOFF.
7. Thrust Attenuator Switch - AUTO.
8. Ignition - ON.
9. PITOT & STATIC Switch - ON.
10. Anti-Ice/Deice Systems - ON if required.
11. Anti-Collision Lights - ON.

NOTE

Do not operate the anti-collision lights in conditions of fog, clouds or haze as the reflection of the light beam can cause disorientation or vertigo.

12. Landing or Recognition Lights - AS DESIRED.
13. Transponder - ALT.
14. Radar - AS REQUIRED.
15. Annunciator Panel - CHECKED.

NOTE

- The ATTEN UNLOCK L and R advisory lights will be illuminated with throttles at idle but will extinguish when throttles are advanced for takeoff.
- The GROUND IDLE advisory light will be illuminated with the GND IDLE switch in the NORMAL position.

TAKEOFF

1. Throttles - SET TAKEOFF THRUST.
2. Engine Instruments - CHECK.
3. Brakes - RELEASE.

AFTER TAKEOFF - CLIMB

1. Landing Gear - UP.
2. Flaps - UP.
3. Ignition - NORM.
4. Throttles - SET MAXIMUM CONTINUOUS THRUST (multi-engine).
5. Engine Synchronizer - AS REQUIRED.
6. Yaw Damper - AS REQUIRED.
7. Passenger Advisory Switch - AS REQUIRED.
8. Anti-Ice/Deice Systems - AS REQUIRED.
9. Landing or Recognition Lights - OFF.
10. Pressurization - CHECK.
11. Altimeters - SET to 29.92 (1013 mb) at transition altitude and CROSSCHECK.

CRUISE

1. Throttles - SET as desired.
2. Anti-Ice/Deice Systems - AS REQUIRED.
3. Cockpit Air Distribution - AS REQUIRED.

CAUTION

DO NOT OPERATE TAIL DEICE BOOTS WHEN INDICATED RAT IS BELOW -35°C (-31°F). BOOT CRACKING MAY RESULT.

DESCENT

1. Defog Systems - AS REQUIRED.
   a. Defog Fan - HI (at start of descent).
   b. Cockpit Air Distribution - MAX.
   c. WINDSHIELD BLEED AIR Manual Valves - MAX and WINDSHIELD BLEED Air Switch - LOW below 18,000 feet if landing temperature/dew point spread is less than 10°F/5°C.
2. Pressurization - SET Destination Elevation.
3. Anti-Ice/Deice Systems - AS REQUIRED.
4. Throttles - AS REQUIRED; maintain sufficient power for wing anti-icing, 75% N_2 minimum.
5. Altimeters - SET at transition altitude and CROSSCHECK.
6. Landing Data (V_{APP}, V_{REF}, N_1, Landing Distance, Weight, and Factors) - CONFIRM.
7. Landing or Recognition Lights - AS REQUIRED.

NOTE

Bulb life is extended considerably by using the RECOG/TAXI light position.

APPROACH

1. Seats, Seat Belts and Shoulder Harnesses - SECURE.
2. Avionics and Flight Instruments - CHECK.
3. Minimums - SET.
4. Passenger Advisory Switch - PASS SAFETY.
5. Passenger Seats - CHECK FULL UPRIGHT and OUTBOARD.
6. Fuel Transfer - OFF.

(Continued Next Page)

TEMPORARY FAA APPROVED AIRPLANE FLIGHT MANUAL CHANGE

Publication Affected:	Model 525A CJ2 FAA Approved U.S. Airplane Flight Manual, Airplanes 525A-0001 thru -0299, Revision 6, Dated 15 April 2005.
Airplane Serial Numbers Affected:	Airplanes 525A-0001 thru -0299.
Description of Change:	Section III, Operating Procedures, Normal Procedures, page 3-92, AFTER TAKEOFF - CLIMB, add a note.
Filing Instructions:	Insert this temporary change in the Model 525A CJ2 FAA Approved U.S. Airplane Flight Manual, Airplanes 525A-0001 thru -0299, adjacent to page 3-92.
Removal Instructions:	This temporary change must be removed and discarded when Revision 7 has been collated into the FAA Approved U.S. Airplane Flight Manual.

Section III, Normal Procedures, page 3-92, AFTER TAKEOFF - CLIMB, Step 5, Engine Sychronizer - AS REQUIRED, add the following note:

NOTE

Due to engine bleed valve operation, the engine synchronizer can cause N_1 to oscillate when set to FAN and N_2 indicates between 87% and 89.3%. Changing the power setting, altitude or changing the sychronizer from FAN to TURBINE will eliminate this oscillation.

APPROVED BY

FAA APPROVED UNDER 14 CFR PART 21 SUBPART J
Cessna Aircraft Co.
Delegation Option Authorization DOA-230594-CE

Lead DOA Administrator

DATE OF APPROVAL 5 July 2005

APPROACH (Continued)

7. Flaps - TAKEOFF AND APPROACH.
8. Engine Synchronizer - OFF.
9. Thrust Attenuator Switch - AUTO.
10. ANTISKID Switch - CHECK ON.
11. Landing Lights - ON.
12. Annunciator Panel - CHECK.
13. Pressurization - CHECK (Destination Elevation Set).
14. Crew Briefing - COMPLETE.

BEFORE LANDING

1. Ignition - ON.
2. Landing Gear - DOWN and LOCKED.
3. Flaps - LAND.
4. Pressurization - CHECK ZERO DIFFERENTIAL.
5. Autopilot and Yaw Damper - OFF.
6. Airspeed - V_{REF}.
7. Speed Brakes - RETRACTED PRIOR TO 50 FEET.

LANDING

1. Throttles - IDLE. (Extends thrust attenuators automatically after touchdown with the thrust attenuator switch in AUTO).
2. Brakes - APPLY (after touchdown).

CAUTION

IF, DURING LANDING, A NO BRAKING CONDITION IS ENCOUNTERED, OPERATE THE EMERGENCY BRAKE SYSTEM. MAINTENANCE IS REQUIRED BEFORE NEXT FLIGHT.

NOTE

- To obtain maximum braking performance from the antiskid system, the pilot must apply continuous maximum effort (no modulation) to the brake pedals.
- "Dropout" of the antiskid system occurs at approximately 12 knots where braking reverts to the power brake mode.

3. Flaps - GROUND.

NOTE

The FLAPS >35° annunciator may illuminate and thrust attenuators may not deploy if the nose is held up for aerodynamic braking.

ALL ENGINES GO-AROUND

1. Throttles - SET FOR GO-AROUND THRUST.
2. Airplane Pitch Attitude - +10 DEGREES (use flight director go-around mode).
3. Flaps - TAKEOFF AND APPROACH.
4. Climb Speed - V_{APP}.
5. Landing Gear (when positive rate-of-climb is established) - UP.
6. Flaps - UP.
7. Throttles - SET MAXIMUM CONTINUOUS THRUST (multi-engine).

AFTER LANDING

1. Flaps - UP.
2. Ignition - NORMAL.
3. PITOT & STATIC Switch - OFF.
4. Landing and Anti-Collision Lights - AS REQUIRED.

NOTE

Bulb life is extended considerably by using the RECOG/TAXI light position for taxi.

5. Anti-Ice/Defog Systems - AS REQUIRED.

NOTE

High humidity conditions may require the defog and windshield bleed systems to remain on.

6. Transponder - GRD (if desired).
7. Radar - OFF or STBY.

SHUTDOWN

1. Parking Brake - SET or Wheels - CHOCK.

NOTE

If brakes are very hot, do not set parking brake.

2. Defog Fan - OFF.
3. Air Conditioner - OFF.
4. Flaps - TAKEOFF AND APPROACH.
5. Standby Gyro Switch - OFF.
6. Standby Gyro - CAGE.
7. Passenger Advisory Switch - OFF.
8. Exterior Lights - OFF.
9. AVIONICS POWER Switch - OFF.
10. Throttles - OFF after allowing ITT to stabilize at minimum value for two minutes.
11. Flashing Beacon Light - OFF.

(Continued Next Page)

TEMPORARY FAA APPROVED AIRPLANE FLIGHT MANUAL CHANGE

Publication Affected:	Model 525A CJ2, (525A-0001 thru -0299) basic FAA Approved Airplane Flight Manual, Revision 6, dated 15 April 2005.
Airplane Serial Numbers Affected:	Airplanes 525A-0001 thru -0244 incorporating SB525A-27-08.
Description of Change:	SECTION III, Operating Procedures, Normal Procedures, page 3-95, SHUTDOWN checklist, delete a step.
Filing Instructions:	Insert this temporary change in the Model 525A CJ2 (525A-0001 thru -0299) FAA Approved Airplane Flight Manual, adjacent to page 3-95.
Removal Instructions:	This temporary change must be removed and discarded once Revision 7 has been collated into the FAA Approved Airplane Flight Manual.

In Section III, Operating Procedures, Normal Procedures, on page 3-95, in the SHUTDOWN checklist, delete the following step:

14. Nosewheel Centering Lock Assembly – VERIFY THAT TOW PLACARD IS VISIBLE (do not tow airplane with Nosewheel Centering Lock Assembly in FLY position).

SHUTDOWN (Continued)

12. Battery Switch - OFF.
13. Control Lock - ENGAGE (unless airplane will be towed).

CAUTION

TOWING AIRPLANE WITH CONTROL LOCK ENGAGED WILL DAMAGE NOSEWHEEL STEERING MECHANISM.

14. Nosewheel Centering Lock Assembly - VERIFY THAT TOW PLACARD IS VISIBLE (do not tow airplane with Nosewheel Centering Lock Assembly in FLY position).
15. Engine Oil Level - CHECK (10 minutes after shutdown).
16. Engine Covers - INSTALL (after engines have cooled).

TURBULENT AIR PENETRATION

Flight through severe turbulence should be avoided if possible. The following procedures are recommended for flight in severe turbulence.

1. Ignition - ON.
2. Airspeed - APPROXIMATELY 205 KIAS (do not chase airspeed).
3. Maintain a constant attitude without chasing the altitude. Avoid sudden large control movements.
4. Operation of autopilot is recommended in basic modes only (ROL and PIT only).

FLIGHT INTO ICING

Flight into known icing is the intentional flight into icing conditions that are known to exist by either visual observation or pilot weather report information. Icing conditions exist any time the indicated RAT is +10°C or below, and visible moisture in any form is present. Cessna Citations, equipped with properly operating anti-ice and deice equipment, are approved to operate in maximum intermittent and maximum continuous icing conditions as defined by 14 CFR 25, Appendix C when that equipment is in operation. The equipment has not been designed to provide protection against freezing rain or severe conditions of mixed or clear ice. During all operations, the pilot is expected to exercise good judgement and be prepared to alter the flight plan, i.e. exit icing, if conditions exceed the capability of the airplane and equipment.

Ice accumulations significantly alter the shape of airfoils and increase the weight of the airplane. Flight with ice accumulated on the airplane will increase stall speeds and alter the speeds for optimum performance. Flight at high angle-of-attack (low airspeed) can result in ice building on the underside of the wings and the horizontal stabilizer aft of areas protected by boots or leading edge anti-ice systems. Minimum airspeed for sustained flight in icing conditions (except approach and landing) is 160 KIAS. Prolonged flight with the flaps and/or landing gear extended is not recommended. Trace or light amounts of icing on the horizontal stabilizer can significantly alter airfoil characteristics which will affect stability and control of the airplane.

NOTE

With residual ice on the airplane, stall characteristics are degraded and stall speeds are increased. For flaps 35°, the increase in stall speed is small and does not warrant an increase in the landing speed.

