

■ Appendix Three

*FAA ATC Waiver for Runway
Centerline Separation*

MASTER PLAN UPDATE



**King County
International Airport/
Boeing Field**

Mead
& Hunt

**Modification of Standards
Alternative Analysis**

February 2006



**King County
International Airport/
Boeing Field**

SEATTLE, WASHINGTON



Barnard Dunkelberg & Company

Cherry Street Building

1616 East 15th Street

Tulsa, Oklahoma 74120

Phone Number. 918 585 8844

FAX Number. 918 585 8857

Reid Middleton

Everett, Washington

AUG 21 '02 07:28 FR ANM 530

4252271534 TO 94252271650

P.02/03



U.S. Department
of Transportation
Federal Aviation
Administration

Memorandum

Forwarded to Pam 8/20/02

Subject: **INFORMATION:** Waiver to FAA
Order 7110.65, Paragraph 3-8-3, for
BFI ATCT; Your Memo Dated 7/1/02

Date:

AUG 20 2002

From: Program Director for Air Traffic
Planning and Procedures, ATP-1

Reply to
Attn. of:

To: Manager, Air Traffic Division, ANM-500

Your above-referenced request for a waiver to Federal Aviation Administration (FAA) Order 7110.65, Air Traffic Control, Paragraph 3-8-3, Simultaneous Same Direction Operation, is approved.

This waiver authorizes Boeing Field (BFI) Airport Traffic Control Tower (ATCT) personnel to conduct simultaneous same direction operations to Runways 13R/13L and 31R/31L between Categories I and II aircraft with reduced runway centerline distance minima of 375 feet instead of 500 feet.

Attached waiver 02-T-08 has been assigned and is effective August 19, 2002, and is valid for 2 years. A request for renewal of this waiver should be made at least 120 days prior to the expiration date of August 18, 2004.

If you have any questions, please have a member of your staff contact Angela Nelson, ATP-120.1, at (202) 493-4129.


Michael A. Cirillo

Attachment

AUG 21 '02 07:29 FR ANM 530

4252271534 TO 94252271650

P.03/03

Waiver: 02-T-08

Date: August 19, 2002

update 8/6/04

**FEDERAL AVIATION ADMINISTRATION
AIR TRAFFIC DIRECTIVES
WAIVER/AUTHORIZATION**

ISSUED TO:

Manager, Air Traffic Division, ANM-500, for Boeing Field (BFI) Airport Traffic Control Tower (ATCT).

AFFECTED DIRECTIVES:

Federal Aviation Administration (FAA) Order 7110.65, Air Traffic Control, Paragraph 3-8-3, Simultaneous Same Direction Operations.

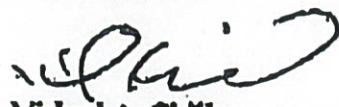
OPERATIONS AUTHORIZED:

This waiver authorizes BFI ATCT personnel to conduct simultaneous same direction operations to Runways 13R/13L and 31R/31L between Categories I and II aircraft with reduced runway centerline distance minima of 375 feet instead of 500 feet.

SPECIAL PROVISIONS, CONDITIONS, AND LIMITATIONS:

- a. This operation shall only be conducted between sunrise and sunset.
- b. The special procedures shall be appropriately advertised in a Letter to Airman and in the Notice to Airman publication.
- c. This waiver is issued on the basis that the published special procedures for the period of the waiver provide an equivalent level of safety.

This waiver is effective August 19, 2002, and is valid for 2 years. Any request for renewal of this waiver should be made at least 120 days prior to the expiration date of August 18, 2004.


Michael A. Cirillo
Program Director for Air Traffic
Planning and Procedures

JUL 11 '02 14:17 FR ANM 530

4252271534 TO 94252271650

P.01/05

U.S. Department
of TransportationDave Kohn
(530) ManagerFEDERAL AVIATION ADMINISTRATION
NORTHWEST MOUNTAIN REGION
AIR TRAFFIC DIVISIONANM-530 FAX SHEET
OPERATIONS BRANCH1601 LIND AVE SW
RENTON, WA 98055-4036OFFICE: (425) 227-2530
FAX: (425) 227-1534FACILITY: SEA ADO ATTN: CAYLAFROM: GREG MOORE ANM- 530.5 EXT: 2539DATE: 7/11/02RE: BFIPAGES: 4 (EXCLUDING COVER)

CC: _____

COMMENTS: CAYLA, SORRY FOR NOT RESPONDING
EARLIER - WAS OUT FOR HAND STRIKE TEAR. APPROPRIATE
PARS, ARE 3-8-3, 3-9-6 + 3-9-7. THE LOANER
REQUEST IS FOR 3-8-3/
3-8-8 C TBL 3-8-1 SPECIFICALLY
THE 500. I HAVE REQUESTED PAUL TO SEND
THE LOA REGARDING TPA MOVEMENT AREA LIMITATIONS.
THE BRIEFING SHEET MAY NOT BE READILY AVAILABLE
AS THEY ARE PREPARING IT FOR BRIEFING THE NEXT
MONTH.

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Section 8. Spacing and Sequencing

3-8-1. SEQUENCE/SPACING APPLICATION

Establish the sequence of arriving and departing aircraft by requiring them to adjust flight or ground operation, as necessary, to achieve proper spacing.

PHRASEOLOGY-

CLEARED FOR TAKEOFF

CLEARED FOR TAKEOFF OR HOLD SHORT/HOLD IN POSITION/TAXI OFF THE RUNWAY (traffic).

EXTEND DOWNWIND.

MAKE SHORT APPROACH.

NUMBER (landing sequence number).

FOLLOW (description and location of traffic).

or if traffic is utilizing another runway,

TRAFFIC (description and location) **LANDING RUNWAY** (number of runway being used).

CIRCLE THE AIRPORT.

MAKE LEFT/RIGHT THREE-SIXTY/TWO SEVENTY.

GO AROUND.

CLEARED TO LAND.

CLEARED:

TOUCH-AND-GO,

or

STOP-AND-GO,

or

LOW APPROACH.

CLEARED FOR THE OPTION,

or

OPTION APPROVED,

or

UNABLE OPTION, (alternate instructions).

or

UNABLE (type of option), **OTHER OPTIONS APPROVED.**

NOTE-

1. The "Cleared for the Option" procedure will permit an instructor pilot/flight examiner/pilot the option to make a touch-and-go, low approach, missed approach, stop-and-go, or full stop landing. This procedure will only be used at those locations with an operational control tower and will be subject to ATC approval.

2. For proper helicopter spacing, speed adjustments may be more practical than course changes.

3. Read back of hold short instructions apply when hold instructions are issued to a pilot in lieu of a takeoff clearance.

REFERENCE-

FAAO 7110.65, *Taxi and Ground Movement Operations*, Para 3-7-2.

3-8-2. TOUCH-AND-GO OR STOP-AND-GO OR LOW APPROACH

Consider an aircraft cleared for touch-and-go, stop-and-go, or low approach as an arriving aircraft until it touches down (for touch-and-go), or makes a complete stop (for stop-and-go), or crosses the landing threshold (for low approach), and thereafter as a departing aircraft.

REFERENCE-

FAAO 7110.65, *Wake Turbulence Separation for Intersection*, Para 3-1-5.
FAAO 7110.65, *Wake Turbulence Separation for Intersection*, Para 3-5-7.

3-8-3. SIMULTANEOUS SAME DIRECTION OPERATION

Authorize simultaneous, same direction operations on parallel runways, on parallel landing strips, or on a runway and a parallel landing strip only when the following conditions are met:

a. Operations are conducted in VFR conditions unless visual separation is applied.

b. Two-way radio communication is maintained with the aircraft involved and pertinent traffic information is issued.

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c. The distance between the runways or landing strips is in accordance with the minima in TBL 3-8-1 (use the greater minimum if two categories are involved).

TBL 3-8-1

Same Direction Distance Minima

Aircraft category	Minimum distance (feet) between parallel	
	Runway centerlines	Edges of adjacent strips or runway and strip
Lightweight, single-engine, propeller driven	300	200
Twin-engine, propeller driven	500	400
All others	700	600

3-8-4. SIMULTANEOUS OPPOSITE DIRECTION OPERATION

Authorize simultaneous opposite direction operations on parallel runways, on parallel landing strips,

or on a runway and a parallel landing strip only when the following conditions are met:

- Operations are conducted in VFR conditions.
- Two-way radio communication is maintained with the aircraft involved and pertinent traffic information is issued.

