

OMNI AIR INTERNATIONAL

B757 JET RUN-UP HANDBOOK CHAPTER 1 - GENERAL

04-04-06 REV. #1

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**B757 JET RUN-UP HANDBOOK
CHAPTER 1 - GENERAL**

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1.1 INTRODUCTION

The B757 Jet Run-up Handbook, developed by Omni Air International, sets forth specifications, procedures, and limits for APU and powerplant operation during ground runs by Maintenance personnel. The text also covers runway incursion avoidance, aircraft taxiing, and Control Tower communications.

All checks, tests, and limits described are in accordance with B757 Maintenance Manual approved maintenance procedures and specifications.

1.3 ALL RUN-UP PERSONNEL

All Maintenance personnel performing a run-up must complete applicable cockpit preparations. Each individual must maintain a listening watch for accuracy and coordination and must be alert in observing engine and system operations. Any malfunctions must be called to the attention of the Mechanic in charge and at his/her direction, actions will be initiated to correct or cope with the situation. Specific personnel duties are detailed in respective procedures. At no time will Maintenance personnel perform run-up or taxi with revenue passengers aboard.

1.5 REVISIONS

Revisions to the Jet Run-up Handbook will be issued as necessary. Each manual holder is required by FAR 121.137(b) to keep manuals current. A List of Effective pages is provided to facilitate verification that the manual is complete and current. If you do not receive a revision, if pages are missing, or if you need a replacement, notify the Technical Publications Department.

1.7 YOUR RESPONSIBILITY TO LET US KNOW

Every effort is made to keep this manual current. However, we cannot correct an error unless we know of its existence. In this regard, it is essential that you do your part. Comments, corrections, and questions regarding the manual are welcomed, and should be submitted to the Director of Quality Control for evaluation and consideration.

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1.9 SIGNIFICANCE OF NOTES, CAUTIONS, AND WARNINGS

NOTE: *Operating methods, procedures, and techniques which are essential to highlight are displayed in 'NOTE' format. They are entered in lowercase, italicized, bold letters, preceded by the word 'NOTE' in bold-face capitals.*

CAUTION: OPERATING PROCEDURES AND TECHNIQUES WHICH, IF NOT STRICTLY FOLLOWED, MAY RESULT IN DAMAGE TO OR DESTRUCTION OF EQUIPMENT ARE DISPLAYED IN 'CAUTION' FORMAT. THEY ARE ENTERED IN UPPERCASE, BOLD LETTERS, PRECEDED BY THE WORD 'CAUTION' IN BOLD-FACED CAPITALS.

WARNING: OPERATING PROCEDURES AND TECHNIQUES WHICH, IF NOT STRICTLY OBSERVED, MAY RESULT IN PERSONAL INJURY OR LOSS OF LIFE ARE DISPLAYED IN 'WARNING' FORMAT. THEY ARE ENTERED IN UPPERCASE, BOLD LETTERS, PRECEDED BY THE WORD 'WARNING' IN BOLD-FACED CAPITALS.

1.11 PROPERTY

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1.13 EFFECTIVITY

REGISTRATION #	757 MODEL	RB211-535E4 ENGINE MODEL
N369AX	-200 ER	RB211-535E4
N459AX	-200 ER	RB211-535E4
N549AX	-200 ER	RB211-535E4
N639AX	-200 ER	RB211-535E4

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1.15 GLOSSARY

ACRONYM / ABBREVIATION	DEFINITION
A/C	AIRCRAFT
APU	AUXILIARY POWER UNIT
C	CELSIUS
CG	CENTER OF GRAVITY
ECS	ENVIRONMENTAL CONTROL SYSTEM
EGT	EXHAUST GAS TEMPERATURE
ENG	ENGINE
F	FAHRENHEIT
FFG	FUEL FLOW GOVERNOR
FOD	FOREIGN OBJECT DAMAGE
GMM	GENERAL MAINTENANCE MANUAL (OAI)
GPU	GROUND POWER UNIT
Hz	HERTZ
JRH	JET RUN HANDBOOK
LBS	POUNDS
OAT	OUTSIDE AIR TEMPERATURE
PPH	POUNDS PER HOUR
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
QTS	QUARTS
RPM	REVOLUTIONS PER MINUTE
RQD	REQUIRED
T/R	TRANSFORMER / RECTIFIER
TAT	TOTAL AIR TEMPERATURE
V	VOLT(S)
VDC	VOLTS, DIRECT CURRENT

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1.17 QUALIFICATIONS / OPERATING REQUIREMENTS

A. QUALIFICATIONS

1. Refer to GMM Chapter 6 for engine run-up / taxi qualification requirements.
2. Only qualified flight crewmembers or qualified and authorized Maintenance personnel are allowed to operate aircraft engines.
3. Maintenance personnel must be qualified and authorized.
4. Other airlines' personnel who are qualified and authorized by their company to perform run-up / taxi on the same type aircraft and engines operated by OAI are allowed to perform run-up / taxi on OAI aircraft when authorized by OAI's Director of Maintenance.
5. When qualified Maintenance personnel are not available, flight crewmembers are authorized to accomplish run-up and taxi.
6. At no time will Maintenance personnel perform run-up or taxi with revenue passengers aboard.
7. When maintenance run-up is required with passengers onboard the aircraft, the flight crew will conduct the run-up.

