

 A340-600 <i>Flight Crew Operating Manual</i>	SPECIAL OPERATIONS RVSM	2.04.50	P 1
		SEQ 100	REV 20

GENERAL

Reduced Vertical Separation Minimum (RVSM) airspace is any airspace or route between FL290 and FL410 (inclusive), where aircraft are vertically separated by 1000 feet, instead of 2000 feet. The A340 system design complies with the design criteria of the JAA Information Leaflet N° 23, and the FAA 91-RVSM Interim Guidance Material for RVSM operations. The statement of RVSM capability is also indicated in the AFM.

OPERATIONAL APPROVAL

The above capability statement does not constitute an approval to fly RVSM. Operational approval is to be granted by the Operator's national authorities, after assessment of the airline's capability to meet RVSM requirements. The above-mentioned JAA and FAA documents also cover requirements to obtain operational approval.

REQUIRED EQUIPMENT/FUNCTIONS FOR RVSM

RVSM regulations require the following equipment/functions to be operative :

- 2 ADRs + 2 DMCs
- 1 transponder
- 1 Autopilot function
- 2 PFDs
- 1 FCU channel (for altitude target selection and OP CLB/OP DES mode engagement)
- 1 FWC (for altitude alert function)

PROCEDURES

The SOPs (FCOM 3.03) and the ABN and EMER (FCOM 3.02) procedures apply. In addition, flights in RVSM airspace must be completed by the following :

FLIGHT PREPARATION

The crew must pay particular attention to conditions that may affect operation in RVSM airspace. These include, but may not be limited to :

- Verifying that the airframe is approved for RVSM operations.
- Reported and forecast weather on the flight route.
- Review of maintenance logs and forms to determine the condition of equipment required for flight in RVSM airspace. Ensure that maintenance action has been taken to correct defects to required equipment.
- Check, on ground, that the two primary altitude indications are within tolerances of 3.04.34 (PFD indication from onside ADR or ADR 3).

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IN FLIGHT PROCEDURES

PRIOR TO RVSM AIRSPACE ENTRY

The required equipment for RVSM listed above must be operating normally.

Should any of this equipment fail prior entering the RVSM airspace, the crew must request a new clearance so as to avoid flight in this airspace.

The two primary altitude indications (PFD indication from onside ADR or ADR 3) should be checked to be in accordance with the instrument tolerances (3.04.34).

If only two ADR are operative, the altimeter indications on PFD and standby altimeters should be recorded. This information may be useful in case of subsequent PFD altitude discrepancy or loss of both remaining ADR.

WITHIN RVSM AIRSPACE

- Autopilot should be engaged within RVSM airspace for cruise and flight level changes.
- During cleared transitions between flight levels, the aircraft should not overshoot or undershoot the cleared flight levels by more than 150 feet.
- At intervals of approximately one hour, check that PFD altimeter indications agree in accordance with the instrument tolerances (3.04.34). The usual scan of flight deck instruments should be sufficient.
- Use the transponder and autopilot, associated with one of the ADR(s) that is within tolerance.

POST FLIGHT

The crew must report any malfunction in the height-keeping systems including :

- the malfunction or the loss of any required equipment
 - altimeter readings outside the tolerances of 3.04.34,
- and provide sufficient details to enable maintenance to troubleshoot and repair the system.

ABN AND EMER PROCEDURES

When in RVSM airspace, the following contingencies which affect the ability to maintain the cleared flight level will be notified to ATC.

- failure of both autopilot,
- loss of altimeter system redundancy (only one PFD indication remaining),
- failure of any other equipment affecting the ability to maintain the cleared flight level, or
- encountering greater than moderate turbulence.

Note : *Appendix 5 of above mentioned JAA/FAA regulation contains detailed guidance for contingency procedures for North Atlantic airspace.*

If unable to notify ATC and obtain ATC clearance before deviating from the assigned cleared flight level, the crew should follow the established contingency procedure and obtain ATC clearance as soon as possible.