



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

ORDER
JO 7110.308B

Effective Date:
July 25, 2017

SUBJ: Simultaneous Dependent Approaches to Closely Spaced Parallel Runways

1. Purpose of This Order. This order provides the criteria to apply Federal Aviation Administration (FAA) Order JO 7110.65, Air Traffic Control, Paragraph 5-9-6, Simultaneous Dependent Approaches, to parallel runways separated by less than 2,500 feet, also referred to as Closely Spaced Parallel Runways (CSPR). Guidance for requesting a specific assessment for an airport CSPR pair that is not included in Appendices A or B is included in this order.

2. Audience. This order applies to the Air Traffic Services facilities at airports listed in Appendix A and Appendix B.

3. Where Can I Find This Order? This order is available on the MyFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices/.

4. What This Order Cancels. FAA Order JO 7110.308A, Simultaneous Dependent Approaches to Closely Spaced Parallel Runways, dated June 1, 2015, is canceled.

5. Explanation of Changes.

- a. Minor editorial changes were made throughout the order.
- b. Procedures for the use of RNAV approaches have been added to the order.
- c. Clarification on the use of visual separation has been added to the order.
- d. Clarification on missed approach/go-around procedures has been added to the order.
- e. ILS/RNAV approaches have been added for the Runway 4 CSPR at BOS.
- f. ILS/RNAV approaches have been added for the Runway 19 CSPR at SFO.
- g. ILS/ILS approaches have been added back into the order for the Runway 9 CSPR and Runway 27 CSPR at PHL.
- h. Changed the staggered separation at SFO listed in Appendix A to 1.0 NM.

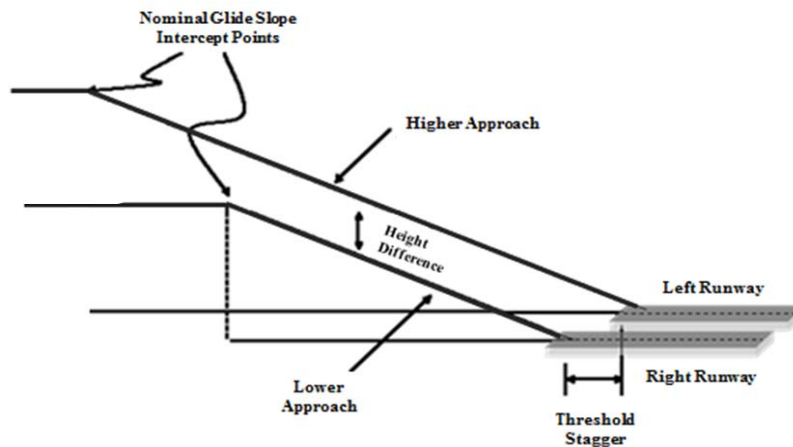
6. Action. At airports authorized by Appendices A and B, all operational personnel must receive training on the use of the procedures contained in this order. Facility directives and letters of agreement must include procedures for the use of the reduced separation minimums. Air traffic managers desiring to add their airports and associated CSPR to this order must follow the process described in Paragraph 8, Request for a Specific Airport Analysis.

7. Procedures.

a. Airport Criteria Allowing Conduct of Simultaneous Dependent Approaches on CSPR.

Appendix A, Authorized Runway Pairings, and Appendix B, Airport/Runway Geometries Approved for Wake Turbulence Mitigation for Arrivals - Procedure (WTMA-P), present the airports and runway configurations for which reduced separation is permitted under this order. Glidepath height differences are achieved by using a common reference point from the lead aircraft's runway threshold, threshold stagger, or small glidepath angle differences, thus yielding a higher and lower approach. The lateral separation and glidepath height differences provide wake encounter mitigation for the procedure at each airport. (See FIG 1.)