B. OPERATING REQUIREMENTS

1. After becoming qualified, Mechanics are not authorized to operate an aircraft engine unless assigned to do so by a Supervisor.
2. A minimum of two Mechanics must be in the cockpit during aircraft and engine run-up / ground test of the aircraft. One Mechanic must be qualified as appropriate to run-up and/or taxi the particular aircraft and will occupy the Captain's (left-hand) seat and be in charge of the aircraft. The second Mechanic must either be qualified, or must be a trainee authorized for that particular operation by his/her Supervisor. The second Mechanic will occupy the First Officer's seat and for all taxi operations.
3. A trainee is only permitted to occupy the left-hand seat when being trained under the direction of a qualified run-up / taxi Mechanic. The qualified Mechanic will occupy the right-hand seat and be solely in charge and responsible for the operation of the aircraft.
4. It is mandatory that the applicable checklist provided in the aircraft (OAI form MM-115R1) is used for all operations prior to starting an engine and after stopping engines, etc.

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1.17 QUALIFICATIONS / OPERATING REQUIREMENTS (CONT'D)

5. The Challenge-and-Response procedure is to be used with the checklist. One Mechanic will read aloud each item (Challenge), and prior to proceeding to the next item, will wait for a response from the other Mechanic who will read aloud the conditions (Response) required by the checklist for that item.
6. The aircraft should be headed into the wind and with the nose wheel straight, whenever possible, before starting the engines.

CAUTION: DO NOT START OR RUN ENGINES WHERE THERE IS LOOSE ICE, GRAVEL, STONES, CINDERS, ETC. ALWAYS CHECK BEHIND AIRCRAFT TO ASCERTAIN THAT THE ENGINE EXHAUST BLAST SHOULD NOT CAUSE DAMAGE TO OTHER AIRCRAFT OR EQUIPMENT.

PRIOR TO STARTING ENGINES, CHECK THE INLET DUCTS FOR POSSIBLE DEBRIS THAT COULD CAUSE DAMAGE.

DO NOT START ENGINES ON ENGINE CROSSBLEED MANIFOLD AT GATE POSITIONS WHERE RAMP SURFACE IS SLIPPERY (SNOW OR ICE) AND THERE IS LIMITED WING, NOSE, OR TAIL CLEARANCE. THE HIGH RPM REQUIRED CAN CAUSE THE AIRCRAFT TO SWERVE. WHEN GROUND START UNIT IS NOT AVAILABLE FOR STARTING ALL ENGINES AT "TIGHT" GATE POSITIONS WHERE SURFACE IS SLIPPERY, HAVE AIRCRAFT TOWED INTO OPEN AREA BEFORE MAKING CROSSBLEED STARTS.

7. When a B757 aircraft has been parked during icing conditions, freezing rain, snow, or sleet, allowing ice or snow to accumulate on the aircraft, check the engine inlets before starting engines.
 - a. Whether ice or snow has accumulated in the inlet duct, and
 - b. That the fan rotates freely.
8. Whenever aircraft engines are being started during maintenance operations, one dry chemical extinguisher (at least 20 lb. size) should be immediately available. At regular gate positions, this requirement is met by the dry chemical wheeled units. At other locations, the extinguisher may be mounted on a servicing vehicle at a fixed position within 100 feet of the aircraft, or a portable unit may be brought to the aircraft.

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1.17 QUALIFICATIONS / OPERATING REQUIREMENTS (CONT'D)

9. The engine starting sequence should be applicable / specified for maintenance operations (see applicable aircraft maintenance manual) or as otherwise agreed, but must be clearly understood by all concerned.

NOTE: *All fuselage doors should be closed.*

- a. Prior to starting an engine, the Mechanic in charge in the cockpit should obtain the START ENGINES signal (refer to GMM Chapter 7 for Ground-to-Cockpit Hand Signals) from personnel assigned to assist with starting engines.
- b. Always start engines by use of the procedures and precautions outlined in the applicable aircraft maintenance manual.

CAUTION: UNDER NO CIRCUMSTANCES SHOULD ANY ENTRANCE DOOR OR CARGO DOOR EMERGENCY EXIT BE OPENED WHEN AN AIRCRAFT IS PRESSURIZED, REGARDLESS OF PRESSURE DIFFERENTIAL. IN AN EMERGENCY, COMPLETELY DEPRESSURIZE THE AIRCRAFT BEFORE MAKING ANY ATTEMPT TO OPEN ANY DOOR, EMERGENCY EXIT, ETC. POSITION LIGHTS MUST REMAIN ON.

ANTI-COLLISION LIGHT MUST BE ON ANY TIME THE AIRCRAFT IS MOVED.

10. During engine run-up above IDLE power, the engine side cowl panels must be closed and latched.
11. The Mechanic in charge in the cockpit is responsible at all times to ensure that all is clear on both sides of the aircraft before releasing brakes.
12. Should engine adjustments be necessary while the engine is operating, a second Mechanic must assist the Mechanic making the adjustments, providing hand signals or maintain voice communication between the cockpit and the Mechanic making the engine adjustments, and generally policing the operational area.