(Continued Next Page)

FLIGHT INTO ICING (Continued)

Freezing rain and clear ice will be deposited in layers over the entire surface of the airplane and can "run back" over control surfaces before freezing. Rime ice is an opaque, granular and rough deposit of ice that usually forms on the leading edges of wings, tail surfaces, pylons, engine inlets, antennas, etc.

COLD WEATHER OPERATIONS

Operation of the airplane has been demonstrated after prolonged exposure to ground ambient temperature of -40°C (-40°F). If prolonged cold soak is anticipated, refer to maintenance manual procedures to prepare the airplane for cold soak. If the airplane has been cold soaked on the ground for more than 1.5 hours at temperatures colder than -18°C, refer to maintenance manual procedures to prepare the airplane for flight. The following operational procedures are recommended if the airplane is anticipated to be exposed to cold soak:

NOTE

Emergency escape hatch forces may be heavy if the aircraft is cold soaked below -33°F.

Remove EROS crew oxygen masks, if temperature will be less than 0°C, and drain all cabin fluids.

When the airplane is parked in any conditions of falling or blowing snow, regardless of temperature, the engine and pitot covers should be installed. The airplane should be parked with flaps retracted. Prior to flight, the airplane must be cleared of snow and if wing, empennage or control surfaces are frosted, they must be deiced. Refer to Section VII, DEICING PROCEDURES.

If the airplane is to be parked outside for more than a few hours at temperatures below -15°C, the following special considerations are advised:

The airplane batteries should be moved to a warm environment or battery heaters installed and connected. Below -20°C, batteries may be inert and will not charge or discharge.

The following operational procedures are recommended after cold soak:

Hydraulic accumulators, pneumatic storage bottles, and oxygen cylinders will indicate a lower pressure because of the temperature drop. Refer to the appropriate temperature charge placards. It should be noted that hydraulic and pneumatic systems are more prone to leaks in extreme cold. A significantly lower charge may indicate a leak. Prior to preflight, the flaps should be extended to allow inspection of the wing trailing edge for hydraulic leaks.

If the airplane has been cold soaked to a temperature below -10°C, the Engine Indicating System (EIS) display may take up to 6 minutes after application of power before it becomes useable. Preheating the cabin to 0°C or above will reduce this delay to 1 minute or less.

(Continued Next Page)

COLD WEATHER OPERATIONS (Continued)

After cold soak at extremely cold temperatures, the W/S AIR O'HEAT annunciator may not illuminate when W/S TEMP is selected on the Rotary Test Switch during the Cockpit Inspection. If this occurs, repeat the test after the cabin has warmed up. A satisfactory test of the W/S AIR O'HEAT annunciator must be accomplished prior to flight.

Some electrical systems and avionics computers and displays may be slow to warm up. Cabin fluorescent lighting will also be slow to illuminate and should be turned on if its use is anticipated. LCD displays may require several minutes to reach full brightness.

NOTE

Dispatch is prohibited until all required avionics systems are verified to be functioning properly.

Use GPU after extended cold soak. If a start is attempted using an external power unit and/or preheated battery and the starter will not motor to 8 percent N_2 minimum, terminate the starting sequence. Advancing the throttle to idle below 8 percent N_2 can be damaging to the engine and the battery. Battery voltage below 11 volts after the start button is pressed indicates a potential for an unsuccessful start.

Apply preheat to engines, tailcone, cabin, and cockpit. Engine preheating is best accomplished by installing the engine covers and directing hot air through the oil filler access door. A warm battery provides significant benefit and the heater hose can be placed in the tailcone with the door propped as far closed as possible to minimize heat loss.

NOTE

If the airplane has been cold soaked below -18°C, and the battery has been removed and kept warm, a battery start may be made if the engines have not been cold soaked below -33°C engine oil temperature as indicated on the EIS (MFD). A GPU or generator assisted start may be conducted at engine oil temperatures down to -40°C as indicated on EIS (MFD). If the airplane is cold soaked below -40°C engine oil temperature as indicated on EIS (MFD), it must be preheated or warmed in a heated hangar prior to conducting an engine start. If a start is attempted and the starter will not motor to 8 percent N_2 minimum, terminate the start sequence.

Engine starts using ground power or battery should be normal except that the exhaust will smoke initially and engine oil pressure will be high. Engine oil pressure up to 100 PSI for five minutes is normal during cold starts. Once engine oil temperature is above 10°C, the engine may be operated above 80 percent N_2. Fuel tank temperature limits for the type of fuel being used must be observed. Refer to Section II, FUEL LIMITATIONS.

Following engine start, all flight controls, flaps and speed brakes must be cycled through full travel several times to verify that all controls reach full travel and operate normally.

(Continued Next Page)

COLD WEATHER OPERATIONS (Continued)

Maximum heat is obtained with the right/left or both engine(s) operating and the AIR SOURCE SELECT in BOTH. Switching the TEMPERATURE SELECT to MANUAL and selecting MANUAL HOT for 10 seconds ensures that the temperature mixing valve is in the HOT position. Turning the COCKPIT AIR DIST knob to MAX will increase air circulation in the cockpit. Operating the engine(s) above idle RPM increases temperature and airflow. The engine should not be operated above 80 percent N_2 until the engine oil temperature is above 10°C. It is not recommended to operate air conditioning in AUTO, and defog should be off to prevent the freon air conditioning system from operating.

Most effective overall cabin heating is achieved by selecting the COCKPIT AIR DIST knob to MAX and the FAN to LOW or HI until the cockpit is comfortable. Then move the COCKPIT AIR DIST knob toward NORM. Warming the cabin first may tend to cause the temperature controller to stabilize before the cockpit warms. This is due to the temperature sensor being located in the cabin.

NOTE

The cabin must be heated to a temperature of 0°C (32°F) prior to operation above FL240. The temperature ensures proper deployment and operation of the passenger oxygen masks. A handheld thermometer is acceptable to determine cabin temperature.

Operating in extremely cold temperatures supercools and reduces the solubility of any water particles in the fuel, increasing the possibility of fuel system icing. The tank and fuel filter drains under each wing should be drained frequently and thoroughly. It is possible for water to settle in the sump and freeze, which would block the drain. Heat should be applied until fuel flows freely. Maintain heat after flow begins to ensure that all particles have melted. Collect the drainage in a clear, clean container to inspect for water globules.

NOTE

When the airplane has been cold soaked, it is possible to see the HYD PRESS ON annunciator for a second time after a flap retraction to UP has been commanded. This is due to the normal flap retraction switches warming up and commanding the flaps beyond the setting of the secondary flap retract switch.

(Continued Next Page)

ANTI-ICE AND DEICE SYSTEMS (Continued)

The anti-ice system consists of bleed air heated engine inlets, wing leading edge, windshield, and pylon inlet ducts. The pitot tubes, static ports, and angle-of-attack probe are electrically heated. Windshield alcohol anti-ice is also provided as a backup system for the left windshield. The horizontal stabilizer is deiced by pneumatic boots.

All anti-ice systems and tail deice systems should be turned on when operating in visible moisture and the indicated RAT is +10°C or below. The wing/engine anti-ice systems may be operated in the ENG ON position and the windshield anti-ice and tail deice may be OFF provided it can be visually verified that no ice is accumulating. The wing anti-ice system is automatically shut off when the respective engine N_2 falls below 75% to allow for faster engine acceleration from idle.

CAUTION

DO NOT OPERATE TAIL DEICE BOOTS WHEN INDICATED RAT IS BELOW -35°C (-31°F). BOOT CRACKING MAY RESULT.

ENGINE ANTI-ICE SYSTEM

When the wing/engine anti-ice switches are placed to either the ENG ON or WING/ENG position, hot bleed air flows through the respective engine inlet providing anti-ice protection to the engine inlet and generator cooling air inlet. The engine fan, stators and spinner are aerodynamically deiced. Ice will build on the spinner, engine fan, and stators, and shed due to centrifugal and aerodynamic forces. Minor acoustical vibrations may be evident at some power settings as this ice builds and sheds. The engine anti-ice system is monitored by temperature sensors which will illuminate the ENG ANTI-ICE L/R annunciator should the engine inlet temperature fall below 10°C (50°F). The MASTER CAUTION will illuminate approximately 50 seconds after illumination of the ENG ANTI-ICE L/R annunciator. The MASTER CAUTION is disabled when the system is initially turned on, until the ENG ANTI-ICE annunciators extinguish.

WING LEADING EDGE ANTI-ICE SYSTEM

When the wing/engine anti-ice switches are placed to the WING/ENG position, (engine N_2 above 75% RPM in flight), pre-cooled bleed air flows to the respective wing leading edge, exiting through louvers on the lower surface of the wing tip. The wing anti-ice system is monitored by temperature switches in each wing root. When bleed air temperature entering the wing leading edge is less than 110°C (230°F), the respective WING ANTI-ICE L/R annunciator will illuminate.

A 104°C (220°F) switch monitors wing skin temperature and will shut the respective wing anti-ice system off and illuminate the respective WING ANTI-ICE L/R annunciator should an overheat condition occur. This condition will occur during sustained ground operation at high engine thrust, but should not occur in flight.

(Continued Next Page)

ANTI-ICE AND DEICE SYSTEMS (Continued)

WING LEADING EDGE ANTI-ICE SYSTEM (Continued)

The WING ANTI-ICE L/R annunciators will also illuminate approximately one minute after the respective engine N_2 is reduced below 75% RPM, unless the 104°C (220°F) switch causes earlier illumination. In any case, the MASTER CAUTION will illuminate approximately 50 seconds after illumination of the WING ANTI-ICE L/R annunciator. The MASTER CAUTION is disabled when the system is initially turned on, until the WING ANTI-ICE L/R annunciators extinguish.

NOTE

Under some conditions such as tailwind or the need to reduce speed on final approach, N_2 may fall below 75% RPM. Use of speed brakes to increase drag on final approach is approved. However, the speed brakes should be retracted prior to 50 feet AGL.

In the event of an engine failure, bleed air can be supplied to the wing on the affected side from the operating engine. Placing the WING XFLOW switch to WING XFLOW will supply bleed air through a crossflow line. Higher N_2 may be required to prevent the WING ANTI-ICE annunciators from illuminating. The ENG ANTI-ICE annunciators on the affected engine side will be on continuously after one minute.

PYLON AIR INLET DUCT ANTI-ICE SYSTEM

When the WING/ENGINE ANTI-ICE switches are placed to the WING/ENG position, engine bleed air is supplied to the pylon air inlet duct to prevent ice from blocking cooling air supply to the cabin and windshield heat exchangers. Blockage of these ducts will result in loss of cabin and windshield bleed temperature control.

TAIL DEICE

The horizontal tail is deiced by pneumatic boots controlled by the TAIL DEICE AUTO/OFF/MANUAL switch. Selecting the switch to AUTO will activate a controller which will inflate the boots one side at a time and then repeat this cycle after 3 minutes, continuously, providing automatic deice of the stabilizer. Selecting the momentary MANUAL position will inflate both boots as long as the pilot holds the switch in the MANUAL position. Manual mode will cause a slight pitch bump at boot inflation that will vary in intensity with the amount of ice accumulated prior to boot activation. Vacuum is supplied to deflate the boots after each cycle and keep them deflated between cycles and when OFF.

Proper activation of the deice boots is annunciated by a white TAIL DEICE L/R advisory light on the annunciator panel which illuminates when proper inflation pressure is reached in each deice boot.

CAUTION

DO NOT OPERATE TAIL DEICE BOOTS WHEN INDICATED RAT IS BELOW -35°C (-31°F). BOOT CRACKING MAY RESULT.