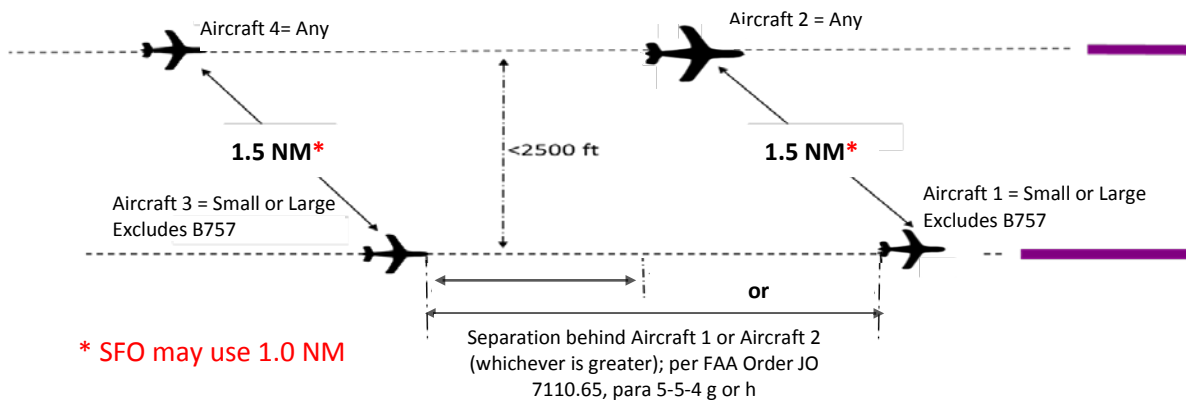
FIG 1
Side View of Example CSPR Approach



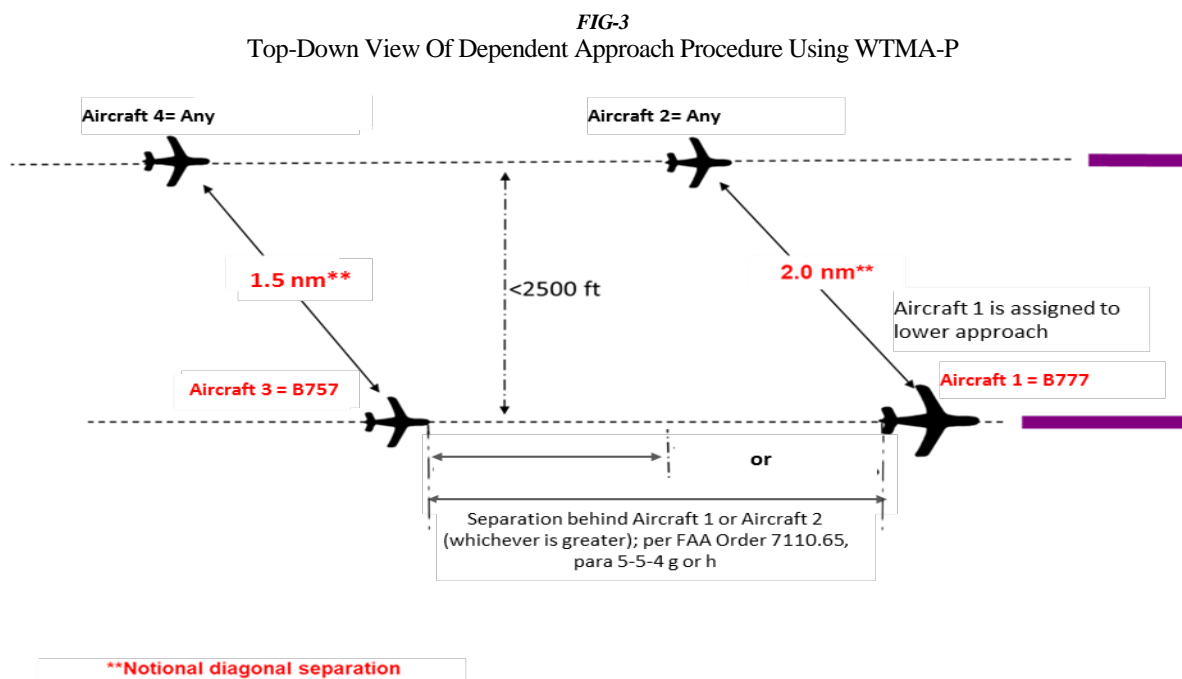
b. Procedures for Dependent Approaches to CSPRs.

(1) Figure 2 provides a depiction of the procedures contained in this order for airports listed in Appendix A. The lead aircraft is aircraft #1 and is assigned to the lower approach. The trailing aircraft is aircraft #2. The lead aircraft in the next pair of reduced separation is aircraft #3.

FIG 2



(2) Figure 3 provides a depiction for the use of WTMA-P for airports listed in Appendix B.



c. Conditions for Use. Parallel dependent approaches can be conducted under the following conditions:

(1) Provide a minimum of 1,000 feet vertical or the appropriate radar separation until both aircraft are established on the localizer for ILS approaches, or established on the approach procedure for RNAV approaches, and cleared for the approach. Visual separation is not authorized until both aircraft are established on the localizer for ILS approaches or established on the approach procedure for RNAV approaches.

