

**2/10/2005**  
**Best Practice**  
**Reduced Vertical Separation Minimum (RVSM)**

**RVSM PROCESS FOR PRODUCTION AIRCRAFT WITH AN APPROVED TYPE DESIGN  
GENERAL REQUIREMENTS**

These procedures are for production aircraft produced in accordance with an approved Type Certificate (TC) that includes compliance to the RVSM airworthiness requirements. Manufacturers seeking RVSM authorization to operate these aircraft, for the purpose of production flight-test in RVSM airspace, prior to issuance of a standard airworthiness certificate (see attachment 1), must:

1. Hold an approved TC for the model being requested and a Production Certificate or an Approved Production Inspection System.
2. The Type Certificate Data Sheet (TCDS) must establish that the aircraft model meets the technical requirements for RVSM. This will need coordination with the affected ACO office.

**APPLICATION REQUIREMENTS**

The manufacturer should:

1. Develop procedures in their Quality Assurance Manual (QAM) or reference their procedures that specifically address the RVSM requirements contained in Title 14 Code of Federal Regulations (CFR) Part 91, Appendix G.
2. The procedures must be accepted by the FAA Manufacturing Inspection District Office (MIDO)/Certificate Management Office (CMO) and include:
  - a. RVSM minimum system equipment as required by the specific aircraft model.
  - b. RVSM maintenance program, and RVSM testing requirements.
  - c. Procedures to address compliance in both green and painted aircraft.
  - d. Procedures must specify what aircraft RVSM system checks will be accomplished and the frequency of the system checks.
  - e. Record when the above checks were accomplished and by whom. These checks will be recorded in the aircraft build or manufacturing records maintained by the manufacturer.
  - f. The qualifications for persons authorized to perform required checks as well as the qualifications for persons responsible for verifying the completed work.
  - g. Record all aircraft, by serial number, the date they validate RVSM compliance, and the date they receive a standard airworthiness certificate.
  - h. Pre Flight procedures for the flight crew to determine that the aircraft is in RVSM compliance before each flight when RVSM airspace is to be flown in for the proposed flight.
  - i. Production flight-test procedures that contain RVSM operational flight-testing and verification of the pilot in command that the RVSM system is in compliance.
  - j. Obtain a letter from the MIDO/CMO stating acceptance of the RVSM procedures by aircraft make and model for which the request is being made.

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3. Provide a method for training flight crews on policies and procedures relating to RVSM operations as listed in 14 CFR Part 91, Appendix 4.

**APPROVAL PROCESS**

1. The ACO validates the TCDS data for each RVSM capable model and insures that the TCDS is appropriately annotated with the RVSM data.
2. The MIDO/CMO accepts the RVSM procedures for each facility and RVSM capable model and provides the manufacturer with an acceptance letter.
3. The manufacturer provides the registration numbers to be used for production flight-testing (temporary dealer and or customer) to Atlantic City Technical Center (see below) for input into the RVSM Program Tracking and Reporting Subsystem (PTRS).
4. The manufacturer also provides the registration numbers to be used for production flight-testing to the MIDO/CMO.
5. The manufacturer's RVSM procedures and approval will be reviewed periodically.
6. The manufacturer must notify the FAA in advance of any design and or procedure changes that might affect the RVSM capability and compliance. The FAA will make the required changes to the aircrafts operational limitations to reflect its current status.

Atlantic City Technical Center address information:

RVSM Monitoring  
Wayne Smoot  
ACB -310 FAA Technical Center  
Atlantic City, NJ 08405

ACB -310 609-485-4168 Secretary, ask for Wayne Smoot  
Direct 609-485-5475  
FAX 609-485-5078

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**RVSM PROCEDURES FOR AIRCRAFT FLYING IN A NON-TYPE CERTIFICATED  
EXPERIMENTAL CONFIGURATION**

The manufacturer should:

1. Develop procedures in their current QAM or if an applicant, without a QAM, develop procedure(s) that specifically address RVSM standards contained in 14 CFR 91, Appendix G.
2. These procedure(s) must be accepted by the FAA MIDO/CMO and include:
  - a. RVSM minimum system equipment as required by the specific aircraft model.
  - b. RVSM maintenance program, and RVSM testing requirements.
  - c. Procedures must specify what aircraft system checks will be accomplished and the frequency of the system checks.
  - d. The qualifications for persons authorized to do required checks as well as the qualifications for persons responsible for verifying that work.
  - e. Record all aircraft by serial number, the date they became RVSM compliant and the date they receive a special airworthiness certificate in the experimental category.
  - f. Records that verify when the above checks were accomplished and by whom. These checks will be recorded in the aircraft build or manufacturing records maintained by the manufacturer.
  - g. Pre Flight procedures for the flight crew to determine RVSM compliance before each flight when RVSM airspace is to be flown in for the proposed flight.
  - h. Flight-test procedures that contain RVSM operational flight-testing and verification of the pilot in command that the system is in RVSM compliance.
  - i. Obtain a letter from the MIDO/CMO stating acceptance of the RVSM procedures by make and model aircraft for which the request is being made.

**Note: Exhibition aircraft such as former military aircraft that are RVSM capable and there is currently no manufacturer involvement, would need a letter of authorization from the applicable Flight Standards District Office (FSDO). The aircraft operating limitation should list what the current RVSM status is (compliant or non-compliant).**

3. Provide a method for training flight crews on policies and procedures relating to RVSM operations as listed in 14 CFR Part 91, Appendix 4.

**APPROVAL PROCESS**

1. As part of the certification, the ACO validates that the aircraft has the necessary RVSM avionics equipment and that a test plan has been approved for the qualification and validation of the RVSM systems equipment. The FAA will place, in the aircraft operating limitations, a statement that identifies whether or not the aircraft is RVSM compliant.