(Continued Next Page)

ANTI-ICE AND DEICE SYSTEMS (Continued)

WINDSHIELD ANTI-ICE

The windshield bleed air system provides windshield anti-ice under all normal operating conditions. This system also provides external windshield defog and rain removal. The system supplies engine bleed air through an electrically actuated pressure regulating shutoff valve in the tailcone and manually positioned regulating valves to each windshield. The manual valves are located at each bleed air nozzle and are in the OFF position for all normal operation. A check should be made to ensure that the rain removal handle is pushed down for windshield anti-icing. When windshield anti-icing is required, the WINDSHIELD BLEED AIR manual valves are turned on and the WINDSHIELD BLEED air switch is turned to LOW if the indicated RAT is above -18°C or to HI if the indicated RAT is -18°C or below. Normal system operation is indicated by an increase in air noise. A temperature sensor is located near the discharge nozzles. The temperature controller automatically controls the windshield bleed air temperature by modulating cross flow air through a heat exchanger in the tailcone. An additional temperature sensor is located in the bleed air line, which automatically actuates the electrical shutoff valve and illuminates the W/S AIR O'HEAT annunciator light should the bleed air temperature exceed the normal control value. As windshield air temperature decreases, the controller will automatically open the shutoff valve again. This condition should not occur unless a sustained high power, low airspeed condition is maintained or a system malfunction occurs. If the W/S AIR O'HEAT annunciator illuminates, the manual bleed air valves should be modulated to reduce the flow or closed. The W/S AIR O'HEAT annunciator will also illuminate if the electrical shutoff valve in the tailcone opens with the WINDSHIELD BLEED air switch in the OFF position and the manual valves are closed.

Self-test of the temperature monitor system is normally accomplished during the preflight warning systems check by turning the WINDSHIELD BLEED air switch to either the HI or LOW position and selecting the W/S TEMP position on the rotary test switch. Proper system function is verified by illumination of the W/S AIR O'HEAT annunciator light. Self-tests may also be accomplished in flight, if desired.

If the windshield bleed air anti-ice system fails, a backup alcohol anti-ice system is provided for the left windshield only. Sufficient alcohol is provided for ten minutes of operation; therefore, plans should be made to leave the icing environment without delay.

PITOT-STATIC/ANGLE-OF-ATTACK ANTI-ICE

Electric heating elements are provided in the pilot's and copilot's pitot tubes, pilot's and copilot's static ports and the angle-of-attack probe. The PITOT & STATIC anti-ice switch actuates all of these elements. Operation may be checked on preflight by turning the switch ON for approximately 30 seconds, then OFF; then feeling each element during the external inspection. Ground operation of the pitot-static heat should be limited to less than two minutes to avoid damage. Failures of pitot & static heating elements are annunciated by the P/S HTR OFF light on the annunciator panel. Failure of the angle-of-attack heating element is annunciated by the AOA HTR FAIL light on the annunciator panel.

RAIN REMOVAL

The windshield bleed air system provides rain removal during low airspeed flight (i.e. approach and landing) and ground operations. At higher airspeeds, rain is naturally removed due to the curvature of the windshield. This system also serves as the windshield anti-ice system when used as described in the windshield anti-ice paragraph of this section.

When rain removal is desired, the rain removal handle should be pulled up and the WINDSHIELD BLEED air switch should be positioned to LOW. A check should be made to ensure the WINDSHIELD BLEED AIR rotary controls are in the MAX position.

The engine ignition should be turned ON when flying in heavy rain.

WATER/SLUSH OPERATION

The airplane has been demonstrated to safely operate in standing water/slush depths up to 0.75 inch. Igniters must be on.

WARNING

TAKEOFF AND LANDING DISTANCES WILL BE SIGNIFICANTLY INFLUENCED BY STANDING WATER, SLUSH, SNOW OR ICE ON THE RUNWAY.

NOTE

Refer to Section VII for corrections to takeoff and landing data.

NOTE

The following procedure may be followed to help remove slush and/or frozen water from the landing gear. If able, do not immediately retract the gear to allow centrifugal force and airflow to remove excess fluid and slush. After initial gear retraction, extend and retract the gear one additional time.

HYDRAULIC SYSTEM

The open center hydraulic system supplies pressure from one pump on each engine to operate the landing gear, flaps, speed brakes and thrust attenuator. Actuating any of these systems closes the main system bypass valve pressurizing the hydraulic system and supplying 1500 PSI hydraulic pressure to the individual system control valves. Normal activation is indicated by the white HYD PRESS ON advisory annunciator. When the cycle is complete, the light will extinguish. If light remains illuminated after a cycle is completed a system problem exists. It may be necessary to pull the landing gear, flap, speed brake or thrust attenuator circuit breaker to preclude overheating of the hydraulic system. Only MIL-H-83282 hydraulic fluid is approved.

(Continued Next Page)

HYDRAULIC SYSTEM (Continued)

LANDING GEAR

The landing gear is actuated by the landing gear lever to either the extend or retract position. During gear extension, hydraulic pressure retracts the uplocks and then extends the gear actuators. The actuators mechanically lock in the extend position. Upon retraction, hydraulic pressure unlocks the actuators and retracts the gear into the uplocks. Hydraulic pressure automatically shuts off when the gears are down and locked on extension or up and locked on retraction.

Three green annunciators illuminate when the nose, left main and right main gear are down and locked. These lights are not illuminated in the retracted position. A red GEAR UNLOCKED annunciator is illuminated anytime all landing gears are not locked in the position selected by the landing gear handle.

A "LANDING GEAR" or tone audio warning is provided by the warning/caution advisory system if either of the following conditions occur and the landing gear is not down.

1. Airspeed below 130 KIAS (copilot's indicator), and either throttle is below approximately 85% N_2. Warning can be silenced.
2. Flaps are extended beyond the TAKEOFF AND APPROACH. Warning cannot be silenced.

Emergency landing gear extension is provided by two emergency gear handles located below the landing gear handle. Pulling the "T" handle retracts the uplocks, allowing the landing gears to free fall to the extend position. Some yawing may be required to achieve green lights on all gear. Rotating the extended "T" handle 1/4 turn clockwise will lock the handle. After the "T" handle has been pulled the round collar handle can be pulled to discharge the nitrogen blow down system. Nitrogen will retract the uplocks, in the event they did not release mechanically, and then extend the gear. After the gear is extended, the collar and "T" handle can be pushed in for knee clearance. If significant resistance is encountered, the handle should be left extended to prevent cable crimping.

CAUTION

- PRIOR TO USING THE EMERGENCY EXTENSION, THE LANDING GEAR HANDLE MUST BE DOWN TO PREVENT POSSIBLE ENERGIZING OF THE GEAR HYDRAULIC SYSTEM TO THE RETRACT POSITION.
- ONCE THE EMERGENCY GEAR EXTENSION SYSTEM HAS BEEN USED, DO NOT ATTEMPT TO RAISE THE GEAR.

FLAP/GROUND FLAPS 60°/SPEED BRAKES

The flaps can be selected to the UP (0°), TAKEOFF AND APPROACH (15°), LAND (35°) and GROUND FLAPS (60°) positions using the flap select handle. A slight downward pressure is required to move the handle beyond the TAKEOFF AND APPROACH gate to the landing position. The handle must be lifted at the landing gate before it can be moved aft to the GROUND FLAPS (60°) position.

(Continued Next Page)

HYDRAULIC SYSTEM (Continued)

The GROUND FLAPS (60°) flap position provides increased aerodynamic drag for landing rollout. After touchdown, with both throttles at idle, the flaps may be selected to GROUND FLAPS (60°). The flap handle must be moved to the full aft stop. As the flaps pass 38 degrees the speed brakes will automatically extend. This 38 degrees switch will shut off hydraulic extend pressure stopping the flaps if the flap handle is not full aft or either throttle is above approximately 85% N_2. The 38° switch will illuminate the FLAPS >35 annunciator and MASTER CAUTION if the flaps are beyond 38° and both throttles are advanced beyond approximately 85% N_2, (on the ground), or the right squat switch is not on-ground.

WARNING

THE GROUND FLAP POSITION IS NOT LOCKED OUT IN FLIGHT. CONTINUED SAFE FLIGHT AND LANDING WITH FLAPS IN GROUND FLAPS HAS BEEN DEMONSTRATED. SELECTION OF GROUND FLAPS FOR TAKEOFF OR IN-FLIGHT IS PROHIBITED.

The flap retraction system incorporates a secondary flap retract switch. The secondary flap retract switch will command the flaps up as selected to 35 degrees, 15 degrees, and within 0.5 to 2 degrees of the full up position in the event of a temporary failure, due to freezing, of both of the normal flap retract switches (one in each flap actuator). A temporary failure of both of the normal flap retract switches, due to freezing, is most likely to occur after a cold soak exposure (on the ground or at altitude) and while operating in extremely cold conditions (-10°C/14°F).

NOTE

When the airplane has been cold soaked, it is possible to see the HYD PRESS ON annunciator for a second time after a flap retraction to UP has been commanded. This is due to the normal flap retraction switches warming up and commanding the flaps beyond the setting of the secondary flap retract switch.

The speed brakes are automatically extended with GROUND FLAPS (60°) but may also be extended in-flight or on the ground using the speed brake switch. A white SPD BRK EXTEND annunciator light will illuminate when the speed brakes are fully extended. The speed brakes will be automatically retracted if either throttle is advanced beyond a position corresponding to approximately 85% N_2. Extension of speed brakes will be accompanied by a slight buffet which varies in intensity with airspeed and a slight nose down pitch.

CAUTION

TO PRECLUDE HIGH SINK RATE IN THE LANDING FLARE, THE SPEED BRAKES MUST BE RETRACTED PRIOR TO 50 FEET ON LANDING APPROACH.

HYDRAULIC SYSTEM (Continued)

THRUST ATTENUATORS

The thrust attenuators are controlled by the THRUST ATTENUATOR STOW/AUTO/TEST switch on the throttle quadrant. With the switch in AUTO, the thrust attenuators will deploy automatically when the throttles are at idle and the airplane is on the ground. The ATTEN UNLOCK LH/RH annunciators will illuminate when the thrust attenuators deploy. Advancing either throttle 1/4 inch above idle will stow the attenuators. The attenuators cannot be deployed in flight. In-flight deployment due to failure will illuminate the ATTEN UNLOCK LH/RH and MASTER CAUTION lights. Selecting STOW will apply hydraulic pressure to the thrust attenuator stow actuator and illuminate the ATTN STOW SELECTED annunciator. If stow is selected and throttles are advanced on the ground or flaps are extended beyond 15° in flight, the MASTER CAUTION will also illuminate. Selecting TEST on the ground tests the MASTER CAUTION circuit for the ATTEN UNLOCK LH/RH annunciators.

NOTE

During normal operation thrust attenuators may occasionally creep out slightly from the stow position resulting in a brief pressurization of the hydraulic system. No action should be taken unless the MASTER CAUTION is illuminated.

ELECTRICAL SYSTEM

DC power is supplied by external power, a 300 ampere starter-generator unit on each engine or a 28 ampere-hour (42 or 44 ampere-hour optional) battery. DC power is controlled by a battery BATT/OFF/EMER switch and two GEN ON/OFF/RESET switches. One generator is capable of supplying all standard electrical requirements should a generator fail. Each generator feeds its respective L or R FEED electrical bus. The L AND R FEED busses are connected by 225 ampere current limiters to a crossfeed bus to provide crossfeed power from either generator. DC power is routed from each feed bus through three 80 ampere current limiters to three 75 ampere circuit breakers on each extension bus in the circuit breaker panels. Cockpit circuit breakers control power individual systems. Each circuit breaker panel has a 35 ampere crossover breaker to the opposite side to provide for more logical grouping of circuit breakers. Battery power is supplied to a hot battery bus and then through the battery relay to the crossfeed bus and the L and R feed busses.