PHRASEOLOGY-

TRAFFIC (description) ARRIVING/DEPARTING/LOW APPROACH, OPPOSITE DIRECTION ON PARALLEL RUNWAY/LANDING STRIP.

c. The distance between the runways or landing strips is in accordance with the minima in TBL 3-8-2.

TBL 3-8-2

Opposite Direction Distance Minima

Type of Operation	Minimum distance (feet) between parallel	
	Runway centerlines	Edges of adjacent strips or runway and strip
Between sunrise and sunset	1,400	1,400
Between sunset and sunrise	2,800	Not authorized

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1. HOLD SHORT OF RUNWAY, or
2. HOLD IN POSITION.

1. USAF/USN. When issuing additional instructions or information to an aircraft holding in takeoff position, include instructions to continue holding or taxi off the runway, unless it is cleared for takeoff.

PHRASEOLOGY-

CONTINUE HOLDING,

or

TAXI OFF THE RUNWAY.

REFERENCE-

FAAO 7110.65, Altitude Restricted Low Approach, Para 3-10-10.

3-9-5. ANTICIPATING SEPARATION

Takeoff clearance needs not be withheld until prescribed separation exists if there is a reasonable assurance it will exist when the aircraft starts takeoff roll.

3-9-6. SAME RUNWAY SEPARATION

Separate a departing aircraft from a preceding departing or arriving aircraft using the same runway by ensuring that it does not begin takeoff roll until:

a. The other aircraft has departed and crossed the runway end or turned to avert any conflict. If you can determine distances by reference to suitable landmarks, the other aircraft needs only be airborne if the following minimum distance exists between aircraft: (See FIG 3-9-1 and FIG 3-9-2).

1. When only Category I aircraft are involved- 3,000 feet.
2. When a Category I aircraft is preceded by a Category II aircraft- 3,000 feet.
3. When either the succeeding or both are Category II aircraft- 4,500 feet.
4. When either is a Category III aircraft- 6,000 feet.

5. When the succeeding aircraft is a helicopter, visual separation may be applied in lieu of using distance minima.

FIG 3-9-1

Same Runway Separation
[View 1]

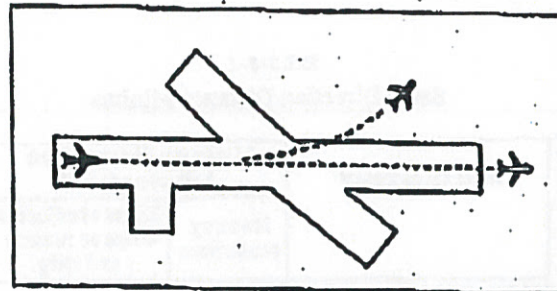
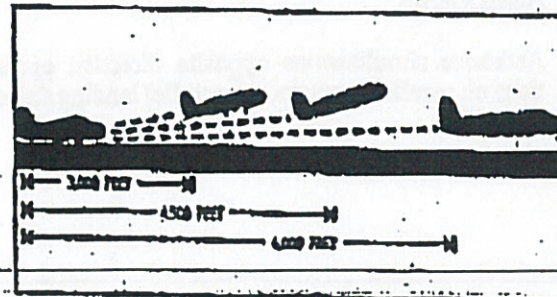


FIG 3-9-2

Same Runway Separation
[View 2]



NOTE-

Aircraft same runway separation (SRS) categories are specified in Appendices A, B, and C and based upon the following definitions:

CATEGORY I- small aircraft weighing 12,500 lbs. or less, with a single propeller driven engine, and all helicopters.

CATEGORY II- small aircraft weighing 12,500 lbs. or less, with propeller driven twin-engines.

CATEGORY III- all other aircraft.

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REFERENCE-

FAAO 7110.65, Wake Turbulence Separation for Intersection Departures, Para 3-9-7.

3-9-7. WAKE TURBULENCE SEPARATION FOR INTERSECTION DEPARTURES

a. Apply the following wake turbulence criteria for intersection departures:

1. Separate a small aircraft taking off from an intersection on the same runway (same or opposite direction takeoff) or a parallel runway separated by less than 2,500 feet with runway thresholds offset by 500 feet or more behind a preceding departing large aircraft by ensuring that the small aircraft does not start takeoff roll until at least 3 minutes after the large aircraft has taken off.

2. Separate any aircraft taking off from an intersection on the same runway (same or opposite direction takeoff), parallel runways separated by less than 2,500 feet, and parallel runways separated by less than 2,500 feet with runway thresholds offset by 500 feet or more, by ensuring that the aircraft does not start takeoff roll until at least 3 minutes after a heavy aircraft/B757 has taken off.

NOTE-

Parallel runways separated by less than 2,500 feet with runway thresholds offset by less than 500 feet shall apply para 3-9-6, Same Runway Separation, subpara f.

3. Separate a small aircraft weighing 12,500 lbs. or less taking off from an intersection on the same runway (same or opposite direction takeoff) behind a preceding small aircraft weighing more than 12,500 lbs. by ensuring the following small aircraft does not start takeoff roll until at least 3 minutes after the preceding aircraft has taken off.

4. Inform an aircraft when it is necessary to hold in order to provide the required 3-minute interval.

PHRASEOLOGY-

HOLD FOR WAKE TURBULENCE.

NOTE-

Aircraft conducting touch-and-go and stop-and-go operations are considered to be departing from an intersection.

REFERENCE-

FAAO 7110.65, Touch-and-Go or Stop-and-Go or Low Approach, Para 3-8-2.

b. The 3-minute interval is not required when:

1. A pilot has initiated a request to deviate from that interval unless the preceding departing aircraft is a heavy aircraft/B757.

NOTE-

A request for takeoff does not initiate a waiver request; the request for takeoff must be accomplished by a request to deviate from the 3-minute interval.

2. **USA NOT APPLICABLE.** The intersection is 500 feet or less from the departure point of the preceding aircraft and both aircraft are taking off in the same direction.

3. Successive touch-and-go and stop-and-go operations are conducted with a small aircraft following another small aircraft weighing more than 12,500 lbs. or a large aircraft in the pattern, or a small aircraft weighing more than 12,500 lbs. or a large aircraft departing the same runway, provided the pilot of the small aircraft is maintaining visual separation/spacing behind the preceding large aircraft. Issue a wake turbulence cautionary advisory and the position of the large aircraft.

EXAMPLE-

"Caution wake turbulence, DC-9 on base leg."

4. Successive touch-and-go and stop-and-go operations are conducted with any aircraft following a heavy aircraft/B757 in the pattern, or heavy aircraft/B757 departing the same runway, provided the pilot of the aircraft is maintaining visual separation/spacing behind the preceding heavy aircraft/B757. Issue a wake turbulence cautionary advisory and the position of the heavy aircraft/B757.

EXAMPLE-

"Caution wake turbulence, Heavy Lockheed C5A departing runway two three."

5. If action is initiated to reduce the separation between successive touch-and-go or stop-and-go operations, apply 3 minutes separation.

e. When applying the provision of subpara b:

1. Issue a wake turbulence advisory before clearing the aircraft for takeoff.

2. Do not clear the intersection departure for an immediate takeoff.

3. Issue a clearance to permit the trailing aircraft to deviate from course enough to avoid the flight path of the preceding large departure when applying subpara b1 or b2.

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Section 9. Departure Procedures and Separation

3-9-1. DEPARTURE INFORMATION

Provide current departure information, as appropriate, to departing aircraft.

a. Departure information contained in the ATIS broadcast may be omitted if the pilot states the appropriate ATIS code.

b. Issue departure information by including the following:

1. Runway in use. (May be omitted if pilot states "have the numbers.")

2. Surface wind from direct readout dial, LLWAS, or automated weather observing system information display. (May be omitted if pilot states "have the numbers.")

3. Altimeter setting. (May be omitted if pilot states "have the numbers.")

REFERENCE-

FAAO 7110.65, Current Settings, Para 2-7-1.

c. Time, when requested.

d. Issue the official ceiling and visibility, when available, to a departing aircraft before takeoff as follows:

1. To a VFR aircraft when weather is below VFR conditions.

2. To an IFR aircraft when weather is below VFR conditions or highest takeoff minima, whichever is greater.

NOTE-

Standard takeoff minimums are published in 14 CFR Section 91.175(f). Takeoff minima other than standard are prescribed for specific airports/runways and published in a tabular form supplement to the FAA instrument approach procedures charts and appropriate FAA Forms 8260.

e. Taxi information, as necessary. You need not issue taxi route information unless the pilot specifically requests it.

L USAF NOT APPLICABLE. An advisory to "check density altitude" when appropriate.

