

(2) The flight is necessary to determine the sonic boom characteristics of the airplane or to establish means of reducing or eliminating the effects of sonic boom.

(3) The flight is necessary to demonstrate the conditions and limitations under which speeds greater than a true flight Mach number of 1 will not cause a measurable sonic boom overpressure to reach the surface.

(b) For a flight outside of a designated test area, an authorization to exceed Mach 1 may be issued if the applicant shows conservatively under paragraph (a)(3) of this section that—

(1) The flight will not cause a measurable sonic boom overpressure to reach the surface when the aircraft is operated under conditions and limitations demonstrated under paragraph (a)(3) of this section; and

(2) Those conditions and limitations represent all foreseeable operating conditions.

#### Section 3. Duration

(a) An authorization to exceed Mach 1 is effective until it expires or is surrendered, or until it is suspended or terminated by the Administrator. Such an authorization may be amended or suspended by the Administrator at any time if the Administrator finds that such action is necessary to protect the environment. Within 30 days of notification of amendment, the holder of the authorization must request reconsideration or the amendment becomes final. Within 30 days of notification of suspension, the holder of the authorization must request reconsideration or the authorization is automatically terminated. If reconsideration is requested within the 30-day period, the amendment or suspension continues until the holder shows why the authorization should not be amended or terminated. Upon such showing, the Administrator may terminate or amend the authorization if the Administrator finds that such action is necessary to protect the environment, or he may reinstate the authorization without amendment if he finds that termination or amendment is not necessary to protect the environment.

(b) Findings and actions by the Administrator under this section do not affect any certificate issued under title VI of the Federal Aviation Act of 1958.

[Doc. No. 18334, 54 FR 34327, Aug. 18, 1989]

### APPENDIX C TO PART 91—OPERATIONS IN THE NORTH ATLANTIC (NAT) MINIMUM NAVIGATION PERFORMANCE SPECIFICATIONS (MNPS) AIRSPACE

#### Section 1

NAT MNPS airspace is that volume of airspace between FL 285 and FL 420 extending between latitude 27 degrees north and the North Pole, bounded in the east by the east-

ern boundaries of control areas Santa Maria Oceanic, Shanwick Oceanic, and Reykjavik Oceanic and in the west by the western boundary of Reykjavik Oceanic Control Area, the western boundary of Gander Oceanic Control Area, and the western boundary of New York Oceanic Control Area, excluding the areas west of 60 degrees west and south of 38 degrees 30 minutes north.

#### Section 2

The navigation performance capability required for aircraft to be operated in the airspace defined in section 1 of this appendix is as follows:

(a) The standard deviation of lateral track errors shall be less than 6.3 NM (11.7 Km). Standard deviation is a statistical measure of data about a mean value. The mean is zero nautical miles. The overall form of data is such that the plus and minus 1 standard deviation about the mean encompasses approximately 68 percent of the data and plus or minus 2 deviations encompasses approximately 95 percent.

(b) The proportion of the total flight time spent by aircraft 30 NM (55.6 Km) or more off the cleared track shall be less than  $5.3 \times 10^{-4}$  (less than 1 hour in 1,887 flight hours).

(c) The proportion of the total flight time spent by aircraft between 50 NM and 70 NM (92.6 Km and 129.6 Km) off the cleared track shall be less than  $13 \times 10^{-5}$  (less than 1 hour in 7,693 flight hours.)

#### Section 3

Air traffic control (ATC) may authorize an aircraft operator to deviate from the requirements of §91.705 for a specific flight if, at the time of flight plan filing for that flight, ATC determines that the aircraft may be provided appropriate separation and that the flight will not interfere with, or impose a burden upon, the operations of other aircraft which meet the requirements of §91.705.

[Doc. No. 18334, 54 FR 34327, Aug. 18, 1989, as amended by Amdt. 91-254, 62 FR 17487, Apr. 9, 1997]

### APPENDIX D TO PART 91—AIRPORTS/LOCATIONS: SPECIAL OPERATING RESTRICTIONS

Section 1. Locations at which the requirements of §91.215(b)(2) and §91.225(d)(2) apply. The requirements of §§91.215(b)(2) and 91.225(d)(2) apply below 10,000 feet MSL within a 30-nautical-mile radius of each location in the following list.