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1.19 RUNWAY INCURSION AVOIDANCE

Runway incursion is defined by the FAA as “any occurrence in the airport runway environment involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in a loss of required separation with an aircraft taking off, intending to take off, landing, or intending to land”.

Runway incursion avoidance is a significant safety priority. FAA-recommended Standard Operating Procedures intended to reduce the risk of runway incursion are incorporated into this chapter, into OAI's B757 Maintenance Taxi Checklist (MM-115R1) (refer to JRH Chapter 2), and into the expanded checklist provided in JRH Chapter 3.

Significant Components of Runway Incursion Avoidance:

- Situational Awareness (refer to JRH 1.19 A)
- Communication with Control Tower (refer to JRH 1.19 B)
- Operations at Non-Control Towered Airports / Airports when Control Tower is Closed (refer to JRH 1.19 C)
- Exterior Aircraft Lights (refer to JRH 1.19 D)
- Planning for Taxi Operations (refer to JRH 1.19 E)
- Taxi Operations (refer to JRH 1.19 F)
- Low-Visibility Taxi Operations (refer to JRH 1.19 G)

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1.19 RUNWAY INCURSION AVOIDANCE (CONT'D)

A. SITUATIONAL AWARENESS

Be aware of your situation as it relates to other aircraft and other vehicles in movement on the airport.

In order to maintain situational awareness:

1. **Understand and Follow Control Tower Instructions and Clearances**
Also monitor Control Tower instructions / clearances which are issued to other aircraft, being especially vigilant if another aircraft is on frequency that has a similar call sign (take care that you do not inadvertently execute a clearance / instruction for another aircraft).
2. **Continually Actively Monitor and Update Progress and Location During Taxi**
Know your aircraft's precise present location and mentally calculate the next location on the route that will require increased attention (such as a turn onto another taxiway, an intersecting runway, or any other transition point).
3. **Follow the Aircraft's Progress on the Airport Diagram**
Follow your aircraft's progress on the airport diagram to be sure that the instructions received from the Control Tower are being followed.
4. **Know and Use All the Visual Aids Available at the Airport**
Utilize all available resources (such as heading indicators, airport diagrams, airport signs, markings, lighting, and Control Tower / ground air traffic control) to keep your aircraft on its assigned taxi route.
5. **Minimize 'Heads-Down' Activities While the Aircraft is Moving**
6. **Scan the Runway**
 - a. Prior to entering or crossing any runway, scan the full length of the runway and scan for aircraft on final approach or landing roll-out.
 - b. When visually scanning the runway, mentally confirm scan results ("clear right", "clear left").
 - c. If there is any confusion about the scan results, stop taxiing the aircraft.

CAUTION: DO NOT STOP ON A RUNWAY. IF POSSIBLE, TAXI OFF THE RUNWAY AND THEN INITIATE COMMUNICATIONS WITH THE CONTROL TOWER TO REGAIN ORIENTATION.

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1.19 RUNWAY INCURSION AVOIDANCE (CONT'D)

B. COMMUNICATION WITH CONTROL TOWER

To achieve clear and accurate communications with the Control Tower:

1. Provide Proper Identification

Provide proper identification so that the Control Tower is aware that it is a Mechanic, rather than a Pilot, who is conducting the taxi operation (proper identification: 'OAI', 'Maintenance', last three digits of the aircraft "N" number) (refer to JRH 1.23).

2. State Your Position

State your position whenever making initial contact with any Control Tower Controller or Ground Controller, regardless of whether you have previously stated your position to a different Controller.

3. Use Standard Phraseology

Use standard Control Tower phraseology at all times.

4. Discontinue Other Tasks

Focus on what the Control Tower is instructing. Do not perform any non-essential tasks while communicating with the Control Tower.

5. Read Everything Back

Read back all clearances / instructions to enter a specific runway, hold short of a runway, and taxi into position and hold, including the runway designator.

6. Clarify

Clarify any misunderstanding or confusion concerning Control Tower instructions or clearances.

7. Write Down Non-Standard or Complex Instructions

For use as a reference for reading back instructions to the Control Tower, and as a means of reconfirming taxi routes and any restrictions, write down taxi instructions which are non-standard or complex (involving numerous turns and transitions).

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1.19 RUNWAY INCURSION AVOIDANCE (CONT'D)

8. Progressive Taxi Instructions

Request progressive taxi instructions if you are unfamiliar with the airport. The control tower will follow the movement of your aircraft and provide turn-by-turn instructions along your route.

An example of a requesting is "LAS Ground Omni Maintenance 369 requesting progressive taxi international D-7 to west Signature ramp."

Although this is a valuable tool for moving aircraft at unfamiliar airports, it does not take the place of procedures highlighted in OAI 757 JRH 1.19A.

C. OPERATIONS AT NON-CONTROL-TOWERED AIRPORTS / AIRPORTS WHEN CONTROL TOWER IS CLOSED

In addition to all other runway incursion avoidance information provided herein, if you are conducting an aircraft taxi operation at a non-Control-Towered airport or at an airport when its Control Tower is closed, consider the following:

1. Situational Awareness

While maintaining situational awareness is important in all circumstances, it is particularly important when operating at an airport without an operating Control Tower.

