AIR TRAFFIC BULLETIN PROCEDURES

A communication from the Director of Operational Policy, Mission Readiness Services, Federal Aviation Administration, U.S. Department of Transportation.

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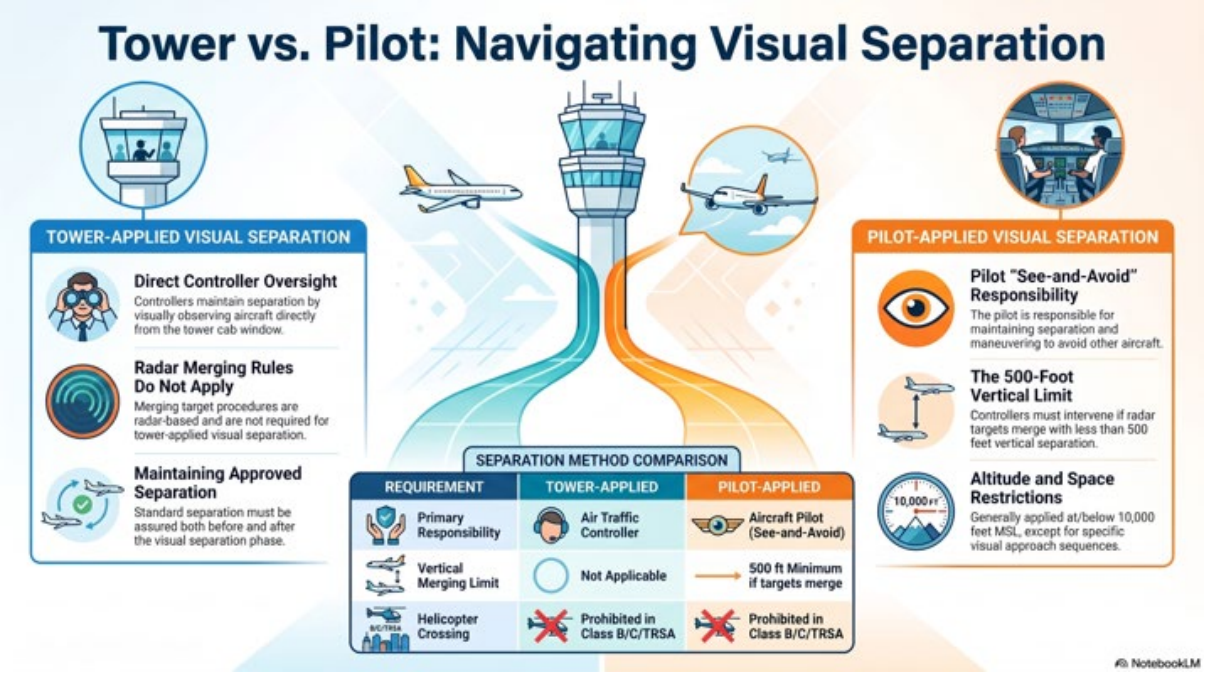
Visual Separation, Merging Target Procedures, Target Resolution, Positive Control

*T, *E, *R: Visual Separation

Visual separation is a *procedure* used by air traffic control to maintain safe distances between aircraft in terminal areas and en route airspace within the NAS. FAA Order JO 7110.65, paragraph 1–2–1, Word Meanings, defines approved separation as "separation in accordance with the applicable minima in this order." Although visual separation is not considered approved separation, it serves as an operational tool to manage aircraft separation when conditions allow.

