U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Air Traffic Organization Policy

ORDER JO 7110.663A

Effective date:
03/01/2024

SUBJ: Merging, Converging, Parallel Route Sequencing (MCPRS) with Converging Runway Display Aid (CRDA)

1. Purpose of This Order. This order defines and establishes procedures using the Converging Runway Display Aid (CRDA) tool or its enhancements for merging, converging, or parallel route sequencing.

2. Background. CRDA was originally designed as a planning or reference tool for use during Dependent Converging Instrument Approaches (DCIA). CRDA can also help plan an aircraft sequence on several types of merging routes, including curved path approaches merging with straight-in approaches, dual Standard Terminal Arrival Routes (STARs) that merge into one route, crossing/merging arrival routes, parallel runway operations, and departure routes from different airports that merge over a common fix.

This order provides for the use of CRDA as a planning or reference tool when applying separation. CRDA is not a form of separation.

3. Audience. This order applies to the Air Traffic Organization (ATO) service units: Air Traffic Services, Mission Support Services, and System Operations Services.

4. Where Can I Find This Order? This order is available on the MyFAA employee website at https://employees.faa.gov/tools_resources/orders_notices/ and the FAA Web site at http://www.faa.gov/regulations_policies/orders_notices/.

5. Cancellation. FAA Order JO 7110.663, Merging, Converging, Parallel Route Sequencing (MCPRS) with Converging Runway Display Aid (CRDA), dated November 4, 2022, is canceled.

6. Explanation of Policy Changes.

a. Section 7 (old) removed. Previously fielded system does not require additional approval(s).

b. Section 8 (new), Subparagraph b clarifies CRDA as a reference tool, and adds “but not limited to.”

7. Definitions.

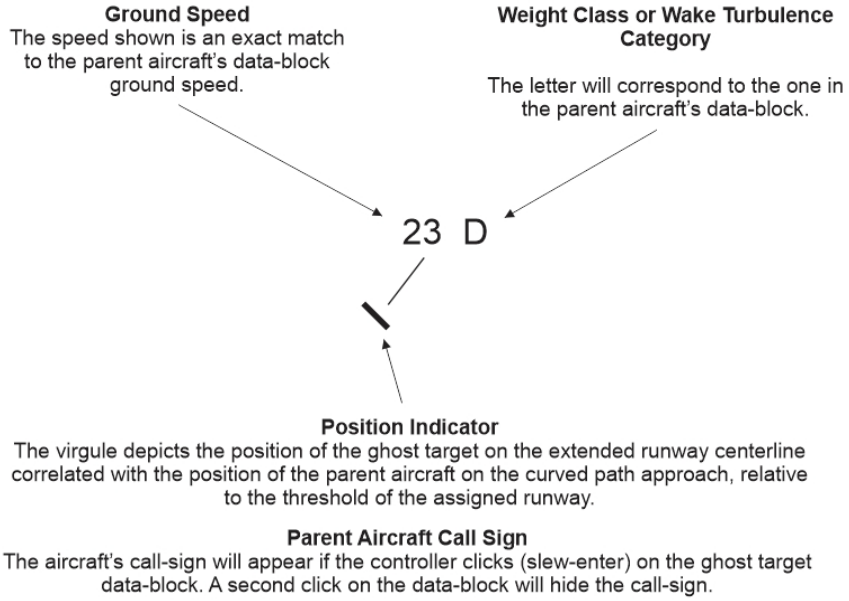
a. **Ghost Target Data Block.** Limited data block associated with the ghost target (see Figure 1).

b. **Ghost Target.** An artificial aircraft symbol (see Figure 1) whose position is the translated (x, y) position of an aircraft with respect to a reference point and a reference line (or path) onto another reference point and reference line (or path).

Note: The position symbol of the ghost target is site adaptable and will not be a slant.

c. **Parent Aircraft.** Aircraft used to generate ghost target.

Figure 1. Ghost Target and Data Block Information



8. Allowable uses of CRDA during sequencing of flights on merging, converging, or parallel routes.

a. CRDA is a planning or reference tool for use when applying separation. The provisions of FAA Order JO 7110.65, Air Traffic Control, or orders establishing separation (such as FAA Order JO 7110.110 for DCIAs), or orders or waivers for use during Established on RNP (EoR) operations, apply during the use of CRDA.

b. CRDA may be used on any merging, converging, or parallel route, including, but not limited to:

(1) Between a curved path approach (or conventional downwind) and the same runway straight-in approach (Fig 2).

(2) Between merging/crossing arrival routes, e.g. STARs (Fig 3).

(3) Between merging approach transitions to the same and/or parallel runways (Fig 4).