- a. Be fully aware of your intended taxi route.
- b. Be able to follow the planned route correctly.
- c. Without the Control Tower to verbally tell you where you should taxi and where and when to stop, you must rely on visual cues (airport signs, markings, and lighting, together with the airport diagram) to maintain situational awareness and maintain your planned taxi route.

2. Radio

Monitor the appropriate frequency. Listen to what personnel operating other aircraft are saying.

3. Crossing Hold Short Line / Crossing and Clearing Runway

Prior to crossing the hold short line or entering or crossing a runway, scan the full length of the runway, including approach areas. Do not engage in any other cockpit duties while crossing a runway. Pay full attention to crossing and clearing the runway.

4. Exterior Lighting

Use exterior lighting to make your aircraft more conspicuous to other aircraft operators (refer to JRH 1.19D).

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1.19 RUNWAY INCURSION AVOIDANCE (CONT'D)

5. Communication and Aeronautical Data

Communication rules and guidelines and aeronautical data for operations at airports without an operating Control Tower differ from those applicable at Control Towered airports. Ensure that you are aware of standard phraseology, communication, and data requirements.

6. Before Taxi

- a. Obtain current aeronautical data for the airport, including operating hours and status of the Control Tower.
- b. Monitor airport communication facilities or aids (CTAF, FSS, or Unicom frequency).

7. Taxi

- a. Announce all ground movement operations on the CTAF, FSS, or Unicom frequency.
- b. Always state the name of the airport at the beginning and end of radio transmission.

CAUTION: REMAIN ALERT FOR AIRCRAFT OPERATING WITHOUT A RADIO.

D. EXTERIOR AIRCRAFT LIGHTS

To the extent possible, illuminate exterior lights as follows:

1. Engines Running

Turn on the rotating beacon whenever an engine is running.

2. Commencing Taxi

Turn on navigation, position, anti-collision, and logo lights, if available, prior to commencing taxi. To signal intent to personnel operating other aircraft, consider turning on the taxi light when the aircraft is moving or intending to move on the ground, and turn it off when stopped, yielding, or as a consideration to personnel operating other aircraft or to ground personnel.

3. Crossing Runways

Turn on all exterior lights when crossing a runway. Consider any adverse effects to safety that illuminating the forward facing lights will have on the vision of personnel operating other aircraft or ground personnel during runway crossings.

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1.19 RUNWAY INCURSION AVOIDANCE (CONT'D)

4. At Night
 - a. Turn on edge lights to distinguish between taxiways (blue) and runways (white).
 - b. When in a holding position at night, consider lining up slightly to the left or right of centerline (approximately 3 feet) to better enable a landing aircraft to visually differentiate the holding aircraft from runway lights.

E. PLANNING FOR TAXI OPERATIONS

Thorough planning is essential for safe taxi operations.

1. Pre-Taxi Planning

Anticipate aircraft movement by planning the taxi operation based on information on the automatic terminal information service (ATIS), on previous experience at that airport, and on review of the airport diagram.
2. Control Tower Taxi Instructions

Once taxi instructions are received from the Control Tower, review the pre-taxi plans and update as necessary.
3. Expected Instructions vs. Actual Instructions

Exercise caution regarding receiving Control Tower instructions: follow clearances / instructions which are actually issued, rather than clearances / instructions you expect to receive.
4. Familiarity with Airport
 - a. Take time to study the airport diagram.
 - b. Check the expected taxi route against the airport diagram.
 - c. Pay special attention to any non-standard or complex instructions along the taxi route.
 - d. Identify critical times and locations on the taxi route, such as transitioning through complex intersections, crossing intervening runways.
 - e. Ensure that Control Tower instructions are being followed.

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1.19 RUNWAY INCURSION AVOIDANCE (CONT'D)

F. TAXI OPERATIONS

1. Observe "sterile cockpit" (the cockpit environment must be free of distractions and must be conducive to focusing only on safe taxi operations).
2. Have the airport diagram out, available, and in use.
3. To confirm proper runway or taxiway selection, verify that the compass heading approximately matches the runway heading and taxiway orientation.
4. Refer to the aircraft's compass or heading display as frequently as necessary, but especially at complex intersections and where the departure ends of two runways are close to one another.
5. If the cockpit of the aircraft being operated has the capability of displaying traffic behind the aircraft, consider utilizing this feature to increase your awareness of the traffic situation.
6. Turn on fixed navigation lights (red, green, and white) whenever the aircraft is in motion.
7. Monitor the appropriate Control Tower frequency when anticipating a clearance to cross or taxi onto an active runway.
8. Do not perform operations based on expected clearances / instructions from the Control Tower: perform operations based only on clearances / instructions which are actually issued from the Control Tower.
9. After taxi clearance has been received, determine the runway assigned, any restrictions, and the taxi route. If in doubt, obtain clarification from the Control Tower.
10. When approaching an entrance to an active runway, verify compliance with hold short or crossing clearance. Discontinue other tasks.
11. Prior to crossing or taxiing onto any runway, visually scan the runway and approach area.
12. Read back all clearances / instructions to enter a specific runway, hold short of a runway, and taxi into position and hold, including the runway designator.