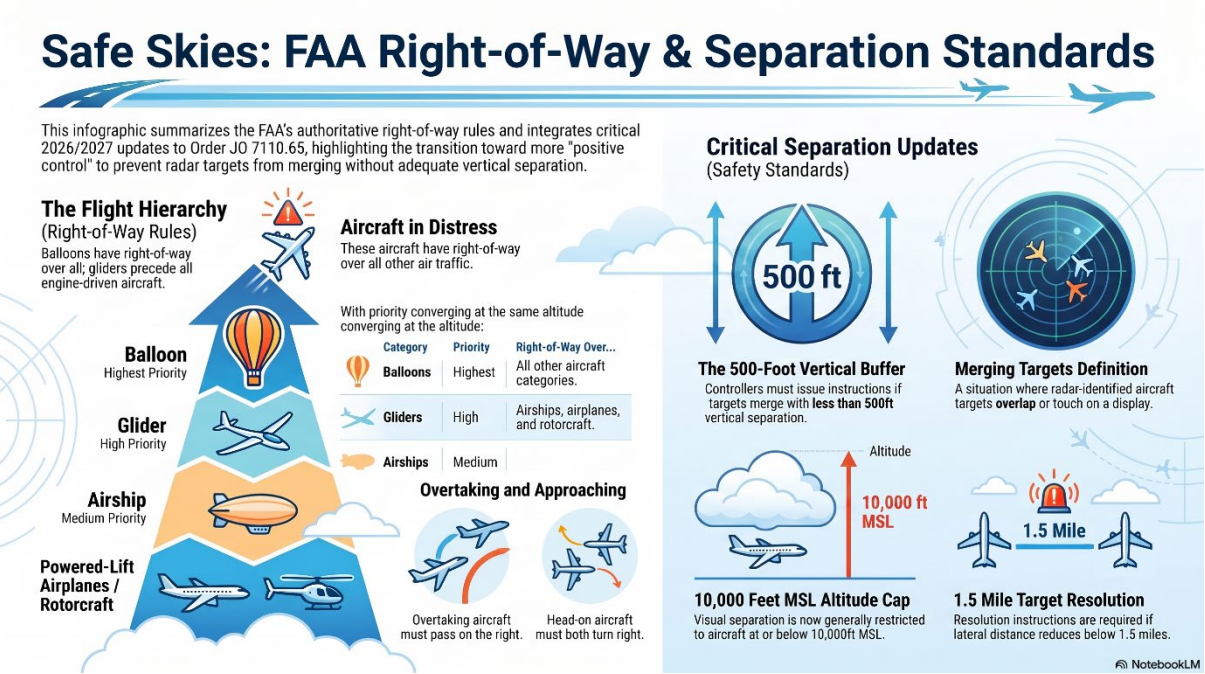
Visual separation procedures are being updated in FAA Order JO 7110.65 to enhance safety across three major areas.

- Helicopter Separation: The interim mitigation from GENOT N JO 7110.801 is being made permanent in the December 2026 publication. Controllers must not apply visual separation for helicopter or powered-lift aircraft crossing the flight paths of arriving or departing aircraft within Class B, Class C, or TRSA airspace.[1]
- Pilot-Applied Visual Separation: Notice JO 7110.804, effective October 28, 2026, mandates that during pilot-applied visual separation, aircraft targets must not be allowed to merge with less than 500 feet vertical separation.[2]
- Visual Separation Altitudes: The general application of visual separation is being lowered to aircraft at or below 10,000 feet MSL in the December 2026 publication. As an exception, controllers may still apply visual separation for aircraft conducting a visual approach up to, but not including, 18,000 feet MSL.[3]



Controllers can apply visual separation—using either tower-applied or pilot-applied methods—to safely and efficiently manage aircraft movements. Controllers assist in this effort by ensuring separation exists before and after the application of visual separation. While 14 CFR § 91.113(b) establishes the regulatory mandate for pilots to see-and-avoid other aircraft, their specific operational responsibilities when maintaining visual separation are detailed in AIM 4–4–14.

> **14 CFR § 91.113(b) Right-of-way rules: Except water operations.** "When weather conditions permit, regardless of whether an operation is conducted under instrument flight rules or visual flight rules, vigilance shall be maintained by each person operating an aircraft so as to see and avoid other aircraft."



AIM 4–4–14, Visual Separation.

b. A pilot's acceptance of instructions to follow another aircraft or provide visual separation from it is an acknowledgment that the pilot will maneuver the aircraft as necessary to avoid the other aircraft or to maintain in-trail separation. In operations conducted behind heavy aircraft, or a small aircraft behind a B757 or other large aircraft, it is also an acknowledgment that the pilot accepts the responsibility for wake turbulence separation. Visual separation is prohibited behind super aircraft.