Atlanta, GA (The William B. Hartsfield Atlanta International Airport)  
Baltimore, MD (Baltimore Washington International Airport)  
Boston, MA (General Edward Lawrence Logan International Airport)

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Chantilly, VA (Washington Dulles International Airport)  
Charlotte, NC (Charlotte/Douglas International Airport)  
Chicago, IL (Chicago-O'Hare International Airport)  
Cleveland, OH (Cleveland-Hopkins International Airport)  
Covington, KY (Cincinnati Northern Kentucky International Airport)  
Dallas, TX (Dallas/Fort Worth Regional Airport)  
Denver, CO (Denver International Airport)  
Detroit, MI (Metropolitan Wayne County Airport)  
Honolulu, HI (Honolulu International Airport)  
Houston, TX (George Bush Intercontinental Airport/Houston)  
Kansas City, KS (Mid-Continent International Airport)  
Las Vegas, NV (McCarran International Airport)  
Los Angeles, CA (Los Angeles International Airport)  
Memphis, TN (Memphis International Airport)  
Miami, FL (Miami International Airport)  
Minneapolis, MN (Minneapolis-St. Paul International Airport)  
Newark, NJ (Newark International Airport)  
New Orleans, LA (New Orleans International Airport-Moisant Field)  
New York, NY (John F. Kennedy International Airport)  
New York, NY (LaGuardia Airport)  
Orlando, FL (Orlando International Airport)  
Philadelphia, PA (Philadelphia International Airport)  
Phoenix, AZ (Phoenix Sky Harbor International Airport)  
Pittsburgh, PA (Greater Pittsburgh International Airport)  
St. Louis, MO (Lambert-St. Louis International Airport)  
Salt Lake City, UT (Salt Lake City International Airport)  
San Diego, CA (San Diego International Airport)  
San Francisco, CA (San Francisco International Airport)  
Seattle, WA (Seattle-Tacoma International Airport)  
Tampa, FL (Tampa International Airport)  
Washington, DC (Ronald Reagan Washington National Airport and Andrews Air Force Base, MD)

*Section 2.* Airports at which the requirements of §91.215(b)(5)(ii) apply. [Reserved]

*Section 3.* Locations at which fixed-wing Special VFR operations are prohibited.

The Special VFR weather minimums of §91.157 do not apply to the following airports:

Atlanta, GA (The William B. Hartsfield Atlanta International Airport)

Baltimore, MD (Baltimore/Washington International Airport)  
Boston, MA (General Edward Lawrence Logan International Airport)  
Buffalo, NY (Greater Buffalo International Airport)  
Chicago, IL (Chicago-O'Hare International Airport)  
Cleveland, OH (Cleveland-Hopkins International Airport)  
Columbus, OH (Port Columbus International Airport)  
Covington, KY (Cincinnati Northern Kentucky International Airport)  
Dallas, TX (Dallas/Fort Worth Regional Airport)  
Dallas, TX (Love Field)  
Denver, CO (Denver International Airport)  
Detroit, MI (Metropolitan Wayne County Airport)  
Honolulu, HI (Honolulu International Airport)  
Houston, TX (George Bush Intercontinental Airport/Houston)  
Indianapolis, IN (Indianapolis International Airport)  
Los Angeles, CA (Los Angeles International Airport)  
Louisville, KY (Standiford Field)  
Memphis, TN (Memphis International Airport)  
Miami, FL (Miami International Airport)  
Minneapolis, MN (Minneapolis-St. Paul International Airport)  
Newark, NJ (Newark International Airport)  
New York, NY (John F. Kennedy International Airport)  
New York, NY (LaGuardia Airport)  
New Orleans, LA (New Orleans International Airport-Moisant Field)  
Philadelphia, PA (Philadelphia International Airport)  
Pittsburgh, PA (Greater Pittsburgh International Airport)  
Portland, OR (Portland International Airport)  
San Francisco, CA (San Francisco International Airport)  
Seattle, WA (Seattle-Tacoma International Airport)  
St. Louis, MO (Lambert-St. Louis International Airport)  
Tampa, FL (Tampa International Airport)  
Washington, DC (Ronald Reagan Washington National Airport and Andrews Air Force Base, MD)

*Section 4.* Locations at which solo student, sport, and recreational pilot activity is not permitted.

Pursuant to §91.131(b)(2), solo student, sport, and recreational pilot operations are not permitted at any of the following airports.

