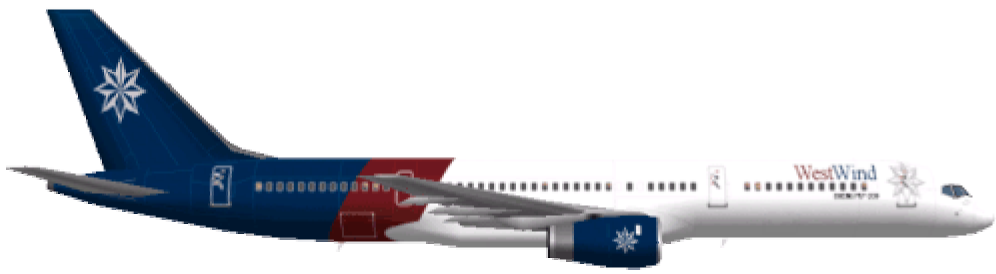
# WestWind Airlines

# *B757-200*

## Pilot Operation Manual



For Use With

Microsoft Flight Simulator 2000™

This manual is for use with Microsoft Flight Simulator 2000™ only. The user should have a basic understanding of Microsoft Flight Simulator 2000™. The data contained in this manual was collected from several different sources and has been modified to go with the performance characteristics of FS2000. In order for this aircraft to function properly the Flight Shop Converter for Microsoft Flight Simulator 2000™ must be installed on the user's computer. **No information in this manual should be used for real world aviation or operation of any real world airplane.**



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**Effective:** April 22, 2000

# *B757-200 Operation Manual*

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# 1.1 Installation

This aircraft is provided in a self-installation format, which provides for simple installation. When prompted by the installation wizard, enter the path to your Microsoft Flight Simulator 2000™ (i.e. C:\Program Files\Microsoft Games\FlightSim2000\). This path-address is dependent on where you installed your original FS98 and may be different from the example listed here.

This installation does not include an instrument panel or sound-files. Thus, the default 2-engine panel and FS2000 B737-400 sounds are used. For true realism we encourage you to install a B757 instrument panel. There are many freeware panels available on the Internet. If you need assistance locating one, please check the WestWind Airlines Web Site (www.flywestwind.com).

# 1.2 Credits

***Aircraft Author:*** Freeware Flight Group (www.avsim.com/ffg/)
This aircraft is copyright of Freeware Flight Group.
The Flight Dynamics are copyright of Freeware Flight Group.
The source afx is copyright of Freeware Flight Group.
It is protected under International copyright law.

***Modification:*** Chris Mueller, VP of Aircraft and Scenery
Chris Mueller updated the textures to standard WestWind Airlines livery for general release.

***Other Credits:*** Hal Groce, Sean Reilly, Richard Beasley, Gary Madore
Hal Groce, Sean Reilly, Richard Beasley, Gary Madore formed WestWind Airlines around late 1995. Hal was the main person behind the entire WestWind Airlines operation. Sean Reilly was anointed Vice President of Marketing and New Biz Development. Gary Madore and Richard Beasley handled the day-to-day operations. In just 3 years WestWind Airlines' membership has grown to over 700 pilots.

## 1.3 <u>Limitations</u>

# 2.1 The Boeing Advanced 757 Series 200

The Boeing 757-200, member of the popular 757/767 family of medium-sized airplanes, is a twin-engined, medium-to-long-range jetliner incorporating advanced technology for exceptional fuel efficiency, low noise levels, increased passenger comfort and top operating performance. The 757 offers other virtues as well, including great versatility by reducing airport congestion. It can fly both long- and short-range routes and its broad use effectively lends itself to "hub-and-spoke" planning.

The first 757-200 rolled out of the Boeing Renton, Washington, plant on Jan. 13, 1982, and made its first flight Feb. 19, 1982. The FAA certified the aircraft on Dec. 21, 1982, after 1,380 hours of flight testing over a 10-month period. The first 757-300 rolled out in 1998.

Designed to carry 194 passengers in a typical mixed-class configuration, the 757-200 can accommodate up to 239 passengers in charter service, putting its capacity between that of the Boeing 737-400 or -700 and the 757-300.

