

NORMAL PROCEDURES

Detailed instructions for operation of the engine anti-ice and surface deice systems are found in Section II of this manual and in the FAA Approved Airplane Flight Manual.

NOTE

Check deice system for proper operation prior to entering areas in which icing might be encountered.

Descent

1. Defog Fan - HI (15 minutes prior to descent).
2. Pilot and Copilot Foot Warmers - CLOSED.
Check DEFOG FAN on and foot warmers closed for maximum airflow to the windshield. Closing the foot warmers will increase the flow of air available for windshield defogging and also isolate dry conditioned air between the cockpit side windows to inhibit condensation formation. Use the HI position for humid conditions at destination or if the fan was not activated prior to initiating descent.
3. AIR FLOW DISTR - COCKPIT
The Airflow Distribution selector should be biased to the cockpit for maximum defog capabilities.
4. Windshield Bleed Air Valves - MAX.
5. Windshield Bleed Air Switch - LOW.
Warming the windshield with W/S BLEED air will assist in defrosting.
6. Cabin Pressurization Control - SET.
After beginning descent, set destination field pressure altitude +200 feet in the CABIN dial of the controller.

Once destination altimeter setting is known, field pressure altitude can be determined because each .10 inch of mercury deviation from 29.92 equates to 100 feet difference between field elevation and pressure altitude. An altimeter setting above standard gives a pressure altitude below field elevation and the inverse is also true. As an example, descending to a field elevation of 350 feet with a reported altimeter of 29.77 would result in a field pressure altitude of 500 feet. The cabin altitude should be set at 700 feet to insure depressurization prior to touchdown. Rate is normally adjusted to give a 300-500 FPM cabin rate of descent.

Monitor the differential pressure/cabin altitude and cabin vertical speed gages. A high cabin altitude and low differential pressure indicates an insufficient rate of descent and depressurization will occur when cabin and airplane altitude are identical. High cabin descent rates may be uncomfortable and may result in programmed cabin altitude being reached well before landing. Optimum comfort is realized by spreading cabin descent required over the majority of airplane let down time.

7. Anti-Ice/Deice Systems - AS REQUIRED (Pitot heat light will be out when pitot heat is on).
PITOT & STATIC and ENGINE ANTI-ICE should be on and operating and W/S BLEED as required when operating in visible moisture at an indicated outside air temperature of -30 to +4°C.

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8. Throttles - AS REQUIRED; maintain sufficient power for anti-icing (ENG ANTI-ICE light remains OFF).
If insufficient throttle setting is used, the ENGINE ICE FAIL (ENG ANTI-ICE, airplanes -0050 and On) light will illuminate.
A minimum of 60% N_2 RPM is required to keep the system in operation.
9. Altimeters - SET & CROSSCHECK (18,000 feet in USA).
Set landing field barometric pressure in both altimeters when cleared below, or when passing, transition altitude and cross-check for agreement.
10. Speedbrakes - AS REQUIRED.

Before Landing

1. Seats, Seat Belts and Shoulder Harnesses - SECURE.
Check seats locked in the desired position. Check seat belts snug and shoulder harnesses latched to the buckle.
2. Avionics and Flight Instrument - CHECK
Check NAV receivers on proper frequency and required heading and course information set. Cross check flight instruments for correct indications.
3. V_{REF} and Fan Speed Settings - CONFIRM.
Refer to performance tables for V_{REF} based on arrival gross weight.
Check runway requirements based on gross weight and destination field information. Ascertain N_1 and V_2 for use in the event of a missed approach.
4. Radar Altimeter - SET (if installed).
Set decision height or minimum descent altitude on EADI. For VFR operation other desired altitude may be set to provide terrain proximity warning. Additional altitude selection (100 feet above DH, for instance) may be set with bug on conventional radio altimeter indicator (if installed).
5. Passenger Advisory Lights - PASS SAFETY.
Turn on SEAT BELT/NO SMOKING signs and emergency exit lights.
6. Passenger Seats - CHECK FULL UPRIGHT, OUTBOARD and POSITIONED AFT or FORWARD to clear exit doors.
This will provide unobstructed access to the emergency exit door.
7. Flaps - T.O. & APPR.
Flaps may be extended to T.O. & APPR below 202 KIAS. Check indicator to verify position.
8. Engine Synchronizer - OFF.
Engine synchronizer should be off to prevent excessive wear with large or frequent throttle movement.
9. Fuel Crossfeed - OFF.
Check CROSSFEED knob OFF and INTRANSIT and FUEL BOOST ON lights extinguished.
10. Ignition - ON.
May preclude flameout should engine problem arise during approach and landing phase.

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11. Landing Gear - DOWN and LOCKED.
Pulling gear handle out and moving it DOWN illuminates the HYD PRESS ON and GEAR UNLOCKED lights while gear is extending. Check three green lights on and GEAR UNLOCKED and HYD PRESS ON lights extinguished. Maximum extension and/or operating airspeed varies with airplane serial-ization and status of compliance with Service Bulletin SB550-32-14.
12. Antiskid System - CHECK ON.
13. Landing Lights - ON.
14. Flaps - LAND.
Flaps may be extended to T.O. & APPR below 202 KIAS and LAND below 176 KIAS. Should be in the LAND position for all normal landings. Check indicator to verify position. Handle must be pushed in to clear T.O. & APPR detent when LAND flaps are desired.
15. Airspeed - V_{REF} .