NOTE: *Do not merely acknowledge the foregoing instructions / clearances: read back the entire instruction / clearance, including the runway designator.*

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1.19 RUNWAY INCURSION AVOIDANCE (CONT'D)

13. Be especially vigilant when instructed to taxi into position and hold, particularly at night or during periods of reduced visibility. Scan the full length of the runway and scan for aircraft on final approach when taxiing onto a runway either at the end of the runway or at an intersection. Contact the Control Tower any time you have a concern about a potential conflict.
14. If unsure of position and on a runway, immediately clear the runway and notify the Control Tower; consider requesting "progressive taxi" (precise taxi instructions issued in stages as the aircraft proceeds along the taxi route).

CAUTION: DO NOT STOP ON A RUNWAY. IF POSSIBLE, TAXI OFF THE RUNWAY AND THEN INITIATE COMMUNICATIONS WITH THE CONTROL TOWER TO REGAIN ORIENTATION.

15. Do not accept last-minute turnoff instructions from the Control Tower unless you clearly understand the instructions and are certain that you can comply.

G. LOW-VISIBILITY TAXI OPERATIONS

Although visibility is technically designated as "low" when the runway visual range (RVR) falls below 1200 feet, visibility along the taxi route may be considerably less than the runway visibility.

During low-visibility taxi operations, additional vigilance is absolutely essential.

1. Utilize all available resources, including heading indicators, airport signs, markings, lighting, and airport diagrams to the fullest extent possible in order to keep the aircraft on its assigned taxi route.
2. Perform "heads-down" tasks only when aircraft is stopped.
3. Pay particularly close attention to Control Tower instructions and ensure correct read-back and hear-back.
4. Pay close attention to read-back and hear-back between the Control Tower and other aircraft.
5. Promptly resolve any ambiguity or uncertainty by clarification with the Control Tower.
6. When clear of an active runway, be prepared to stop in position to resolve any questions about position on the airport or Control Tower clearance.
7. Any time you become uncertain as to your aircraft's location on the airport movement area, stop the aircraft and immediately advise the Control Tower. If necessary, request progressive taxi instructions. Give the Control Tower any information available regarding your position, such as signs, markings, and landmarks.

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1.19 RUNWAY INCURSION AVOIDANCE (CONT'D)

CAUTION: DO NOT STOP ON A RUNWAY. IF POSSIBLE, TAXI OFF THE RUNWAY AND THEN INITIATE COMMUNICATIONS WITH THE CONTROL TOWER TO REGAIN ORIENTATION.

8. Be especially vigilant when instructed to taxi into position and hold, particularly at night or during periods of reduced visibility. Scan the full length of the runway and scan for aircraft on final approach or landing roll-out when taxiing onto a runway either at the end of the runway or at an intersection. Contact the Control Tower any time there is a concern about a potential conflict.

CAUTION: DO NOT STOP ON A RUNWAY. IF POSSIBLE, TAXI OFF THE RUNWAY AND THEN INITIATE COMMUNICATIONS WITH THE CONTROL TOWER TO REGAIN ORIENTATION.

9. When cleared to cross a runway, or when exiting a runway, do so in a timely manner. Notify the Control Tower of any anticipated delay. Notify Control Tower when clear of the runway.

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1.21 TAXIING AIRCRAFT

A. POLICY

1. Aircraft should normally be towed. Aircraft should only be taxied with the specific prior approval of a Supervisor. Geographic or local conditions should determine which method (taxi or tow) is to be used.

NOTE: *All fuselage doors should be closed, and the aircraft CG should be within normal operating limits.*

B. REQUIREMENTS

1. Only qualified flight crewmembers or Maintenance personnel qualified and authorized by OAI are permitted to taxi aircraft maintained by OAI. When an aircraft is to be taxied, it is the Maintenance Supervisor's responsibility to ensure that both Mechanics in the cockpit are properly qualified and authorized.
2. There must be a minimum of two Mechanics in the cockpit while taxiing aircraft maintained by OAI. One Mechanic must be qualified and authorized to taxi and run-up the particular aircraft and will occupy the Captain's (left-hand) seat and be in charge of the aircraft. The second Mechanic will assist during engine starts and shut-downs and will occupy the First Officer's (right-hand) seat during all taxi operation.
3. During taxiing, the Mechanic in the right-hand seat will, as part of his/her duties, pay special attention to monitoring hydraulic system quantities and pressures.
4. Taxiing of aircraft by Maintenance personnel is restricted to movement of the aircraft between gate, run-up areas, and parking areas, or at any time Pilot or maintenance items require movement of the aircraft. The Mechanic in charge of the aircraft and the Mechanic who is assisting are responsible for adhering to the following requirements prior to and during all taxi operation.

CAUTION: AIRCRAFT SHOULD NOT BE TAXIED WHILE STARTING AN ENGINE.