NOTE—

Visual separation may be applied on final approach when the aircraft are in VMC and there are no other obstructions to visibility.

(2) The lead aircraft (acft 1) of the dependent separation pair must be assigned the lead approach.

(a) At airports listed in Appendix A, the lead aircraft must be:

- [1] A Small or Large weight class aircraft (except the B757) at non-RECAT facilities.
- [2] A wake category D (except the B757), E or F aircraft at RECAT 1.5 facilities.
- [3] A wake category D (except the B757), E or F aircraft at RECAT II Appendix A facilities.
- [4] A wake category C (except the B757), D, E or F at RECAT II Appendix B facilities.

(b) At airports listed in Appendix B, the lead aircraft may be any aircraft excluding Super aircraft (A388 and A225), and must capture the glideslope at an altitude no higher than 3,000 feet AGL.

(3) Any aircraft type may participate as the trailing aircraft in the dependent separation pair and must be assigned the trailing approach.

(a) At airports listed in Appendix A, separation may be reduced to 1.5 NM, except, SFO is authorized to use 1.0 NM.

(b) At airports listed in Appendix B, the authorized separations are contained in the appropriate table for the airport and runway pair.

(4) Provide the appropriate radar separation between the trailing aircraft of one pair and the lead aircraft of the next pair in accordance with FAA Order JO 7110.65, Paragraph 5-5-4, Minima, Subparagraphs g or h.

NOTE -

At facilities authorized to conduct operations in accordance with FAA Order JO 7110.659B, Wake Turbulence Recategorization, or FAA Order JO 7110.123, Wake Turbulence Recategorization – Phase II, the applicable paragraphs of FAA Order JO 7110.65 are superseded by the corresponding paragraphs contained within the orders and/or appendices.

(5) Reduced separation is not permitted if either of the aircraft in a reduced separation pair is conducting an instrument approach without vertical guidance.

(6) If the lead aircraft executes a missed approach or is issued go-around instructions, and is a larger weight class or wake category than the trailing aircraft in the pair, or, is a Heavy aircraft, the trailing aircraft must be instructed to execute a missed approach or issued go-around instructions.

REFERENCE -

P/CG Term – Go-Around

P/CG Term – Missed Approach.

d. Navigational Aids. For ILS approaches, the localizer and glideslope must be in service to both runways. For RNAV approaches, LNAV and VNAV must both be available.

e. Radar Surveillance. Terminal Airport Surveillance Radar must be in service.

f. Weather Minimums. The reduced separation approaches authorized by this order may be conducted down to and including Category I minimums. For airports listed in Appendix B, Category II operations are authorized if the approaches are available for both runways.

g. Charting. Charting for approaches with modified glideslope angles will be published after flight checking and before the implementation of the procedures authorized by this order.

8. Request for a Specific Airport Analysis. Written requests for analysis of specific airport geometries must be made to the Air Traffic Procedures Directorate (AJV-8), through the requesting facility's managing service area. The request will be addressed through the following process:

a. The facility will provide a written request to the managing service area for an analysis to be conducted. The request will include:

1. The runway pair and types of instrument approaches to be considered.

2. The centerline separation between the runway pair.
3. The latitude and longitude of the landing threshold of each runway.
4. Charted missed approach procedures for lost communications for the approach to each runway (new or existing runways).
 - b. The Service Area will evaluate the request, validate it, and forward it to the Air Traffic Procedures Directorate.
 - c. AJV-8 will request a wake encounter risk assessment from the NextGen office.
 - d. The NextGen office will conduct the wake encounter risk assessment and forward to AJV-8.
 - e. AJV-8 will conduct the appropriate level of SMS and amend the SRMD as necessary.
 - f. AJV-8 will coordinate the wake encounter risk assessment and amended SRMD with ATO Safety Services and the Air Traffic Safety Oversight Service.

9. Distribution. This order is distributed to the following Air Traffic Organization Service Units: Air Traffic Services, System Operations Services, Mission Support Services, Safety and Technical Training, William J. Hughes Technical Center, and the Mike Monroney Aeronautical Center.

