



Anchorage ARTCC

Non-Radar Guidance

For Anchorage ATOPS Controllers

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Chapter 1. Introduction

1.1 Purpose of this Guide

This guidance is to help simplify the operations within the ATOP areas. Any conflicting information between this document, LOAs, and relevant governing documents, those other documents shall take precedence.

Chapter 2. Separation Standards

2.1 General

At least one form of procedural separation must be maintained between all flights:

- Vertical
- Lateral
- Longitudinal

Separation on VATSIM is subject to some simplification. Separation standards are broken up into two categories based on ADS-C equipment. To apply ADS-C separation minima, **both** aircraft must be ADS-C equipped.

NOTE: ADS-C does not allow controllers to control aircraft like they would in a radar environment. It merely allows for more accurate monitoring of aircraft position and allow non-verbal, automated position reporting

2.2 Vertical Separation

The vertical separation minima are:

1. Between two aircraft flying subsonic:
 - a. Up to FL290: 1000 feet
 - b. FL290-FL410: 2000 feet, except:
 - i. If both aircraft are RVSM capable: 1000 feet
2. Between one or both aircraft flying subsonic:
 - a. Up to FL450: 2000 feet
 - b. Above FL450: 4000 feet
3. **NOTE:** On VATSIM, *all* aircraft with a requested flight level of FL290 or above are assumed to be RVSM capable.

2.3 Lateral Separation

Lateral separation is established distance between the routes of two aircraft (not distance between the aircraft)

1. 30 NM between 2 RNP 4 approved aircraft, except within the Arctic area
2. 50 NM to RNP 4 and RNP 10 approved aircraft
3. 90 NM to all other aircraft

2.4 Longitudinal Separation

1. Crossing Tracks, Same Direction
 - a. For aircraft operating on the same track:

- i. Based on time:
 - 1. 15 minutes between turbojet aircraft
 - 2. 30 minutes between all other aircraft
 - ii. Based on mileage between ADS-C aircraft pairs:
 - 1. 30 NM to RNP 4 approved aircraft
 - 2. 50 NM to RNP 10 approved aircraft
- b. Mach Number Technique
- i. Only applicable if not using ADS-C equipped aircraft pair separation
 - ii. If the following aircraft is slower, and both have been assigned or restricted Mach numbers and are on the same or diverging tracks, you may reduce separation as follows:

Following Aircraft is slower by:	Separation
Mach 0.01	10 Minutes
Mach 0.02	9 Minutes
Mach 0.03	8 Minutes
Mach 0.04	7 Minutes
Mach 0.05	6 Minutes
Mach 0.06 or more	5 Minutes

- 2. Crossing Tracks, Opposite Direction
 - a. For aircraft operating on the same or intersecting tracks that are not laterally separated, where the relative angle between the tracks is between 90 and 180 degrees, longitudinal separation cannot be established throughout. Vertical separation must be established at least **15 minutes** prior to the closest point of approach.
 - b. Vertical Separation is no longer required once both aircraft have passed each other by:
 - i. 5nm for ADS-C equipped aircraft pairs
 - ii. 10 minutes for other aircraft pairs
- 3. Longitudinal Separation on Parallel Tracks not Laterally Separated
 - a. Where Parallel tracks are not considered laterally separated, utilize the Crossing Tracks, Same Direction separation.

Chapter 3. Handoffs

3.1 Transfer of aircraft information

Utilize the relevant LOAs for information on how to transfer aircraft to another FIR.

If no LOA is in place, the following applies:

- For transfers to Anchorage ARTCC, utilize automation to the maximum extent possible, utilize an automated RADAR handoff similar to operation of domestic environments
- For all other where coordination has not been accomplished to utilize automation:
 - Communicate with the receiving controller the following information no later than 15 minutes to reaching the boundary:
 - Aircraft identification
 - Crossing point, ETA, altitude, speed and the next point
 - Transfer communications prior to reaching the boundary or transfer control point