(4) Between departure routes from different airports that merge at the same fix (Fig 5).

(5) Between crossing routes (Fig 6).

Figure 2. Example of a Merge on Final - Curved Path (RNP)

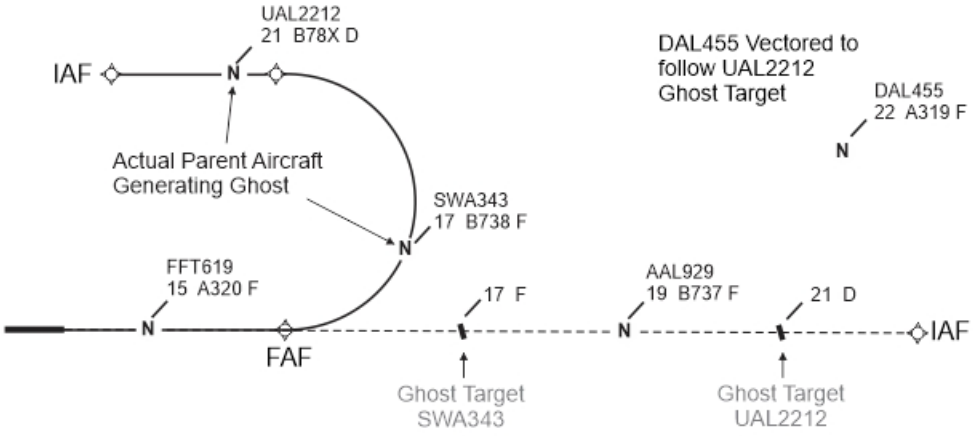


Figure 3. Example of Arrival Routes – STAR to STAR

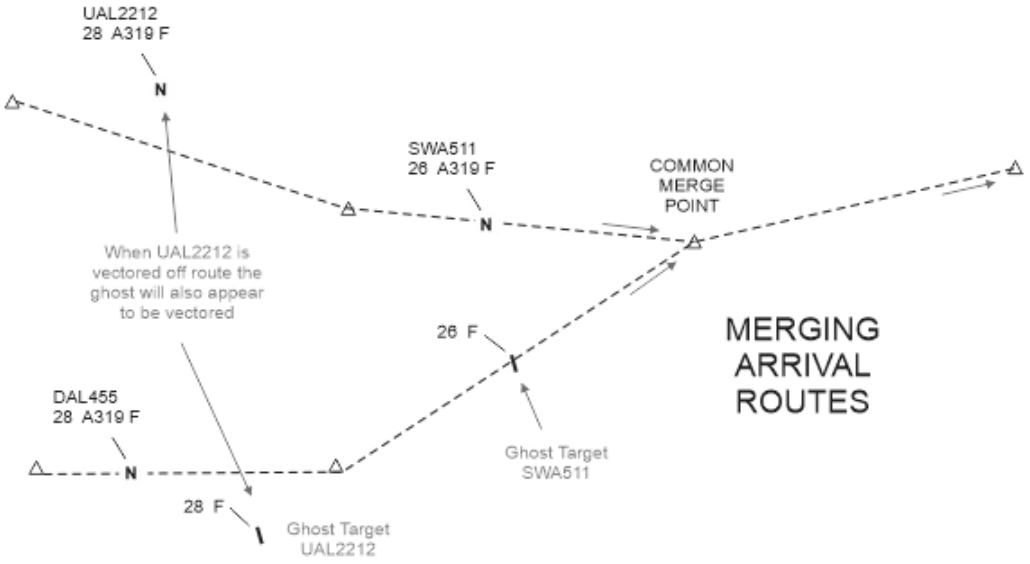


Figure 4. Example of Parallel Runways – 'Tie-Ghosting'