REFERENCE-

FAAO 7210.3, Broadcast Density Altitude Advisory, Para 2-10-6.

g. Issue braking action for the runway in use as received from pilots or the airport management when Braking Action Advisories are in effect.

REFERENCE-

FAAO 7110.65, Altimeter Setting Issuance Below Lowest Usable FL, Para 2-7-2.

FAAO 7110.65, Low Level Wind Shear Advisories, Para 3-1-8.

FAAO 7110.65, Braking Action Advisories, Para 3-3-5.

PCG Term - Braking Action Advisories.

3-9-2. DEPARTURE DELAY INFORMATION

USA/USAF/USN NOT APPLICABLE

When gate-hold procedures are in effect, issue the following departure delay information as appropriate:

REFERENCE-

FAAO 7210.3, Gate Hold Procedures, Para 10-4-3.

a. Advise departing aircraft the time at which the pilot can expect to receive engine startup advisory.

PHRASEOLOGY-

GATE HOLD PROCEDURES ARE IN EFFECT. ALL AIRCRAFT CONTACT (position) ON (frequency) FOR ENGINE START TIME. EXPECT ENGINE START/TAXI (time).

b. Advise departing aircraft when to start engines and/or to advise when ready to taxi.

PHRASEOLOGY-

START ENGINES, ADVISE WHEN READY TO TAXI,

or

ADVISE WHEN READY TO TAXI.

c. If the pilot requests to hold in a delay absorbing area, the request shall be approved if space and traffic conditions permit.

d. Advise all aircraft on GC/ED frequency upon termination of gate hold procedures.

PHRASEOLOGY-

GATE HOLD PROCEDURES NO LONGER IN EFFECT.

3-9-3. DEPARTURE CONTROL INSTRUCTIONS

Inform departing IFR, SVFR, VFR aircraft receiving radar service, and TRSA VFR aircraft of the following:

a. Before takeoff.

1. Issue the appropriate departure control frequency and beacon code. The departure control

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frequency may be omitted if a DP has been or will be assigned and the departure control frequency is published on the DP.

PHRASEOLOGY-

DEPARTURE FREQUENCY WILL BE (frequency), SQUAWK (code).

2. Inform all departing IFR military turboprop/turbojet aircraft (except transport and cargo types) to change to departure control frequency. If the local controller has departure frequency override, transmit urgent instructions on this frequency. If the override capability does not exist, transmit urgent instructions on the emergency frequency.

PHRASEOLOGY-

CHANGE TO DEPARTURE.

3. **USAF.** USAF control towers are authorized to inform all departing IFR military transport/cargo type aircraft operating in formation flight to change to departure control frequency before takeoff.

b. After takeoff.

1. When the aircraft is about 1/2 mile beyond the runway end, instruct civil aircraft, and military transport, and cargo types to contact departure control, provided further communication with you is not required.

2. Do not request departing military turboprop/turbojet aircraft (except transport and cargo types) to make radio frequency or radar beacon changes before the aircraft reaches 2,500 feet above the surface.

REFERENCE-

FAAO 7110.65, Visual Separation, Para 7-2-1.

3-9-4. TAXI INTO POSITION AND HOLD (TIPH)

a. The intent of TIPH is to position aircraft for an imminent departure. Authorize an aircraft to taxi into position and hold, except as restricted in subpara f, when takeoff clearance cannot be issued because of traffic. Issue traffic information to any aircraft so authorized. Traffic information may be omitted when the traffic is another aircraft which has landed on or is taking off the same runway and is clearly visible to the holding aircraft. Do not use conditional phrases such as "behind landing traffic" or "after the departing aircraft."

b. **USN NOT APPLICABLE.** First state the runway number followed by the taxi into position clearance when more than one runway is active.

PHRASEOLOGY-

RUNWAY (number), TAXI INTO POSITION AND HOLD.

Or, when only one runway is active:

TAXI INTO POSITION AND HOLD.

c. When an aircraft is authorized to taxi into takeoff position to hold, inform it of the closest traffic that is cleared to land, touch-and-go, stop-and-go, or unrestricted low approach on the same runway.

EXAMPLE-

"United Five, runway one eight, taxi into position and hold. Traffic a Boeing Seven Thirty Seven, six mile final."

Or, when only one runway is active:

"United Five, taxi into position and hold. Traffic a Boeing Seven Thirty Seven, six mile final."

d. **USAF.** When an aircraft is authorized to taxi into takeoff position to hold, inform it of the closest traffic within 6 miles on final approach to the same runway. If the approaching aircraft is on a different frequency, inform it of the aircraft taxiing into position.

e. Do not authorize an aircraft to taxi into position and hold when the departure point is not visible from the tower, unless the aircraft's position can be verified by ASDE or the runway is used for departures only.

f. Do not authorize an aircraft to taxi into position and hold at an intersection between sunset and sunrise or at anytime when the intersection is not visible from the tower.

g. **USN.** Do not authorize aircraft to taxi into takeoff position to hold simultaneously on intersecting runways.

PHRASEOLOGY-

CONTINUE HOLDING,

or

TAXI OFF THE RUNWAY.

REFERENCE-

FAAO 7110.65, Altitude Restricted Low Approach, Para 3-10-10.

h. When a local controller delivers or amends an ATC clearance to an aircraft awaiting departure and that aircraft is holding short of a runway or is holding in position on a runway, an additional clearance shall be issued to prevent the possibility of the aircraft inadvertently taxiing onto the runway and/or beginning takeoff roll. In such cases, append one of the following ATC instructions as appropriate:

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1. HOLD SHORT OF RUNWAY, or
2. HOLD IN POSITION.

i. USAF/USN. When issuing additional instructions or information to an aircraft holding in takeoff position, include instructions to continue holding or taxi off the runway, unless it is cleared for takeoff.

PHRASEOLOGY-
CONTINUE HOLDING,

or

TAXI OFF THE RUNWAY.

REFERENCE-

FAAO 7110.65, *Altitude Restricted Low Approach, Para 3-10-10.*

3-9-5. ANTICIPATING SEPARATION

Takeoff clearance needs not be withheld until prescribed separation exists if there is a reasonable assurance it will exist when the aircraft starts takeoff roll.

3-9-6. SAME RUNWAY SEPARATION

Separate a departing aircraft from a preceding departing or arriving aircraft using the same runway by ensuring that it does not begin takeoff roll until:

a. The other aircraft has departed and crossed the runway end or turned to avert any conflict. If you can determine distances by reference to suitable landmarks, the other aircraft needs only be airborne if the following minimum distance exists between aircraft: (See FIG 3-9-1 and FIG 3-9-2.)

1. When only Category I aircraft are involved- 3,000 feet.
2. When a Category I aircraft is preceded by a Category II aircraft- 3,000 feet.
3. When either the succeeding or both are Category II aircraft- 4,500 feet.
4. When either is a Category III aircraft- 6,000 feet.
5. When the succeeding aircraft is a helicopter, visual separation may be applied in lieu of using distance minima.

FIG 3-9-1

Same Runway Separation
[View 1]

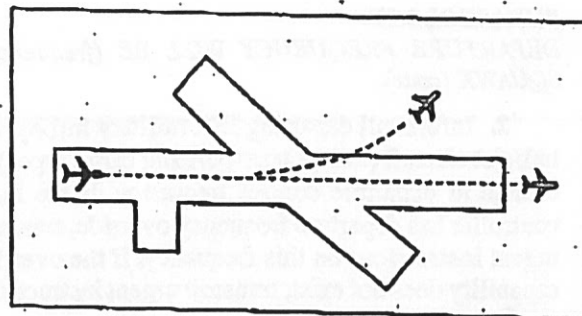
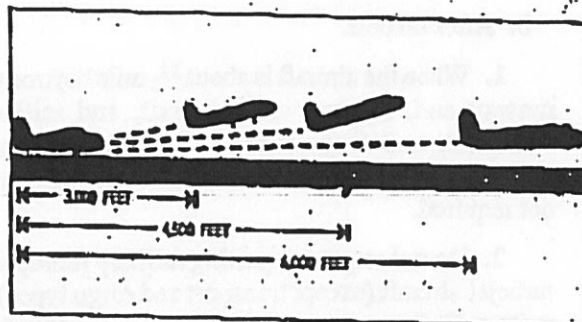


FIG 3-9-2

Same Runway Separation
[View 2]



NOTE-

Aircraft same runway separation (SRS) categories are specified in Appendices A, B, and C and based upon the following definitions:

CATEGORY I- small aircraft weighing 12,500 lbs. or less, with a single propeller driven engine, and all helicopters.