Emergency DC power is supplied from the hot battery bus through the emergency power relay, to emergency bus circuit breakers on each cockpit circuit breaker panel, when the battery switch is in either the BATT or EMER position. If the battery switch is in the BATT position, generator power is supplied through the battery relay to the hot battery bus to charge the battery and from the hot battery bus through the emergency relay to the emergency power busses. With the battery switch in the EMER position, power should be supplied to the following:

- COMM 1
- NAV 1
- Overhead Floodlights
- Pilot's and Copilot's Audio Panels
- Standby Engine N_1 indicator
- Flap Control
- Landing Gear Monitor
- Voltmeter
- RH Pitot Static Heater
- Standby Altimeter/Airspeed (Vibrator)
- Standby HSI (Copilot's AHRS)
- Standby Gyro (internal battery)
- Landing Gear Control

(Continued Next Page)

ELECTRICAL SYSTEM (Continued)

Power is available for these items for at least 30 minutes from a normally charged battery. Power is also supplied to the standby gyro by its own battery. An engine start attempt will reduce available normally charged battery endurance approximately 20%.

A battery disconnect, BAT DISC/NORM guarded switch, located above the pilot's armrest, disconnects the battery in the event that a start relay sticks during an engine start. This switch provides a direct loop from the power to the ground side of the battery to open the battery disconnect relay if the battery switch is in the BATT (not EMER or OFF) position and the battery disconnect switch is selected to BAT DISC. The battery ground is opened and the battery cannot supply electrical power to the airplane or be charged by the generators.

CAUTION

DO NOT USE THE BATTERY DISCONNECT SWITCH FOR EXTENDED TIME. THE BATTERY DISCONNECT RELAY WILL CONTINUE TO DRAW A SMALL CURRENT FROM THE BATTERY UNTIL THE BATTERY IS DISCHARGED. THE BATTERY DISCONNECT RELAY WILL THEN CLOSE RESULTING IN A VERY HIGH CHARGE RATE AND PROBABLE OVERHEAT.

A battery overheat warning system is provided to warn the pilot in the event of abnormally high battery temperatures. An internal temperature of 63°C (145°F) will cause the red BATT O'TEMP and MASTER WARNING lights to flash, (accompanied by a audio "BATTERY OVERTEMP" warning if the airplane is equipped with the verbal warning system). If the temperature reaches 71°C (160°F) the red >160° light and MASTER WARNING, (if reset), will flash, (and the audio warning repeat rate will increase if the airplane is equipped with the verbal warning system). These functions can be tested using the rotary test switch.

Loss of a single generator is annunciated by flashing amber GEN OFF L or R lights and steady MASTER CAUTION light with no audio warning. Failure of the second generator is annunciated by flashing GEN OFF and the other L or R light flashing, a flashing red MASTER WARNING, (accompanied by an audio "GENERATOR FAIL" warning, if the airplane is equipped with the verbal warning system).

(Continued Next Page)

ELECTRICAL SYSTEM (Continued)

EXTERNAL POWER

External power is supplied from the external power receptacle aft of the tailcone door. When using external power for prolonged ground operation, the battery should be disconnected to preclude overheating the battery. Do not use the battery disconnect switch. External power can be used for engine start by selecting the generator switches to OFF. When the starter is engaged, the battery disconnect relay opens and all start current will be supplied by the external power unit. The external power unit voltage should be 28 to 29 volts and it should have a capacity of 800 to 1100 amperes if being used to start engines. An over-voltage sensor will open the external power relay should voltage exceed limits. If the external power unit has a variable automatic over current feature, it should be set to 1100 amps.

CAUTION

IF THE BATTERY IS CHARGED USING THE EXTERNAL POWER UNIT, IT MUST BE VISUALLY MONITORED. CURRENT FROM MOST EXTERNAL POWER UNITS IS NOT REGULATED AND A BATTERY OVERHEAT MAY OCCUR.

ENGINE STARTS

The first engine start will be accomplished from the battery unless external power is used. The second start can be accomplished with external power, (if the first generator switch is OFF) from the battery, (if the first generator switch is off and external power is not connected) or from the battery with assist from the first generator (ground only) if the first generator is on. Generator assist start capability is disabled in flight; therefore, all starter assist airstarts are from the battery.

CAUTION

IF AUTOMATIC IGNITION DOES NOT OCCUR DURING START AND IGNITION CIRCUIT BREAKER IS PULLED, DO NOT ATTEMPT TO RESET THE CIRCUIT BREAKER UNTIL THE START HAS BEEN ABORTED.

AHRS OPERATION AT NEAR-POLAR LATITUDES

Near-polar latitudes are defined as those latitudes north of approximately 63.5° N and south of approximately 63.5° S. The AHS-3000 system is not designed for use as a polar navigator, and flying in or around the fringe of low magnetic flux areas can cause temporary dropouts in required flux levels for the system. The AHC-3000 computer internally monitors the flux level intensity and will display a red HDG flag on the HSI when the magnetic flux level is below the threshold for reliable magnetic navigation. Also, in areas of magnetic anomalies or low magnetic flux the slaved magnetic heading error may be larger than normal. If operating in or around near-polar latitudes, the appearance of the red HDG flag due to known low magnetic flux may be corrected by use of the DG mode (MANUAL position of the L and R AHRS Slave switches), as described in the following operational scenarios.

RED HDG FLAG DISPLAYED WHILE ENROUTE

If the red HDG flag is displayed intermittently during transit of a low flux area, the suggested corrective action is as follows:

Select the MANUAL position of the L and R AHRS Slave switches and verify the red HDG flag is removed. Periodically return to AUTO, while in straight and level flight at constant airspeed, to check for absence of the red HDG flag. If the red HDG flag is not displayed, remain in AUTO. If the red HDG flag reappears, reselect MANUAL. If the MANUAL (DG) mode is selected for an extended period of time (based on the 24 degree/hour drift rate of the DG mode), then other means to verify navigation must be used as required.

RED HDG FLAG DISPLAYED PRIOR TO DEPARTURE

Airports that are located just inside low flux areas may have sufficient flux during approach and departure, but not on the field. The suggested corrective action is as follows:

Select the MANUAL position of the L and R AHRS Slave switches and slew to a known heading reference (for example, runway heading when lined up on centerline). After departure, periodically return to AUTO, while in straight and level flight at constant airspeed, to check for absence of the red HDG flag. If the red HDG flag is not displayed, remain in AUTO. If the red HDG flag reappears, reselect MANUAL. If the MANUAL (DG) mode is selected for an extended period of time (based on the 24 degree/hour drift rate of the DG mode), then other means to verify navigation must be used as required.

RED HDG FLAG DISPLAYED DURING TAKEOFF ROLL

Some airports are located in fringe areas that have insufficient flux levels only during some dynamic conditions. The acceleration during a takeoff roll on a southerly heading in the northern hemisphere may cause the red HDG flag to display because of the pendulum movement of the flux detector coils. The red HDG flag will go out of view when the acceleration is reduced. The suggested corrective action is as follows:

Perform normal initialization in the AUTO mode. Just prior to the takeoff roll, select the MANUAL position of the L and R AHRS Slave switches. After departure, return to AUTO, while in straight and level flight at constant airspeed, and verify the red HDG flag is not displayed.

ROCKWELL COLLINS PRO LINE 21 FLIGHT CONTROL SYSTEM

FLIGHT GUIDANCE

The Rockwell Collins Pro Line 21 Flight Control System (FCS) is an integrated three-axis autopilot with yaw damper, flight guidance, and automatic pitch trim. The FCS provides fail-safe autopilot and dual flight guidance functions. The system consists of two identical FGC-3000 Flight Guidance Computers (FGCs), three SVO-3000 Primary Servos, an APP-85 Autopilot Panel, and a MSP-85 Mode Select Panel. An additional copilot MSP-85, a CKP-3000 copilot course knob, and a APP-85 with AP XFR is installed for the optional dual PFD. The Rockwell Collins "Pro Line 21 Avionics System Pilot's Guide For Cessna Citation CJ1/CJ2" is provided with the airplane and must be on board the airplane immediately available to the crew.

The FCS consists of an autopilot panel (APP), two flight guidance computers (left and right FGC), one or two-mode select panels (right MSP for dual PFD), and three primary servos. The FGC receives Flight Director mode select data from the MSP and vertical speed/pitch wheel input, autopilot engage logic from the APP, attitude and heading data from the onside Attitude Heading Computer, and cross-side data from the opposite FGS. The controls integrated in the APP include the ROLL knob, vertical speed/pitch wheel, autopilot engage lever, yaw damper engage lever, TURB and AP XFR controls (for dual PFD). Control inputs from the APP are applied to both FGCs.

Mode Selection

The MSP-85 Mode Select Panel (MSP) provides push buttons used by the pilot to select and deselect flight guidance modes. The lateral and vertical mode select controls as well as the flight director on/off control are located on this panel.

Several additional flight controls are external to the APP and MSP. These include an AP DISC button, GA button, pitch synchronization switch (AP Sync), and pitch trim control.

For single PFD installations, all flight director steering commands displayed on the PFD come from the left FGC. No XFR side arrow is displayed and there is no AP XFR switch. For the optional second PFD configuration, a copilot side flight director is provided. Additional hardware on the copilot's side includes an MSP and an APP with an autopilot transfer button. The pilot's and copilot's flight director modes are synchronized so that either pilot may select the new mode from the associated MSP.

NOTE

- When the NAV mode is engaged for enroute navigation, and VOR is the source, it is recommended that the HDG mode be engaged prior to changing the active VOR frequency. After positive acquisition of the new VOR frequency, reselect the NAV mode and verify capture and tracking of the new course.
- In the dual PFD configuration, both MSP-85 mode select panels are active at all times. Use caution, and good crew coordination procedures, to avoid unexpected changes to the selected flight director modes.

(Continued Next Page)

ROCKWELL COLLINS PRO LINE 21 FLIGHT CONTROL SYSTEM
(Continued)

Autopilot Control Panel

The APP-85 autopilot control panel, mounted on the center pedestal, provides the means of engaging the autopilot and yaw damper, as well as manually controlling the autopilot through the turn knob and pitch wheel. The -223 version (with AP XFR) is used with dual flight director autopilot systems and the -227 version (without AP XFR) is used with single flight director systems.

The AP XFR button (-223 only) switches control of the autopilot from the pilot's flight director to the copilot's flight director. To operate, push the button once to switch control from the pilot's to copilot's side. Push the button again to switch control of the autopilot back from the copilot's flight director to the pilot's flight director. The AP XFR indicator is illuminated if the autopilot is being controlled by the copilot's flight director system. If the indicator is not illuminated, the autopilot is being controlled by the pilot's flight director system.

The pitch wheel allows manual pitch control of the airplane proportional to the rotation of the wheel and in the direction of wheel movement. Rotate the pitch wheel to change the existing vertical command reference to the flight guidance system. Rotating the wheel toward UP increases the existing reference value. Rotating the wheel toward DN decreases the existing reference value. The wheel is spring loaded and will return to the center detent if released.

The APP-85 autopilot system features a turbulence mode that is used to soften the airplane ride in turbulent weather conditions. When in turbulence mode, the aileron and elevator channel gains are reduced. The turbulence mode must be off when conducting either VOR or LNV (FMS) approaches.

The turn knob is used to input a bank command to the flight guidance system. The amount of airplane bank is proportional to the amount of knob rotation. The knob is not spring loaded and will remain in the position selected by the pilot.

The YD engage lever is used to select the yaw damper mode for the flight guidance system. Push the lever up and hold for one second to engage the mode.

NOTE

Engaging the yaw damper does not engage the autopilot.

