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## 中国空域缩小垂直间隔的政策和程序 Policy and Procedures of RVSM in China Airspace

### 1.0 序言

1.1 国际民航组织(ICAO)第三次亚太地区空中航行会议建议:在北大西洋地区成功实施缩小的垂直间隔标准(RVSM)之后,在亚洲和太平洋地区也应当引入RVSM。这主要是因为航空器营运人和空中交通服务(ATS)提供人将获得巨大收益。ICAO 9574号文件—在FL290和FL410之间实施300米(1 000英尺)的垂直间隔手册中包含有对RVSM的解释。

1.2 实行RVSM可获得的好处包括:

- (a) 采用了ICAO支持的导航要求;
- (b) 改善了空域的使用,有利于ATC调解冲突;
- (c) 对于接近最佳巡航高度的飞行,节省燃油约1%;
- (d) 减小地面延误。

### 1.3 内容

ICAO亚太地区实施RVSM工作组已经协调制订出本文件的基本内容。在本文件的各段中论述了以下政策:

2.0 RVSM空域和飞行高度层配备

3.0 航空器适航和运行审批以及监督

4.0 空域安全评估与监测

5.0 ACAS II与应答机的装备

### 1.0 Introduction

1.1 The International Civil Aviation Organization (ICAO) Third Asia/Pacific Regional Air Navigation Meeting recommended that Reduced Vertical Separation Minimum (RVSM) should be introduced in the Asia and Pacific region after successful implementation in the North Atlantic region. This is due to the significant benefits to be gained by aircraft operators and air traffic services (ATS) providers. ICAO Document 9574, Manual on Implementation of a 300m (1 000 ft) Vertical Separation Minimum between FL290 and FL410 inclusive contains an explanation of RVSM.

1.2 Benefits to be gained from RVSM include:

- (a) Adoption of an ICAO endorsed navigation requirement;
- (b) Improved utilization of airspace for ATC conflict resolution;
- (c) Fuel savings of about 1% for flight closer to optimum cruise altitude; and
- (d) Reduction in ground delays.

### 1.3 Content

The ICAO Asia/Pacific RVSM Implementation Task Force has harmonized the basic content of this document. The following policies are addressed in the paragraphs of this document:

2.0 Identification of RVSM Airspace and Flight Level Allocation Scheme (FLAS).

3.0 Airworthiness and Operational Approval, and Monitoring

4.0 Airspace Safety Assessment and Monitoring

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- 6.0 RVSM 空域中的飞程序
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## 2.0 RVSM 空域和飞行高度层配备

## 2.0 Identification of RVSM Airspace and RVSM FLAS

### 2.1 中国实施缩小垂直间隔的飞行情报区 (FIR)

### 2.1 China RVSM Implementation FIRs

自协调世界时 2007 年 11 月 21 日 1600UTC 时起, 中国将在沈阳、北京、上海、广州、昆明、武汉、兰州、乌鲁木齐情报区和三亚管制区 01 号扇区(岛内空域), 高度层为 8900 米 (FL291) 至 12500 米 (FL411) 的空域内实施米制的缩小垂直间隔。在上述飞行情报区内 8900 米(FL291)以上至 12500 米(FL411) 定义为缩小垂直间隔空域。中国 RVSM 空域为专用 RVSM 空域, 即不符合 RVSM 运行的航空器不得在中国 RVSM 空域 8900 米

From 21 November at 1600 UTC, Metric RVSM will be implemented in the Shenyang, Beijing, Shanghai, Guangzhou, Kunming, Wuhan, Lanzhou, Urumqi FIRs and Sector AR01 (island airspace) of the Sanya CTA between 8 900m (FL291) and 12 500m (FL411) inclusive. The Airspace between 8 900m (FL291) and 12 500m (FL411) is defined as RVSM airspace. China RVSM airspace is exclusive RVSM airspace, aircraft that are not RVSM compliant may not operate into China RVSM airspace between 8 900m (FL291) and 12 500 m (FL411) except for the following situations as detailed in item 9.4.

(FL291) 和 12500 米 (FL411) (含) 内飞行, 但 9.4 中所列情况除外。

2.2 中国实施缩小垂直间隔飞行高度层配备标准使用米制飞行高度层。中国实施缩小垂直间隔飞行高度层配备标准见附件 A。8400 (含) 米以下的非 RVSM 空域的高度层配备标准所执行的操作程序保持不变。

2.3 运营人应当确保航空器驾驶员在中国境内飞行之前, 该驾驶员经过了针对中国米制缩小垂直间隔飞行高度层的专门培训。中国米制缩小垂直间隔飞行高度层参考培训材料可以从网站上下载: (<http://www.atmb.net.cn/rvsm/>)。

2.4 为防止在 RVSM 空域内触发 TCAS 虚警, 大多数飞机使用英制单位且高度表设置最小刻度为 100 英尺。管制员将发布米制飞行高度层指令。

2.5 航空器驾驶员应当根据中国民航飞行高度层配备标准示意图 (见附件 A) 来确定对应的英制飞行高度层。航空器应当飞对应的英制飞行高度层。

2.6 航空器驾驶员应当知晓公英制转换带来的差异, 驾驶舱仪表显示的米制高度与管制指令的米制高度不一定完全一致, 但存在的差异不会超过 30 米。

2.7 部分同时具备米制高度表和英制高度表的航空器 (例如 Il-96, Il-62, Tu-214 or Tu-154 等), 应当在 RVSM 空域使用英制高度。当这些航空器在 RVSM 空域高度层范围以外飞行时, 该航空器可以使用米制高度表或者英制高度表。配备的高度表不能按照 2.5 款所要求的条件飞行相应英制高度的航空器, 不得计划在 RVSM 空域运行, 并且需要遵守 9.0 款的有关要求。

2.8 在中国境内 RVSM 空域运行时, 航空运营人必须向飞行员提供符合中国民航飞行

2.2 China RVSM Flight Level Allocation Scheme (FLAS) is based on Metric Flight Level. China RVSM Flight Level Allocation Scheme (FLAS) is attached in ATTACHMENT A. There will be no change in flight level allocations and operations at 8400m (FL276) or below in non RVSM airspace .