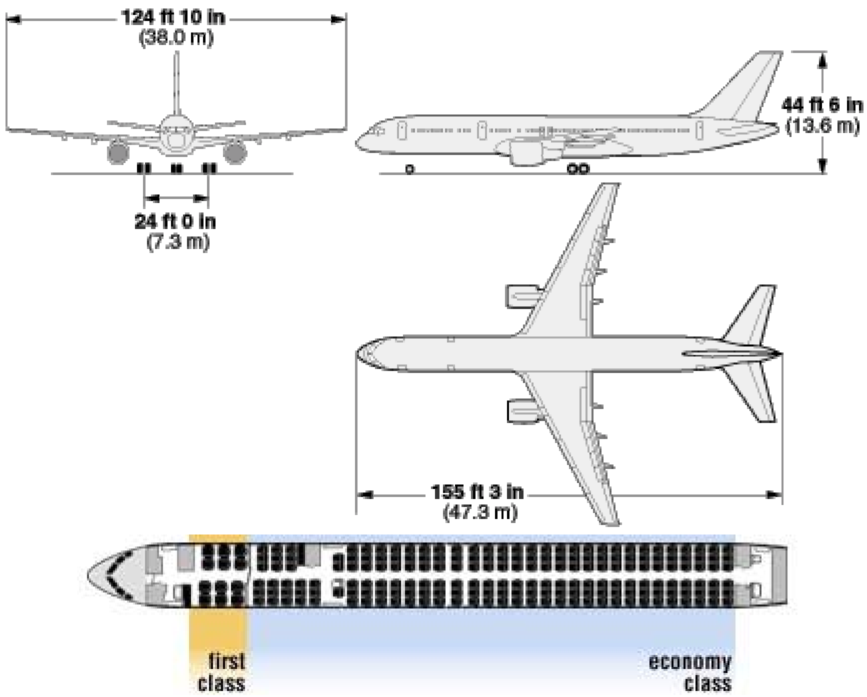
The 757-200 takeoff weights range from 220,000 pounds (99,800 kg) up to a maximum of 255,000 pounds (115,660 kg) for greater payload or range. A freighter configuration of the 757-200 is also available.

The 757-200 and dual-aisle 767 were developed concurrently, so both share the same technological advancements in propulsion, aerodynamics, avionics and materials. This commonality reduces training and spares requirements when both are operated in the same fleet. Because of these features, many airline operators will operate both 757 and 767 airplanes.

The demonstrated reliability of the 757 has approval for extended-range twin (engine) operation, or ETOPS. In July 1990, the Federal Aviation Administration granted 180-minute ETOPS certification for 757-200s equipped with both the Rolls-Royce RB211-535E4 and RB211-535C engines. Previously, the FAA had certified the 757-200 equipped with RB211-535E4 engines for 120-minute operation in 1986. In April 1992, the FAA granted 180-minute ETOPS certification for the 757-200 equipped with Pratt & Whitney PW2000-series engines. This followed the FAA's previous certification of Pratt & Whitney PW2000-powered 757-200s for 120-minute operation in April 1990.

For added reliability on ETOPS flights, the 757 is available with extended range features, including a backup hydraulic-motor generator and an auxiliary fan to cool equipment in the electronics bay. High-gross-weight versions of the aircraft can fly 4,500 statute miles (7,240 kilometers) nonstop with full passenger payload. These system attributes contribute to the 757's versatility, allowing it to serve more markets.

**- Boeing Aircraft Company**




## 2.2 <u>Critical Airspeeds</u>

**Taxi:**

- Max. 25 knots on straight taxiways.
- Max. 10 knots in turns.
- Max. 10 knots approaching parking areas.

**Maximum Allowable Airspeeds:**

***Maximum Operating Speed***…………… $V_{MO}$ – 350 kts / $M_{MO}$ - .86M

***Landing Gear Operating***………………. $V_{LO}$ – 270 kts / $M_{LO}$ - .82M

***Landing Gear Extended***……………….. $V_{LE}$ – 320 kts / $M_{LE}$ - .82M

***Avg. Decision Speed***…………………… $V_1$ – 145 kts

***Avg. Rotation Speed***…………………… $V_R$ – 150 kts

***Avg. Take-off Safety Speed***………….. $V_2$ – 155 kts

***Clean Stall Speed***……………………… $V_S$ – 140 kts

| FLAP POSITION | LIMITING SPEED |
|---|---|
| 0° – 1° | 210 kts |
| 1° – 5° | 190 kts |
| 5° – 15° | 180 kts |
| 15° – 20° | 165 kts |
| 20° – 25° | 160 kts |
| 25° – 30° | 145 kts |