Atlanta, GA (The William B. Hartsfield Atlanta International Airport)  
Boston, MA (General Edward Lawrence Logan International Airport)

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Chicago, IL (Chicago-O'Hare International Airport)  
 Dallas, TX (Dallas/Fort Worth Regional Airport)  
 Los Angeles, CA (Los Angeles International Airport)  
 Miami, FL (Miami International Airport)  
 Newark, NJ (Newark International Airport)  
 New York, NY (John F. Kennedy International Airport)  
 New York, NY (LaGuardia Airport)  
 San Francisco, CA (San Francisco International Airport)  
 Washington, DC (Ronald Reagan Washington National Airport)

Andrews Air Force Base, MD

[Amdt. 91-227, 56 FR 65661, Dec. 17, 1991, as amended by Amdt. 91-235, 58 FR 51968, Oct. 5, 1993; Amdt. 91-236, 59 FR 2918, Jan. 19, 1994; Amdt. 91-237, 59 FR 6547, Feb. 11, 1994; 59 FR 37667, July 25, 1994; Amdt. 91-258, 64 FR 66769, Nov. 30, 1999; Amdt. 91-278, 68 FR 9795, Feb. 28, 2003; Amdt. 91-282, 69 FR 44882, July 27, 2004; Admt. 91-314, 75 FR 30195, May 28, 2010; Amdt. 91-319, 75 FR 61613, Oct. 6, 2010]

EFFECTIVE DATE NOTE: By Amdt. 91-236, 59 FR 2918, Jan. 19, 1994, as corrected by Amdt. 91-237, 59 FR 6547, Feb. 11, 1994, appendix D to part 91 was amended in sections 1 and 3 in the Denver, CO, entry by revising "Stapleton" to read "Denver" effective Mar. 9, 1994. By Amdt. 91-238, 59 FR 10958, Mar. 9, 1994, the effective date was delayed to May 15, 1994. By Amdt. 91-241, 59 FR 24916, May 13, 1994, the effective date was suspended indefinitely.

**APPENDIX E TO PART 91—AIRPLANE FLIGHT RECORDER SPECIFICATIONS**

Parameters	Range	Installed system <sup>1</sup> minimum accuracy (to recovered data)	Sampling interval (per second)	Resolution <sup>4</sup> read out
Relative Time (From Recorded on Prior to Takeoff).	8 hr minimum .....	±0.125% per hour .....	1 .....	1 sec.
Indicated Airspeed .....	Vso to VD (KIAS) .....	±5% or ±10 kts., whichever is greater. Resolution 2 kts. below 175 KIAS.	1 .....	1% <sup>3</sup>
Altitude .....	−1,000 ft. to max cert. alt. of A/C.	±100 to ±700 ft. (see Table 1, TSO C51-a).	11 .....	25 to 150 ft.
Magnetic Heading .....	360° .....	±5° .....	1 .....	1°
Vertical Acceleration ..	−3g to +6g .....	±0.2g in addition to ±0.3g maximum datum.	4 (or 1 per second where peaks, ref. to 1g are recorded).	0.03g.
Longitudinal Acceleration.	±1.0g .....	±1.5% max. range excluding datum error of ±5%.	2 .....	0.01g.
Pitch Attitude .....	100% of usable .....	±2° .....	1 .....	0.8°
Roll Attitude .....	±60° or 100% of usable range, whichever is greater.	±2° .....	1 .....	0.8°
Stabilizer Trim Position, or, Pitch Control Position <sup>5</sup> .	Full Range .....	±3% unless higher uniquely required.	1 .....	1% <sup>3</sup>
Engine Power, Each Engine:	Full Range .....	±3% unless higher uniquely required.	1 .....	1% <sup>3</sup>
Fan or N <sup>1</sup> Speed or EPR or Cockpit indications Used for Aircraft Certification OR.	Maximum Range .....	±5% .....	1 .....	1% <sup>3</sup>
Prop. speed and Torque (Sample Once/Sec as Close together as Practicable).	.....	.....	1 (prop Speed) ..... 1 (torque) .....	1% <sup>3</sup> 1% <sup>3</sup>
Altitude Rate <sup>2</sup> (need depends on altitude resolution).	±8,000 fpm .....	±10%. Resolution 250 fpm below 12,000 ft. indicated.	1 .....	250 fpm. below 12,000