10. Background. Increased airport capacity and reduced arrival delays under Instrument Meteorological Conditions (IMC) can be achieved by using 1.5 NM diagonal separation within successive pairs of arrivals to CSPR. As with all other simultaneous approach procedures that are designed to reduce the separation minima under IMC, visual separation is not authorized during the turn on to final approach. This type of dependent instrument approach can be conducted at airports with specific centerline separations and threshold staggers. The lead aircraft of the dependent pair is restricted to being cleared for the lower approach, with the trailing aircraft assigned the higher approach. The geometry of the approach, as well as the lateral separation between the two approaches and prevailing local meteorological conditions, provide the wake turbulence avoidance necessary for reduced separation dependent approach operations. Additionally, depending on the local meteorological conditions, a small glidepath height difference may be necessary to ensure the trailing aircraft is at or above the height of the leading aircraft in the reduced separation pair. The required glidepath height can be achieved through displaced landing thresholds or small glidepath angle differences that are permitted within the constraints of precision approaches. WTMA-P permits Heavy and B757 aircraft, in addition to Small and Large aircraft, to lead in the dependent pair. Super aircraft are not permitted to lead in the dependent pair. Specific aircraft pair separation is provided for each CSPR. This separation is dependent on runway geometry, including runway threshold offset, which provides vertical separation between the glidepaths and vertical separation from wake turbulence. This separation is also dependent on runway centerline separation, which allows safe mitigation from both severity and likelihood of a wake encounter for the trailing aircraft. WTMA-P may be used at either Recat or non-Recat airports.

11. Definitions. For the purpose of this order, the following definitions are provided.

a. Lead Aircraft – The lead aircraft in the pair of reduced separation aircraft authorized by this order. At airports listed in Appendix A, the lead aircraft is restricted to a Small or Large weight class aircraft (except the B757) or the corresponding wake category for Small or Large aircraft (except the B757), as defined in FAA Order JO 7360.1, Aircraft Type Designators, or FAA Order JO 7110.123, Wake Turbulence Recategorization – Phase II. At airports listed in Appendix B, the lead aircraft may be any aircraft excluding Supers.

REFERENCE -

FAA Order JO 7360.1, Aircraft Type Designators

FAA Order JO 7110.659, Wake Turbulence Recategorization

FAA Order JO 7110.123, Wake Turbulence Recategorization – Phase II

b. Lead Approach – The approach assigned to the lead aircraft in a reduced separation pair. For each CSPR pair identified in Appendix A of this order, the lead approach is listed first and is the lower approach.

c. Trailing Aircraft – The trailing aircraft in the pair of reduced separation aircraft authorized by this order, and is not restricted by weight class or wake category.

d. Trailing Approach – The approach assigned to the trailing aircraft in a reduced separation pair. For each CSPR pair identified, the trailing approach is listed second and is the higher approach.

Original signed by Heather Hemdal

Heather Hemdal
Director, Air Traffic Procedures, AJV-8

7/25/2017
Date Signed

Appendix A. Authorized Runway Pairings

Specific Airports/Runway Geometries Approved for Dependent Approaches to CSPRs

Airport	Runway Pair Lead / Trail	Staggered Separation Minima	Centerline Separation (feet)	Navigation Type Lead / Trail	Glideslope Angle Lead / Trail	Glidepath Height Difference 7 NM From Lead Threshold
BOS	4R / 4L	1.5 NM	1500	ILS / ILS	3.0 / 3.1	128 ft
	4R / 4L	1.5 NM	1500	ILS / RNAV	3.0 / 3.1	128 ft
CLE	6L / 6R	1.5 NM	1241	ILS / ILS	3.0 / 3.1	193 ft
	24L / 24R	1.5 NM	1241	ILS / ILS	3.0 / 3.0	63 ft
EWR	4L / 4R	1.5 NM	950	ILS / ILS	2.95 / 3.1	74 ft
	22L / 22R	1.5 NM	950	ILS / ILS	3.0 / 3.1	74 ft
MEM	18C / 18L	1.5 NM	927	ILS / ILS	3.0 / 3.1	185 ft
	36R / 36C	1.5 NM	927	ILS / ILS	3.0 / 3.1	74 ft
PHL	9R / 9L	1.5 NM	1400	ILS / ILS	3.0 / 3.0	316 ft
	27R / 27L	1.5 NM	1400	ILS / ILS	3.0 / 3.0	263 ft
SEA	34C / 34L	1.5 NM	1700	ILS / ILS	3.0 / 3.0	49 ft
	16C / 16R	1.5 NM	1700	ILS / ILS	3.0 / 3.0	0 ft
	16L / 16C	1.5 NM	800	ILS / ILS	3.0 / 3.0	0 ft
	34R / 34C	1.5 NM	800	ILS / ILS	2.75 / 3.0	130 ft
SFO	28L / 28R	1.0 NM	750	ILS / ILS	2.85 / 3.0	111 ft
	19L / 19R	1.0 NM	750	ILS / RNAV	3.0 / 3.15	153 ft
STL	30R / 30L	1.5 NM	1300	ILS / ILS	3.0 / 3.0	89 ft
	12R / 12L	1.5 NM	1300	ILS / ILS	3.0 / 3.0	159 ft

