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RVSM IMPLEMENTATION
IN THE CENTRAL AMERICAN UPPER FLIGHT INFORMATION REGION

1. INTRODUCTION

10.3 The constant global increase of air traffic, the operational need for aircraft to fly at, or nearest to, their optimum flight levels and the demand for a better use of the airspace, have promoted the implementation of the reduced vertical separation minima (RVSM) of 1000 feet above FL290 in the different ICAO regions, such as North Atlantic, Asia-Pacific, Europe, South Atlantic EUR/SAM corridor (SAT), WATRS (West Atlantic Route System) and the Middle East, largely demonstrating its advantages and, without a doubt, representing the best solution for increasing the availability of optimum flight levels, while maintaining or improving the required safety levels.

10.4 The Third CAR/SAM Regional Air Navigation Meeting (RAN CAR/SAM/3), Buenos Aires, Argentina, 1999, entrusted the CAR/SAM Regional Planning and Implementation Group (GREPECAS) with the development of the studies and evaluation of the needs and benefits resulting from RVSM implementation in both regions.

10.5 According to the analysis of major CAR/SAM Traffic Flows carried out by the UNDP/ICAO Regional Project RLA/98/003 “Transition to CNS/ATM Systems in the CAR and SAM Regions”, some sectors of the airspace are experiencing busy traffic especially during “peak” periods and hours. Consequently, a significant number of aircraft do not operate at their optimum flight level, negatively affecting the efficiency of operations.

10.6 GREPECAS/10 Meeting (Las Palmas, Canary Islands, Spain, October, 2001), concluded that RVSM implementation would permit a better use of the airspace and benefit the air transport! economy. In order to establish a seamless implementation strategy with the other ICAO regions, the decision “**RVSM Implementation in the CAR/SAM Regions”** was ratified by GREPECAS 11 (Manaus, Brazil, December, 2002) and GREPECAS 12 (Havana, Cuba, June 2004) Meetings, for **20th January, 2005**, concurrent with the ICAO NAM Region.

10.7 The aircraft operators and the Air Traffic Services providers could obtain significant benefits with RVSM implementation in the CAR/SAM regions that, among others, include:

a) Greater availability of optimum flight levels;
b) Better use of the airspace;
c) Increase in airspace capacity;
d) Use of standardized and harmonious ATS procedures;
e) Application of uniform separation minima;
f) Reduction of ground delays; and

g) Fuel savings of approximately **1%** for flights carried out at, or near to, the optimum cruise levels.

10.8 Doc 9574, ICAO *Manual on the Implementation of a Vertical Separation Minima of 300 m (1 000 ft) between FL 290 and FL 410 Inclusive,* contains an extensive explanation for a safe RVSM implementation.

10.9 Based on that document, the RVSM Task Force (RVSM TF) of the GREPECAS ATM Committee has developed the documentation and the RVSM operational procedures for their application in the CAR/SAM regions. The main documents are the following:

10 Guidance Material on the Implementation of a Vertical Separation Minima of 300 m (1 000 ft) between FL 290 and FL 410 Inclusive for Application in the Airspace of the Caribbean and South American Regions;
11 Caribbean and South American Regions RVSM Concept of Operations;
12 ATC Guidance Manual for RVSM Training in the CAR/SAM Regions.

Note 1. - These documents are published on the ICAO SAM Regional Office WEB site: www.lima.icao.int. and on the ICAO NACC Regional Office WEB site: www.mexico.icao.int

Note 2.-The procedures for RVSM operations applicable to the CAR and SAM regions have also been included in ICAO *Doc 7030 – Parts CAR and SAM, Regional Supplementary Procedures*

Note 3.- The regulations and procedures indicated below do not necessarily cover all the aspects required for operations in RVSM airspace, aircraft approval or monitoring. The documents mentioned in paragraphs 1.6 and 1.7 of this AIC contain the applicable procedures for RVSM operations in the CAR/SAM regions. The WEB site of the Caribbean and South American Regional Monitoring Agency **(CARSAMMA)** www.cgna.gov.br presents detailed information required for RVSM approval and monitoring, as well as the applicable documents for the CAR/SAM regions.