If the flight guidance system turns the yaw damper off in automatic yaw damper disconnect, the lever will drop and the green YD on the primary flight display changes to flashing yellow. Push the yoke mounted AP/YD DISC button to change YD to steady white. For manual yaw damper disconnect, push the YD engage lever down or push the yoke-mounted AP/YD DISC button to turn the yaw damper off.

NOTE

Disengaging the yaw damper also disengages the autopilot, if not already disengaged.

The CHP-3000 Course Heading Panel, located in the center pedestal, is used to input desired course, altitude, and heading reference to the flight guidance system. The ALT (altitude) knob sets the desired altitude reference in the left and right side (if installed) flight guidance system.

(Continued Next Page)

ROCKWELL COLLINS PRO LINE 21 FLIGHT CONTROL SYSTEM
(Continued)

The ALT PUSH CANCEL switch deactivates the 200 foot altitude warning. The PUSH DIRECT switch automatically selects a course direct to the tuned left side NAV station and returns the left side course deviation to zero. The PUSH SYNC switch is used to synchronize the heading reference to the current airplane heading. This switch simultaneously synchronizes the heading bug on the left PFD and right PFD (if installed).

The optional CKP-3000 Course Knob Panel is located on the copilot instrument panel below the right Display Control Panel. The course knob panel is used by the copilot to input the desired course reference to the right side flight guidance system. Desired altitude and heading references to the right side flight guidance are input using the course heading panel.

DISPLAY CONTROL PANEL/CONTROLS

The left DCP-3000 Display Control Panel is located on the instrument panel between the left primary flight display and the multifunction display. The left display control panel controls the data being shown on the left PFD and MFD. The optional right DCP-3000 Display Control Panel is located on the instrument panel next to the optional right PFD. The right display control panel controls the data being shown on the right PFD.

The BARO knob is used to set the barometric pressure reference value, which is displayed below the PFD altitude scale. The PUSH STD button in the center of the BARO knob selects the standard barometric pressure reference of 29.92 inches of Mercury or 1013 hecto Pascals.

The REFS button is pushed to display the V speed menu (appropriate to either takeoff or landing) on the PFD. Both menus include the selectable N_1 reference setting. The landing V speed menu also displays the approach minimums selection for either radio altitude or barometric altitude. Individual items on the V speed menu are set by first boxing the item by pressing the adjacent line select key, then using the MENU SET KNOB to change the value. Alternatively, repeatedly pressing the PUSH MENU ADV button (in the center of the MENU SET KNOB) will cycle the box outline through the individual menu items; then again use the MENU SET KNOB to set the desired values.

When not being used within a V speed menu, the MENU SET knob is used to select the navigation source in the PRESET box for the CDI. The PUSH MENU ADV button, when pressed, swaps the PRESET source to the CDI and the current navigation source to the PRESET box. This function is also accomplished by pressing the line select key adjacent to the PRESET box. The NAV/BRG button is pushed to display the BRG SOURCE and NAV SOURCE menus on the PFD. Line select keys adjacent to the menu items toggle between selections for the bearing pointers and CDI navigation source.

The RADAR button is pushed to display the weather radar menu on the PFD. Line select keys are used to select STBY, WX and MAP modes and turn STAB on and off. The MENU SET knob is used to adjust GAIN. The GCS button is pushed to activate/deactivate the ground clutter suppression circuitry in the weather radar system. The TILT and RANGE knobs control radar antenna tilt angle and the desired display range for radar coverage, respectively.

Additional items displayed on the PFD, with adjacent line select keys, include FORMAT, RDR, and TFC. FORMAT toggles the HSI between a full compass rose, an arc, and a map display. RDR selects/deselects the radar display to the HSI (radar is selectable only in the arc and map modes of the HSI display). TFC selects/deselects the TCAS traffic display to the HSI. The traffic display range is controlled by the RANGE knob and is limited to 25 nm when in the full compass mode of the HSI and 150 nm in the arc and map modes. Note that changing the TCAS traffic display range on the PFD also changes the MFD map range.

RADIO ALTIMETER

The radio altimeter displays radio altitude at all times up to an absolute altitude of 2500 feet. The system becomes operational when the airplane electrical system is powered up and it remains operational throughout the flight. Radio altitude is displayed in the bottom center of the attitude sphere in the ADI display.

WEATHER RADAR

WXR-800 WEATHER RADAR SYSTEM

The Collins Pro Line 21 Weather Radar System, or the RTA-800, is a fully integrated radar system that utilizes the airplane's Electronic Flight Instrument Systems (EFIS) equipment to provide the pilot and/or copilot with a video display of radar indications relative to outside moisture precipitation. The standard configuration consists of a receiver, transmitter and antenna. The RTA-800 operates on X-band frequency and is capable of detecting wet precipitation along the flight path and in front of the airplane within an arc of the heading angle plus or minus 60 degrees, at a selectable display range of up to 300 nautical miles.

An optional installation configuration, the RTA-852, is physically and functionally identical to the RTA-800 except for featuring auto-tilt operation and the additional capability of detecting moisture-based turbulence. Both the RTA-800 and RTA-852 accept radar control data from the left PFD/MFD and the optional right PFD. The weather radar system may be operated in a split mode, where the radar functions like two independent radars, each updating on alternate sweeps of the antenna.

WARNING

THE SYSTEM PERFORMS ONLY THE FUNCTIONS OF WEATHER DETECTION AND GROUND MAPPING. IT SHOULD NOT BE USED OR RELIED UPON FOR PROXIMITY WARNING, ANTI-COLLISION OR TERRAIN AVOIDANCE.

CNI 5000 INTEGRATED AVIONICS SYSTEM

The Bendix/King CNI 5000 Integrated Avionics System incorporates dual VHF COMM transceivers, dual VHF navigation receivers with glideslope, ADF receiver and dual Mode S transponders. Detailed operating instructions are provided in the Bendix/King CNI 5000 Integrated Avionics System Pilot's Guide.

A single DME may be channeled to either NAV 1 or NAV 2, whichever is selected on the pilot's PFD. If FMS is selected on the PFD, the DME will display NAV 1 only. A DME HOLD capability is provided to hold the DME on a selected frequency while a different NAV frequency is tuned. If the NAV source on the PFD is changed while the DME is in HOLD, the DME will automatically drop out of HOLD and revert to the active channel displayed on NAV 1.

FUEL SYSTEM

The fuel system consists of a single tank feeding the right engine and a single tank feeding the left engine. No lateral fuel management is required in normal operation of the airplane. Transfer capability is provided in the event a lateral imbalance should occur. A white FUEL TRANSFER annunciator will illuminate when the transfer valve is open. Fuel is transferred in the direction of the arrow on the FUEL TRANSFER selector (i.e. if the selector is turned clockwise, the arrow points to R TANK and fuel is transferred from the left tank). Fuel is transferred at a rate of approximately 10 pounds per minute (rate varies with engine(s) fuel flow). If the opposite side tank is at or near maximum capacity, care should be taken to assure fuel is not being lost through the fuel vents.

NOTE

Fuel transfer will not occur if the Fuel Boost is operating in the receiving tank. The Fuel Boost switches must be in NORM, or the Fuel Boost switch for the tank at the head of the arrow on the FUEL TRANSFER selector must be OFF and for the opposite tank ON.

An amber FUEL FLTR BYPASS annunciator and MASTER CAUTION will indicate an impending bypass of the fuel filter if the differential pressure across the fuel filter reaches approximately 10 PSI.

An amber FUEL LOW LEVEL L or R annunciator will illuminate when the respective fuel quantity is less than approximately 220 ±10 pounds. The MASTER CAUTION for this annunciator is delayed 4 seconds to minimize inadvertent MASTER CAUTION illumination in turbulent conditions with low fuel.

NOTE

The Fuel Boost switches should be positioned to ON if the FUEL LOW LEVEL annunciator is illuminated or indicated fuel quantity is below 220 pounds.

Total usable fuel for flight planning purposes is 1980 pounds per wing (293 U.S. gallons), 3960 pounds total, when filled to the "full" indicating tab on the standpipe.

Filling to above the tab on the standpipe must not be done as there may not be sufficient room for expansion and fuel vent spillage may result.

ANTI-ICE ADDITIVES

PROCEDURE FOR ADDING ETHYLENE GLYCOL MONOMETHYL ETHER (EGME) FUEL ADDITIVE

Use the following procedure to blend anti-icing additive as the airplane is being refueled through the wing filler caps:

1. Attach MIL-I-27686 additive to refuel nozzle, making sure blender tube discharges in the refueling stream.
2. Start refueling while simultaneously fully depressing and slipping ring over trigger of blender.

WARNING

ANTI-ICING ADDITIVES CONTAINING ETHYLENE GLYCOL MONOMETHYL ETHER (EGME) ARE HARMFUL IF INHALED, SWALLOWED OR ABSORBED THROUGH THE SKIN, AND WILL CAUSE EYE IRRITATION. ALSO, IT IS COMBUSTIBLE. BEFORE USING THIS MATERIAL, REFER TO ALL SAFETY INFORMATION ON THE CONTAINER.

CAUTION

ASSURE THAT THE ADDITIVE IS DIRECTED INTO THE FLOWING FUEL STREAM AND THAT THE ADDITIVE FLOW IS STARTED AFTER THE FUEL FLOW STARTS AND IS STOPPED BEFORE FUEL FLOW STOPS. DO NOT ALLOW CONCENTRATED ADDITIVE TO CONTACT COATED INTERIOR OF FUEL TANK OR AIRPLANE PAINTED SURFACE. USE NOT LESS THAN 20 FLUID OUNCES OF ADDITIVE PER 156 GALLONS OF FUEL OR MORE THAN 20 FLUID OUNCES OF ADDITIVE PER 104 GALLONS OF FUEL.

PROCEDURE FOR ADDING DIETHYLENE GLYCOL MONOMETHYL ETHER (DIEGME) FUEL ADDITIVE

NOTE

Service experience has shown that DIEGME has provided acceptable protection from bacterial growth in fuel systems.

Use the following procedure to blend anti-icing additive as the airplane is being refueled through the wing filler caps:

1. Attach MIL-I-85470 additive to refuel nozzle, making sure blender tube discharges in the refueling stream.
2. Start refueling while simultaneously fully depressing and slipping ring over trigger of blender.

(Continued Next page)

ANTI-ICE ADDITIVES (continued)

CAUTION

- DIETHYLENE GLYCOL MONOMETHYL ETHER (DIEGME) IS SLIGHTLY TOXIC IF SWALLOWED AND MAY CAUSE EYE REDNESS, SWELLING AND IRRITATION. IT IS ALSO COMBUSTIBLE. BEFORE USING THIS MATERIAL, REFER TO ALL SAFETY INFORMATION ON THE CONTAINER. ASSURE THE ADDITIVE IS DIRECTED INTO THE FLOWING FUEL STREAM WITH THE ADDITIVE FLOW STARTED AFTER THE FUEL FLOW STARTS AND STOPPED BEFORE FUEL FLOW STOPS. DO NOT ALLOW CONCENTRATED ADDITIVE TO CONTACT COATED INTERIOR OF FUEL TANK OR AIRPLANE PAINTED SURFACE.
- USE NOT LESS THAN 20 FLUID OUNCES OF ADDITIVE PER 156 GALLONS OF FUEL OR MORE THAN 20 FLUID OUNCES OF ADDITIVE PER 104 GALLONS OF FUEL.