NOTE-

1. For those runway pairs which require a glideslope change, this procedure is not to be conducted until the approach is established.
2. SFO RWY 19R RNAV Approach is not authorized at temperatures less than 52 degrees F.
3. SEA RWY 34R currently has a 2.75 degree glideslope. The risk analysis was conducted using a 3 degree glideslope and the procedure is authorized at 2.75 degrees up to 3.0 degrees glideslope.

Appendix B. Airport/Runway Geometries Approved for WTMA-P

TBL B-1

WTMA-P Separations for PHL Runway 9R ILS Lead and Runway 9L ILS Trail

Lead	Trail		
	Heavy	Large	Small
Heavy	1.5 NM	3.0 NM	3.5 NM
B757	1.5 NM	1.5 NM	1.5 NM
Large	1.5 NM	1.5 NM	1.5 NM
Small	1.5 NM	1.5 NM	1.5 NM

TBL B-2

WTMA-P Separations for PHL Runway 9R ILS Lead and Runway 9L ILS Trail (RECAT 1.5)

Lead	Trail					
	A	B	C	D	E	F
A	1.5 NM	1.5 NM	1.5 NM	3.0 NM	3.0 NM	3.0 NM
B	1.5 NM	1.5 NM	1.5 NM	1.5 NM	3.0 NM	3.0 NM
C	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
D	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
E	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
F	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM

TBL B-3**WTMA-P Separations for PHL Runway 27R ILS Lead and Runway 27L ILS Trail**

Lead	Trail		
	Heavy	Large	Small
Heavy	1.5 NM	1.5 NM	3.0 NM
B757	1.5 NM	1.5 NM	1.5 NM
Large	1.5 NM	1.5 NM	1.5 NM
Small	1.5 NM	1.5 NM	1.5 NM

TBL B-4**WTMA-P Separations for PHL Runway 27R ILS Lead and Runway 27L ILS Trail (RECAT 1.5)**

Lead	Trail					
	A	B	C	D	E	F
A	1.5 NM	1.5 NM	1.5 NM	1.5 NM	2.5 NM	2.5 NM
B	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
C	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
D	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
E	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
F	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM

TBL B-5

WTMA-P Separations for DTW Runway 3R ILS Lead and Runway 3L RNAV Trail (59° F or Higher)

Lead	Trail		
	Heavy	Large	Small
Heavy	1.5 NM	1.5 NM	3.5 NM
B757	1.5 NM	1.5 NM	1.5 NM
Large	1.5 NM	1.5 NM	1.5 NM
Small	1.5 NM	1.5 NM	1.5 NM

TBL B-6

WTMA-P Separations for DTW Runway 3R ILS Lead and Runway 3L RNAV Trail (59° F or Higher) (RECAT 1.5)

Lead	Trail				
	B	C	D	E	F
B	1.5 NM	1.5 NM	1.5 NM	1.5 NM	3.5 NM
C	1.5 NM	1.5 NM	1.5 NM	1.5 NM	3.0 NM
D	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
E	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
F	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM

TBL B-7

WTMA-P Separations for DTW Runway 21R RNAV Lead Runway 21L ILS Trail (59° or Lower)

Lead	Trail		
	Heavy	Large	Small
Heavy	1.5 NM	1.5 NM	1.5 NM
B757	1.5 NM	1.5 NM	1.5 NM
Large	1.5 NM	1.5 NM	1.5 NM
Small	1.5 NM	1.5 NM	1.5 NM

TBL B-8

WTMA-P Separations for DTW Runway 21R RNAV Lead Runway 21L ILS (59° F or Lower) (RECAT 1.5)

Lead	Trail				
	B	C	D	E	F
B	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
C	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
D	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
E	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM
F	1.5 NM	1.5 NM	1.5 NM	1.5 NM	1.5 NM