2. IDENTIFICATION OF RVSM AIRSPACE

10.3 Effective **0901 UTC on 20th January, 2005**, the designation of **RVSM Airspace** will be given to the airspace in the **Central American FIR** between **FL290 and FL410 inclusive.** the lateral limits being described as follows:
From 0125N/9200W DCT 1000N/10430W DCT 1130N/10000W DCT 1300N/9500 DCT 1432N/9213W DCT MEXICO/GUATEMALA BORDER ON THE PACIFIC OCEAN ALONG THE BORDER GUATEMALA/BELIZE WITH MEXICO UP TO THE BORDER BELIZE/MEXICO ON THE CARIBBEAN SEA DCT 1809N/8745W DCT 2000N/8600W DCT 2011N/8517W DCT 2044N/8521W DCT 2000N/82OOW DCT 1900N/8205W DCT 1500N/8215W DCT 1254N/8249W DCT TO THE BORDER COSTA RICA/PANAMA ON THE CARIBBEAN SEA ALONG THE BORDER COSTA RICA/PANAMA ON THE PACIFIC COAST DCT 0730N/8255W DCT 0432N/8255W DCT 0125N/8255W DCT 0125N/9200W.

2.2 The minimum vertical separation to be applied between RVSM aircraft in the Central American RVSM airspace will be 1,000 ft.

2.3 RVSM will also be implemented in the Central American FIR at **0901 UTC on 20th January, 2005**. Simultaneously RVSM will also be implemented in the Canadian Southern Domestic airspace, in the United States of America and Mexico and in the Caribbean and South American states.

2.4 RVSM *Transition Areas*

Since all that airspace in the Central American FIR, between FL290 and FL410 inclusive will be RVSM, no transition areas will be implemented between RVSM airspace and NON RVSM airspace.

2.5 RVSM Flight Level Allocation Scheme (FLAS)

2.5.1 The flight level allocations in RVSM airspace will be made in accordance with the table of cruising levels contained in Appendix 3, Paragraph a) of ICAO Annex 2, as described below: (* NON-RVSM Flight Level)

TABLE OF ASSIGNED LEVELS - RVSM FLIGHTS	
Magnetic Track 180° to 359° (even levels)	**Magnetic Track 000° to 179° (odd levels)**
FL430 *	
	FL410
FL 400	
	FL 390
FL 380	
	FL 370
FL 360	
	FL 350
FL 340	
	FL 330
FL 320	
	FL 310
FL 300	
	FL 290
FL280 *	

2.5.2 RVSM approved aircraft will have operational preference in the assignment of RVSM levels over those NON-RVSM aircraft that operate in RVSM airspace. The minimum vertical separation will be 2,000 feet.

3. AIRWORTHINESS/OPERATIONS APPROVAL AND MONITORING

3.1 **RVSM Approval.-** Operators operating or intending to operate in the RVSM airspace must obtain RVSM approval from the State of Registry or the State of Operator as appropriate.

3.2 **Aircraft monitoring.-** Operators operating or intending to operate in the RVSM airspace shall participate in an RVSM Monitoring Programme, through which it is confirmed that the aircraft fulfils the height-keeping performance requirements.

10.3 RVSM Monitoring Programme

The CAR/SAM Monitoring Agency (**CARSAMMA**) is responsible for the RVSM Monitoring Programme in the CAR/SAM Regions. The CARSAMMA shares monitoring information with other regions, including RVSM approval data.

3.4 Operators must present a plan for the completion of initial monitoring requirements to their respective Civil Aviation Authority.

3.5 Documentation for RVSM approval, monitoring and operation

NOTE: Not available as Belize does not have RVSM aircraft as yet.