- a. The OAI B757 Maintenance Taxi Checklist (MM-115R1) must be used at all times (starting, taxi, run-up, shut-down) and will be conducted as a two-person operation on the basis of Challenge-and-Response.
- b. Cockpit seat belts will be securely fastened at all times.
- c. Unless there are other approved procedures, no movement of aircraft on the ramp is permitted until two-way communication is established with Airport Ground Control.

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1.21 TAXIING AIRCRAFT (CONT'D)

5. When strong winds or gusts are present, flight control surfaces will be secured as follows:

CAUTION: AIRCRAFT RUDDER PEDALS, CONTROL COLUMNS, OR FLIGHT CONTROL SURFACES SHOULD NOT BE BLOCKED IN ANY WAY AS SEVERE DAMAGE MAY RESULT.

- a. Maintain horizontal stabilizer setting at 0°.
 - b. Maintain wing flaps in the UP position.
6. Engine requirements for aircraft taxiing are as follows:
- a. On three-engine aircraft, two-engine taxi is required for fuel conservation, provided system testing, safety, or noise level factors do not require operation of the third engine. (In view of turning difficulties with a wing engine inoperative on the B757, taxiing with wing engine inoperative is not recommended.)
 - b. Engine power applications should be in accordance with the following (see maintenance manual for engine ground operation precautions):
 - 1) Taxiing aircraft should never require more than 80% thrust, and this should be required only to start moving a loaded aircraft with its nose wheel turned from center. The minimum power required to initiate a taxi roll should always be used.
 - 2) Caution should be exercised when applying engine power, so that the minimum thrust required is not exceeded. Air blast, heat, and noise levels increase very rapidly when engine thrust is above 75%. The air blast from jet engines has been known to blow workstands across the ramp into adjacent buildings, rotate propellers of parked aircraft, and blow loose chunks of pavement into adjacent aircraft and equipment. The Mechanic in charge of the run-up / taxi operation is responsible for preventing such occurrences.

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1.21 TAXIING AIRCRAFT (CONT'D)

7. As the aircraft starts to roll during taxiing, check the brake and nose wheel steering systems for normal operation. Steer the aircraft by use of the nose wheel steering system and use the brakes only for stopping or slowing down. Sharp turns, sudden stops, and violent maneuvers are to be avoided, except in an emergency. Always taxi all aircraft in a forward direction, and at a rate of speed that will allow as much time as possible to react to an emergency.

NOTE: *Check thrust reversing on only one engine at a time and only during ground test.*

CAUTION: WHEN APU IS OPERATING DURING TAXI, ENSURE THAT ANTI-SKID SYSTEM IS OFF PRIOR TO CLOSING THE APU GENERATOR BREAKER. A POWER INTERRUPTION ON THE SYNCHRONOUS BUS (SUCH AS WHEN POWER IS TRANSFERRED FROM AIRCRAFT TO APU) MAY CAUSE THE ANTI-SKID SYSTEM TO SENSE A SKID WITH A RESULTANT LOSS OF BRAKES FOR A FEW SECONDS.

DO NOT DRAG BRAKES. ALWAYS APPLY PEDAL PRESSURE GRADUALLY TO PREVENT SUDDEN STOPS.

TAXI STRAIGHT AHEAD FOR SEVERAL FEET PRIOR TO PARKING THE AIRCRAFT, WHEN PRACTICAL, TO PREVENT STRUT PISTON BINDING AND LEAKAGE.

TO PRECLUDE IMPOSING EXTREMELY HIGH STRESSES IN THE MAIN LANDING GEAR OUTER CYLINDERS IN THE AREA OF THE TORSION LINKS AND LUGS, OBSERVE THE FOLLOWING:

1. **MAXIMUM STEERING ANGLE TURNS SHOULD BE HELD TO A MINIMUM (SEE APPLICABLE AIRCRAFT MAINTENANCE MANUAL, CHAP. 9).**
2. **DIFFERENTIAL BRAKING SHOULD NOT BE USED TO MAKE TURNS SHARPER THAN MAXIMUM STEERING ANGLE TURNS.**

AVOID SHARP TURNS AT SPEEDS ABOVE 10 KNOTS, AND TURN NOSE WHEEL SLOWLY, TO PREVENT IT FROM SKIDDING.

USE EXTREME CARE WHEN SNOW OR ICE IS PRESENT.

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1.21 TAXIING AIRCRAFT (CONT'D)

8. Aircraft should not be taxied when wing or tail tip clearances are at a minimum, unless Ground-to-Cockpit Signalpersons are stationed as necessary to assist in guiding the aircraft, and to ensure that no aircraft damage occurs because of the congested area (refer to GMM Chapter 7 for Ground-to-Cockpit Hand Signals).

NOTE: *On aircraft having swept wings, the wing tips should be watched very carefully for clearance, especially while making turns. One Signalperson must be stationed at the aircraft nose in full view from the aircraft cockpit. The nose Signalperson must maintain visual contact with all other Signalpersons. Signalpersons at the wing tips must remain in view of the recipient of their hand signals. They will indicate the amount of relative clearance by extending their arms over their head and moving their hands closer together or farther apart as the distance varies. The Signalperson stationed at the tail will signal clearances in the same manner. It may be necessary for the Signalperson at the tail to signal to either of the Signalpersons stationed at the wing tips, who in turn will relay the instructions.*

9. At stations where taxi areas are under Control Tower supervision, clearance should be obtained from the Control Tower before entering, maneuvering in, or leaving taxi areas.