Consistently comfortable and safe landings are best achieved from a stabilized approach. The point at which the airplane should be stabilized with airspeed at V_{REF} to $V_{REF} + 10$ KIAS, full flaps, and the desired descent rate is normally coincident with commencing the final descent to landing. Under instrument conditions, this usually occurs at the final approach fix inbound. During visual approaches, this would be a point approximately equal to a turn onto base leg, adjusted for the altitude difference between the traffic pattern and field elevation.

After passing the instrument approach fix outbound or nearing the airport traffic area, airspeed should be reduced below 202 KIAS and the flaps extended to the APPR (15°) position. Approaching the final instrument fix inbound (one dot from glideslope intercept on an ILS), or a downwind abeam position, extend the landing gear below 176 KIAS. At the point where final descent to landing is begun, extend FULL flaps, establish the desired vertical rate, and adjust power to maintain V_{REF} to $V_{REF} + 10$ KIAS indicated airspeed.

Power management during the approach/landing phase is relatively easy in the Citation II because an N_1 setting in the 60-65% range will normally result in desired indicated airspeeds for the various configurations. Depending on air traffic control requirements, thrust necessary for the entire approach can often be set during descent keeping in mind that fan (N_1) RPM will decrease slightly for a fixed throttle setting with a decrease in altitude or indicated airspeed. Using a sea level airport with zero wind at a typical landing weight (10,000 pounds), a throttle setting that results in about 60% N_1 in close will give approximate level flight indicated airspeeds of 160 knots clean and 140 with flaps APPR. Gear extended, flaps FULL and commencing an average descent (500 FPM) will result in approximately V_{REF} airspeed. Higher field elevations, landing gross weights and/or headwind component will require a greater power setting.

For maneuvering prior to final approach, minimum airspeeds of $V_{REF} + 30$, $V_{REF} + 20$ and $V_{REF} + 10$ should be maintained clean, flaps APPR and flaps LAND respectively to provide an adequate margin above stall.

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Speed control on final should be precise for optimum landing performance and this is best accomplished by establishing V_{REF} airspeed well before crossing the threshold. In gusty wind conditions, it is recommended that one half the gust factor in excess of 5 knots be added to V_{REF} .

Approaching within approximately 50 feet of airport elevation, power should be gradually reduced to counter the acceleration induced by ground effect. Wind velocity and direction will dictate the rate at which the throttles are retarded. In very high surface headwind conditions, as an example, it may be necessary to maintain at or near approach power until close to touchdown. With a tailwind, a fairly rapid power reduction may be necessary in the final descent to landing phase for accurate speed control. In ground effect, where induced drag is reduced, leaving approach power on will cause the airplane to float to a longer touchdown than desired. Retarding the throttles gradually in the final descent will normally result in idle thrust being reached just before touchdown.

16. Autopilot and Yaw Damper - OFF.

Yaw damper OFF to give complete rudder authority to the pilot for landing. If the YAW DAMPER is not turned off it will attempt to override pilot rudder input during touchdown and roll out. Utilize the AP/TRIM DISC button on either control wheel.

17. Annunciator Panel - CLEAR.

18. Pressurization - CHECK ZERO DIFFERENTIAL.

Passing approximately 500 feet above ground level (AGL), check the cabin differential pressure near zero. If it is in excess of about one half PSI, select a higher cabin altitude and adjust RATE to ascent the cabin. Differential pressure should be at zero for landing. Any pressure existing at touchdown will be dumped by the outflow valves (actuated by the left main gear squat switch) and may cause discomfort.

If landing above 12,000 feet pressure altitude, turn the OXYGEN CONTROL VALVE to CREW ONLY and turn pressurization bleed air OFF to preclude passenger mask deployment.

19. Speedbrakes - RETRACTED PRIOR TO 50 FEET.

NOTE

Do not allow turbine (N_2) RPM to be less than 49%.

Landing (Without Thrust Reversers)

1. Throttles - IDLE.

Touchdown, preceded by a slight flare, should occur on the main wheels. Check thrust at idle and extend the speedbrakes while lowering the nosewheel. With the nosewheel on the runway, the drag chute (if installed) may be deployed by depressing the safety button on the drag chute handle and then pulling up firmly to full travel (approximately 27°). This will require approximately 35 pounds force. Braking should be commenced according to runway length available to reduce brake wear. Normally with excess runway, braking is begun after aerodynamic deceleration to below 80 KIAS takes place. Apply smooth, gradually increasing pressure until a comfortable turn off speed is reached. For maximum braking performance, immediately after touchdown and wheel spin-up, apply brakes firmly and hold to full stop (do not modulate brake pedals).

NOTE

Antiskid system "dropout" occurs at approximately 12 knots where braking reverts to power brake mode.

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