4. FLIGHT PLANNING, SUSPENSION OF RVSM, AND NON-APPROVED AIRCRAFT THAT WILL CLIMB/DESCEND THROUGH RVSM AIRSPACE

4.1 RVSM APPROVED AIRCRAFT

RVSM approved aircraft are those that have all required certifications to operate in RVSM airspace. Flights conducted by RVSM aircraft will be allowed to file flight plans and operate in the RVSM stratum of the Central American RVSM airspace as well as in other RVSM regions of the CAR, SAM and NAM.

4.1.1 Aircraft operators shall indicate their status of RVSM approval by inserting the letter “W” in item 10 of the Flight Plan form, independent of the flight level requested.

4.1.2 In the case of Repetitive Flight Plans, the RVSM approval status shall be indicated by inserting the letter “W” in item Q of the RPL, independent of the flight level requested, as follows: EQPT/W.

4.2 NON-RVSM APPROVED AIRCRAFT

Non-approved aircraft are those that do not have the certifications required for RVSM approval. Non-approved aircraft will only operate in RVSM airspace under one of the following conditions, and only if separated from all other traffic by 2000 feet:

4.2.1 **STATE AIRCRAFT**: Non-RVSM approved State aircraft are allowed to flight plan and operate in RVSM airspace. Filing of a flight plan shall serve as advance notice to ATC that the aircraft is requesting to operate in RVSM airspace. Non-RVSM approved State aircraft flight planning into RVSM airspace must include the following in the Field 18 (Other Information) of their flight plan: “STS/NON-RVSM.” Do not file a “W” in Item 10

4.2.2 **MAINTENANCE/DELIVERY AIRCRAFT**: Non-approved RVSM aircraft on recognized maintenance or delivery flights may flight plan and operate in RVSM stratum. Do not file a “W” in Item 10 of the flight plan. Operators must file “STS/NON-RVSM” in Field 18 of the flight plan. Additionally, the flight must accomplish the following requirements:

a) Delivery flights must be on the original delivery flight to the owner or state of registry.
b) Maintenance flights must have been formally RVSM approved, but have experienced an equipment failure and are being flown to repair facilities in order to make the repairs necessary to regain RVSM approval.

4.2.3 **HUMANITARIAN FLIGHTS**: Non-RVSM approved aircraft on recognized mercy or humanitarian flights may flight plan and operate in RVSM airspace. Do not file a “W” in Item 10 of the flight plan. Operators must file “STS/NON-RVSM” in Field 18 of the flight plan.

Note 1***Aircraft operators requesting approval as one of the above flights in shall, if departing within the CENTRAL AMERICANFIR, obtain approval from CENAMER ACC normally not more than 12 nor less than 4 hours prior to the intended departure time. Once they receive approval, and prior to departure, operators are responsible for communicating this approval to all ACCs that are affected by the flight.

4.2.4 **DOMESTIC FLIGHTS IN STATES THAT WILL OPERATE NON-EXCLUSIONARY RVSM AIRSPACE:** Non-approved domestic flights within states that will allow non-approved aircraft to operate in RVSM airspace are authorized, provided the flight meets the following requirements:

10 Do not file a “W” in Item 10 of the flight plan
11 b) Flights filed using Repetitive Flight Plans should indicate their non-approved status, independent of the requested flight level, by inserting the following code in the item “Q” of the RPL: “EQPT/-.”
c) Do not file for RVSM altitudes in Item 15 of the flight plan. Instead, operators should insert the requested flight level in Item 18 in the following manner: STS/FL XXX. Additionally, insert in the

Remarks section of the flight plan the RVSM airspace entry point, and the estimated time the flight is requesting to operate in the RVSM stratum.
d) Requests to operate domestic flights in RVSM airspace can also be made directly to the air traffic controller after departure.
e) No international flights by non-approved aircraft will be permitted, unless authorized under 4.2.1

4.3 NON-APPROVED AIRCRAFT THAT WILL CLIMB OR DESCEND THROUGH RVSM AIRSPACE.

4.3.1 Non-approved aircraft are authorized to climb through or descend through RVSM airspace if operational circumstances permit such an operation.