CAUTION: KEEP VISUALLY AND MENTALLY ALERT TO ALL FIELD TRAFFIC AND OBSTRUCTIONS.

10. Aircraft which become immobile in soft ground or snow banks while taxiing should be towed back to a suitable hard surface, whenever possible.

1.23 COMMUNICATION PROCEDURE DURING TAXIING

TRANSMITTING TECHNIQUE:

Listen carefully on the proper channel to determine that no other communications are in progress before starting your transmission.

Always speak in a firm, clear voice, enunciating all syllables. DO NOT SPEAK TOO FAST. Give the other person a break.

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1.23 COMMUNICATION PROCEDURE DURING TAXIING (CONT'D)

Know exactly what you are going to say before starting transmission. Keep the communication as short as possible.

Allow a reasonable lapse of time before repeating your call as the Controller may be busy working another aircraft, and therefore cannot always immediately answer your call.

In compliance with FAA FSAW 04-01 specifications, Maintenance personnel taxiing or towing an aircraft must communicate the following station identification to the Control Tower: company name, the word 'maintenance', and the last three digits of the aircraft "N" number.

Example contact with Control Tower:

AIRCRAFT: "DAYTON GROUND CONTROL, OMNI MAINTENANCE, 201, CLEARANCE FROM HUB TO 6 LEFT FOR HIGH POWER RUN-UP."

CONTROL TOWER: "OMNI MAINTENANCE, 201, CLEARED TO TAXI TO 6 LEFT VIA TAXIWAYS TANGO AND ROMEO, HOLD SHORT OF RUNWAY 6 LEFT."

AIRCRAFT: "OMNI MAINTENANCE, 201, CLEARED TO TAXI TO 6 LEFT VIA TAXI-WAYS TANGO AND ROMEO, HOLD SHORT OF RUNWAY 6 LEFT."

In radio communications with the Control Tower, the 'phonetic' code will be used for all numbers and also for spelling out words that are normally difficult to understand over the air. Personnel handling radio telephone communications will be thoroughly familiar with this code and use it freely to complete transmission with a minimum of repeats.

1.25 LIGHT SIGNALS

Light signals as used by the Control Tower and directed to an airplane are shown below:

Steady RED **STOP**
Flashing RED **Clear Runway Immediately**
Flashing GREEN **Cleared to Taxi**
Alternating RED & GREEN **General Warning**
Flashing WHITE **Return to Ramp**

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1.27 RADIO FAILURE DURING TAXI

In the event of complete radio failure, taxiing may be accomplished by the following procedure:

- A. If at the terminal, advise Control Tower by phone of the prevailing condition and give the company name, the word 'maintenance', the last three digits of the aircraft "N" number, the present location (gate number), estimated departure time, and taxi route desired. The Control Tower will then clear the aircraft (or tow tractor) by means of signal lights.
- B. If at an isolated area for run-up purposes, after observing that your desired taxi lane is clear of all traffic, proceed slowly with caution. Watch for, and obey, any light signal from the Control Tower. Do not cross a runway without first receiving a Flashing Green light from the Control Tower.
- C. FAA Control Towers have the ability to relay communication through local FSS Radio VOR transmitters. With complete VHF comm receiver failure, select NAV receiver to local VOR frequency (refer to the Local Ground Radio Frequency Table on the following page) and monitor voice for possible taxi instructions.

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1.29 LOCAL GROUND RADIO FREQUENCY TABLE

This chart is to provide Mechanics with frequencies of transmitting ground equipment at applicable stations so that use of these aids may be made in testing aircraft radio equipment.

STA.	GRD CONTROL FREQ.	VOR
ABE	121.9	111.9
ABI	121.9	110.3
ABQ	121.9	113.2
ABY	121.9	116.1
ACY	121.9	108.6
ALB	121.7	109.5
ANC	121.9	111.3
ARI	121.7	109.9
ATL	121.75/121.9	108.9
ATW	121.7	109.1
AUS	121.9	109.5
AZO	121.9	109.0
BDL	121.6	114.9
BFI	121.9	110.9
BFL	121.7	109.9
BGR	121.9	109.5
BHM	121.7	110.3
BIL	121.9	110.3
BNA	121.9/132.95	114.1
BNI	121.9	109.7
BOI	121.7	108.5
BOS	121.9	110.3
BRO	121.9	116.3
BTV	121.9	117.5
BUF	121.9	108.5
BWI	121.9	115.1

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1.29 LOCAL GROUND RADIO FREQUENCY TABLE (CONT'D)