***Notes:***
Landing Flaps – It is standard procedure for WestWind Airline Pilots to use a 30° flap setting for landing. Normal procedure is to extend the flaps to landing selection at 1,000 feet above field level. However, they may be extended at a higher altitude when conditions dictate (significant tailwind, too high and/or fast and extenuating circumstances exist that prevent a go-around).

## 2.3 Fuel Loading Data

***Range:*** 4,000 Nautical Miles
***Fuel Burn Rate Factor:*** 2.3425
***Base Fuel Load:*** 1,000 gallons (400nm reserve)
***Fuel Loading Formula:*** ((Fuel Base Amount)+(Trip Distance x Fuel Burn Factor))
****This will provide you with the total amount of fuel needed****

***Fuel Distribution Formula:*** For the center fuel tank, you multiply the total amount of fuel needed by 50% (0.50). For the two main tanks you take the remaining fuel load and load it into the center fuel tank.
****This will provide even distribution relative to the fuel tank's capacity****

**Example:**

- Example: 1,200 NM Trip Distance

  ((1,000 gallons)+(1,200NM x 2.3425)) = 3,811 gallons

  Main Fuel Tank Distribution: 3,811 gallons x 0.50 = 1,905.5 gallons each. Since each wing-tank has a capacity of 2,300 gallons there will be 0 gallons left over from the two wing-tanks.

- To load fuel, choose ***Aircraft, Aircraft Settings, Fuel*** to bring up the fuel-loading window. Using the example above, you would enter the amount of **0** gallons in the box for the center fuel tank and **1,906** gallons in the box for each main fuel tank. Be sure to load these figures in the gallons box, not the percent or pounds box.

# 3.1 Taxi

***Visibility:*** There is an area near the aircraft where people, obstacles, or ground equipment cannot be seen. It is very important that slow taxi speeds are used while in the terminal area to ensure safe operation.

***Taxi Thrust:*** To break away from the ramp, release the brakes and smoothly increase the thrust. When increasing power to start moving, set the power and wait for the aircraft to respond. Do not continually add power until the aircraft moves because this will result in more power that is desired or necessary.

***Taxiing:*** When entering a turn, overshoot the centerline to compensate for the aft position of the main landing gear. If the nosewheel is turned too rapidly or at too high a ground speed, the nosewheel will lose traction and skid. When making a tight turn, it is recommended that a speed of 0 to 10 knots is used. It is a recommended technique to anticipate stopping/turning points and return the throttles to idle allowing the aircraft's weight to provide natural braking. This reduces the ware on the braking system and provides a more comfortable environment for passengers.

# 3.2 Take-off

***Before Take-off Checklist:*** The "Before Take-off Checklist" should be nearly completed prior to reaching the take-off position. The checklist must be completed prior to take-off.

***Runway Alignment:*** Line up slightly to the left or right of the centerline to avoid the runway centerline lights, which can cause excessive wear to the nosewheel's tires. Once lined up, check the heading indication to assure that it is about the same as the runway number.

***Rejected Takeoff:*** Deploy the spoilers to degenerate the wing's lift and provide additional braking. Reverse thrust is recommended on all operating engines when conditions are safe to do so. When applying reverse thrust, keep the thrust symmetrical to lessen the aircraft's tendency to drift. If the aircraft begins to drift to the side of the runway, return the throttles to idle. The braking applied by the auto brakes in the RTO mode is very sudden and abrupt.

***Rotation and Initial Climb:*** Take-off and initial climb performance is dependant on the aircraft's weight and the weather conditions. Rotation speed ($V_R$) and initial climb speed ($V_2$+10 knots) should be calculated prior to take-off. It is very important that proper technique is used during the rotation and initial climb. Over-rotation will result in the aft of the fuselage contacting the runway. Under-rotation results in an increased ground run. If the rotation is handled improperly the initial climb performance will be decreased. Initiate a smooth rotation at $V_R$ to the initial climb attitude while keeping the wings level. Adjust your initial climb attitude to maintain $V_2$+10. When performed correctly, the aircraft should lift-off at 5-8° of deck angle.