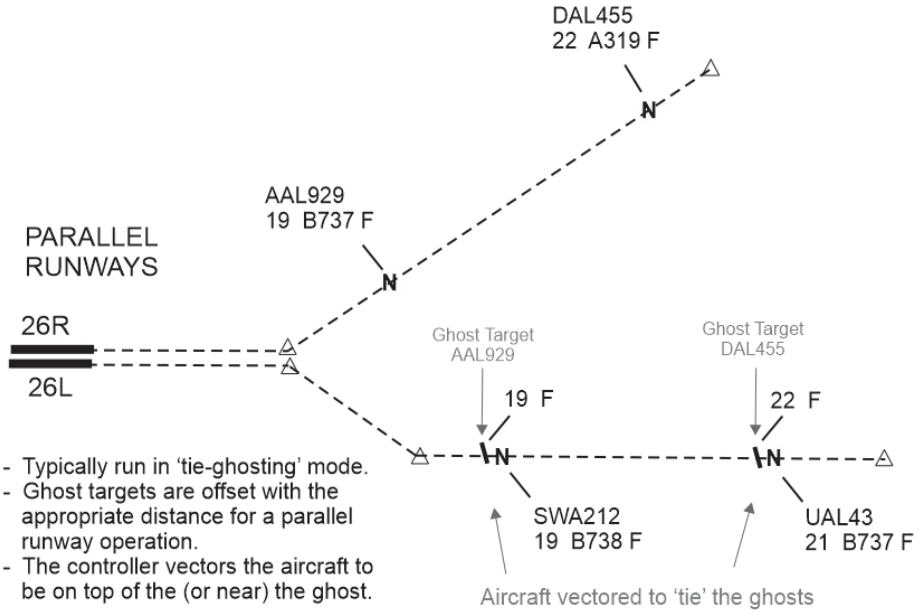


Figure 5. Example of Merging Departure Routes – SID to SID

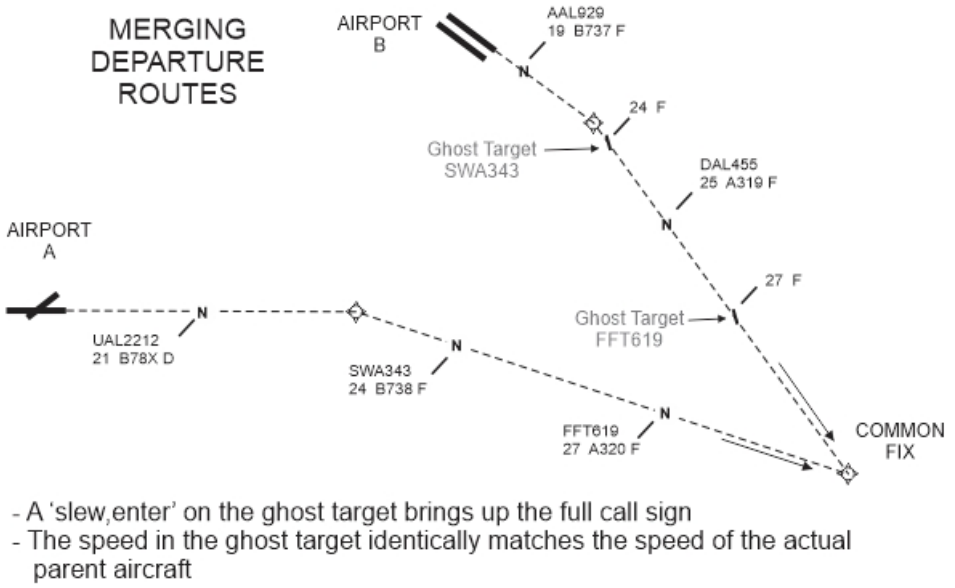
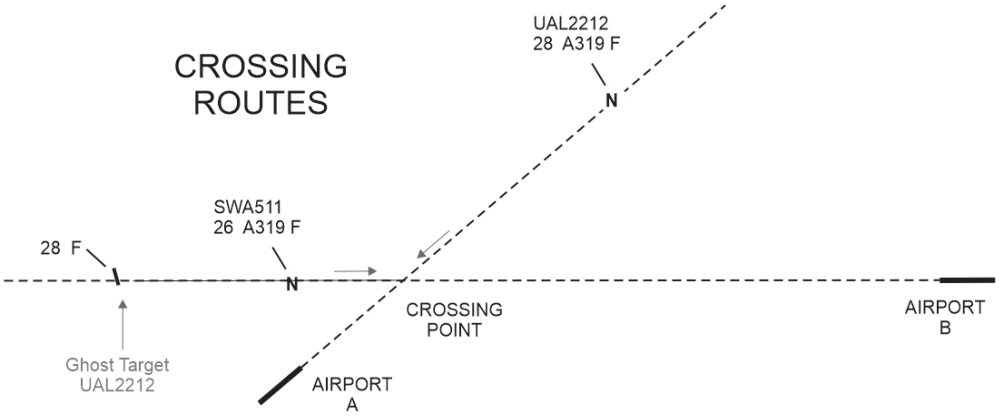


Figure 6. Example of Crossing Routes



9. Distribution.

This order is distributed to ATO Service Units: Air Traffic Services (AJT), Mission Support Services (AJV), and System Operations Services (AJR); ATO Safety and Technical Training (AJI); Air Traffic Safety Oversight Service (AOV); the William J. Hughes Technical Center; and the Mike Monroney Aeronautical Center.

FRANK LIAS Digitally signed by FRANK LIAS Date: 2024.01.29 09:20:17 -05'00'

For Michael R. Beckles
Director, Policy, AJV-P
Mission Support Services