4.3.2 If possible, the aircraft should be allowed to conduct a continuous climb/descent through RVSM airspace. If the aircraft must be leveled momentarily in RVSM airspace, it must be separated from all other traffic by 2000 feet.

4.3.3 Such climbs/descents should be conducted only in areas of reliable direct pilot-controller communications.

4.3.4 Controllers should insure that the aircraft can climb/descend at a sufficient rate so as to minimize its impact on other operations in RVSM airspace.

4.4 NON RVSM APPROVED AIRCRAFT

4.4.1 NON RVSM APPROVED STATE AIRCRAFT

Non RVSM approved State aircraft will be permitted to operate in RVSM airspace of the CAR/SAM regions. The filing of a flight plan serves as advance notice to ATC that the aircraft is requesting to operate in RVSM airspace. Non RVSM approved state aircraft flight planning into RVSM airspace shall include the following in field 18 (Other Information) of their flight plan: STS/NONRVSM.

4.4.2 NON RVSM APPROVED CIVIL AIRCRAFT
International flights

a. For operational purposes in the RVSM airspace in the Central American FIR, flights considered as international flights are those that enter or leave the Central American FIR.

b. Non RVSM approved civil aircraft conducting international flights shall not flight plan at RVSM flight levels, except in the following cases:

11.3.1The aircraft is being initially delivered to the State of Registry or Operator.

11.3.2The aircraft was formerly RVSM approved but has experienced an equipment failure and is being flown to a maintenance facility for repairs in order to meet RVSM requirements and/or obtain approval.

11.3.3The aircraft is being used for mercy or humanitarian purposes.

c. Aircraft operators requesting clearance as above shall, if departing within CENTRAL AMERICAN FIR, obtain clearance from CENTRAL AMERICAN ACC normally no more than 12 hours and no less than 4 hours prior to the intended departure time.

d. The operator shall notify this clearance to all ACCs affected by the flight.

e. The operator shall insert “STS/NONRVSM” in item 18 of the flight plan form. *NOTE: that filing of the flight plan is not sufficient notification.*

f. This clearance process is intended exclusively for the purpose indicated above and not as a means to circumvent the normal RVSM approval process.

Domestic flights

a. Operators of non RVSM approved civil aircraft shall not insert the letter “W” in item 10 of the Flight Plan Form

b. In the case of Repetitive Flight Plans, the Non RVSM approval status shall be indicated, independent of the flight level requested, by inserting the following code in item Q of the RPL : EQPT/-Operators of non RVSM approved civil aircraft should not insert flight levels between FL290 and FL410 inclusive, in item 15 of the Flight Plan Form.
(APPLICABLE ONLY IN EXCLUSIONARY RVSM AIRSPACE)

Operators of non RVSM approved civil aircraft that intend to enter the RVSM airspace should insert the flight level desired in item 18, in the following way: STS/FLXXX and as remarks (RMK/) the RVSM entry point and the estimated time.
(APPLICABLE ONLY IN NON EXCLUSIONARY RVSM AIRSPACE)

4.2.2.3 *Non*-RVSM approved aircraft will be allowed to climb or descend through RVSM airspace, provided the aircraft climbs or descends at no less than standard rate and does not stop at any intermediate altitude in RVSM airspace.

5. PROCEDURES FOR SUSPENSION OF RVSM

5.1 CENAMER ACC will consider suspending RVSM procedures within all or part of the Central American FIR when there are pilot reports of greater than moderate turbulence.