PROCEDURE FOR CHECKING FUEL ADDITIVES

1. Prolonged storage of the airplane will result in a water buildup in the fuel which "leaches out" the additive. An indication of this is when an excessive amount of water accumulates in the fuel tank sumps. The concentration of additive can be checked using an anti-icing additive concentration test kit available from Cessna Aircraft Company, Citation Marketing Division, Wichita, KS 67277. It is imperative that the instructions for the test kit be followed explicitly when checking the additive concentration. The additive concentrations by volume for EGME/DIEGME shall be 0.10 percent minimum and 0.15 percent maximum, either individually or mixed in a common tank. Fuel, when added to the tank, should have a minimum concentration of 0.10 percent by volume.

ENGINE

The Williams FJ44-2C engines each produce 2400 pounds of static takeoff thrust at sea level, flat-rated to 22°C (72°F) Engine thrust must be managed by the pilot within the limits prescribed in this manual.

Thrust is managed by throttle lever input to an integrated fuel control unit (IFCU). The IFCU is engine driven via its gearbox mounting and includes the main engine fuel pump, main engine fuel filter, and hydromechanical fuel scheduling and metering components.

Ejector pumps in each wing reservoir supply fuel pressure to the engine driven fuel pump which supplies fuel to the hydromechanical fuel control. Metered fuel is then supplied to a slinger ring in the engine combustor section. Fuel is also supplied to a start nozzle which sprays atomized fuel into the combustor to aid in starting.

NOTE

Start nozzle fuel is supplied continuously at a flow rate of approximately 9 lbs/hr while the engine is operating and is accounted for in the fuel flow indication. Excess unmetered fuel is returned to the wing as motive flow fuel to operate the ejector pumps.

Should fuel supply pressure to the engine driven pump fall below approximately 4 ±0.5 PSI, a pressure switch will illuminate the amber FUEL LOW PRESS L or R annunciator and MASTER CAUTION. If the FUEL BOOST switch is in NORMAL, the fuel boost pump will be automatically switched on. The white FUEL BOOST ON annunciator will illuminate and the FUEL LOW PRESS L or R annunciator should extinguish. The fuel boost pump and annunciator can be reset by selecting the FUEL BOOST switch to OFF or ON and back to NORMAL if the low pressure condition has been corrected.

(Continued Next Page)

ENGINE (Continued)

NOTE

During in-flight windmilling, the engine will vent oil overboard. Typical consumption is approximately 0.20 gal/hr.

ENGINE INDICATING SYSTEM (EIS)

The EIS display format is made up of a full time display of N_1, selectable N_1 reference (bug), Interstage Turbine Temperature (ITT), N_2, oil pressure, oil temperature, and fuel flow (separate for each engine). Fuel quantity is also provided. Alerts and warnings are provided for operation outside normal limits.

Two data sources for N_1, N_2, and ITT exist for each engine. One is the Data Concentrator Unit (DCU) and the other is the Engine Data Concentrator (EDC). The DCU is normally the source of all displayed engine data. The EDC is a secondary source for N_1, N_2, and ITT.

N_1 REF

The N_1 REF consists of a single digital N_1 REF readout and individual N_1 REF bug on each N_1 scale. Initially, no N_1 REF value is displayed. The initial power-up value for N_1 on the ground is 95.9. The N_1 REF value is set by the pilot using the REFS Menu. N_1 REF is automatically removed from the display when airspeed first goes above 200 knots. If the N_1 REF is selected with airspeed above 200 KIAS it will remain displayed regardless of airspeed changes.

INTERSTAGE TURBINE TEMPERATURE (ITT) - ENGINE START

During engine starts, a red ITT Start Limit Mark is positioned at the ITT red Start Limit. ITT START Redline is 1002°C. The ITT pointer is white when less than 1002°C and red when equal to or greater than 1002°C.

NOTE

ITT Normal Limit and Transient Limit do not apply while ITT Start Limit Mark is in view, but become active when ITT Start Limit Mark is removed.

N_2

The N_2 displays consist of digital readouts for each engine. N_2 is always green when less than 98.8% and red when greater than or equal to 98.9%.

OIL PRESSURE

The Oil Pressure display consists of an analog and part time digital display for each engine. A digital readout of oil pressure is displayed if an over limit condition is detected with any oil parameter. Minimum oil pressure limits are lower when engine speed is below 80% N_2. The oil pressure display automatically accommodates these differences. If low oil pressure is indicated, the LOW OIL PRESSURE INDICATION procedure should be strictly followed.

(Continued Next Page)

ENGINE INDICATING SYSTEM (Continued)

OIL TEMPERATURE

The Oil Temperature display consists of an analog and part time digital display for each engine. Digital readout Oil Temperature is only displayed when Oil Temperature pointer is yellow or red and is the same color as the pointer. The Oil Temperature readout is removed when Oil Temperature is no longer yellow or red. A minus sign (-) is displayed for negative values.

FUEL FLOW

Fuel Flow is normally in Pounds Per Hour (PPH). Optional Kilograms Per Hour (KPH) may be displayed. The fuel flow displays consist of digital readouts for each engine. A white Fuel Flow legend is displayed between the left and right digital readouts. Fuel flow values are displayed in green.

FUEL QUANTITY

The Fuel Quantity display consists of an analog and digital display for the fuel in each wing tank. Fuel quantity is normally in pounds (lbs). Optional Kilograms may be displayed. The scale range is from 0 to 2200 pounds with large tick marks at 500, 1000, 1500, and 2000 pounds. Smaller tick marks indicate 100 pound increments up to the maximum range. The fuel quantity scale pointer is always white.

The Fuel Quantity Digital Readout is displayed below the associated analog scale. The Fuel Quantity Digital Readout has the same source of data as the Fuel Quantity analog pointer. The boxed Fuel Quantity readout is green.

IGNITION OPERATING

A green 'IGN' legend is displayed adjacent to the upper center of the applicable analog ITT scale when the respective engine's ignition discrete is received by a DCU (from the on-side ignition system).

MISCOMPARE WARNINGS

Miscompare warnings are used to alert the pilots that redundant data from dual independent systems does not agree within specified limits. Comparator monitoring is performed full time for N_1, N_2 and ITT.

The miscompare warning annunciations are displayed in yellow, flash for 5 seconds when a miscompare condition first exists, and then are steady. They are removed when the miscompare condition is removed. For the N_1, N_2 and ITT Comparator Warns, the respective Legend associated with each parameter is removed and replaced with a yellow N_1, N_2, or ITT, as appropriate, and a direction arrow pointing to the side with the engine that is causing the Comparator Warn. If both engines have a miscomparing parameter, the direction arrows show on both sides.

PRESSURIZATION SYSTEM

Pressurization air, pre-cooled compressor bleed air from each engine is supplied to a single flow control shutoff valve. Pressurization sources can be selected L, BOTH, R or EMER, using the AIR SOURCE SELECT knob on the pressurization/environmental control panel. The bleed air passes through a cabin heat exchanger and into the cabin floor and armrest air ducts.

Cabin pressure is maintained by regulating the outflow of cabin air through two outflow valves in the aft pressure bulkhead. These outflow valves are controlled by the pressurization system controls on the pressurization/environmental control panel and can be controlled automatically or manually. Automatic control requires 29 VDC and is not available during emergency electrical power operations.

Selecting AUTO mode with the air data sensor operating generates an auto-schedule based on the departure field elevation, the maximum altitude reached on the current flight, and the operator input of landing field elevation in the controller. Maximum cabin differential pressure is 8.9±0.1 PSID. The controller will bring the cabin to zero pressure at the destination airport elevation as set in the controller.

The high altitude airport mode is automatically selected when a field elevation above 8,000 feet is set into the cabin pressurization controller. In this mode, the cabin will climb at an increased rate, if needed, to the selected elevation after the airplane descends through FL250. Prior to departure, set the departure field elevation. After climbing through FL250, the cabin will descend to intersect the auto schedule. After takeoff the controller may be set to the destination field elevation.

NOTE

In high altitude airport mode, it is possible that the cabin altitude may exceed the altitude where supplemental oxygen is required for the flight crew. If the airplane is to hold above 12,000 feet, the cabin altitude must be selected at or below 12,000 feet until holding is completed; otherwise one pilot must wear an oxygen mask and use oxygen.

Should the controller fail to obtain air data information from the air data sensor, the controller will automatically switch from auto-schedule to isobaric control and a yellow warning indicator on the pressurization control will illuminate. The SET ALT window will change elevation to flight level and the pilot can select the desired flight level using the SET ALT knob. Cabin pressure will be maintained near maximum differential pressure based on this selected altitude. Pressing the flight level (FL) button will replace the flight level with the destination cabin altitude selected by the pilot, allowing the pilot to change the desired cabin altitude prior to landing. The isobaric mode can be checked, prior to turning the avionics power on, during the engine start procedures.

A manual pressurization mode is provided in the event that 29 VDC power is lost. In the manual mode, the pilot directly controls the position of the outflow valves through the MANUAL toggle valve on the pressurization/environmental control panel. Selecting the PRESS SYSTEM SELECT AUTO/MANUAL switch to MANUAL removes 29 VDC from the outflow valves, disabling the automatic controller. Should normal 29 VDC power fail, the outflow valves will remain in their preset position. The pilot must use the MANUAL toggle valve to control pressurization. Normal pressurization is not available on an emergency bus.

(Continued Next Page)

PRESSURIZATION SYSTEM (Continued)

A CABIN DUMP system is provided in event that the outflow valves cannot be opened by either the normal or manual systems. The cabin dump system requires 29 VDC electrical power. Activating the guarded CABIN DUMP switch opens the outflow valves. Maximum limit valves will prevent complete depressurization to cabin altitude above 14,500 ±500 feet.

The pressurization system can be preflight tested on the ground. Pressing the EXER button on the controller and holding for approximately 2 minutes will pressurize to 200 feet below field elevation. Releasing the button will conduct a display test and gradually depressurize the cabin.

Temperature controlled bleed air is supplied to the glareshield defog ducts, cockpit foot warmers, and the cabin side window diffusers. To enhance cockpit comfort, a diverter valve switch labeled COCKPIT AIR DIST is provided on the tilt panel to allow the crew to proportion the amount of bleed air between the cabin and cockpit. When the defog fan is selected to either HI or LOW, the bleed air supply to the defog duct is shut off, and the forward evaporator diverter closes. The evaporator air from the forward floor diffuser is then redirected to the defog fan which supplies air to the glareshield defog duct. The air conditioner assists in drying the flow of air on to the windshield when reaching humid conditions at lower altitudes.

NOTE

Cruise descent is recommended for optimum cabin and cockpit heating because bleed supply temperatures will be higher.

Windshield bleed should be used on LOW when descending into high humidity to aid in warming the windshield's outer surface. If the windshield temperature is below the dew point, the outer surface will fog over after landing.

(Continued Next Page)

PRESSURIZATION SYSTEM (Continued)

ENVIRONMENTAL CONTROL SYSTEM

The Model 525 Environmental Control system is designed to be as fully automatic as possible. The cabin temperature sensor is located in the inlet to the aft evaporator fan. Air must be moving across the sensor for it to operate. The aft evaporator fan operates any time the DC electrical power is on and the air conditioner switch is not off.

Cabin environment, airflow and temperature is controlled by switches on the pressurization/environmental control panel. Normal settings for the Pressurization/Environmental Panel are:

AIR SOURCE SELECT	BOTH	COCKPIT AIR DIST	NORM
AFT FAN	LOW	AIR CONDITIONING	AUTO
DEFOG FAN	OFF	FWD FAN	AUTO
		TEMPERATURE SELECT	AUTO (1 O'CLOCK)

If the cabin is initially cool or cold, the controls should be positioned as above. If the cabin is initially warm, or hot, the FWD FAN should be placed to HI. The AFT FAN should be placed to HI or FLOOD.