2.3 The operator shall ensure that the pilot has been trained on China RVSM Flight Level Allocation Scheme (FLAS) before the pilot operated into China airspace. The training reference material on China Metric RVSM Flight Level Allocation Scheme (FLAS) can be downloaded from the website (<http://www.atmb.net.cn/rvsm/>) .

2.4 To prevent undesirable ACAS TA/RA triggering in RVSM airspace and since most civil aircraft use FEET as the primary altitude reference with a minimum selectable interval of 100 feet. ATC will issue the Flight Level clearance in meters.

2.5 Pilots shall use the China RVSM FLAS Diagram (see attachment A) to determine the corresponding flight level in feet. The aircraft shall be flown using the flight level in FEET.

2.6 Pilots should be aware that due to the rounding differences, the metric readout of the onboard avionics will not necessarily correspond to the cleared Flight Level in meters, however the difference will never be more than 30 meters.

2.7 Aircraft equipped with metric and feet altimeters such as the Il-96, Il-62, Tu-214 or Tu-154 shall use the feet altimeter within RVSM flight level band. When these aircraft operating outside of RVSM flight level band, the aircraft can use metric altimeter or feet altimeter. Aircraft equipped with the altimetry system not capable of flying in feet in accordance with paragraph 2.5 should not flight plan in the RVSM airspace and shall comply with the paragraph 9.0 as required.

2.8 Operator shall make available to the pilots the conversion table for meters and feet in accordance with China RVSM FLAS

高度层配备标准的公英制对照表。

### 3.0 航空器适航和运行审批以及监督

#### 3.1 获准日期

运营人/航空器应当在 2007 年 11 月 21 日之前获得批准，以便使 ATS 提供人能够顺利规划 RVSM 的实施方案。

#### 3.2 批准手续

运营人必须取得适当的注册国或运营人所属国的适航和运行批准，方可实施 RVSM 运行。有关要求参见中国民用航空总局（CAAC）相关的 RVSM 适航和飞标政策。

符合中国民航《外国公共航空运输承运人运行规范》有关规定并已经获得批准的民用航空器承运人，应当向中国民航地区管理局申请并获得 RVSM 补充运行合格审定，方可以在 RVSM 空域内运行。

中国民用航空总局《外国公共航空运输承运人运行合格审定规则》（CCAR129）网站（<http://www.castc.org.cn/ccar129/>）包含航空器或运营人获得批准的指导材料。运营人应尽快与中国民用航空总局协调，以保证获得自世界协调时 2007 年 11 月 21 日 16 时起执行 RVSM 运行的许可。

#### 3.3 航空器的高度保持性能标准监控

运营人必须参加 RVSM 航空器监控计划。这是 RVSM 实施计划的一个重要组成部分，因为它可以确认航空器是否符合高度保持性能标准。亚洲地区监控组织（MAAR）将处理监控的结果。有关 RVSM 监控的进一步信息，可登陆 MAAR 网站：

(a) 进入 AEROTHAI 网站的“MAAR (Monitoring Agency for Asia Region)”部分并点击“Monitoring Program”，或

Diagram when operating in China RVSM airspace.

### 3.0 Airworthiness and Operational Approval, and Monitoring

#### 3.1 Approval date

Operator/aircraft shall be approved by 21 November 2007 and that will enable air traffic service providers to plan for orderly RVSM implementation.

#### 3.2 Approval process

Operators must obtain airworthiness and operational approval from the State of Registry or State of the Operator, as appropriate, to conduct RVSM operations. Relevant requirements will be contained in General Administration of Civil Aviation of China (CAAC) RVSM airworthiness and flight standards policies.

Operators who has been certified and approved the ‘Operations Specifications for a Foreign Air Transportation Carrier’ shall apply to and be issued the RVSM supplementary Operations Specifications by the jurisdictional Regional Administration designated by the CAAC before it can conduct air transportation operation within China RVSM airspace.

The CAAC ‘OPERATIONS CERTIFICATION: FOREIGN AIR TRANSPORTATION CARRIERS(CCAR129)’ website (<http://www.castc.org.cn/ccar129/>) contains guidance materials on aircraft/operator approval. Operators must begin coordination with CAAC as soon as possible to ensure that they are approved to begin RVSM operations on 1600UTC on 21 November 2007.

#### 3.3 Aircraft altitude-keeping performance monitoring

Operators are required to participate in the RVSM aircraft monitoring program. This is an essential element of the RVSM implementation program in that it confirms that the aircraft altitude-keeping performance standard is being met. Monitoring Agency for Asia Region (MAAR) will process the results of monitoring. For further information on RVSM monitoring, the MAAR website can be accessed by:

(a) Accessing the ‘MAAR (Monitoring Agency for Asia Region)’ section of AEROTHAI website and clicking ‘Monitoring Program’ or...

(b) 使用网址:

<http://www.aerothai.co.th/maar/>

3.3.1 其它地区的监控结果可用来满足亚太地区的监控要求。MAAR 将与其它监控机构协调以获取该信息。运营人可按下面的地址与 MAAR 监控承包人联系, 询问中国地区的监控服务:

联系人: Ms. Vichuporn Bunyasiriphant

MAAR 的联系地址:

Monitoring Agency for Asia Region (MAAR)

AEROTHAI

102 Ngamduplee Rd. Tungmahamek, Sathorn,

Bangkok 10120, THAILAND

电话: 66-2-287-8154

传真: 66-2-287-8155

电子邮箱: [maar@aerothai.co.th](mailto:maar@aerothai.co.th)