The three major areas of procedural changes to visual separation are reflected in the following paragraphs. Additional associated changes not shown in detail below include updates to supporting subparagraphs, references, examples, and phraseology designed to align with this updated language.

FAA Order JO 7110.65, 7–2–1, Visual Separation. Effective December 24, 2026

Visual separation may be applied when approved separation exists before and after the application of visual separation. Targets must not be allowed to merge with less than 500 feet vertical separation during pilot-applied visual separation.[2] To ensure that approved separation will exist, consider aircraft performance, wake turbulence, closure rate, routes of flight, known weather conditions, and aircraft position. Weather conditions must allow the aircraft to remain within sight until approved separation exists. Visual separation is not authorized when the lead aircraft is a super.

a. TERMINAL. Except for helicopter or powered-lift aircraft crossing the flight path of arriving or departing aircraft within Class B, Class C, or TRSA airspace,[1] visual separation may be applied between aircraft at or below 10,000 feet MSL or between aircraft conducting a visual approach up to but not including 18,000 feet MSL[3] under the following conditions:

b. EN ROUTE. Visual separation may be applied between aircraft at or below 10,000 feet MSL or between aircraft conducting a visual approach up to but not including 18,000 feet MSL[3] when the following conditions are met:

Inherent Limitations

See-and-avoid should not be exclusively relied upon by an air traffic controller in any scenario involving aircraft on an ATC clearance. This should always be the ultimate consideration when using pilot-applied separation. The NTSB Safety Alert, SA-058 states, "The "see-and-avoid" concept has long been the foundation of midair collision prevention. However, the inherent limitations of this concept, including human limitations, environmental conditions, aircraft blind spots, and operational distractions, leave even the most diligent pilot vulnerable to the threat of a midair collision with an unseen aircraft."

Positive Control

Since FAA Order JO 7110.65, 2–1–1, ATC Service, subparagraph a states: "The primary purpose of the ATC system is to prevent a collision involving aircraft operating in the system," it is reasonable to expect air traffic controllers not to rely solely on the pilots' ability to see-and-avoid other aircraft. Instead, controllers should issue control instructions to prevent collisions and maintain positive control.

Conclusion

The use of visual separation is an important tool in the air traffic control (ATC) system to ensure a safe, orderly, and efficient flow of air traffic. FAA Order 8020.11 states in part, "an incident associated with the operation of an aircraft in which a possibility of collision occurs as a result of proximity of less than 500 feet to another aircraft." Because the primary purpose of the ATC system is to prevent collisions, controllers must maintain positive control when aircraft targets appear likely to merge or converge. To enhance safety during pilot-applied visual separation, aircraft targets must not be allowed to merge with less than 500 feet of vertical separation. Furthermore, since merging target procedures are strictly a function of the radar controller, this specific limitation does not apply to tower-applied visual separation.

*T, *E, *R: Merging Target Procedures vs Target Resolution

Bottom Line Up Front

Merging target procedures and target resolution are similar yet serve different purposes in air traffic control. One is an advisory, and the other is a process to ensure targets do not touch. Both require the controller to monitor the aircraft's proximity to other aircraft to determine the appropriate action. Since the primary purpose of the ATC system is to prevent a collision, these are important responsibilities.

- **Merging Targets -** A situation where the target of a radar-identified aircraft appears likely to overlap or touch another displayed target on the radar display.
- **Merging Target Procedures -** Issue traffic information, and vector as necessary, to prevent radar-identified targets from merging unless the aircraft are separated by more than the appropriate vertical separation minima.
- **Target Resolution -** A process to ensure that correlated radar targets do not touch. Traffic advisories and safety alerts must be issued when this procedure is used.