Once the cabin temperature has stabilized, the TEMPERATURE SELECT control should not be changed. To maintain cockpit comfort, a flow divider is provided to allow the crew to proportion, to a certain extent, the amount of bleed air provided to the cockpit verses the cabin. The flow divider is controlled by a four position selector mounted on the tilt panel labeled COCKPIT AIR DIST. The COCKPIT AIR DIST does not select cockpit temperature; it proportions the flow of bleed air to the cockpit and cabin. The four positions may be selected as required to maintain cockpit comfort. The NORM and second positions are recommended for day operations and the third and MAX positions for night operations. If the cockpit is warm, set the FWD FAN switch to LOW or HI and set the COCKPIT AIR DIST to NORM. If the cockpit is cool, set the FWD FAN switch to AUTO and the COCKPIT AIR DIST to the third position or MAX.

The AIR SOURCE SELECT switch controls the source of pressurization or ventilation air. Selecting L, BOTH or R will pressurize the cabin with temperature controlled bleed air. Selecting EMER will pressurize the airplane with warm bleed air. Selecting FRESH AIR will not pressurize the airplane and is intended for ground use if fresh air is desired.

Cabin temperature can be controlled manually or automatically. Selecting the TEMPERATURE SELECT knob to AUTO will allow the temperature controller to control cabin temperature. Temperature is sensed at a cabin temperature sensor in the inlet of the aft evaporator fan at the bottom of the aft bulkhead. Temperature range selectable is approximately 65°F to 85°F. If sensed temperature differs from selected, the controller commands a ram air modulating valve on the cabin heat exchanger and the bleed air precooler doors open or close thus providing more or less crossflow air to cool the cabin bleed air. If the temperature difference is significant, selecting the controller FULL COLD or FULL HOT will not result in faster temperature change, but will result in overshoot.

(Continued Next Page)

PRESSURIZATION SYSTEM (Continued)

Best results are obtained with a constant setting. When the TEMPERATURE SELECT knob is in the AUTO range on the ground and the throttle positions are less than approximately 70% N_2, pressurization bleed air is shut off if the controller is demanding cooling.

The MANUAL position of the TEMPERATURE SELECT knob enables manual cabin temperature control using the MANUAL HOT/COLD switch. This switch takes about 15 seconds to drive the ram air modulating valve on the cabin heat exchanger from one extreme to the other.

Cabin air can be further cooled by a freon air conditioner if the AIR CONDITIONING AUTO/OFF/FAN switch is in the AUTO mode. When the ram air modulating valve is driven approximately 100% open, either automatically or manually, the air conditioner compressor automatically cycles on. Cabin air is circulated through two evaporators, one in the aft bulkhead and one behind the pilot's seat. The aft evaporator provides conditioned air to the overhead wemacs or the flood cooling. The forward evaporator diffuser is located between the pilot and copilot's seat. A green COMPRESSOR ON light on the pressurization/environmental panel indicates that the compressor has been turned on. The compressor will not run with the air conditioning switch in OFF or FAN, unless DEFOG has been selected.

Cabin air is circulated by the two evaporator fans. The AFT fan can be selected to LOW, HI and FLOOD. Selecting FLOOD runs the fan in HI speed, shuts off wemac air, and the air is discharged through the flood cooling diffuser at the top of the aft bulkhead. Selecting HI or LOW with an engine running will close the flood door and supply air to the wemacs. The aft fan will run anytime the AIR CONDITIONING switch is in AUTO or FAN or DEFOG HI/LOW. The forward fan will run at LOW or HI speed if the AIR CONDITIONING switch is in AUTO or FAN or DEFOG HI/LOW. Placing the FWD FAN switch in AUTO will cause it to run in the LOW speed if the air conditioner compressor is on. Additionally, the forward fan will run in HI/LOW speed when the DEFOG HI/LOW is selected.

NOTE

The cabin temperature sensor is in the inlet to the aft fan. The aft fan must be operating in LOW, HI, or FLOOD for the automatic temperature control system to function.

The defog system will operate any time the DEFOG switch is not OFF and aircraft DC electrical power is on. The DEFOG FAN switch should be OFF except during descent and approach after cold soak at high altitude. With the DEFOG FAN selected OFF, some of the air supply entering the cockpit bypasses the defog fan flowing directly to the glare shield outlets. The DEFOG FAN should be selected to HI prior to descent. Also, the WINDSHIELD BLEED AIR manual valves should be opened and the WINDSHIELD BLEED air switch set to LOW to avoid exterior windshield fogging. When the defog system is operating, power is supplied to the air conditioner regardless of the position of the AIR CONDITIONING AUTO/OFF/FAN switch. When in the HI or LOW position, the DEFOG switch activates the defog fan, the forward evaporator fan, the forward evaporator diffuser diverter door, and the air conditioner (the compressor may or may not operate, as indicated by the COMPRESSOR ON light, depending on altitude and ambient air temperature). The evaporator air is routed to the defog fan which supplies air to the glareshield defog duct.

OXYGEN SYSTEM

Oxygen for the flight crew and passengers is supplied from a 22 cubic foot (optional 50 cubic feet) oxygen cylinder. The oxygen cylinder pressure gage is located on the instrument panel. Refer to the oxygen utilization chart for duration of oxygen supply (Figure 3-4).

A three position oxygen control switch (OXYGEN CONTROL VALVE) is located on the pilot's left console. The three positions are CREW ONLY/NORMAL/MANUAL DROP. In the NORMAL position, if the cabin altitude exceeds approximately 14,500 ±500 feet, the passenger masks will automatically drop. Oxygen will flow to these masks when the lanyard is pulled as the mask is donned. Therapeutic oxygen may be supplied to the passengers at any cabin altitude by placing the OXYGEN CONTROL VALVE selector in the MANUAL DROP position. This will cause all masks in the cabin to deploy. Oxygen flow may be shut off from passenger masks by positioning the oxygen priority valve to the CREW ONLY position.

WARNING

- **NO SMOKING WHEN OXYGEN IS BEING USED OR FOLLOWING USE OF PASSENGER OXYGEN UNTIL LANYARDS HAVE BEEN RE-INSTALLED.**
- **DUE TO HUMAN PHYSIOLOGICAL LIMITATIONS, THE PASSENGER OXYGEN SYSTEM IS NOT SATISFACTORY FOR CONTINUOUS OPERATION ABOVE 25,000 FEET CABIN ALTITUDE AND THE CREW OXYGEN SYSTEM IS NOT SATISFACTORY FOR CONTINUOUS OPERATION ABOVE 40,000 FEET CABIN ALTITUDE. INDIVIDUAL PHYSIOLOGICAL LIMITATIONS MAY VARY. IF CREW OR PASSENGERS EXPERIENCE HYPOXIA SYMPTOMS, DESCEND TO A LOWER CABIN ALTITUDE.**

OXYGEN SUPPLY CHART 22 FT³

	AVAILABLE TIME IN MINUTES								
CABIN ALTITUDE	1 COCKPIT 0 CABIN	1 COCKPIT 1 CABIN	1 COCKPIT 2 CABIN	1 COCKPIT 3 CABIN	1 COCKPIT 4 CABIN	1 COCKPIT 5 CABIN	1 COCKPIT 6 CABIN	1 COCKPIT 7 CABIN	1 COCKPIT 8 CABIN
8000	376	95	54	38	29	24	20	17	15
10,000	431	98	56	39	30	24	20	17	15
15,000	431	100	57	40	30	25	21	18	16
20,000	339	96	56	39	30	25	21	18	16
25,000	181	78	50	36	29	24	20	18	16
30,000	248								
34,000	315								
35,000	335								
37,000	381								
39,000	464								
40,000	468								

	AVAILABLE TIME IN MINUTES								
CABIN ALTITUDE	2 COCKPIT 0 CABIN	2 COCKPIT 1 CABIN	2 COCKPIT 2 CABIN	2 COCKPIT 3 CABIN	2 COCKPIT 4 CABIN	2 COCKPIT 5 CABIN	2 COCKPIT 6 CABIN	2 COCKPIT 7 CABIN	2 COCKPIT 8 CABIN
8000	188	76	47	34	27	22	19	16	15
10,000	216	80	49	35	28	23	19	17	15
15,000	216	81	50	36	28	23	20	17	15
20,000	169	75	48	35	28	23	20	17	15
25,000	90	54	39	30	25	21	18	16	14
30,000	124								
34,000	158								
35,000	167								
37,000	190								
39,000	232								
40000	234								

(Continued Next Page)

TEMPORARY FAA APPROVED AIRPLANE FLIGHT MANUAL CHANGE

Publication Affected:	Model 525A Citation CJ2 (525A-0001 thru -0299) basic FAA Approved Airplane Flight Manual, Revision 6, dated 15 April 2005.
Airplane Serial Numbers Affected:	Airplanes 525A-0001 thru -0299.
Description of Change:	Section III, Operating Procedures, Normal Procedures, Oxygen System, page 3-123, add new bullet comments and new oxygen duration charts.
Filing Instructions:	Insert this temporary change in the Model 525A Citation CJ2 (525A-0001 thru -0299) basic FAA Approved Airplane Flight Manual adjacent to page 3-123.
Removal Instructions:	This temporary change must be removed and discarded when Revision 7 has been collated into the basic FAA Approved Airplane Flight Manual.

In Section Operating Procedures, Normal Procedures, Oxygen System, add new bullet comments and new oxygen duration charts, page 3-123, as follows:

Figure 3-5 provides information for dispatch with less than full oxygen bottle. (Unless otherwise noted) the following assumptions apply to this figure and are factored into available time calculations:

- Oxygen consumed during a 10 minute emergency descent from FL450 to 10,000 feet MSL. This defines the starting point of each bottle pressure vs. available time plot.
- After the emergency descent, the cabin altitude for the remainder of the flight is between FL250 and 10,000 feet MSL.
- All Pilot and Copilot oxygen requirements are included. Crew consumption rate is 20 LPM (Liters/Minute) during the emergency descent and 10 LPM thereafter.
- Cockpit masks are at 100% setting regardless of cabin altitude.
- Normal pilot usage as required by operating rules when operating above FL350 is not taken into account.

APPROVED BY

FAA APPROVED UNDER 14 CFR PART 21 SUBPART J
Cessna Aircraft Co.
Delegation Option Authorization DOA-230594-CE

Barbara J. Baur Asst. DOA Administrator
BJB

DATE OF APPROVAL 19 MAY 2008

The following chart may be used to determine system service with less than full bottle pressure:

OXYGEN DURATION OF 22 CU FT BOTTLE WITHOUT PASSENGER SEQUENCE REGULATOR

NOTE

This chart is based on a decompression incident at the aircraft ceiling altitude, a 10 minute emergency descent to 10,000 feet MSL, and then cruise between 10,000 feet MSL and FL250. The duration line starting point is the minimum pressure required to dispatch, assuming a 10 minute emergency descent to 10,000 feet MSL and cruising below 10,000 feet MSL. All durations include 2 crew consumption after depressurization. The chart does not take into account pilot usage requirement for normal flight above FL350. Crew respiratory rate is assumed 20 LPM-BTPS for 10 minute emergency descent and 10 LPM-BTPS thereafter.