3.4 中国实施缩小垂直间隔的航空器的高度保持性能最低监视要求见附件 F。

#### 4.0 空域的安全评估和监视

4.1 按照 ICAO 9574 号文件的要求, 为了进行空域安全评估和监视, 需要收集大高度偏差的数据报告。报告中的数据将不会被用作空域安全评估和监视以外的其它目的。

#### 4.2 进行数据收集的空域

收集中国所有情报区空域范围内的大高度偏差数据。

#### 4.3 进行数据收集的高度层范围

收集从 8900 米 (FL291) 到 12500 米 (FL411) 范围内的大高度偏差数据。

#### 4.4 飞行员应采取的措施

飞行员按仪表飞行规则在 RVSM 空域飞行时, 一旦发生偏离 ATC 指定的高度层 90 米 (300 英尺) 或以上的情况时, 必须通过无线电或数据链通知相关的空中交通服务部门。飞行结束后, 飞行员同样要报告运营人

(b) Using this Internet address:

<http://www.aerothai.co.th/maar/>

3.3.1 Monitoring accomplished for other regions can be used to fulfill the monitoring requirements for the Asia/Pacific region. MAAR will coordinate with other monitoring agencies to access this information. For monitoring services in the China airspace, operators should contact the MAAR monitoring contractor as follows:

Contact Person: Ms. Vichuporn Bunyasiriphant

MAAR Address:

Monitoring Agency for Asia Region (MAAR)

AEROTHAI

102 Ngamduplee Rd. Tungmahamek, Sathorn,

Bangkok 10120, THAILAND

Phone: 66-2-287-8154

Fax: 66-2-287-8155

Email: [maar@aerothai.co.th](mailto:maar@aerothai.co.th)

3.4 The Minimum Monitoring Requirements for China RVSM implementation is contained in Attachment F.

#### 4.0 Airspace Safety Assessment and Monitoring

4.1 In order to conduct the airspace safety assessment and monitoring required by the ICAO Doc 9574, large height deviation report will be collected. Information contained in the collected reports will not be used for other purpose than the airspace safety assessment and safety monitoring.

#### 4.2 Applicable Airspace

Large height deviation occurrences will be collected from the entire airspace of Chinese FIRs.

#### 4.3 Applicable level stratum

Large height deviation occurrences will be collected between 8 900m (FL291) and 12 500m (FL411).

#### 4.4 Action taken by Pilot

Pilot of aircraft operating in accordance with IFR, when deviating for any reason by 90m (300ft) or more from cleared flight level by ATC in RVSM airspace, shall report to the relevant ATS unit concerned via radio or data link, as soon as practicable, on the level deviation. After completion of the flight, the pilot shall also

偏差发生的具体情况。

#### 4.5 航空器注册国和运营人应采取的措施

当有飞行员报告大高度偏差(如 4.4 所述情况)发生时,航空器注册国应按照本文件附件 B 中表格 B 的形式填写报告至地区监视组织并抄送至:

中华人民共和国北京市东城区东四西大街 155 号 644 信箱,邮编 100710,中国民航总局空管局运行中心

AFTN: ZBBBZGZX

电话: (86-10) 64012907

电传: (86-10) 65135983

### 5.0 ACAS II 与应答机的装备

5.1 ICAO 亚太地区实施 RVSM 工作组建议在 RVSM 空域飞行装有 ACAS 的航空器装备 ACAS II (7.0 版本的 TCAS II 系统符合 ICAO ACAS II 标准)。

5.2 营运人应当按照中国 AIP 中的有关要求,为其航空器安装符合要求的 ACAS II 和二次雷达应答机

### 6.0 RVSM 空域中的飞程序

6.1 在进入 RVSM 空域之前,飞行员应当检查所要求设备的状况(有关飞行员的 RVSM 程序,见 CCAR 91 部 12.d 章节或 FAA IG 91-RVSM 的附件 4)。下列设备应当工作正常:

(a) 两套主用高度测量系统;

注:高度表测量系统应满足 2.5 款的相关要求,即航空器应当飞对应的英制飞行高度层。

(b) 一套自动高度保持装置;及

(c) 一套高度告警装置。

6.2 有关在应急情况中飞行员和管制员的行动,参见本文件的附件 D 或 FAA IG 91-RVSM 的附件 5。当航空器处于以下情况

report to the operator the details of deviation.

#### 4.5 Action taken by State and Aircraft Operators

When large height deviation is reported by a pilot as described in 4.4, the State of Registry of the operator shall submit the report, in principle, using the table B in Attachment B, as soon as possible to the RMA(Regional Monitoring Agency) and copy to the following address:

The Operational Management Center of ATMB of CAAC

P.O. Box 644, 155 Dongsi Street West, Dongcheng

District Beijing 100710, People's Republic of China

AFTN: ZBBBZGZX

TEL: (86-10) 64012907

FAX: (86-10) 65135983

### 5.0 ACAS II and Transponder Equipage

5.1 The ICAO Asia/Pacific RVSM Implementation Task Force recommends that those aircraft equipped with ACAS and operated in RVSM airspace shall be equipped with ACAS II. (TCAS II systems with Version 7.0 incorporated meet ICAO ACAS II standards).

5.2 Operators shall equip their aircraft with ACAS II and SSR transponder as required by AIP China.

### 6.0 In-flight Procedures within RVSM Airspace

6.1 Before entering RVSM airspace, the pilot should review the status of required equipment (see 12.d of CAAC CCAR 91, or Appendix 4 of FAA IG 91-RVSM for pilot RVSM procedures). The following equipment should be operating normally:

(a) Two primary altimetry systems;

Note: Altimetry system requirement should be in accordance with paragraph 2.5 that aircraft shall be flown using the flight level in FEET.

(b) One automatic altitude-keeping device; and

(c) One altitude-alerting device.

6.2 See Attachment D of this document or Appendix 5 of FAA IG 91-RVSM for pilot and controller actions in contingencies. The pilot must notify ATC whenever the aircraft:

时飞行员必须通知管制员:

- (a) 由于设备失效, 不再继续执行 RVSM 或
- (b) 失去高度测量系统的冗余; 或
- (c) 遇上影响保持高度能力的颠簸。

- (a) Is no longer RVSM compliant due to equipment failure; or
- (b) Experiences loss of redundancy of altimetry systems; or
- (c) Encounters turbulence that affects the capability to maintain flight level.