FAA Order JO 7110.65, 5−1−4. Merging Target Procedures

Except while they are established in a holding pattern, apply merging target procedures to all radar-identified:

1. Aircraft at 10,000 feet and above.

2. Turbojet aircraft regardless of altitude.

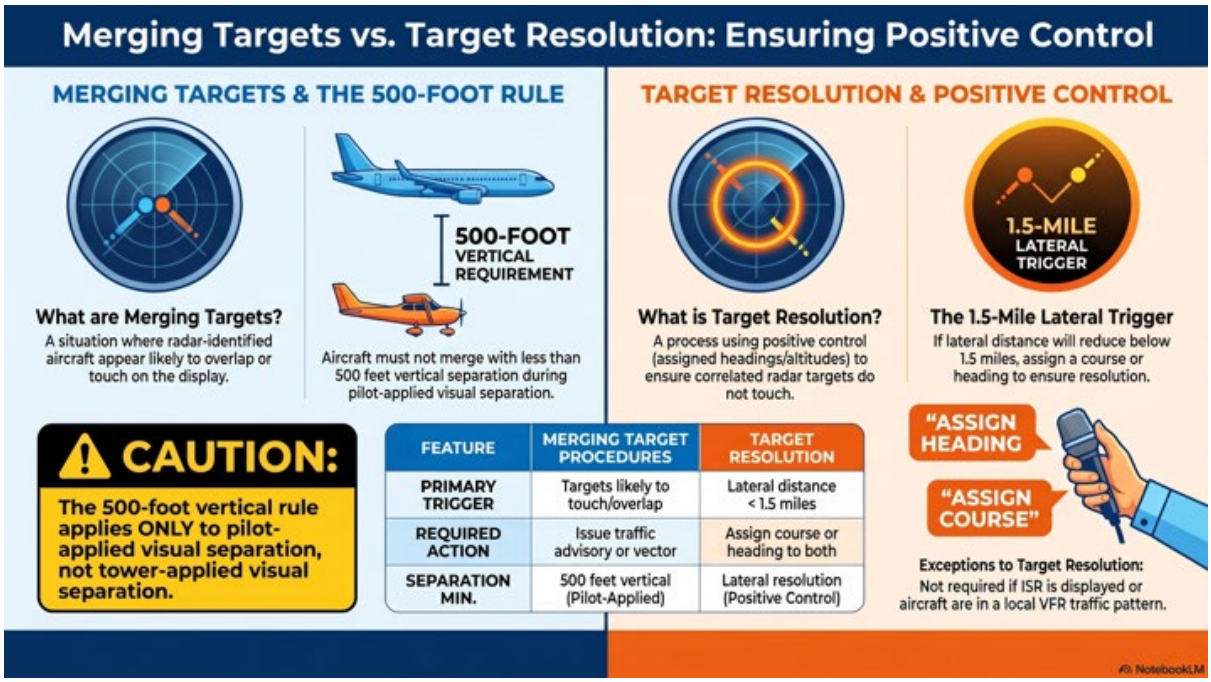
3. Presidential aircraft regardless of altitude.

EXAMPLE−
"Traffic twelve o'clock, seven miles, eastbound, Gulfstream 650, one seven thousand."

"United Sixteen and American Twenty-Five, traffic twelve o'clock, one zero miles, opposite direction, eastbound Seven Thirty-Seven at flight level three three zero, westbound Airbus Three Twenty at flight level three two zero."

Best Practices

Controllers must not allow targets to merge with less than 500 feet vertical separation during pilot-applied visual separation. If a controller becomes aware that targets will merge with less than 500 feet of vertical separation, they must issue control instructions to establish approved separation. Separately, under general merging target procedures, if requested by the pilot, vector the aircraft to avoid merging targets with previously issued traffic, or inform the pilot if unable to provide the vector service.



Target resolution is the process controllers use to ensure targets do not touch. This is accomplished through positive control. Notice JO 7110.803, effective October 28, 2026, mandates that one or both aircraft receive positive control instructions to achieve target resolution.