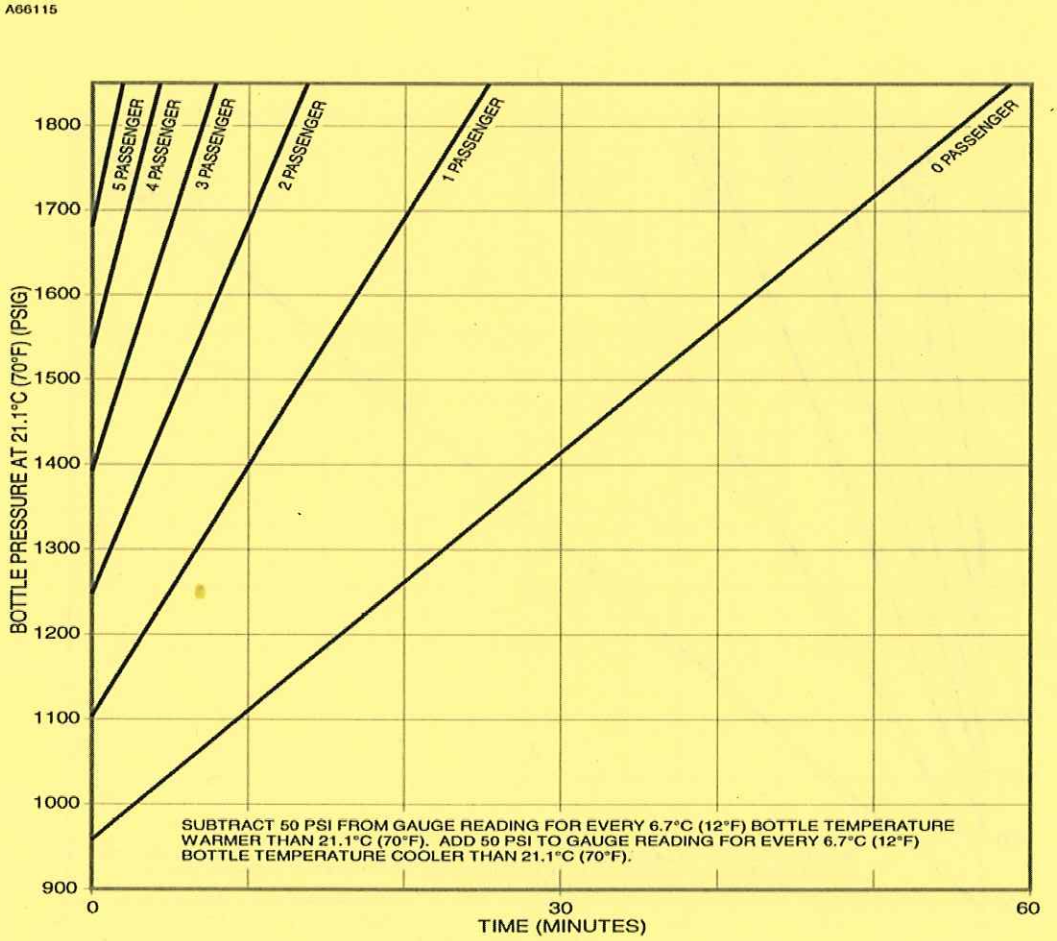

Figure 3-5 (Sheet 1 of 2)

The following chart may be used to determine system service with less than full bottle pressure:

OXYGEN DURATION OF 50 CU FT BOTTLE WITHOUT PASSENGER SEQUENCE REGULATOR

NOTE

This chart is based on a decompression incident at the aircraft ceiling altitude, a 10 minute emergency descent to 10,000 feet MSL, and then cruise between 10,000 feet MSL and FL250. The duration line starting point is the minimum pressure required to dispatch, assuming a 10 minute emergency descent to 10,000 feet MSL and cruising below 10,000 feet MSL. All durations include 2 crew consumption after depressurization. The chart does not take into account pilot usage requirement for normal flight above FL350. Crew respiratory rate is assumed 20 LPM-BTPS for 10 minute emergency descent and 10 LPM-BTPS thereafter.

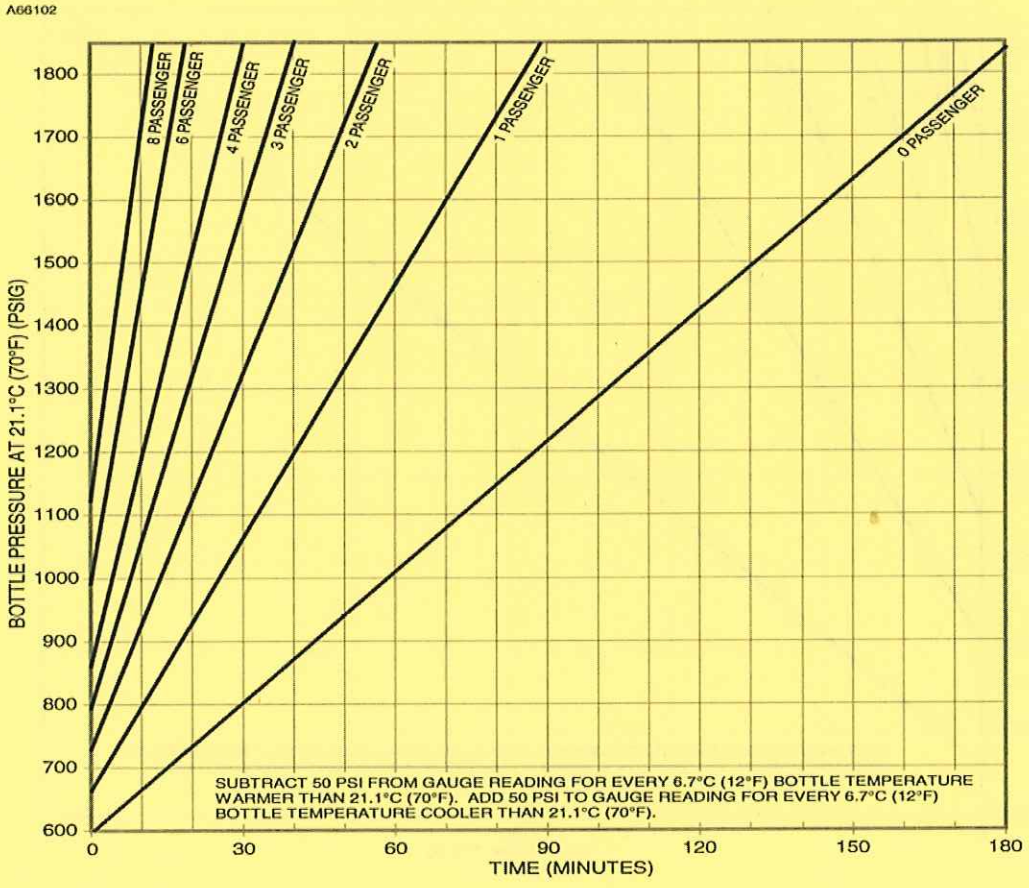

Figure 3-5 (Sheet 2)

OXYGEN SYSTEM (Continued)

OXYGEN SUPPLY CHART 50 FT³

CABIN ALTITUDE	AVAILABLE TIME IN MINUTES								
	1 COCKPIT 0 CABIN	1 COCKPIT 1 CABIN	1 COCKPIT 2 CABIN	1 COCKPIT 3 CABIN	1 COCKPIT 4 CABIN	1 COCKPIT 5 CABIN	1 COCKPIT 6 CABIN	1 COCKPIT 7 CABIN	1 COCKPIT 8 CABIN
8000	853	215	123	86	66	54	45	39	34
10,000	980	224	126	88	67	55	46	40	35
15,000	980	228	129	90	69	56	47	41	36
20,000	769	217	127	89	69	56	47	41	36
25,000	411	177	112	83	65	54	46	40	35
30,000	562								
34,000	717								
35,000	760								
37,000	865								
39,000	1054								
40,000	1063								

CABIN ALTITUDE	AVAILABLE TIME IN MINUTES								
	2 COCKPIT 0 CABIN	2 COCKPIT 1 CABIN	2 COCKPIT 2 CABIN	2 COCKPIT 3 CABIN	2 COCKPIT 4 CABIN	2 COCKPIT 5 CABIN	2 COCKPIT 6 CABIN	2 COCKPIT 7 CABIN	2 COCKPIT 8 CABIN
8000	427	172	107	78	61	51	43	37	33
10,000	490	182	112	81	63	52	44	38	34
15,000	490	185	114	82	64	53	45	39	34
20,000	385	169	109	80	63	52	45	39	34
25,000	206	124	88	69	56	48	41	36	33
30,000	281								
34,000	358								
35,000	380								
37,000	432								
39,000	527								
40,000	531								

NOTE

Cockpit masks are assumed to be at normal setting at 20,000 feet with a respiratory rate of 10 liters per minute - body temperature pressure saturated and at 100% setting above 20,000 feet.

Figure 3-4

(Continued Next Page)

OXYGEN SYSTEM (Continued)

The EROS oxygen mask is a quick donning mask with a built in microphone and regulator. The mask is a diluter/pressure demand type with 100% pressure demand oxygen provided by moving a lever on the underside of the mask to the 100% position. Pressure breathing is provided by rotating the TEST button to the EMER position. The crew member is assured that oxygen is being received when no restriction to breathing is present with the mask donned and 100% selected. Selecting EMER will provide a steady flow of pressurized oxygen to the face cone. To qualify as a quick donning mask, the mask must be properly stowed in the receptacle located behind and outboard of each crew member on the forward cabin divider and set to 100%.

At cabin altitudes above 25,000 feet, 100% oxygen must be selected. To conserve oxygen when using the mask, the regulator may be set to normal if the cabin altitude is at or below 25,000 feet. When using the oxygen mask for smoke protection, the EMER position should be selected. The oxygen supply chart, Figure 3-4, is not applicable to mask use with EMER selected.

NOTE

The cabin must be heated to a temperature of 0°C (32°F) prior to operation above FL240. The temperature ensures proper deployment and operation of the passenger oxygen masks. A handheld thermometer is acceptable to determine cabin temperature.

OXYGEN MASK MIC AND HEADSET MIC

A two-position toggle switch is provided on the pilot's and copilot's side consoles. The switch is marked MIC OXY MASK and MIC HEAD SET. Depressing the microphone button on the appropriate control wheel allows a crew member to transmit through the headset microphone or oxygen mask microphone, whichever is selected.

ANTISKID SYSTEM

The antiskid system provides power assisted braking with skid protection. It is designed to provide maximum braking efficiency on all runway surfaces. The system consists of two wheel speed generators, power brake relay/antiskid valve, control box, oversize reservoir, accumulator and an electrically-driven hydraulic pump.

CAUTION

DO NOT PULL THE BRAKE SYSTEM CIRCUIT BREAKER TO PREVENT THE POWER BRAKE PUMP FROM CYCLING. WITH THE CIRCUIT BREAKER DISENGAGED, THE POWER BRAKE SYSTEM IS INOPERATIVE AND THE RUDDER PEDAL TOE BRAKES ARE DISABLED. BRAKING IS THEN AVAILABLE ONLY BY USE OF THE PNEUMATIC BRAKE SYSTEM.

NOTE

If a low brake pressure condition occurs on the ground, the PWR BRK LOW PRESS annunciator will illuminate flashing and the MASTER CAUTION will illuminate steady, but will not cancel when pressed. These visual alerts will continue until the low brake pressure condition is corrected.

System operation is conventional with power braking available at all speeds while antiskid protection is available at speeds above approximately 12 knots. The antiskid protection feature is designed to operate with maximum pilot applied brake pressure. Do not modulate brake pressure when maximum braking is desired.

To ensure proper braking on water, snow and ice-covered, hard-surfaced runways and all unimproved surfaces, it is necessary for the pilot to apply maximum effort to the brake pedals throughout the braking run. When the system anticipates a skid and releases the applied brake pressure, any attempt by the pilot to modulate braking can result in an interruption of the applied brake signal and may increase stopping distance significantly.

ELECTRIC ELEVATOR TRIM

An electric elevator trim switch installed on the copilot's control wheel provides the copilot with electric elevator trim. The pilot's electric elevator trim switch, however, has priority and will operate the trim interrupting and overriding actuation of the copilot's switch. Both control wheels contain the trim disconnect function, full time, for the trim runaway condition.