



U.S. Department
of Transportation
**Federal Aviation
Administration**

SAFO

Safety Alert for Operators

SAFO 12007
DATE: 10/18/12

Flight Standards Service
Washington, DC

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo

A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest. Besides the specific action recommended in a SAFO, an alternative action may be as effective in addressing the safety issue named in the SAFO.

Subject: Recategorization (RECAT) of Federal Aviation Administration (FAA) Wake Turbulence Separation Categories at Memphis International Airport (MEM)

Purpose: This SAFO advises airplane operators of changes to the current FAA wake turbulence separation categories at MEM, effective 0600 CDT (1100Z), November 1, 2012. MEM is the first site for permanent RECAT implementation. FAA plans to expand RECAT to other airports in 2013-2014.

Background: The FAA currently uses six (6) wake turbulence separation categories based primarily on weight: Super (A380), Heavy, B757, Large, Small+, and Small. RECAT applies advances in knowledge of wake physics over the breadth of the current wake categories. Table 1 details the current FAA wake separation standards.

Table 1: Current FAA Wake Separation Standards (at the Threshold)

	Follower (Nautical Mile)					
		Super	Heavy	B757	Large	Small
Leader	Super	2.5	6	7	7	8
	Heavy	2.5	4	5	5	6
	B757	2.5	4	4	4	5
	Large	2.5	2.5	2.5	2.5	4
	Small	2.5	2.5	2.5	2.5	2.5

Discussion: The FAA recently approved a recategorization of wake turbulence separation minima from the current standard to a new standard (RECAT Phase I). This approval was based on years of joint research and development by the FAA, Eurocontrol, scientific experts in wake, and experts in safety and risk analysis. Categories are now based on weight, certificated approach speeds, wing characteristics, along with special consideration given to aircraft with limited ability to counteract adverse rolls. RECAT places aircraft into six (6) categories (labeled A-F) for both departure and arrival separation.

Through a detailed system safety analysis, the 6 categories proves to be **as safe, or safer**, than today's total separation standards while providing the opportunity for increased efficiency for NAS operations. As a result of RECAT, pilots may see reductions in the required and applied wake turbulence separation distances for some aircraft, while most will not notice any changes at all. Table 2 details the RECAT wake separation standards.

Table 2: RECAT Wake Separation Standards

RECAT Separation Matrix

		Follower					
		A	B	C	D	E	F
Leader	A	MRS	5.0	6.0	7.0	7.0	8.0
	B	MRS	3.0	4.0	5.0	5.0	7.0
	C	MRS	MRS	MRS	3.5	3.5	6.0
	D	MRS	MRS	MRS	MRS	MRS	5.0
	E	MRS	MRS	MRS	MRS	MRS	4.0
	F	MRS	MRS	MRS	MRS	MRS	MRS