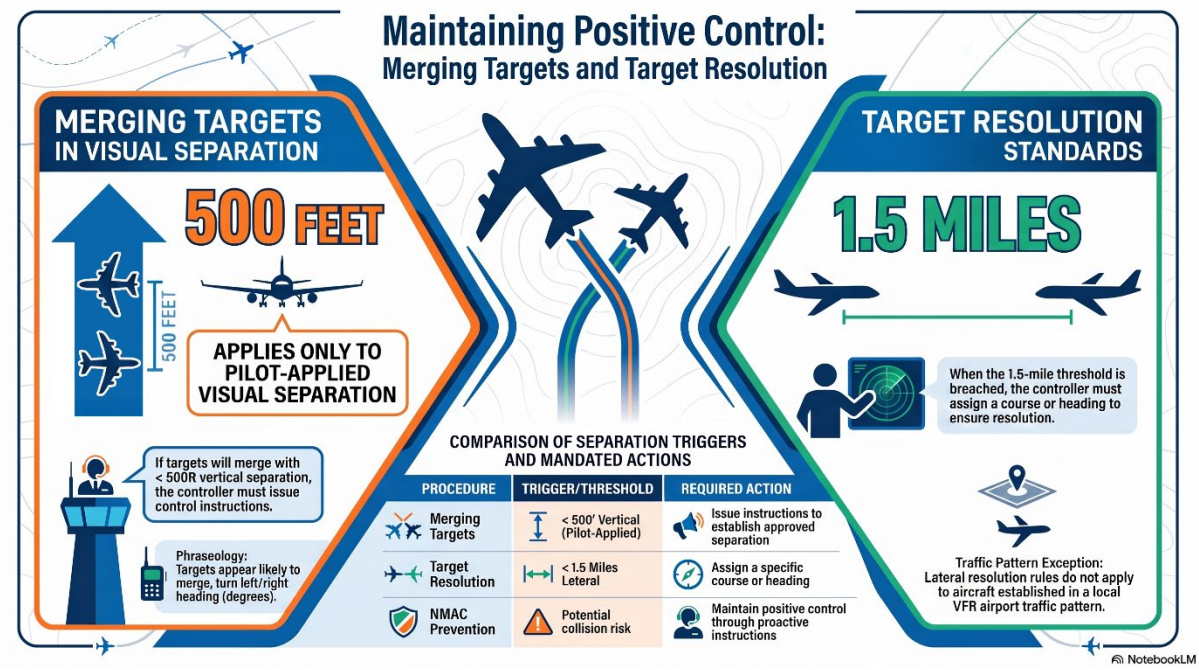
FAA Order JO 7110.65, Chapter 7, Multiple Paragraphs. Effective October 28, 2026.

Except when established in a local VFR airport traffic pattern, if the lateral distance between two identified targets will reduce below 1 ½ miles laterally, each aircraft involved must be on an assigned course or heading that ensures target resolution.

*T, *E, *R: Application of Positive Control

FAA Order 7110.65, paragraph 1–1–1, Purpose of this Order, states, "Controllers are required to be familiar with the provisions of this order that pertain to their operational responsibilities and to exercise their best judgment if they encounter situations not covered by it." Additionally, paragraph 2–1–1, ATC Service, subparagraph a, states, "The primary purpose of the ATC system is to prevent a collision involving aircraft operating in the system."

POSITIVE CONTROL – The action taken to prevent a collision or to ensure appropriate separation is provided.



Positive control requires taking command of control situations through proactive procedures and phraseology to ensure separation and prevent the development of unsafe situations in controlled airspace. Controllers must observe current and forecasted traffic to anticipate potential overloads and take appropriate action to prevent or mitigate such situations.

Final Thoughts:

Visual separation, merging target procedures, and target resolution all fall under the air traffic controller's responsibility to maintain positive control of situations and use their best judgment to prevent a collision. When work situations permit, the provision of additional services is not optional on the part of the controller, but safety must not be compromised in favor of the orderly and expeditious flow of traffic.

Submitted by AJV-P3

The Air Traffic Procedures Bulletin (ATPB) is a means for headquarters to remind field facilities of proper application of procedures and other instructions. It is published and distributed on an as needed basis.

Articles must be submitted electronically in Microsoft® Word by the offices of primary responsibility with approval at the group level or above. Articles may be submitted throughout the year.

*In this publication, the option(s) for which a briefing is required is indicated by an asterisk followed by one or more letter designators, i. e., * T – Tower, *E – ARTCC, *R – TRACON, or *F – FSS.*

(Reference FAA Order JO 7210.3, Facility Operation and Administration, paragraph 2-2-9)
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