### 6.3 飞行高度层间的穿越

在许可的高度层间进行穿越时, 航空器在指定的高度层上改平不得提前或滞后超过 45 米 (150 英尺)。

### 6.3 Transition between FL's

During cleared transition between levels, the aircraft should not overshoot or undershoot the assigned FL by more than 45 m (150 ft).

### 6.4 飞行员高度层报告

在 RVSM 空域内除有 ADS 或雷达管制的条件外, 飞行员到达任何指定高度, 都必须报告。

### 6.4 Pilot level call

Within RVSM airspace, pilots shall report reaching any assigned altitude unless operating in an ADS or radar environment.

### 6.5 尾流颠簸程序

飞行员在中国 RVSM 空域内遇到或预计尾流颠簸, 可以向管制员申请改变高度, 如可能可申请雷达引导, 或者横向偏置。

### 6.5 Procedures for wake turbulence

Pilots encountering or anticipating wake turbulence in China RVSM airspace have the option of requesting FL change, or if capable, a vector, or a lateral offset.

### 6.6 策略横向偏置程序

6.6.1 具备自动偏置航迹能力的航空器, 飞行机组可以在中国民航未实施雷达管制空域的国际航路内实施策略横向偏置程序。决定是否实施策略横向偏置由飞行机组决定。

### 6.6 Procedures for Strategic lateral offset (SLOP)

6.6.1 The flight crew may apply strategic lateral offset in remote continental airspace within Non-radar airspace when the aircraft is equipped with automatic offset tracking capability. The decision to apply a strategic lateral offset shall be the responsibility of the flight crew.

6.6.2 驾驶员实施策略横向偏置时应当在飞行航路中心线右侧 1 海里或 2 海里的距离上建立策略横向偏置。不要求驾驶员向空中交通管制报告正在施行策略横向偏置。

6.6.2 Within Non-radar airspace, the strategic lateral offset shall be established at a distance of 1 NM or 2 NM to the right of the centre line of the route relative to the direction of flight. Pilots are not required to inform ATC that a strategic lateral offset is being applied.

6.6.3 在实施雷达管制的空域, 飞行机组实施横向偏置应当得到管制员的批准。当航空器驾驶员从非雷达覆盖区域实施策略横向偏置程序进入雷达管制空域时, 如果要求继续保持横向偏置航迹, 必须得到管制员的批准。

6.6.3 Within radar airspace, lateral offset requires approval by ATC. Pilots applying the SLOP in remote continental airspace within Non-radar airspace shall obtain approval from ATC to continue offset tracking when entering the radar airspace.

注: 雷达管制空域和非雷达管制空域见 AIP ENR 1.6 实施雷达管制的管制空域列表。

Note: Radar airspace and Non-radar airspace is defined in AIP ENR 1.6 Radar Services And Procedures.

注: 由于航空器中使用高精度导航系统

Note: The use of highly accurate navigation systems (such as the

(例如全球导航卫星系统(GNSS))的比例越来越高,造成自航路中心线横向偏置值的降低,使得当同一航路上的航空器之间的垂直间隔丧失时,增加了碰撞的概率。横向偏置程序,既适用于减轻由于导航精度提高而造成的横向重叠概率的增加,也适用于减轻所遇到的尾流紊流。

## 6.7 有关 RVSM 运行的用语

有关 RVSM 运行的用语见附件 C。

## 7.0 过渡区域

7.1 过渡区域,以及中国 RVSM 空域与周边国家和地区 FIR 转换的运行程序在本文件附件 E 中。

## 8.0 飞行计划要求

8.1 除有特殊情况外,在指定的 RVSM 空域内飞行,要求运营人和航空器取得 RVSM 批准。运营人必须确定有关国家当局已经给予他们 RVSM 运行准许并且满足填报的飞行航线与计划的备份航线的 RVSM 要求。在 ICAO 标准飞行计划的第 10 项(设备)中应当填入字母“W”,表示航空器和运营人都已取得 RVSM 批准。在中国 RVSM 空域内申请的米制飞行高度,飞行计划中应当用 S 后跟 4 位数字表示(例如: S1250、S1220、S1190 分别表示 12500m、12200m、11900m)。

## 9.0 RVSM 空域中不符合 RVSM 运行的航空器的运行程序

### 9.1 飞行优先权

应当注意到:在高度层分配时,符合 RVSM 运行的航空器将获得优于不符合 RVSM 运行的航空器。

### 9.2 应用的间隔

在 RVSM 空域内飞行的不符合 RVSM 运

global navigation satellite system (GNSS)) by an increasing proportion of the aircraft population has had the effect of reducing the magnitude of lateral deviations from the route centre line and, consequently, increasing the probability of a collision, should a loss of vertical separation between aircraft on the same route occur. The lateral offset procedures for both the mitigation of the increasing lateral overlap probability due to increased navigation accuracy, and wake turbulence encounters.

## 6.7 Phraseology Related to RVSM Operations

Phraseology Related to RVSM Operations is in Attachment C.

## 7.0 Transition Areas

7.1 Transition areas and procedures for transition between China RVSM airspace and adjacent FIRs in neighboring countries are provided in Attachment E.

## 8.0 Flight Planning Requirements

8.1 Unless special arrangement is made as detailed below, RVSM approval is required for operators and aircraft to operate within designated RVSM airspace. The operator must determine that the appropriate State authority has granted them RVSM operational approval and they will meet the RVSM requirements for the filed route of flight and any planned alternate routes. The letter “W” shall be inserted in item 10 (Equipment) of the ICAO standard flight plan to indicate that both the aircraft and operator are RVSM approved. The request metric flight level within China RVSM in Flight Plan shall be expressed as S followed by 4 figures (such as S1250, S1220 and S1190 represent 12500m, 12200m and 11900m respectively).