5.2 When RVSM procedures are suspended, the vertical separation minimum between all aircraft will be 2000 feet.

If RVSM vertical separation is suspended due to turbulence or other significant event, CENAMER ACC will apply the following:

a) The suspension of 1000 feet vertical separation should be for the minimum time necessary.

b) The suspension of 1000 feet vertical separation should be confined to the minimum geographical area necessary for safety or system efficiency.

c) When CENAMER ACC suspends the use of 1000 feet vertical separation this unit will immediately provide the following information to all affected controllers/facilities and flights:

12The reason for the suspension
13Time that the suspension is effective
14The estimated time period 1000 feet separation will be suspended
15The routes or airspace where the suspension is required
16Any traffic immediately affected by the suspension

d) Alternatives to the suspension of 1000 feet vertical separation will also be considered, such as reroutes or lateral separation, if practical.

e) If the suspension will be for a significant period of time, a NOTAM will be issued that contains at a minimum the information contained in 5.3, c).

6. OPERATIONAL PROCEDURES BEFORE ENTERING RVSM AIRSPACE – RVSM APPROVED AIRCRAFT

6.1 Before entering the RVSM airspace, the pilot in command of RVSM approved aircraft must check that the following required equipment for flight in RVSM airspace is operating normally:

a) two independent primary altimetry system;
b) a Mode-C-capable SSR transponder;
c) an altitude-alert system;
d) an automatic altitude-keeping device.

6.2 If any of the required equipment listed in paragraph 6.1 is not operating normally, the pilot must notify ATC before entering RVSM airspace using the phraseology "UNABLE RVSM DUE EQUIPMENT".

7. OPERATIONAL PROCEDURES AFTER ENTERING RVSM AIRSPACE – RVSM APPROVED AIRCRAFT

7.1 During changes of level, an aircraft must not overshoot or undershoot its Cleared Flight Level (CFL) by more than 150 FT (45m).

7.2 Failure of One Primary Altimetry System
If one of the primary altimetry systems fails, but the remaining altimetry system is f functioning normally, the pilot must:

a) Couple that system to the AKD
b) Maintain increased vigilance of altitude-keeping
c) Notify ATC of the failure using the phraseology, **"For information, operating on one Primary Altimeter System Only"**

7.3 Failure of All Primary Altimetry Systems
If all primary altimetry systems fail, or are considered unreliable, the pilot must:

a) Maintain the flight level indicated on the standby altimeter (if equipped) at time of failure or when considered unreliable;

b) Alert nearby aircraft by turning on all exterior lights and, if not in direct contact with ATC, by broadcasting position, flight level, and intentions on 121.5 MHZ;

c) Notify ATC of the failure using the phraseology **"UNABLE RVSM DUE EQUIPMENT".**

7.4 Divergence in Primary Altimetry Systems' Indication
If the primary altimeters diverge by more than 200 ft., the pilot must proceed as follows:

a) Attempt to determine the defective system through established "trouble-shooting" procedures and/or comparing the primary altimeter displays to the standby altimeter (as corrected by correction card, if required)

b) If the defective system can be determined, couple the functioning altimetry system to the AKD and proceed as paragraph 7.2.1

c) If the defective system cannot be determined, proceed as in paragraph 7.3.1

7.5 Failure of the Mode C-capable SSR Transponder
If the mode C-capable transponder fails, the pilot must notify ATC of the failure using the phraseology **"UNABLE RVSM DUE EQUIPMENT".**

7.6 Failure of the Altitude Alert System
If the altitude alert system fails, the pilot must notify ATC of the failure using the phraseology **"UNABLE RVSM DUE EQUIPMENT".**

7.7 Failure of the Automatic Altitude-Keeping Device
If the automatic altitude-keeping device (AKD) fails, the pilot must initiate the following actions sequentially:

a) Maintain authorized flight level;

b) Evaluate the aircraft's capability to maintain altitude through manual control;

c) Watch for conflicting traffic both visually and by reference to ACAS;

d) Alert nearby aircraft by turning on all exterior lights and, if not in direct contact with ATC, by broadcasting position, flight level, and intentions on 121.5 MHZ;

e) Notify ATC of the failure using the phraseology **"UNABLE RVSM DUE EQUIPMENT ".**

8. SPECIAL PROCEDURES FOR IN-FLIGHT CONTINGENCIES IN OCEANIC AREAS AND REMOTES AREAS

8.1 Introduction

8.1.1 Although all possible contingencies cannot be covered, the procedures in 8.2 and 8.3 provide for the more frequent cases such as:

a) inability to maintain assigned flight level due to weather, aircraft performance or pressurization failure;
b) en route diversion across the prevailing traffic flow; and

c) loss of, or significant reduction in, the required navigation capability when operating in an airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations.