CATEGORY II- small aircraft weighing 12,500 lbs. or less, with propeller driven twin-engines.

CATEGORY III- all other aircraft.

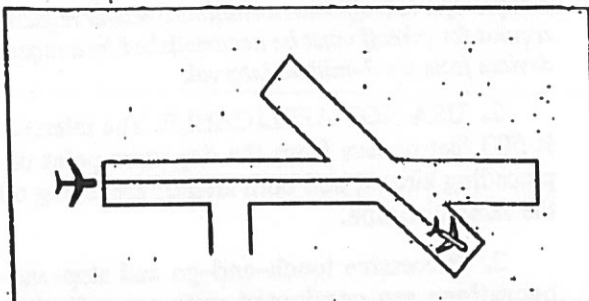
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b. A preceding landing aircraft is clear of the runway. (See FIG 3-9-3.)

FIG 3-9-3

Preceding Landing Aircraft Clear of Runway



REFERENCE-
PICG Term- Clear of the Runway.

WAKE TURBULENCE APPLICATION

e. Do not issue clearances which imply or indicate approval of rolling takeoffs by heavy jet aircraft except as provided in para 3-1-14, Ground Operations When Volcanic Ash is Present.

d. Do not issue clearances to a small aircraft to taxi into position and hold on the same runway behind a departing heavy jet aircraft to apply the necessary intervals.

REFERENCE-
AC 90-23, Aircraft Wake Turbulence.

e. The minima in para 5-5-4, Minima, may be applied in lieu of the 2 minute requirement in subpara f. When para 5-5-4, Minima, are applied, ensure that the appropriate radar separation exists at or prior to the time an aircraft becomes airborne when taking off behind a heavy jet/B757.

NOTE-

The pilot may request additional separation, i.e., 2 minutes vs. 4 miles, but should make this request before taxiing on the runway.

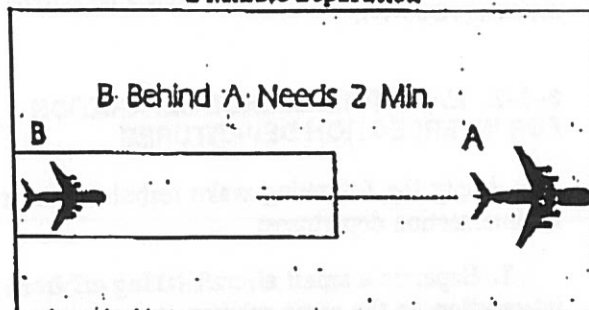
f. Separate IFR/VFR aircraft taking off behind a heavy jet/B757 departure by 2 minutes, when departing:

NOTE-

Takeoff clearance to the following aircraft should not be issued until 2 minutes after the heavy jet/B757 begins takeoff roll.

1. The same runway. (See FIG 3-9-4.)

FIG 3-9-4
2 Minute Separation



2. A parallel runway separated by less than 2,500 feet.

g. Separate an aircraft from a heavy jet/B757 when operating on a runway with a displaced landing threshold if projected flight paths will cross- 2 minutes when:

1. A departure follows a heavy jet/B757 arrival.
2. An arrival follows a heavy jet/B757 departure.

h. Air traffic controllers shall not approve pilot requests to deviate from the required wake turbulence time interval if the preceding aircraft is a heavy jet/B757.

i. Separate a small aircraft behind a large aircraft taking off or making a low/missed approach when utilizing opposite direction takeoffs on the same runway by 3 minutes unless a pilot has initiated a request to deviate from the 3-minute interval. In the latter case, issue a wake turbulence advisory before clearing the aircraft for takeoff.

NOTE-

1. A request for takeoff does not initiate a waiver request.
2. To initiate a waiver of the 3-minute rule, the request for takeoff must be accompanied by a request to deviate from the 3-minute rule.

REFERENCE-

FAAO 7110.65, Aircraft Information: Appendix A, Appendix B, and Appendix C.

j. Separate aircraft behind a heavy jet/B757 departing or making a low/missed approach when utilizing opposite direction takeoffs or landings on the same or parallel runways separated by less than 2,500 feet- 3 minutes.

k. Inform an aircraft when it is necessary to hold in order to provide the required 3-minute interval.

PHRASEOLOGY-

HOLD FOR WAKE TURBULENCE.

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REFERENCE-FAAO 7110.65, *Wake Turbulence Separation for Intersection Departures*, Para 3-9-7.**3-9-7. WAKE TURBULENCE SEPARATION FOR INTERSECTION DEPARTURES**

a. Apply the following wake turbulence criteria for intersection departures:

1. Separate a small aircraft taking off from an intersection on the same runway (same or opposite direction takeoff) or a parallel runway separated by less than 2,500 feet with runway thresholds offset by 500 feet or more behind a preceding departing large aircraft by ensuring that the small aircraft does not start takeoff roll until at least 3 minutes after the large aircraft has taken off.

2. Separate any aircraft taking off from an intersection on the same runway (same or opposite direction takeoff), parallel runways separated by less than 2,500 feet, and parallel runways separated by less than 2,500 feet with runway thresholds offset by 500 feet or more, by ensuring that the aircraft does not start takeoff roll until at least 3 minutes after a heavy aircraft/B757 has taken off.

NOTE-

Parallel runways separated by less than 2,500 feet with runway thresholds offset by less than 500 feet shall apply para 3-9-6, *Same Runway Separation*, subpara f.

3. Separate a small aircraft weighing 12,500 lbs. or less taking off from an intersection on the same runway (same or opposite direction takeoff) behind a preceding small aircraft weighing more than 12,500 lbs. by ensuring the following small aircraft does not start takeoff roll until at least 3 minutes after the preceding aircraft has taken off.

4. Inform an aircraft when it is necessary to hold in order to provide the required 3-minute interval.

PHRASEOLOGY-**HOLD FOR WAKE TURBULENCE.****NOTE-**

Aircraft conducting touch-and-go and stop-and-go operations are considered to be departing from an intersection.

REFERENCE-FAAO 7110.65, *Touch-and-Go or Stop-and-Go or Low Approach*, Para 3-8-2.

b. The 3-minute interval is not required when:

1. A pilot has initiated a request to deviate from that interval unless the preceding departing aircraft is a heavy aircraft/B757.

NOTE-

A request for takeoff does not initiate a waiver request; the request for takeoff must be accomplished by a request to deviate from the 3-minute interval.

2. **USA NOT APPLICABLE.** The intersection is 500 feet or less from the departure point of the preceding aircraft and both aircraft are taking off in the same direction.

3. Successive touch-and-go and stop-and-go operations are conducted with a small aircraft following another small aircraft weighing more than 12,500 lbs. or a large aircraft in the pattern, or a small aircraft weighing more than 12,500 lbs. or a large aircraft departing the same runway, provided the pilot of the small aircraft is maintaining visual separation/spacing behind the preceding large aircraft. Issue a wake turbulence cautionary advisory and the position of the large aircraft.

EXAMPLE-

"Caution wake turbulence, DC-9 on base leg."

4. Successive touch-and-go and stop-and-go operations are conducted with any aircraft following a heavy aircraft/B757 in the pattern, or heavy aircraft/B757 departing the same runway, provided the pilot of the aircraft is maintaining visual separation/spacing behind the preceding heavy aircraft/B757. Issue a wake turbulence cautionary advisory and the position of the heavy aircraft/B757.

EXAMPLE-

"Caution wake turbulence, heavy Lockheed C5A departing runway two three."

5. If action is initiated to reduce the separation between successive touch-and-go or stop-and-go operations, apply 3 minutes separation.

c. When applying the provision of subpara b:

1. Issue a wake turbulence advisory before clearing the aircraft for takeoff.

2. Do not clear the intersection departure for an immediate takeoff.

3. Issue a clearance to permit the trailing aircraft to deviate from course enough to avoid the flight path of the preceding large departure when applying subpara b1 or b2.

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4. Separation requirements in accordance with para 3-9-6, Same Runway Separation, must also apply.

REFERENCE-
FAAO 7110.65, Same Runway Separation, Para 3-9-6.

3-9-8. INTERSECTING RUNWAY SEPARATION

Separate departing aircraft from an aircraft using an intersecting runway, or nonintersecting runways when the flight paths intersect, by ensuring that the departure does not begin takeoff roll until one of the following exists:

- The preceding aircraft has departed and passed the intersection, has crossed the departure runway, or is turning to avert any conflict. (See FIG 3-9-5 and FIG 3-9-6.)