## 9.0 Procedures for Operation of Non-RVSM Approved Aircraft in RVSM Airspace

### 9.1 Flight priority

It should be noted that RVSM approved aircraft will be given priority for level allocation over non-RVSM approved aircraft.

### 9.2 Vertical separation applied

The vertical separation minimum between non-RVSM aircraft



行的航空器与所有其它航空器之间的垂直间隔标准为 600 米 (2 000 英尺)。

### 9.3 用语

在 RVSM 空域内飞行的不符合 RVSM 运行的航空器应当使用附件 C 中的用语。

### 9.4 不符合 RVSM 运行的航空器在 RVSM 空域做巡航飞行的特殊协调程序

不符合 RVSM 运行的航空器不得计划在 RVSM 空域内 8900 米 (FL291) 和 12500 米 (FL411) 之间飞行, 但下列情况除外:

(a) 正在被起始交付给注册国或运营人的航空器 (见: 11.0 中的附加详细资料); 或

(b) 以前取得了 RVSM 批准, 但在经历设备失效之后, 为了满足 RVSM 要求或取得批准, 正在飞往维修设施进行修理的航空器; 或

(c) 正在用作慈善或人道主义目的的航空器; 或

(d) 国家航空器 (用作军事、海关和警用的航空器被认作为国家航空器)。

9.4.1 航空器运营人从中国境内的机场起飞时, 需要提前 4 到 72 小时向中国民航总局空管局运行中心提出申请。运行中心将通过电话、AFTN、传真或邮件通知批准情况;

9.4.2 9.4 节 (a) 至 (d) 中所述的不符合 RVSM 运行的航空器飞行高度层的分配按照管制指令执行, 航空器运营人应当在 ICAO 飞行计划中第 18 项中填写 “STS/任务性质 (即 FERRY/HUMANITARIAN/MILITARY/CUSTOMS/POLICE) /NON-RVSM COMPLIANT”;

9.4.3 可以与有关单位联系:

中华人民共和国北京市东城区东四西大街 155 号 644 信箱, 邮编 100710, 中国民航总局空管局运行中心

AFTN: ZBBBZGZX

operating in the RVSM stratum and all other aircraft is 600 m (2 000 ft).

### 9.3 Phraseology

Non-RVSM approved aircraft operating in RVSM airspace should use the phraseology contained in Attachment C.

### 9.4 Special coordination procedures for cruise operation of Non-RVSM-approved aircraft in RVSM airspace.

Aircraft that are not RVSM compliant may not flight plan between 8 900m (FL291) and 12 500 m (FL411), except for the following situations:

(a) The aircraft is being initially delivered to the State of Registry or Operator (see Paragraph 11.0 for additional details and information); or

(b) The aircraft was RVSM approved but has experienced an equipment failure and is being flown to a maintenance facility for repairing in order to meet RVSM requirements and/or obtain approval; or

(c) The aircraft is being utilized for mercy or humanitarian purposes; or

(d) State aircraft (those aircraft used in military, custom and police services shall be deemed state aircraft)

9.4.1 Aircraft operators requesting that approval shall, if departing from an airport within China FIRs, obtain approval from the Operational Management Center of ATMB of CAAC normally between 4 - 72 hours prior to the expected departure time. The Operational Management Center will provide notification of approval via telephone, AFTN, Fax or e-mail as appropriate; and

9.4.2 The assignment of cruising levels to non-RVSM approved aircraft listed in paragraph 9.4 (a) to (d) shall be subject to an ATC clearance. Aircraft operators shall include the ‘STS/Category of operations (i.e. FERRY/HUMANITARIAN/MILITARY/CUSTOMS/POLICE) /NON-RVSM COMPLIANT’ in Field 18 of the ICAO Flight Plan;

9.4.3 The unit may be contacted as follows:

The Operational Management Center of ATMB of CAAC  
P.O. Box 644, 155 Dongsu Street West, Dongcheng District Beijing 100710, People’s Republic of China

AFTN: ZBBBZGZX

电话: (86-10) 64012907

TEL: (86-10) 64012907

电传: (86-10) 65135983

FAX: (86-10) 65135983

9.4.4 本批准手续仅供以上指明的目的,不得用作逃避正常批准手续的手段。

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

## 10.0 不具备 RVSM 运行能力的航空器在 RVSM 空域连续爬升或下降。

## 10.0 Continuous Climb/Descent of Non-compliant Aircraft through RVSM Airspace

10.1 不具备 RVSM 运行能力的航空器获准穿越 RVSM 空域上升至 12500 米 (FL411) 以上,或穿越 RVSM 空域下降至 8900 米 (FL291) 以下的指定高度层运行时:

10.1 Non-RVSM compliant aircraft may be cleared to climb to and operate above 12 500m (FL411) or descend to and operate below 8 900m (FL291) provided that they:

(a) 禁止以低于正常上升率或下降率的速率上升或者下降;

(a) Do not climb or descend at less than the normal rate for the aircraft and

(b) 禁止在穿越 RVSM 的高度层范围时平飞。

(b) Do not level off at an intermediate level while passing through the RVSM stratum.

## 11.0 交付符合 RVSM 要求的航空器时的交付飞行

## 11.0 Delivery Flights for Aircraft that are RVSM Compliant on Delivery

11.1 符合 RVSM 要求的航空器,在交付时,可在 RVSM 空域飞行,但机组必须经过空域内有关的 RVSM 政策和程序的培训,并且有关国家为运营人颁发有准许运行的批准书。国家应当以书信、电子邮件或传真形式通知 MAAR,为该一次性飞行出具证明文件。其中应当包括:计划飞行日期,飞行代号,注册号和机型/系列等。

11.1 An aircraft that is RVSM compliant on delivery may operate in RVSM airspace provided that the crew is trained on RVSM policies and procedures applicable in the airspace and the responsible State issues the operator a letter of authorization approving the operation. State notification to MAAR should be in the form of a letter, e-mail or fax documenting the one-time flight. The planned date of the flight, flight identification, registration number and aircraft type/series should be included.