8.1.2 With regard to 8.1.1 a) and b), the procedures are applicable primarily when rapid descent and/or turn-back or diversion is required. The pilot's judgment shall determine the sequence of actions to be taken, having regard to the prevailing circumstances. Air traffic control shall render all possible assistance.

8.2 General procedures

8.2.1 If an aircraft is unable to continue the flight in accordance with its ATC clearance, and/or an aircraft is unable to maintain the navigation performance accuracy specified for the airspace, a revised clearance shall be obtained, whenever possible, prior to initiating any action.

8.2.2 The radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN) preferably spoken three times shall be used as appropriate. Subsequent ATC action with respect to that aircraft shall be based on the intentions of the pilot and the overall air traffic situation.

8.2.3 If prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time and, until a revised clearance is received, the pilot shall:

a) leave the assigned route or track by initially turning 90 degrees to the right or to the left. When possible, the direction of the turn should be determined by the position of the aircraft relative to

any organized route or track system. Other factors which may affect the direction of the turn are:

- the direction to an alternate airport, terrain clearance;
- any lateral offset being flown, and
- the flight levels allocated on adjacent routes or tracks.

b) following the turn, the pilot should:

1) if unable to maintain the assigned flight level, initially minimize the rate of descent to the extent that is operationally feasible;
2) take account of other aircraft being laterally offset from its track;
3) acquire and maintain in either direction a track laterally separated by 28 km (15 NM) from the assigned route or track in a multi-track system or otherwise, at a distance which is the mid-point from the adjacent parallel route or track; and
4) once established on the offset track, climb or descend to select a flight level which differs from those normally used by 150 m (500 ft);

c) establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including the ATS route designator or the track code, as appropriate) and intentions on the frequency in use and on 121.5 MHz (or, as a back-up, on the inter-pilot air-to-air frequency 123.45 MHz);

d) maintain a watch for conflicting traffic both visually and by reference to ACAS (if equipped);

e) turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

f) keep the SSR transponder on at all times; and

g) take action as necessary to ensure the safety of the aircraft.

8.2.4 *Extended range operations by aeroplanes with two-turbine power-units (ETOPS)*

8.2.4.1 If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

8.3 Weather deviation procedures

8.3.1 General

The following procedures are intended for deviations around adverse weather.

a) When the pilot initiates communications with ATC, a rapid response may be obtained by stating **"WEATHER DEVIATION REQUIRED"** to indicate that priority is desired on the frequency and for ATC response. When necessary, the pilot should initiate the communications using the urgency call "PAN PAN" (preferably spoken three times).

b) The pilot shall inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to the centreline of its cleared route.

8.3.2 Actions to be taken when controller-pilot communications are established

a) The pilot should notify ATC and request clearance to deviate from track, advising, when possible, the extent of the deviation expected.

b) ATC should adopt one of the following actions:

- when appropriate separation can be applied, issue clearance to deviate from track; or
- if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC shall:

1) advise the pilot of inability to issue clearance for the requested deviation;
2) advise the pilot of conflicting traffic; and
3) request the pilot's intentions.

SAMPLE PHRASEOLOGY TO BE USED IN THIS CASE:

"UNABLE (*requested deviation*), TRAFFIC IS (*call sign, position, altitude, direction*), ADVISE INTENTIONS"

8.3.3 The pilot should take the following actions:

-comply with the ATC clearance issued; or
-advise ATC of intentions and execute the procedures detailed in 8.3.1.3.4 below.