FIG 3-9-5
Intersecting Runway Separation

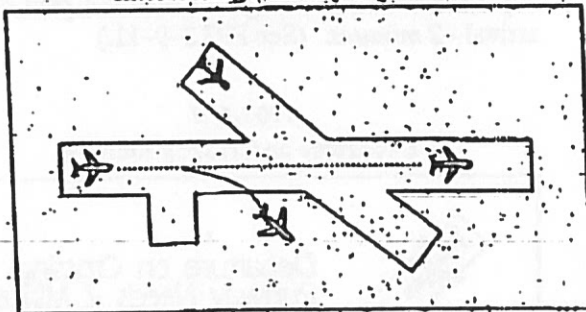
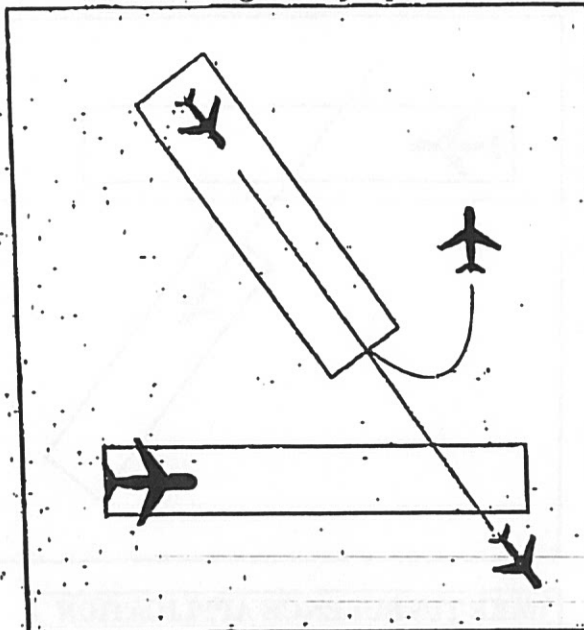


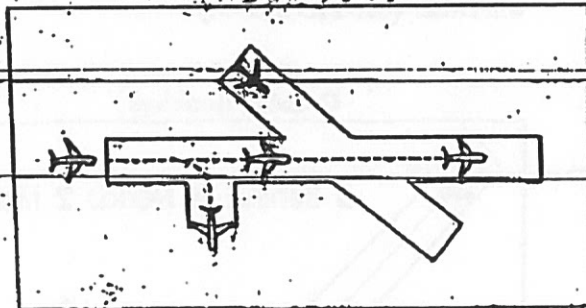
FIG 3-9-6
Intersecting Runway Separation



- A preceding arriving aircraft is clear of the landing runway, completed the landing roll and will hold short of the intersection, passed the intersection, or has crossed over the departure runway. (See FIG 3-9-7 and FIG 3-9-8.)

REFERENCE-
PICG Term- Clear of the Runway

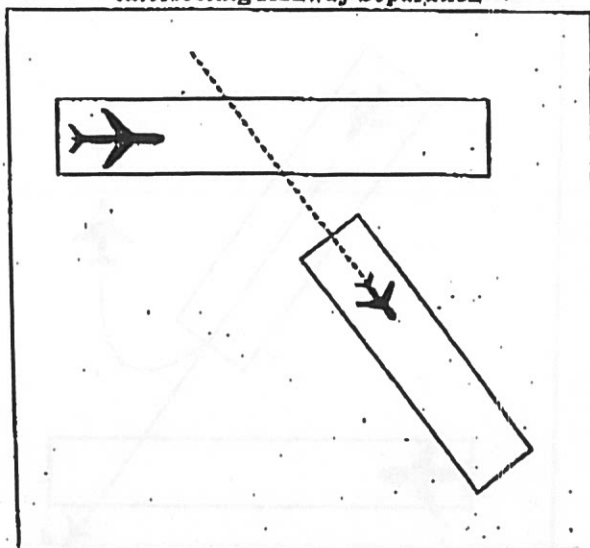
FIG 3-9-7
Intersecting Runway Separation



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FIG 3-9-8
Intersecting Runway Separation



WAKE TURBULENCE APPLICATION

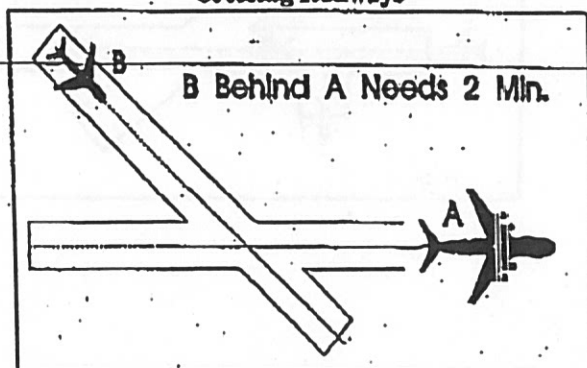
c. Separate IFR/VFR aircraft taking off behind a heavy jet/B757 departure by 2 minutes when departing:

NOTE-

Takeoff clearance to the following aircraft should not be issued until 2 minutes after the heavy jet/B757 begins takeoff roll.

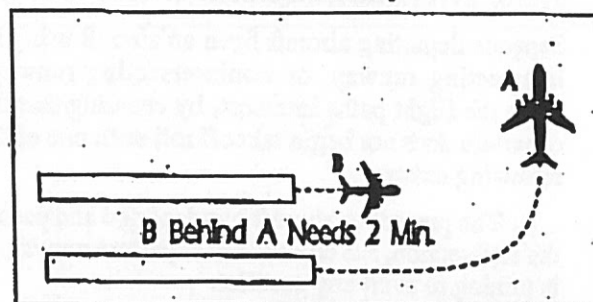
1. Crossing runways if projected flight paths will cross. (See FIG 3-9-9.)

FIG 3-9-9
Crossing Runways



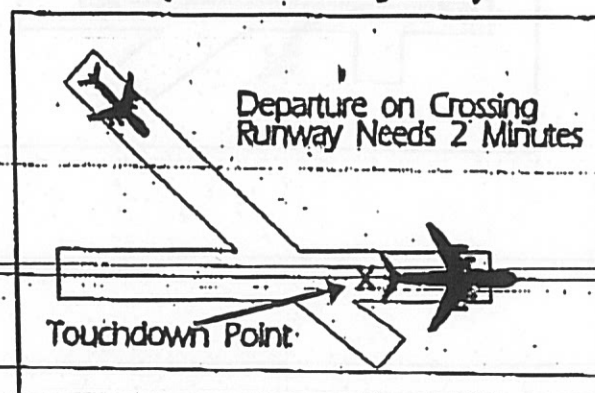
2. A parallel runway separated by 2,500 feet or more if projected flight paths will cross. (See FIG 3-9-10.)

FIG 3-9-10
Parallel Runway



d. Separate IFR/VFR aircraft departing behind a landing heavy jet/B757 on a crossing runway if the departure will fly through the airborne path of the arrival- 2 minutes. (See FIG 3-9-11.)

FIG 3-9-11
Departure on Crossing Runway



e. Air traffic controllers shall not approve pilot requests to deviate from the required wake turbulence time interval if the preceding aircraft is a heavy jet/B757.

REFERENCE-

FAAO 7110.65, Successive or Simultaneous Departures, Para 5-8-3.
FAAO 7110.65, Departures and Arrivals on Parallel or Nonintersecting Diverging Runways, Para 5-8-5.

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CHAPTER 7. LOCAL CONTROL

7-1. PROCEDURES AND RESPONSIBILITIES

a. Area of Jurisdiction

(1) LCW has jurisdiction of the following areas:

Local West

- (a) Runway 13R/31L.
- (b) Taxiways A2, A4, A7, and A8 between the runways.
- (c) The Boeing Class D Airspace, southwest of a line parallel to and midway between the runway centerlines, below 2,000 feet and below the Seattle Class B Airspace.

(2) LCB has jurisdiction of the following areas:

Local East

- (a) Runway 13L/31R.
- (b) Pad 1.
- (c) The Boeing Class D Airspace, northeast of a line parallel to and midway between the runway centerlines, below 2,000 feet and below the Seattle Class B Airspace.

b. Flight progress strips shall be posted as follows:

(1) LCW shall manage the IFR and SVFR departure strips from the time the aircraft has been taxied to the runway, until communications have been transferred to departure or the aircraft has exited BFI airspace, then FD may remove and file the strip.

(2) LCW shall manage the arrival flight progress strips from the time the aircraft has been observed on the DBRITE, or coordinated inbound, until the aircraft exits all runways. After the aircraft exits all runways, FD may remove and file the strip.

(3) IFR departure strips that have been amended to VFR flight following may be discarded after communications have been transferred.