## 12.0 RVSM 的暂停程序

## 12.0 Procedures for Suspension of RVSM

12.1 当飞行员报告有中度以上颠簸时,空中交通服务将考虑在中国空域受影响的区域内暂停 RVSM 程序。在 RVSM 程序被暂停的区域内,所有航空器之间的垂直间隔标准为 600 米 (2000 英尺)。

12.1 Air traffic services will consider suspending RVSM procedures within affected areas of Chinese FIRs when there are pilot reports of greater than moderate turbulence. Within areas where RVSM procedures are suspended, the vertical separation minimum between all aircraft will be 600m(2 000ft).

**13.0 航空器系统故障或遇上中度以上颠簸情况下，管制员和飞行员的行动指导**

13.1 在这些情况下的指导，见附件 D。

**14.0 陆空通信失效程序的处置程序**

14.1 结合中国 AIP，按照 ICAO 空中导航服务程序·空中交通管理—4444 文件中所规定的陆空通信失效程序。

**13.0 Guidance for Pilots and Controllers for Actions in the Event of Aircraft System Malfunction or Turbulence Greater than Moderate**

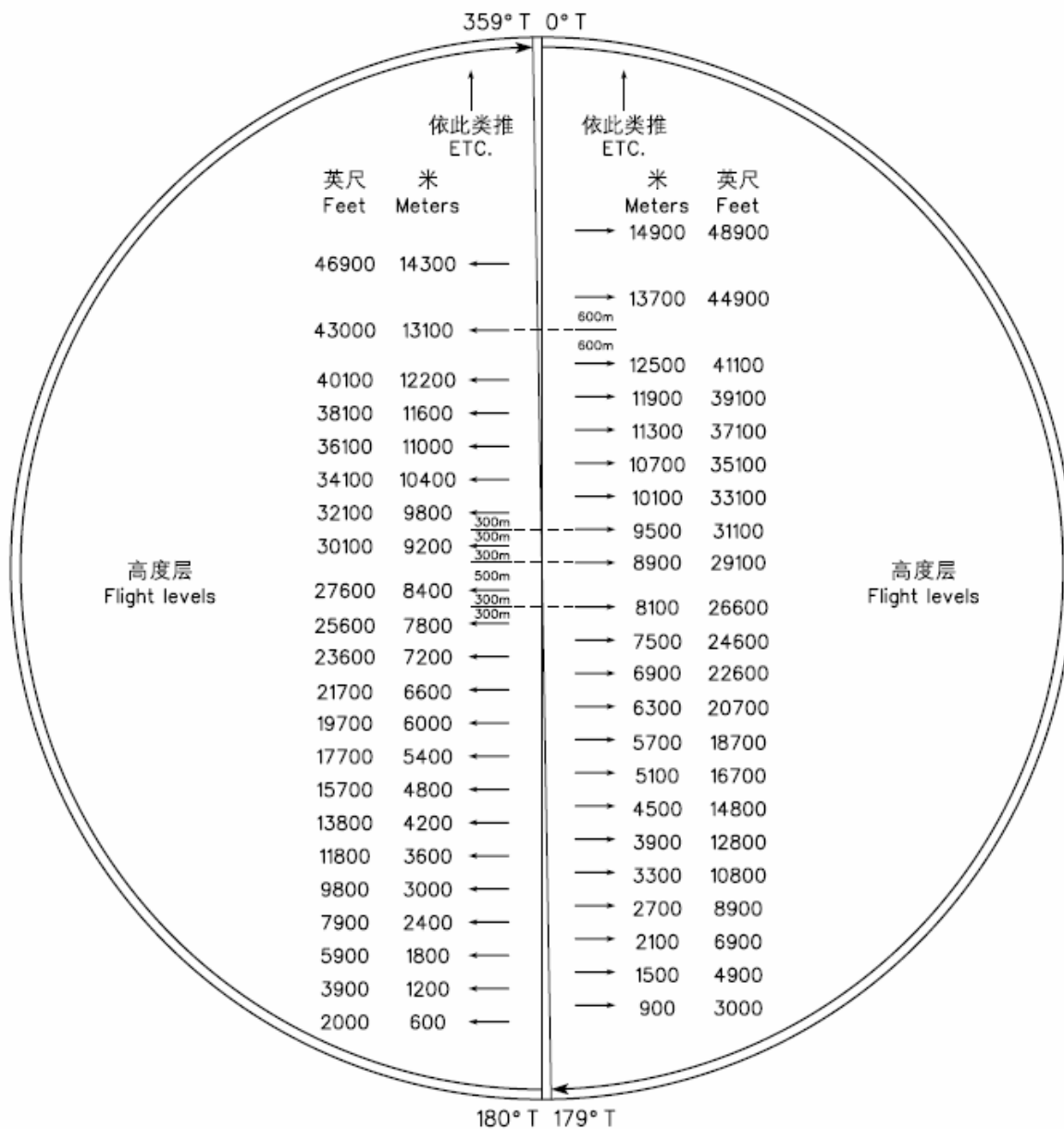
13.1 See Attachment D for guidance in these circumstances.

**14.0 Procedures for Air-Ground Communication Failure**

14.1 The air-ground communication failure procedures specified in ICAO PANS-ATM Doc 4444 should be applied, in conjunction with AIP China.

附件 A  
ATTACHMENT A

飞行高度层配备示意图  
Diagram of Flight Levels Allocation



注：管制员将发布米制飞行高度层指令。航空器驾驶员应当根据中国民航飞行高度层配备标准示意图(表)来确定对应的英制飞行高度层。航空器应当飞对应的英制飞行高度层。航空器驾驶员应当知晓公英制转换带来的差异，驾驶舱仪表显示的米制高度与管制指令的米制高度不一定完全一致，但存在的差异不会超过 30 米。

Note: ATC will issue the Flight Level clearance in meters. Pilots shall use the China RVSM FLAS Diagram to determine the corresponding flight level in feet. The aircraft shall be flown using the flight level in FEET. Pilots should be aware that due to the rounding differences, the metric readout of the onboard avionics will not necessarily correspond to the cleared Flight Level in meters however the difference will never be more than 30 meters.