8.3.4 Actions to be taken if a revised ATC clearance cannot be obtained

Note.— The provisions of this section apply to situations where a pilot needs to exercise the authority of a pilot-in-command under the provisions of Annex 2, 2.3.1.

8.3.5 If the aircraft is required to deviate from track to avoid weather and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received the pilot shall take the following actions:

a) if possible, deviate away from an organized track or route system;

b) establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a back-up, on the inter-pilot air-to-air frequency 123.45 MHz);

c) watch for conflicting traffic both visually and by reference to ACAS (if equipped);

Note.— If, as a result of actions taken under the provisions of 8.3.1.3.5 b) and c) above, the pilot determines that there is another aircraft at or near the same flight level with which a conflict may occur, then the pilot is expected to adjust the path of the aircraft, as necessary, to avoid conflict.

d) turn on all aircraft exterior lights (commensurate with appropriate operating limitations);

e) for deviations of less than 19 km (10 NM) remain at a level assigned by ATC;

f) for deviations greater than 19 km (10 NM), when the aircraft is approximately 19 km (10 NM) from track, initiate a level change in accordance with Table 1;

Table 1

Route center line track	***Deviations > 19 km (10 MN)***	***Level change***
EAST 000° - 179° magnetic	LEFT RIGHT	DESCEND 90 m (300 ft) CLIMB 90 m (300 ft)
WEST 180° - 359° magnetic	LEFT RIGHT	CLIMB 90 m (300 ft) DESCEND 90 m (300 ft)

g) when returning to track, be at its assigned flight level when the aircraft is within approximately 19 km (10 NM) of the centreline; and

h) if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

9. Operation of non RVSM approved aircraft in RVSM airspace

9.1 Except for those cases specified in Paragraphs 4.2.1 and 4.2.1, no flights will be permitted to NON-RVSM aircraft in the RVSM airspace in the Central American FIR.

9.2 Procedures and policies regarding the exceptions of non RVSM approved aircraft that could be authorized to operate in RVSM airspace provided that 600 m (2000 ft) vertical separation is applied:

10 Non-RVSM approved State aircraft, may be allowed to operate in RVSM airspace in the Central American FIR, with previous co-ordination. The previous co-ordination will consist of the inclusion of the following text in item 18 of the Flight Plan: “STS/NON-RVSM.” The vertical separation of 2000 feet shall be applied between non-RVSM approved aircraft and all others.

11 Delivery, maintenance and humanitarian flights may be allowed to operate in RVSM airspace, with previous co-ordination. If departing within the Central American FIR, obtain ATC approval from CENAMER ACC normally not more than 12 hours and not less than 4 hours prior to the intended departure time. The operator must notify this approval to all other affected ACCs along the intended route of flight. The following text shall be included in item 18 of the Flight Plan: “STS/NON-RVSM.” The vertical separation of 2000 feet shall be applied between non-RVSM approved aircraft and all others.

12 Non-RVSM approved aircraft conducting domestic flights, requesting accommodation in RVSM airspace must contact CENAMER ACC to determine the hours in which they are most likely to be accommodated. Accommodation in RVSM airspace will be authorized by the ATC unit responsible for the airspace in question, traffic and workload permitting.

13 Preference in the use of flight levels will be given to the approved RVSM aircraft.

14 Non-RVSM approved aircraft should flight plan outside the limits of RVSM airspace (FL 290 FL 410, inclusive).

15 Non-RVSM approved aircraft may be cleared out of RVSM airspace due to traffic or workload.

16 If safety is affected on account of non-RVSM approved aircraft operating in RVSM airspace, CENAMER ACC can suspend, at any moment, authorization for such flights in the RVSM airspace.

10. *Wake turbulence lateral offsets procedures*

Note.— The following special procedures are applicable to mitigate wake turbulence encounters in the airspace where RVSM is applied.