(4) Strips for VFR departures from other than the designated departure point may be discarded after takeoff.

c. When LC's are decombed, coordination and approval is required as follows:

When ever heavy is

(1) LCW shall coordinate and obtain approval from LCB for the following operations:

in the mtr = LCW and

LCB must coordinate

(a) To cross Runway 13L/31R.

(b) Heavy jet or E1757 departures.

(c) All operations in LCB's area of jurisdiction, including:

- 1 Helicopter operations.
- 2 Pattern operations.
- 3 Visual approaches entering other than the normal approach gate.
- 4 Overflights.
- 5 Takeoff, landings, touch and goes, etc. on Runway 13L/31R.

(2) LCB shall coordinate and obtain approval from LCW for the following operations:

(a) To cross Runway 13R/31L.

(b) IFR departures on Runway 13L/31R.

(c) All operations in LCW's area of jurisdiction, including:

- 1 Helicopter operations.
- 2 Pattern operations.
- 3 Visual approaches entering other than the normal approach gate.

for wake turbulence

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Section 10. Arrival Procedures and Separation

3-10-1. LANDING INFORMATION

Provide current landing information, as appropriate, to arriving aircraft. Landing information contained in the ATIS broadcast may be omitted if the pilot states the appropriate ATIS code. Runway, wind, and altimeter may be omitted if a pilot uses the phrase "have numbers." Issue landing information by including the following:

NOTE-

Pilot use of "have numbers" does not indicate receipt of the ATIS broadcast.

- a. Specific traffic pattern information (may be omitted if the aircraft is to circle the airport to the left).

PHRASEOLOGY-

ENTER LEFT/RIGHT BASE.

STRAIGHT-IN.

MAKE STRAIGHT-IN.

STRAIGHT-IN APPROVED.

RIGHT TRAFFIC.

MAKE RIGHT TRAFFIC.

RIGHT TRAFFIC APPROVED. CONTINUE.

- b. Runway in use.

- c. Surface wind.

- d. Altimeter setting.

REFERENCE-

FAAO 7110.65, Current Settings, Para 2-7-1.

- e. Any supplementary information.

- f. Clearance to land.

g. Requests for additional position reports. Use prominent geographical fixes which can be easily recognized from the air, preferably those depicted on sectional charts. This does not preclude the use of the legs of the traffic pattern as reporting points.

NOTE-

At some locations, VFR checkpoints are depicted on sectional aeronautical and terminal area charts. In selecting geographical fixes, depicted VFR checkpoints are preferred unless the pilot exhibits a familiarity with the local area.

- h. Ceiling and visibility if either is below basic VFR minima.

- i. Low level wind shear advisories when available.

REFERENCE-

FAAO 7110.65, Low Level Wind Shear Advisories, Para 3-1-8.

- j. Issue braking action for the runway in use as received from pilots or the airport management when Braking Action Advisories are in effect.

REFERENCE-

FAAO 7110.65, Braking Action Advisories, Para 3-3-5.

3-10-2. FORWARDING APPROACH INFORMATION BY NONAPPROACH CONTROL FACILITIES

- a. Forward the following, as appropriate, to the control facility having IFR jurisdiction in your area. You may eliminate those items that, because of local conditions or situations, are fully covered in a letter of agreement or a facility directive.

- 1. When you clear an arriving aircraft for a visual approach.

REFERENCE-

FAAO 7110.65, Visual Approach, Para 7-4-1.

- 2. Aircraft arrival time.

- 3. Cancellation of IFR flight plan.

- 4. Information on a missed approach, unreported, or overdue aircraft.

- 5. Runway in use.

- 6. Weather as required.

REFERENCE-

FAAO 7110.65, Reporting Weather Conditions, Para 2-6-6.

- b. When the weather is below 1,000 feet or 3 miles or the highest circling minimums, whichever is greater, issue current weather to aircraft executing an instrument approach if it changes from that on the ATIS or that previously forwarded to the center/approach control.

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3-10-3. SAME RUNWAY SEPARATION

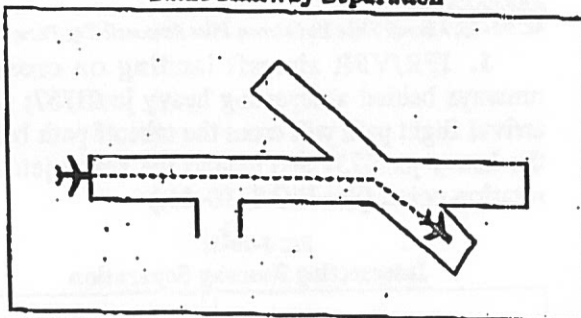
a. Separate an arriving aircraft from another aircraft using the same runway by ensuring that the arriving aircraft does not cross the landing threshold until one of the following conditions exists or unless authorized in para 3-10-10, Altitude Restricted Low Approach.

1. The other aircraft has landed and is clear of the runway. Between sunrise and sunset, if you can determine distances by reference to suitable landmarks and the other aircraft has landed, it need not be clear of the runway if the following minimum distance from the landing threshold exists: (See FIG 3-10-1.)

REFERENCE-

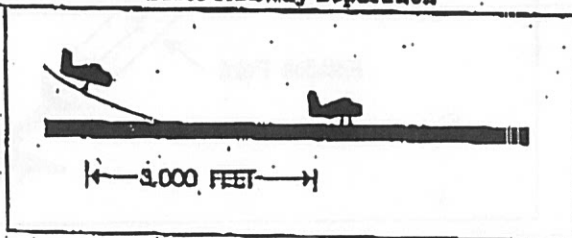
PICG Term - Clear of the Runway.

FIG 3-10-1
Same Runway Separation



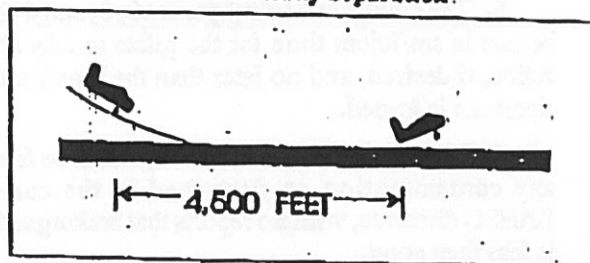
(a) When a Category I aircraft is landing behind a Category I or II- 3,000 feet.
(See FIG 3-10-2.)

FIG 3-10-2
Same Runway Separation



(b) When a Category II aircraft is landing behind a Category I or II- 4,500 feet.
(See FIG 3-10-3.)

FIG 3-10-3
Same Runway Separation.



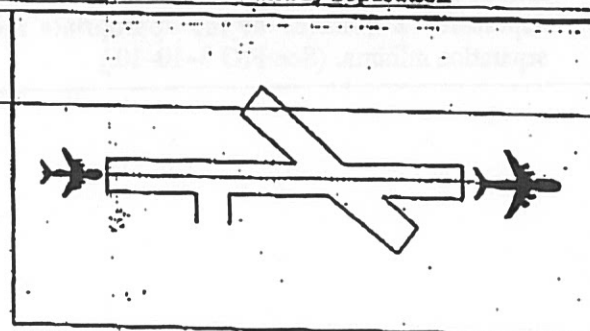
2. The other aircraft has departed and crossed the runway end: If you can determine distances by reference to suitable landmarks and the other aircraft is airborne, it need not have crossed the runway end if the following minimum distance from the landing threshold exists:

(a) Category I aircraft landing behind Category I or II- 3,000 feet.

(b) Category II aircraft landing behind Category I or II- 4,500 feet.

(c) When either is a category III aircraft- 6,000 feet. (See FIG 3-10-4 and FIG 3-10-5.)

FIG 3-10-4
Same Runway Separation



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4. Issue the measured distance from the landing threshold to the hold short point rounded "down" to the nearest 50-foot increment if requested by either aircraft.

EXAMPLE-

"Five thousand fifty feet available."

5. The conditions in subparas b2, 3, and 4 shall be met in sufficient time for the pilots to take other action, if desired, and no later than the time landing clearance is issued.

6. Land and Hold Short runways must be free of any contamination as described in the current LAHSO directive, with no reports that braking action is less than good.

7. There is no tailwind for the landing aircraft restricted to hold short of the intersection. The wind may be described as "calm" when appropriate.

REFERENCE-

FAAO 7110.65, *Calm Wind Conditions*, Para 2-6-5.