STA.	GRD CONTROL FREQ	VOR
CAE	121.9	114.7
CHA	121.9	109.5
CHS	121.9	108.9
CIC	121.0	109.8
CID	121.6	111.3
CLE	121.7	111.9
CLT	121.9	111.7
CMH	121.9	116.7
CRW	121.6	110.3
CVG	121.3/121.7	117.3
CXY	121.9	109.
DAL	121.75	1117.0
DAY	121.9	108.9
DEC	121.75	117.2
DIA	121.9	109.3
DFW	121.9	111.7
DLH	118.3	108.7
DSM	121.9	117.5
DTW	121.8	110.7
EFD	121.6	109.4
ELM	121.1	109.1
ELP	121.9	111.5
ERI	121.9	110.3
ESF	121.7	111.5
EUG	121.7	112.9
EWN	125.0	113.6
EWR	121.8	108.7

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1.29 LOCAL GROUND RADIO FREQUENCY TABLE (CONT'D)

STA.	GRD CONTROL FREQ.	VOR
FAT	121.7	110.3
FAY	118.3	110.5
FLL	121.4/121.7	108.5
FLO	121.9	115.2
FMY	121.9	110.4
FNT	121.9	116.9
FPR	122.2	NONE
FSD	121.9	111.1
FWA	121.9	109.9
GEG	121.9	111.1
GRR	121.9	108.3
GSO	121.9	109.3
GSP	121.9	115.7
GTF	121.7	111.3
HOU	121.9	111.3
HRL	121.7	111.5
HSV	121.9	112.8/112.2
HYA	121.9	114.7
IAD	121.9	110.1
IAH	121.7	116.6
ICT	121.9	109.1
ILM	121.9	110.3
IND	121.9	116.3
IPT	121.9	109.1
ISP	121.7	108.3
IND	121.9	109.3

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1.29 LOCAL GROUND RADIO FREQUENCY TABLE (CONT'D)

STA.	GRD CONTROL FREQ.	VOR
JAN	121.7	112.6
JAX	121.9	110.7
JFK	121.9	109.5
JHW	122.7	114.7
LAN	121.9	110.8
LAS	121.9	116.9
LAX	121.65N/121.75S	108.5
LBB	121.9	111.9
LEB	119.4	109.3
LFT	121.8	110.8
LIT	121.9	113.9
LRD	121.8	117.4
LSE	121.8	108.4

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1.29 LOCAL GROUND RADIO FREQUENCY TABLE (CONT'D)

STA.	GRD CONTROL FREQ.	VOR
MCI	121.8	112.6
MCO	121.8	110.7
MDB	121.9	111.5
MDT	121.7	112.5
MEM	121.9/121.65	108.9
MHT	121.9	114.4
MIA	121.8/127.5	115.9
MIO	118.4 (CONTROL TOWER)	116.1
MKE	119.1	117.7
MLI	121.9	114.4
MMY	121.9	114.7
MOB	121.9	115.3/112.8
MRC	121.8	109.1
MSN	121.9	110.1
MSP	121.9	110.3
MSY	121.9	109.9
MWA	126.9	110.4
OAK	121.75/121.9	108.7
OKC	121.9	114.1
OMA	121.9	110.3
ONT	121.9	109.7
ORD	121.9	110.9
ORF	121.9	109.1

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1.29 LOCAL GROUND RADIO FREQUENCY TABLE (CONT'D)

STA.	GRD CONTROL FREQ.	VOR
PBI	121.9	115.7
PDX	121.9	109.9
PHL	121.9	109.3
PHX	121.9	108.3
PIA	121.9	109.9
PIE	121.9	116.4
PIH	121.9	110.3
PIT	121.9	111.7
PLB	121.7	116.9
PSC	121.8	108.4
PWM	121.9	109.9
RDD	121.7	108.7
RDU	121.7/121.9	117.2
RIC	121.9	110.7
RNO	121.9	109.3
ROA	121.9	114.9
ROC	121.7	110.0
RSW	121.7	111.8
RWI	123.0	110.3

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1.29 LOCAL GROUND RADIO FREQUENCY TABLE (CONT'D)

STA.	GRD CONTROL FREQ.	VOR
SAN	123.9	110.9
SAT	121.9	110.9
SAV	121.9	111.9
SBA	121.7	116.5
SBM	121.7	109.3
SDF	121.7	110.3
SEA	121.7	116.8
SFO	121.8	111.7
SGF	121.9	116.9
SHV	121.9	110.3
SJC	121.7	114.1
SJT	122.95	109.7
SJU	121.9	114.0
SLC	121.9	109.5
SMF	121.7	108.3
SMX	121.9	108.9
STL	121.9	111.3
SUS	121.7	110.8
SWF	121.9	117.6
SYR	121.7	109.9

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1.29 LOCAL GROUND RADIO FREQUENCY TABLE (CONT'D)

STA.	GRD CONTROL FREQ	VOR
TLH	121.7	110.3
TOL	121.9	113.1
TPA	121.7	108.9
TUL	121.9	110.3
TUS	124.4	108.5
TVC	121.8	114.6
TWF	121.7	115.8
TYS	121.9	110.7
YEG	121.7	109.9
YIP	121.9	114.3
YOW	121.9	110.3
YUL	121.9	109.3
YVR	121.7	109.5
YWG	121.9	109.9
YXU	121.9	109.5
YYC	121.9	110.9
YYZ	121.9	110.4
YMX	121.8	111.3
ZZV	123.6	111.4

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