The initial climb (5° take-off flap setting) is divided into three segments:

1. Use take-off power to 1,500 feet above field level and maintain $V_2$+10. Do not exceed 20° of deck angle.
2. After crossing 1,500 AFL, set climb power. While accelerating to 160 kts. retract flaps to 1° and maintain 160-180 kts. to 3,000 AFL.
3. After crossing 3,000 AFL. lower the nose to maintain a 500-1000 feet per minute rate of climb to expedite acceleration to 250 kts. Retract flaps on speed schedule.

***Engine Failure During Take-off:*** In the event of an engine failure, the pilot-in-command must be prepared to compensate for the aircraft's tendency to yaw in the direction of the failed engine. The attitude of the aircraft must be adjusted to maintain $V_2$+10 until a safe altitude has been reached. Once at the minimum safe altitude, the aircraft's attitude should be decreased to allow airspeed to build. Once the airspeed has reached the desired climb speed, the aircraft's attitude should be adjusted to maintain that speed. Remember to fly the plane first. Once conditions are safe to do so, assess the problem.

***Crosswind Take-offs:*** While taking off in crosswind conditions, use the rudder pedals to keep the aircraft aligned with the centerline of the runway. As the speed increases you may encounter wing roll. At the first indication of wing roll, use sufficient aileron into the wind to keep the wings level. Smooth control inputs will result in a normal take-off without over controlling.

The aircraft may be in a forward-slip if you have crossed controls at lift off. Recovery can be accomplished after lift-off by releasing both the rudder and aileron inputs and establish a wings level attitude.

## 3.3 Climb

Smooth turns and changes in altitude will provide a comfortable ride for the passengers. Try to use the auto-flight system to control heading, altitude, and speed changes. Due to noise restrictions, reduced climb-power should be used while under 10,000 feet MSL over urban areas. Reduced climb-power is dependent on the aircraft's take-off weight. When using reduced climb-power, adjust the aircraft's rate of climb to maintain the desired climb airspeed. To provide a smooth transition from climb to level flight, reduce the rate of climb to 500 feet per minute for the last 1000 feet. This technique will also aid the auto-flight system in capturing the selected altitude.

## 3.4 Cruise

***Climbing to a Higher Altitude:*** The autothrottle should be set to maintain the desired airspeed. Make all changes in altitude in a smooth manner. It is recommended to use a rate of climb less than 1000 feet per minute when transitioning from one cruise altitude to another.

***Cruise Speed:*** The desired cruise speed is dependant on the aircraft's weight, cruise altitude, and prevailing weather conditions. Typical cruise speeds range from Mach 0.72 to Mach 0.80. Use the autothrottle to maintain the desired cruise speed.

***Other Tasks:*** Typical cruise tasks include monitoring the aircraft's systems, fuel consumption, and navigation. Changes in cruise altitude can be dependant on information discovered from these tasks, so it is important that the crew be alert and aware of how their aircraft is performing.

## 3.5 Descent

***Standard Descent Procedure:*** Clean configuration with idle power is the preferred method. Speedbrakes should be used when they are needed to expedite the decent due to traffic flow or to maintain the desired descent profile. When approaching the selected level-off altitude, reduce the rate of descent to 500 feet per minute and manually advance the throttles forward to ensure a smooth transition.

***Holding:*** Higher altitudes are preferred for more efficient fuel consumption. Hold cruising speed until three minutes from the holding fix, then start reducing your airspeed to assure that the proper speed is attained prior to entering the holding pattern.

***Beginning of Descent Point:*** When creating a flight plan, the BOD (Beginning Of Descent) point should be considered the optimum point to begin an unrestricted descent to a landing. The following equation should be used as a guide for calculating the BOD point.

***BOD Point Equation:***

- Calculate the altitude difference.
- Drop the last three digits.
- Multiply by three.
- For descent to a landing add 10 nautical miles. For a descent to an intermediate altitude above 10,000 feet, no additive required.
- Adjust for wind by subtracting 2nm for each 10 knots of headwind, or adding 2nm for each 10 knots of tailwind.