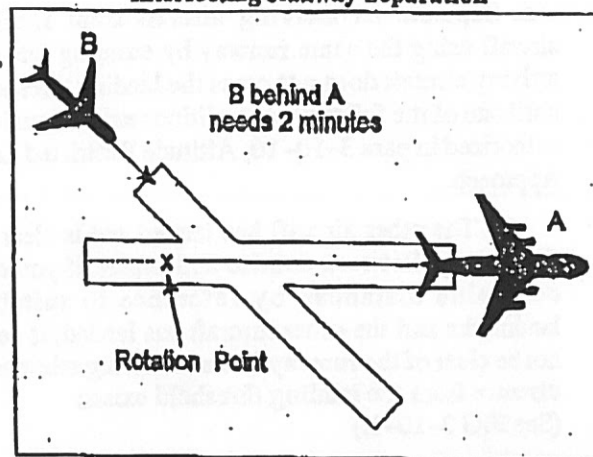
8. The aircraft required landing distances are listed in the current LAHSO directive.

9. STOL aircraft operations are in accordance with a letter of agreement with the aircraft operator/pilot or the pilot confirms that it is a STOL aircraft.

WAKE TURBULENCE APPLICATION

c. Separate IFR/VFR aircraft landing behind a departing heavy jet/B757 on a crossing runway if the arrival will fly through the airborne path of the departure- 2 minutes or the appropriate radar separation minima. (See FIG 3-10-10.)

FIG 3-10-10
Intersecting Runway Separation



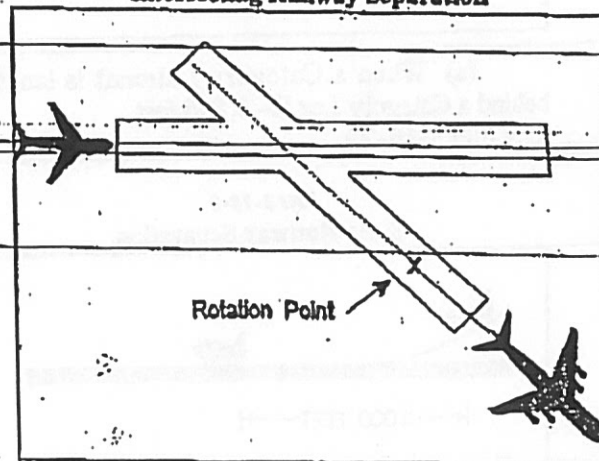
d. Issue wake turbulence cautionary advisories, the position, altitude if known, and direction of flight of the heavy jet/B757 to:

REFERENCE-

AC 90-23, *Aircraft Wake Turbulence, Pilot Responsibility*, Para 12.

1. IFR/VFR aircraft landing on crossing runways behind a departing heavy jet/B757; if the arrival flight path will cross the takeoff path behind the heavy jet/B757 and behind the heavy jet/B757 rotation point. (See FIG 3-10-11.)

FIG 3-10-11
Intersecting Runway Separation

**EXAMPLE-**

"Runway nine cleared to land. Caution wake turbulence, heavy C-One Forty One departing runway one five."

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Section 5. Radar Separation

5-5-1. APPLICATION

a. Radar separation shall be applied to all RNAV aircraft operating on a random (Impromptu) route at or below FL 450.

b. Radar separation may be applied between:

1. Radar identified aircraft.

2. An aircraft taking off and another radar identified aircraft when the aircraft taking off will be radar-identified within 1 mile of the runway end.

3. A radar-identified aircraft and one not radar-identified when either is cleared to climb/descend through the altitude of the other provided:

(a) The performance of the radar system is adequate and, as a minimum, primary radar targets or ASR-9/Full Digital Radar Primary Symbol targets are being displayed on the display being used within the airspace within which radar separation is being applied; and

(b) Flight data on the aircraft not radar-identified indicate it is a type which can be expected to give adequate primary/ASR-9/Full Digital Radar Primary Symbol return in the area where separation is applied; and

(c) The airspace within which radar separation is applied is not less than the following number of miles from the edge of the radar display:

(1) When less than 40 miles from the antenna- 6 miles;

(2) When 40 miles or more from the antenna- 10 miles;

(3) Narrowband radar operations- 10 miles; and

(d) Radar separation is maintained between the radar-identified aircraft and all observed primary, ASR-9/Full Digital Radar Primary Symbol, and secondary radar targets until nonradar separation is established from the aircraft not radar identified; and

(e) When the aircraft involved are on the same relative heading, the radar-identified aircraft is vectored a sufficient distance from the route of the aircraft not radar identified to assure the targets are

not superimposed prior to issuing the clearance to climb/descend.

REFERENCE-

FAAO 7110.65, Exceptions, Para 4-1-2.

FAAO 7110.65, Route Use, Para 4-4-1.

FAAO 7110.65, Application, Para 5-3-1.

FAAO 7110.65, Additional Separation for Formation Flights, Para 5-5-2.

FAAO 7110.65, Approach Separation Responsibility, Para 5-9-5.

5-5-2. TARGET SEPARATION

a. Apply radar separation:

1. Between the centers of primary radar targets; however, do not allow a primary target to touch another primary target or a beacon control slash.

2. Between the ends of beacon control slashes.

NOTE-

At TPX-42 sites, the bracket video feature must be activated to display the beacon control slash.

3. Between the end of a beacon control slash and the center of a primary target.

4. All-digital displays: Between the centers of digitized targets. Do not allow digitized targets to touch.

REFERENCE-

FAAO 7110.65, Simultaneous Independent ILS/MLS Approaches- Dual & Triple, Para 5-9-7.

5-5-3. TARGET RESOLUTION

a. A process to ensure that correlated radar targets or digitized targets do not touch.

b. Mandatory traffic advisories and safety alerts shall be issued when this procedure is used.

NOTE-

This procedure shall not be provided utilizing mosaic radar systems.

c. Target resolution shall be applied as follows:

1. Between the edges of two primary targets or the edges of primary digitized targets.

2. Between the end of the beacon control slash and the edge of a primary target or primary digitized target.

3. Between the ends of two beacon control slashes.

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5-5-4. MINIMA

Separate aircraft by the following minima:

NOTE-

Wake turbulence procedures specify increased separation minima required for certain classes of aircraft because of the possible effects of wake turbulence.

a. Broadband Radar System or Full Digital Terminal Radar System:

NOTE-

1. Includes single sensor long range radar mode.
2. When less than 40 miles from the antenna- 3 miles.
3. When 40 miles or more from the antenna- 5 miles.

EN ROUTE

b. Stage A/DARC, M-EARTS Mosaic Mode, Terminal Mosaic Mode:

NOTE-

Mosaic Mode combines radar input from 2 to 16 sites into a single picture utilizing a mosaic grid composed of radar sort boxes.

1. Below FL 600- 5 miles.
2. At or above FL 600- 10 miles.
3. For areas meeting all of the following conditions:

(a) Radar site adaptation is set to single sensor.

(b) Significant operational advantages can be obtained.

(c) Within 40 miles of the antenna.

(d) Below FL 180.

(e) Facility directives specifically define the area where the separation can be applied. Facility directives may specify 3 miles.

REFERENCE-

FAAO 7210.3, Single Site Coverage Stage A Operations, Para 8-2-1.
FAAO 7210.3, Single Site Coverage ATIS Operations, Para 11-8-15.

4. When transitioning from terminal to en route control, 3 miles increasing to 5 miles or greater, provided:

(a) The aircraft are on diverging routes/courses, and/or

(b) The leading aircraft is and will remain faster than the following aircraft; and

(c) Separation constantly increasing and the first center controller will establish 5 NM or other appropriate form of separation prior to the aircraft departing the first center sector; and

(d) The procedure is covered by a letter of agreement between the facilities involved and limited to specified routes and/or sectors/positions.

c. M-EARTS Sensor Mode:**NOTE-**

1. Sensor Mode displays information from the radar input of a single site.
2. Procedures to convert M-EARTS Mosaic Mode to M-EARTS Sensor Mode at each PVD/MDM will be established by facility directive.

1. When less than 40 miles from the antenna- 3 miles.

2. When 40 miles or more from the antenna- 5 miles.

WAKE TURBULENCE APPLICATION

d. Separate aircraft operating directly behind, or directly behind and less than 1,000 feet below, or following an aircraft conducting an instrument approach by:

NOTE-

Consider parallel runways less than 2,500 feet apart as a single runway because of the possible effects of wake turbulence.