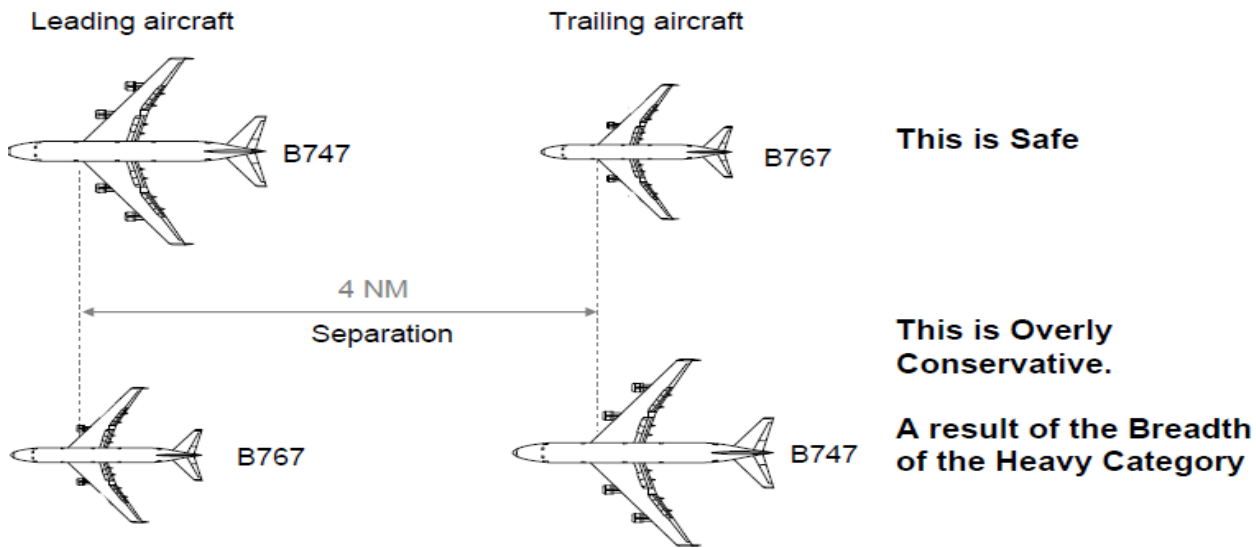
-  Separation was increased for some or all aircraft pairs
-  Separation remained the same for some or all aircraft pairs
-  Separation was decreased for some or all aircraft pairs
-  MRS Minimum Radar Separation (3NM, or 2.5 NM when existing requirements are met)

Table 3, illustrates the current wake separation standard and the RECAT separation standard between a B767 and B747-400.

Table 3: Example RECAT Wake Separation

Heavy to Heavy



Lower Heavy to Upper Heavy



Table 4: Example Aircraft Assignment to Proposed Six Category System

Category A	Category B	Category C	Category D	Category E	Category F
A380	B747 series	MD11	B757 series	AT72	E120
AN-225	A340 series	B763	B737 series	RJ100	B190
	B777 series	A306	A320 series	RJ85	C650
	A330 series	C-17	B727 series	B463	H25B
	C-5		MD80 series	B462	C525
			F50	E170	
			E190	CRJ1/2	
			B717	CRJ7/9	
			GLF5	AT45	
			DC95	AT43	
			DC93	GLF4	
			DH8D	SF34	
			F100	DH8A/B/C	
			F70	E135/145	

MEM Air Traffic Control (ATC) will be the first facility to implement RECAT. All airplane operators operating at MEM should become familiar with the new RECAT wake separations. Familiarity with RECAT wake separation standards is particularly important during visual approach operations as pilots assume responsibility for avoiding wake turbulence when cleared to visually follow preceding traffic. Additionally, pilots should note that controller phraseology will not change for participating aircraft. Operators experiencing a wake event at MEM should follow company protocols for reporting such an event. Managers receiving a wake event report for MEM should follow normal company procedures for reporting an event to the FAA and should also report the event to the primary contact listed below. Pilots experiencing a wake event without specific company event reporting procedures should file a NASA ASRS report and may report the event to the primary contact listed below.

Recommended Action: Directors of Operations, Directors of Training, Training Center Managers, Check Pilots, Training Pilots, and flightcrews should familiarize themselves with the information contained in this SAFO.

Contact: For questions or comments specific to RECAT operations at MEM:

- **Primary:** Mon-Fri 0700-1500: Henry J. McVeigh (901-842-8473, henry.j.mcveigh@faa.gov)
 - All other times: MEM Tower (901-842-8400)
- **Alternate:** Jeff Tittsworth (202-385-8557 / 202-570-8690, jeffrey.tittsworth@faa.gov)

For questions or comments regarding publication of this SAFO:
AFS-430 / Future Flight Technologies Branch

- **Primary:** Roger Sultan (202-385-4320, roger.sultan@faa.gov)
- **Alternate:** Wayne Gallo (202-385-4593, wayne.gallo@faa.gov).