***Example:*** Descending from FL310 to 3000 feet for landing with a 20 knot headwind:

- 31,000 – 3,000 = 28,000
- 28,000 = 28
- 28 x 3 = 84
- 84 + 10 = 94 nautical miles
- 94 – 4 = 90 nautical miles.

***Answer:*** The BOD point should be 90 nautical miles from the destination point.

***NOTE:*** Adjust your rate of descent to assure target altitude interception within the determined distance.

## 3.6 Approach and Landing

***ILS Approach:*** ILS transmitters are vulnerable to electronic interference that can corrupt the signal it transmits. Thus, constantly check the alignment using the HSI and ADI.

***Glide Slope or VASI:*** The VASI or ILS glide slope should always be used when available on VFR approaches. This assures proper approach path, which aids in the compliance with noise restrictions.

***Use of Thrust Control:*** During the approach phase the throttles should be regarded as a primary flight control. Their use should be coordinated with the elevators to control airspeed, rate of descent, and assure proper alignment on the glide path.

***Autothrottle Control:*** Be prepared to override or disconnect the autothrottle if the need arises due to unsafe conditions or manual control is preferred.

***Normal Glide Path:*** The normal glide path is based on the instrument approach. Once on final approach, only small adjustments to the glide path should be made. This will result in the same approach weather VFR or IFR. It is a good practice to aim all approaches at the 1,000 foot point on the runway. This will assure proper threshold clearance by the main landing gear.

***Final Approach:*** The three-degree glide path results in approximately 300 feet of altitude for every mile from the end of the runway. The rate of descent for a three-degree glide path can be determined by one-half the ground speed (in knots) times ten. Thus, for example, an approach speed of 130 knots would look like:

**130** ÷ **2** = **65**, then **65** x **10** = **650** feet per minute

***Management of The Approach:*** Adjustments should be made early in the approach. For safety, the rate of descent should be limited to less than 2,000 feet per minute when below 2,000 feet AGL and less than 1,000 feet per minute when below 1,000 feet AGL.

For a Category I ILS approach, the transition from the ILS glide slope to a visual glide slope should be made between the decision height and 100 feet AGL. The radio altimeter is a valuable aid in determining the aircraft's height above the ground. This will also assist when determining the approach, flare, and touchdown.

***Touchdown:*** Reduce the rate of descent approximately 30-40 feet AGL by applying light backpressure to the yoke to increase the attitude by 2 to 3 degrees. The goal is to reduce the rate of descent, not stop the rate of descent. As this attitude is being applied the power should be slowly reduced to idle.

The aircraft tends to float above the runway due to the ground effect. Proper management of elevator input and thrust control can counter the ground effect. After touchdown, lower the nose prior to engaging the reverse thrust.

***Summary:*** Use of proper procedures will result in consistently safe landings. Use the ILS when it is available, regardless of the weather conditions to assure safe approaches. If neither an ILS glide slope or a three-bar VASI are available, use the "300 foot per mile" equation to determine the proper rate of descent.

## 3.7 Landing in Adverse Conditions

This portion of the Flight Techniques section will cover techniques that apply towards typical crosswind landings and control problems encountered due to poor runway conditions.

***Crosswind Landings:*** Most important key is to keep the wings level during the final approach. Maintain runway alignment by crabbing until the last 100 feet, then use the sideslip maneuver for touchdown. If the aircraft drifts off the centerline of the runway during the final phase of landing, attempts to correct the alignment by using the ailerons increases the possibility of the outboard engine or even the wingtip contacting the ground. The pilot in command should judge based on the rate and amount of displacement whether or not to go around.

Wet or icy runway conditions with a crosswind is not a good combination. The pilot in command should maintain alignment towards the upwind side of the centerline of the runway. After touchdown, the aircraft will weathercock into the wind. Due to the poor runway conditions, steering using the aircraft's nose gear may be less effective. To aid in directional control differential braking may be used.

## 3.8 Turbulent Air

Known severe turbulent air conditions should be avoided when possible. If flight through severe turbulence is unavoidable, observe the recommended turbulence penetration airspeed. For this flight model the recommended airspeed is 270 to 285 knots indicated air speed or Mach .72 to .79 (whichever is lower). When below 10,000 feet MSL, the minimum recommended airspeed is 250 knots indicated airspeed. These speeds allow for greater speed reduction while providing the necessary maneuvering speed margins.