# 飞行高度层配备标准表

## Table of Flight Levels Allocation

180°- 359°T		000°- 179°T	
Flight Levels		Flight Levels	
m	ft	m	ft
ETC.	ETC.	ETC.	ETC.
↑	↑	↑	↑
15500	50900	14900	48900
14300	46900	13700	44900
13100	43000		
		12500	<u>41100</u>
12200	<u>40100</u>	11900	<u>39100</u>
11600	38100	11300	37100
11000	36100	10700	35100
10400	34100	10100	33100
9800	<u>32100</u>	9500	<u>31100</u>
9200	<u>30100</u>	8900	<u>29100</u>
8400	27600	8100	26600
7800	25600	7500	24600
7200	23600	6900	22600
6600	21700	6300	20700
6000	19700	5700	18700
5400	17700	5100	16700
4800	15700	4500	14800
4200	13800	3900	12800
3600	11800	3300	10800
3000	9800	2700	8900
2400	7900	2100	6900
1800	5900	1500	4900
1200	3900	900	3000
600	2000	—	—
m	ft	m	ft

附件 B: 大高度偏差报告

ATTACHMENT B: LARGE HEIGHT DEVIATION REPORT

飞行情报区名称: Name of FIR:
<p><b>请根据需要完成第一部分或第二部分, 即:</b></p> <p>如果本月没有大高度偏差, 仅在第一部分填写当月月份, 第二部分和表 B 无需填写; 如果本月出现了大高度偏差, 则第一部分不用填写, 在第二部分中具体填写相应内容, 并结合每起大高度偏差具体情况填写表 B。</p> <p><b>Please complete Section I or II as appropriate:</b></p> <p>If there were no reports of large altitude deviation, only Section I should be finished.</p> <p>If there were reports of large altitude deviation, please finish both Section I and Section II. If there were more than one report, each report should write a separate piece of Table B.</p>
<p><b>第一部分:</b></p> <p>_____年____月, 无高度偏差报告。</p> <p><b>Section I:</b></p> <p>There were no reports of large altitude deviation for the month of _____</p>
<p><b>第二部分:</b></p> <p>_____年____月, 在 8400 米至 12500 米之间有____起高度偏差在 90 米或以上的高度偏差报告。</p> <p><b>Section II:</b></p> <p>There was/were _____ report(s) of an altitude deviation of 90m(300 ft) or more between 8400m and 12500m. Details of the altitude deviation are attached (Table B).</p> <p>(Please use a separate table for each report of large height deviation).</p>
<p><b>第三部分:</b></p> <p>完成后, 请于每月初前 10 日内将数据反馈以下电子邮箱: rvsmdata@sina.com</p> <p><b>Section III:</b></p> <p>When complete, please return to the following email: E-Mail: rvsmdata@sina.com</p>

表 B: 在 8400 米至 12500 米之间高度偏差在 90 米或以上事件的报告

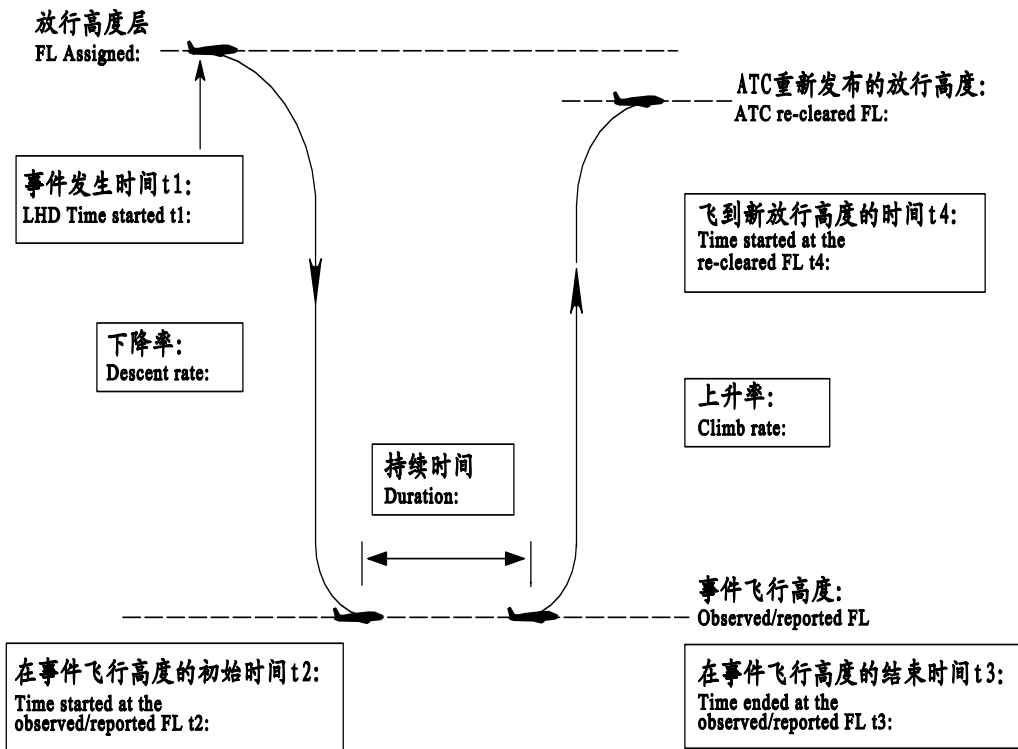
Table B: Report of an Altitude Deviation of 90m(300 ft) or More Between 8400m and 12500m