1. Heavy behind heavy- 4 miles.

2. Large/heavy behind B757- 4 miles.

3. Small behind B757- 5 miles.

4. Small/large behind heavy - 5 miles.

WAKE TURBULENCE APPLICATION

e. **TERMINAL.** In addition to subpara d, separate an aircraft landing behind another aircraft on the same runway, or one making a touch-and-go, stop-and-go, or low approach by ensuring the following minima will exist at the time the preceding aircraft is over the landing threshold:

NOTE-

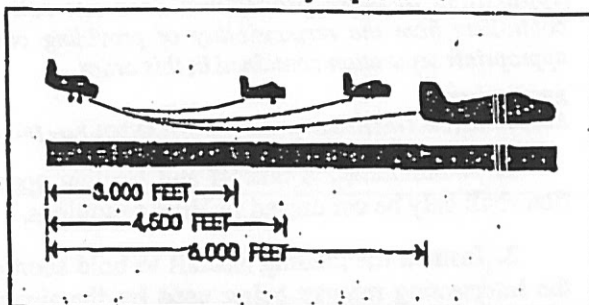
Consider parallel runways less than 2,500 feet apart as a single runway because of the possible effects of wake turbulence.

1. Small behind large- 4 miles.

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FIG 3-10-5
Same Runway Separation



3. When the succeeding aircraft is a helicopter, visual separation may be applied in lieu of using distance minima.

WAKE TURBULENCE APPLICATION.

b. Issue wake turbulence advisories, and the position, altitude if known, and the direction of flight of:

1. The heavy jet/B757 to aircraft landing behind a departing/arriving heavy jet/B757 on the same or parallel runways separated by less than 2,500 feet.

2. The large aircraft to a small aircraft landing behind a departing/arriving large aircraft on the same or parallel runways separated by less than 2,500 feet.

REFERENCE-

AC 90-23, Aircraft Wake Turbulence, Pilot Responsibility, Para 12.

FAAO 7110.65, Altitude Restricted Low Approach, Para 3-10-10.

EXAMPLE-

1. "Runway two seven left cleared to land, caution wake turbulence, heavy Boeing 747 departing runway two seven right."

2. "Number two follow Boeing 757 on two-mile final. Caution wake turbulence."

3-10-4. INTERSECTING RUNWAY SEPARATION

a. Separate an arriving aircraft using one runway from another aircraft using an intersecting runway or a nonintersecting runway when the flight paths

intersect by ensuring that the arriving aircraft does not cross the landing threshold or flight path of the other aircraft until one of the following conditions exists:

1. The preceding aircraft has departed and passed the intersection/flight path or is airborne and turning to avert any conflict.
(See FIG 3-10-6 and FIG 3-10-7.)

FIG 3-10-6
Intersecting Runway Separation

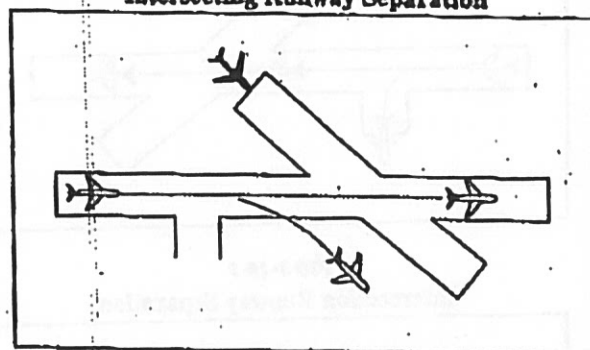
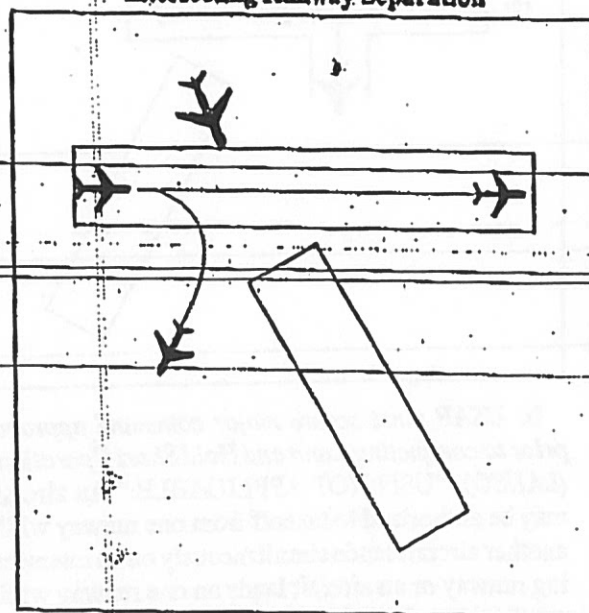


FIG 3-10-7
Intersecting Runway Separation



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2. A preceding arriving aircraft is clear of the landing runway, completed landing roll and will hold short of the intersection/flight path, or has passed the intersection/flight path.
(See FIG 3-10-8 and FIG 3-10-9.)

FIG 3-10-8
Intersection Runway Separation

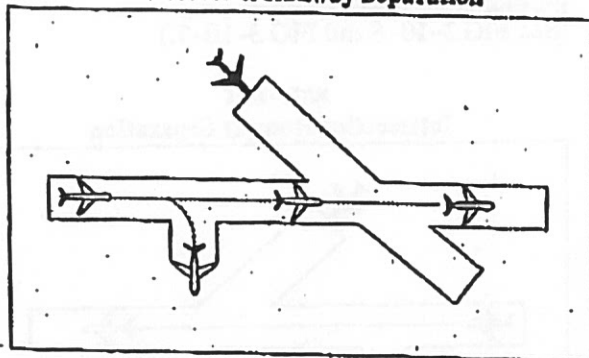
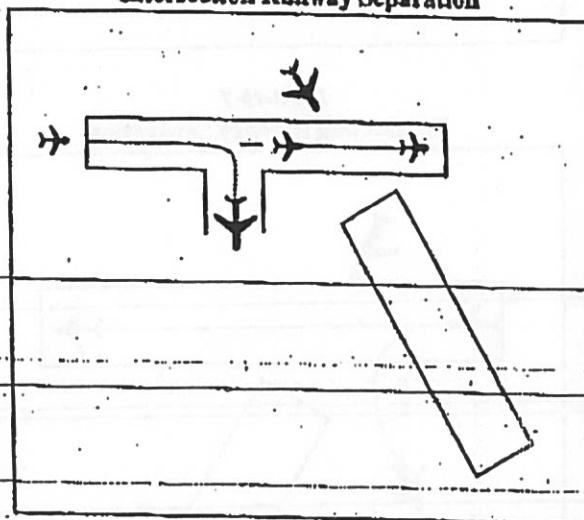


FIG 3-10-9
Intersection Runway Separation



b. USAF must secure major command approval prior to conducting Land and Hold Short Operations (LAHSO). "USN NOT APPLICABLE." An aircraft may be authorized to takeoff from one runway while another aircraft lands simultaneously on an intersecting runway or an aircraft lands on one runway while another aircraft lands simultaneously on an intersecting runway, or an aircraft lands to hold short of an intersecting taxiway or some other predetermined point such as an approach/departure flight path using procedures specified in the current LAHSO directive. The procedure shall be approved by the air traffic manager and be in accordance with a facility directive. The following conditions apply:

NOTE-

Application of these procedures does not relieve controllers from the responsibility of providing other appropriate separation contained in this order.

REFERENCE-

FAAO 7210.3, Land and Hold Short Operations (LAHSO), Para 10-3-7.

1. A simultaneous takeoff and landing operation shall only be conducted in VFR conditions.

2. Instruct the landing aircraft to hold short of the intersecting runway being used by the aircraft taking off. In the case of simultaneous landings and no operational benefit is lost, restrict the aircraft of the lesser weight category (if known). LAHSO clearances shall only be issued to aircraft that are listed in the current LAHSO directive, whose Available Landing Distance (ALD) does not exceed the landing distance requirement for the runway condition.

PHRASEOLOGY-

HOLD SHORT OF RUNWAY (runway number), (traffic, type aircraft or other information).

NOTE-

Pilots who prefer to use the full length of the runway or a runway different from that specified are expected to advise ATC prior to landing.

3. Issue traffic information to both aircraft involved and obtain an acknowledgment from each. Request a read back of hold short instructions when they are not received from the pilot of the restricted aircraft.

EXAMPLE-

1. "Runway one eight cleared to land, hold short of runway one four left, traffic, (type aircraft) landing runway one four left."

(When pilot of restricted aircraft responds with only acknowledgment):

"Runway one four left cleared to land, traffic, (type aircraft) landing runway one eight will hold short of the intersection."

"Read back hold short instructions."

2. "Runway three six cleared to land, hold short of runway three three, traffic, (type aircraft) departing runway three three."

"Traffic, (type aircraft) landing runway three six will hold short of the intersection, runway three three cleared for takeoff."