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2. The MIDO/CMO accepts the RVSM procedures for the manufacturers or applicant facility and aircraft models and applicable serial numbers. Upon acceptance the FAA will provide the manufacturer or modifier with a letter of acceptance.
3. The manufacturer provides the registration numbers to be used for production flight-testing (temporary dealer and or customer) to Atlantic City Technical Center (see below) for input into the RVSM PTRS.

**NOTE: The PTRS would be annotated that this model is in the experimental category and not approved for general RVSM airspace.**

4. The manufacturer also provides the registration numbers to be used for production flight-testing to the MIDO/CMO.
5. The manufacturer must notify the FAA in advance of any design and/or procedure changes that may affect the RVSM capability and compliance. The FAA will make the required changes to the aircrafts operational limitations to reflect it's current status.
6. When the manufacturer decides to use a registration number previously reported for use on RVSM compliant aircraft on a non-RVSM equipped aircraft, they must notify Atlantic City Technical Center (see below) and the MIDO/CMO that the number is to be removed from their database. This must be accomplished prior to its use on a non-RVSM equipped aircraft.

Atlantic City Technical Center address information:

RVSM Monitoring  
Wayne Smoot  
ACB -310 FAA Technical Center  
Atlantic City, NJ 08405

ACB -310 609-485-4168 Secretary, ask for Wayne Smoot  
Direct 609-485-5475  
FAX 609-485-5078

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**OPERATIONS REQUIREMENTS FOR FLIGHT-TESTING IN RVSM AIRSPACE WITH PRODUCTION AIRCRAFT, TYPE CERTIFICATED AND NON-TYPE CERTIFICATED**

The following are operational requirements to perform flight-testing in RVSM airspace:

1. Pilots need to be trained in operational policies and procedures applicable to RVSM airspace as listed in 14 CFR Part 91, Appendix 4.
2. Aircraft pre flight procedures for the ground and flight crew will insure the aircraft is RVSM compliant for any proposed flight into RVSM airspace.
3. This authorization is subject to the conditions that all operations conducted within RVSM airspace requiring special approvals are in accordance with 14 CFR part 91. The person responsible for crew operations or agent for service must accept responsibility for complying with the stated regulations.

**REQUIREMENTS FOR AIRCRAFT PLACED IN A REPAIR STATION  
(COMPLETION STATION) BY THE MANUFACTURER**

1. If the aircraft has not been issued a Standard Airworthiness Certificate at this point, the RVSM requirements will remain the same as those used during the approved production process.

**NOTE: The aircraft must remain under the manufacturers approved QAM program during this production process.**

2. If the aircraft has been issued a Standard Airworthiness Certificate, the FSDO must be contacted to request that, a RVSM Letter Of Authorization be issued. Each aircraft does not need to be issued a separate letter, if multiple aircraft of the same make and model are to be processed, one blanket letter can be issued.
3. See the attachment 1 for further information.

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ATTACHMENT 1



# Memorandum

U.S. Department  
of Transportation

**Federal Aviation  
Administration**

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**Subject:** INFORMATION: Procedures for Approving Production Airplanes to Perform Flight-Testing within Airspace Allocated for Reduced Vertical Separation Minimum (RVSM) Operations **Date:** 1/13/05

**From:** Manager, Aircraft Engineering Division, AIR-100  
Manager, Production and Airworthiness Division, AIR-200  
Manager, Air Transportation Division, AFS-200  
Manager, Aircraft Maintenance Division, AFS-300  
Manager, Flight Technologies and Procedures Division, AFS-400

**To:** All Directorates  
Managers, Aircraft Certification Offices  
Managers, Manufacturing Inspection District Offices  
Managers, Certificate Management Office  
Managers, Flight Standards Regional Offices  
Managers, Flight Standards District Offices  
Managers, Aircraft Evaluation Groups  
Mike Monroney Aeronautical Center  
William J. Hughes Technical Center

BACKGROUND:

Title 14 of the Code of Federal Regulations part 91, sections 91.176 and 91.180 require that authorization is necessary to operate an aircraft in airspace where reduced vertical separation minimum is applied.

**It has been determined that airplane manufacturers seeking RVSM approval employ FAA-approved quality assurance procedures and practices that satisfy operational safety and airworthiness criteria necessary to meet the intent of 14 CFR part 91, appendix G. Aircraft Certification Service and the Flight Standards Service agree manufacturers of airplanes intended**

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**to be certificated for operation in RVSM airspace do not need to obtain a specific LOA in order to conduct flights within RVSM airspace while their airplanes are under their approved quality assurance and maintenance procedures and practices. Upon the issuance of a Standard Airworthiness Certificate the operator must obtain authorization from their local FSDO prior to operating the aircraft in RVSM airspace.**

**Best Practices**

Detailed guidance will be available on Aircraft Certification's Web site at ([http://www.faa.gov/aircraft/air\\_cert/production\\_approvals/mfg\\_best\\_practice/](http://www.faa.gov/aircraft/air_cert/production_approvals/mfg_best_practice/)) under Manufacturing Best Practices.

**DIRECTIVE:**

Under the direction of the signatories below, this Memorandum shall serve the purpose of authorizing manufacturers of aircraft under their approved quality assurance and maintenance procedures and practices to conduct flights into RVSM airspace.

Respectfully,



David W. Hempe  
Manager, Aircraft  
Engineering  
Division, AIR-100



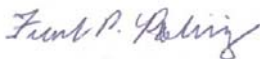
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**ATTACHMENT 1**