10.1 An aircraft that encounters wake turbulence should notify ATC and request a revised clearance. However, in situations where a revised clearance is not possible or practicable:

a) the pilot should establish contact with other aircraft, if possible, on the air-to-air frequency 123.45 MHz; and

b) one (or both) aircraft may initiate lateral offset(s) not to exceed 3.7 km (2 NM) from the centre line of assigned route(s) or track(s), provided that:

1) as soon as it is practicable, the offsetting aircraft shall notify ATC that temporary lateral offset action has been taken and specify the reason; and

2) the offsetting aircraft shall notify ATC when re-established on the centre line of assigned route(s) or track(s).

Note.— ATC will not issue clearances for lateral offsets and will not normally respond to action taken by pilots.

10.2 *Use of lateral offsets other than those special procedures prescribed to mitigate wake turbulence and distracting aircraft system alerts*

10.3 Procedures for lateral offsets
Pilots of flights in designated oceanic controlled airspace (OCA) or remote airspace within the Central American RVSM airspace may apply a lateral offset under the following conditions:

a) offsets shall only be applied in airspace where this has been approved by the appropriate ATS authorities;

b) offsets shall be applied only by aircraft with automatic offset tracking capability;

c) the decision to apply a strategic lateral offset is the responsibility of the flight crew;

d) the offset shall be established at a distance of one or two nautical miles to the **right** of the centre line relative to the direction of flight;

e) in airspace where the use of lateral offsets has been authorized, pilots are not required to inform ATC that an offset is being applied;

f) if an offset to mitigate the effects of wake turbulence is required, it shall be to the right and the total offset shall not exceed 2 NM from the route centre line;

g) aircraft transiting areas of radar coverage in airspace where offset tracking is permitted may initiate or continue an offset;

h) the offset shall **not be** applied in parallel route systems where the track spacing is less than 55.5 km (30 NM).

11.0 RVSM Phraseology

The following RVSM phraseology will be used in RVSM operations:

A18	***CIRCUMSTANCES***	***PHRASEOLOGY***
1	**REDUCED VERTICAL SEPARATION MINIMUM (RVSM) OPERATIONS**	
2	... to ascertain RVSM approval status of an aircraft	a) CONFIRM RVSM APPROVED
3	... to report RVSM approved status	*b) AFFIRM RVSM
4	. .. to report RVSM non-approved status followed by supplementary information	*c) NEGATIVE RVSM
5	... to deny ATC clearance into RVSM airspace	d) UNABLE ISSUE CLEARANCE INTO RVSM AIRSPACE, MAINTAIN [*or* DESCEND TO, *or* CLIMB TO] *(level)*
6	... to report when severeturbulence affects the capabilityof an aircraft to maintainheight-keeping requirements for RVSM	*e) UNABLE RVSM DUE TURBULENCE ... to report!that the equipment of an aircraft has degraded below minimum aviation system performance standards
7	... to report when severe turbulence affects the capability of an aircraft to maintain height-keeping requirements for RVSM	*f) UNABLE RVSM DUE EQUIPMENT
8	...to request an aircraft to provide information as soon as RVSM-approved status has been regained or the pilot is ready to resume RVSM operations	g) REPORT!WHEN ABLE TO RESUME RVSM
9	... to request confirmation that an aircraft has regained RVSM approved status or a pilot is ready to resume RVSM operations	h) CONFIRM ABLE TO RESUME RVSM
10	.. to report!ability to resume RVSM operations after an equipment or weather-related contingency	*i) READY TO RESUME RVSM
		* Denotes pilot transmission

1	... to verbally supplement estimate messages of aircraft non-approved for RVSM or to verbally supplement an automated estimate message exchange that does not automatically transfer information from Item 18 of the flight plan followed by supplementary information, as appropriate	a) NEGATIVE RVSM [(*supplementary information, e.g. State Aircraft*)]
2	... to communicate the cause of a contingency relating to an aircraft that is unable to conduct RVSM operations due to severe turbulence or other severe meteorological phenomena or equipment failure, as applicable	b) UNABLE RVSM DUE TURBULENCE (*or* EQUIPMENT, as *applicable*)