***Autopilot:*** The autopilot may be used in moderate turbulence. The pilot in command should be ready to take control of the aircraft from the autopilot if the need arises. If severe turbulence is encountered consideration should be given to engaging the "LEVEL" (LVL) function on the autopilot, which will maintain wings-level flight. Once the severe turbulence has passed the autopilot may resume normal operation.

***Thrust Control:*** Avoid immediate power changes as the airspeed indicator will naturally bound as much as 20 knots during severe turbulence.

***Aircraft Attitude:*** Maintain wings-level and the desired pitch. Use the ADI (Attitude Director Indicator) as your primary instrument. Do not use large or abrupt control inputs to correct changes in the aircraft's attitude.

***Aircraft Altitude:*** Often during severe turbulence large variations in altitude are possible. Do not "chase" the altitude. Sacrifice altitude in order to maintain the aircraft's attitude. If necessary, descend to improve the aircraft's buffet margin.

## 3.9 Wind Shear

There are four areas of action regarding wind shear:
- *Avoidance*
- *Prevention*
- *Recognition*
- *Escape*

***Avoidance:*** Avoid areas where a known wind shear exists. Always reference PIREPS of wind shear in excess of 20 knots, 500 feet per minute of climb, or 1000 feet above ground level. These are good indications that a wind shear exists in that area. Remember to consider the amount of time that has elapsed since the PIREP was made and the change in the observed weather conditions. Wind shear is very common around thunderstorms, rain and snow showers, low altitude jet streams, and strong or gusty surface winds. If the prevailing conditions are conducive towards wind shear, avoid the areas by delaying takeoff, divert around the areas, or delay landing until the conditions improve.

***Prevention:*** When prevailing conditions are favorable for wind shear use the following precautions:
1. **Takeoff:**
    a. Use the longest suitable runway.
    b. Use maximum takeoff power.
2. **Landing:**
    a. Add an appropriate airspeed correction to provide a larger safety margin.
    b. Avoid large thrust or trim changes in response to a sudden increase in airspeed. Be prepared to take control from the autopilot if airspeed suddenly decreases and flight control becomes marginal.
    c. If field length permits, use a landing flap setting of "3" instead of "4".

***Recognition:*** By alert for the following conditions:

1. + / - 15 knots indicated airspeed
2. 10° heading variation from normal
3. + / - 500 feet per minute per minute vertical speed
4. + / - 5 degrees pitch attitude

***Escape:*** If the aircraft's controllability becomes marginal below 1000 feet AGL execute the following steps without delay:

1. Aggressively increase the power setting to maximum available thrust.
2. Disengage the autopilot and smoothly rotate to a pitch attitude of 15 degrees. Stop rotation if approaching stall airspeed.
3. Control the flight path using pitch attitude. If the aircraft is not climbing at 15 degrees of pitch attitude, slowly increase the pitch to establish a climb. Always be aware of imminent stall and do not use more pitch than is necessary to control the aircraft's vertical flight path. Too much pitch attitude will place the aircraft in a high-drag angle of attack which results in a lower recovery altitude.
4. Do not change the trim, gear or flap setting until adequate ground clearance is achieved. Then follow normal go-around procedures.
5. During take-off roll a wind shear can cause drastic changes in indicated airspeed. Thus, the Captain must make a decision to reject or continue the take-off. If the decision is to continue the take-off, the rotation has to take place no later than 2000 feet from the end of the runway.
6. After a wind shear has been encountered the following information should be reported to the ATC immediately:
   - Location
   - Altitude
   - Airspeed and/or altitude change
   - Aircraft type

# WestWind Airlines
## Boeing 757-200
## Normal Procedures Checklist

### BEFORE STARTING ENGINES

PARKING BRAKE……………………………………………….SET
FUEL QUANTITY AND DISTRIBUTION………………………SET
GEAR HANDLE AND LIGHTS……………..DOWN AND GREEN
FLAPS…………………………………………………………….UP
ELEVATOR TRIM……………………………………………...SET
FLT INSTRUMENTS/BUGS……………………………….…..SET
DEPARTURE PROCEEDURE……………………….REVIEWED
AUTOFLIGHT SYS. SET FOR DEPARTURE………………...SET
TRANSPONDER………………………………………………...SET
NO SMOKING SIGN……………………………………………..ON
FIVE MINUTES PRIOR TO DEPARTURE
SEAT BELT SIGNS………………………………………………ON

### PRIOR TO PUSH-BACK

FUEL………………………………………………….ALL TANKS
ANTI-COLLISION LIGHTS………………………………………ON
CLEARANCE FOR PUSH BACK……………………..RECEIVED
CLEAR OF OBTRUCTIONS LEFT/RIGHT…………..CHECKED
PARKING BRAKE………………………………………RELEASED

### ENGINE START

***When authorized, engines may be started while pushing back from the gate****

PARKING BRAKE……………………………………………….SET
ENGINE AREA………………………………………………CLEAR
ENGINE IGNITION……………………………………………...ON

### TAXI

PITOT HEAT……………………………………………………...ON
AUTO BRAKES……………………………………..SET TO RTO
FLAPS…………………………………………………………….SET
FLIGHT CONTROLS………………………………….CHECKED
CLEAR OF OBSTRUCTIONS LEFT/RIGHT………….CHECKED
PARKING BRAKE……………………………………..RELEASED

### BEFORE TAKE-OFF

AUTO-FLIGHT SYSTEM…………………………………….ON
AUTO-THROTTLE……………………………………….ARMED
FLIGHT INSTRUMENTS………………………………CHECKED
FLAPS…………………………………………………………..SET
ANTI-COLLISION LIGHTS……………………………………ON
LANDING LIGHTS………………………………………………ON

### AFTER TAKE-OFF

LANDING GEAR……………………………..UP AND NO LIGHTS
AUTO BRAKES…………………………………………………OFF
FLAPS…………………………………………………………...UP
10,000 Ft. MSL
LANDING LIGHTS………………………………………………OFF
FUEL SYSTEM……………………………………….CHECKED
STERILE COCKPIT…………………………………CANCELED
ALTIMETERS…………………..RESET AND CROSSCHECKED

### AFTER TAKE-OFF (CONTINUED)

18,000 Ft. MSL
EXTERIOR LIGHTS……………………………….AS REQUIRED
ALTIMETERS……………………………..SET 29.92 In / 1013 Hg

### CRUISE

ENGINE PERFORMANCE……………………………CHECKED
SEAT BELT SIGNS……………………………….AS REQUIRED
NAVIGATION……………………………………………..MONITOR

### DESCENT

SEAT BELT SIGNS………………………………………………..ON
APPROACH PROCEDURE…………………………..REVIEWED
LANDING DATA……………………………………….PREPARED
18,000 Ft. MSL
EXTERIOR LIGHTS……………………………….AS REQUIRED
ALTIMETERS……………………………….SET AND CHECKED
10,000 Ft. MSL
STERILE COCKPIT……………………………….CABIN CHIME
LANDING LIGHTS………………………………………………ON

### BEFORE LANDING

ALTIMETERS……………………………RESET AND CHECKED
FLT INSTRUMENTS/BUGS…………………………………...SET
FLAP SCHEDULE…………………………………….REVIEWED
AUTO BRAKES…………………………………….AS REQUIRED
FINAL APPROACH
LANDING GEAR…………………………….DOWN AND GREEN
FLAPS……………………………………………………….FULL
SPOILERS……………………………………………….ARMED

### AFTER LANDING

AUTOFLIGHT AND AUTO THROTTLE……………………OFF
LANDING LIGHTS……………………………………………OFF
AUTO BRAKES………………………………………………OFF
SPOILERS………………………………………………….DOWN
FLAPS………………………………………………..RETRACTED

### PARKING

PARKING BRAKE………………………………………………SET
COCKPIT LIGHTS……………………………….AS REQUIRED
EXTERNAL POWER / APU……………………….ESTABLISHED
FUEL CONTROL………………………………………..CUTOFF
SEAT BELT SIGNS…………………………………………..OFF
ANTI-COLLISION LIGHTS…………………………………..OFF
ENGINE IGNITION……………………………………………OFF
PITOT HEAT………………………………………………….OFF
LOG BOOK………………………………………….COMPLETED