注意: (请将每起高度偏差报告分别填表) (Please use a separate table for each report of large height deviation).	
(1)	这是本月该报告单位报告的第.....起大高度偏差事件 This is the.....large height event reported this month.
(2)	报告人(单位、部门): Reporting Agency:.....
(3)	该事件发生高度偏差的地点: Location of Deviation • 航路/航线: ATS Route:...../ • 航路点: Fixes (Fixes between the locations of deviation):.....
(4)	发生该事件的日期、时间 (UTC: yyyy-mm-dd) Date of Occurrence (UTC):.....
(5)	航空器识别和机型 Flight Identification and Type:.....
(6)	应飞飞行高度层 Flight Level Assigned (Record in the picture is also admitted):.....
(7)	观察到模式 C 显示/飞行员报告的飞行高度 Observed/Reported Final Level Mode C/Pilot Report:(Record in the picture is also admitted): ...../.....
(8)	造成偏差的原因 Cause of Deviation:.....
(9)	其他空中活动(冲突) Other Traffic:.....
(10)	机组评论(如果有) Crew Comments (if any, when noted):.....
(11)	备注 Remarks:..... .....
(12)	该飞行高度层持续时间 Duration at Flight Level: .....

(12) 该飞行高度层持续时间 Duration at Flight Level

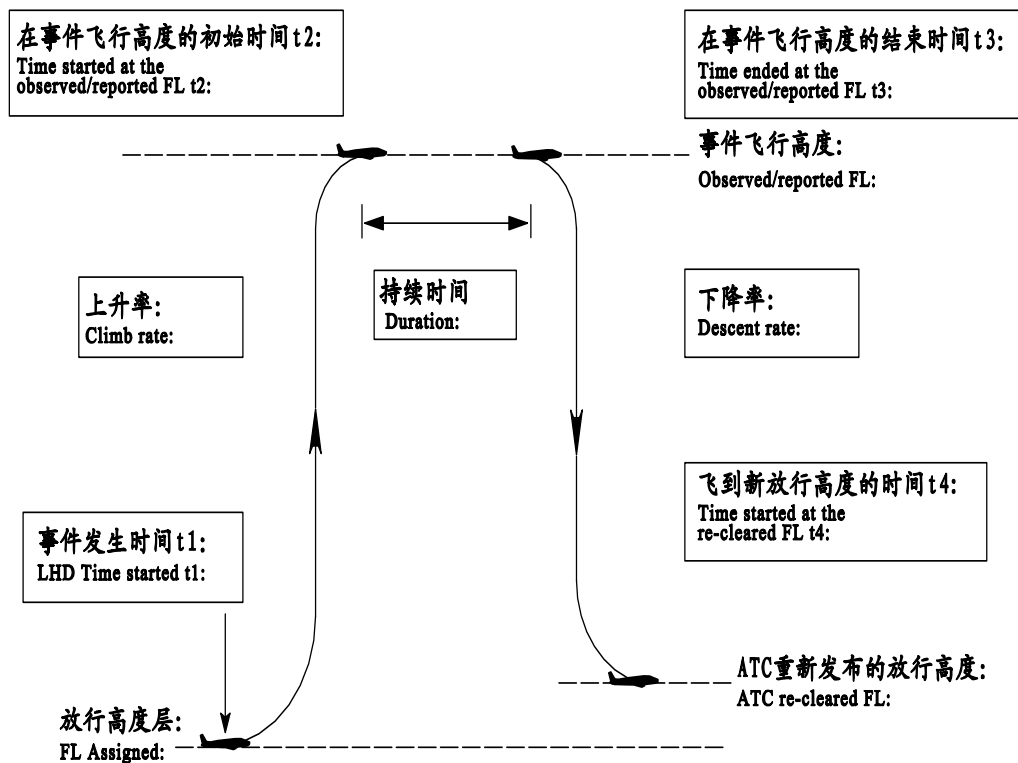
A) 下降穿越的大高度偏差情况

Aircraft descended when large height deviation occurred



B) 上升穿越的大高度偏差情况:

Aircraft ascended when large height deviation occurred





**附件 C: 有关 RVSM 运行的管制员—飞行员用语:**  
**ATTACHMENT C: Phraseology Related to RVSM Operations for Controller-pilot**

语义 Message	用语 Phraseology
<p>用于管制员确认航空器的 RVSM 准许状况: For a controller to ascertain the RVSM approval status of an aircraft:</p>	<p>(航空器呼号), 证实 RVSM 已批准。 (call sign) COMFIRM RVSM APPROVED</p>
<p>用于飞行员报告非 RVSM 准许状况: i) 在 RVSM 空域的频率上首次呼叫 (管制员将复诵相同的短语), 及 ii) 在申请所有有关 RVSM 空域的飞行高度层的飞行高度层改变时; 及 iii) 在复诵所有有关 RVSM 空域的飞行高度层的飞行高度层许可时。 此外, 除国家航空器外, 飞行员在复诵涉及垂直穿越 8900 米(FL291)或 12500 米 (FL411)的飞行高度层许可时应当包括该短语。 见下面的例子。 For a pilot to report non-RVSM approval status: i) On the initial call on any frequency within the RVSM airspace (controller shall provide a read-back with the same phrase), and ii) In all requests for flight level changes pertaining to flight levels within the RVSM airspace; and iii) In all read-backs to flight level clearances pertaining to flight levels within the RVSM airspace. Additionally, except for State aircraft, pilots shall include this phrase to read back flight level clearances involving the vertical transit through 8 900m (FL291) or 12 500m (FL411). See examples that follow.</p>	<p>不是 RVSM</p> <p>NEGATIVE RVSM*</p>
<p>用于飞行员报告 RVSM 准许状况。 For a pilot to report RVSM approval status.</p>	<p>是 RVSM AFFIRM RVSM*</p>
<p>用于非 RVSM 准许的国家航空器的飞行员在回答短语“(呼号)CONFIRM RVSM APPROVED”时, 报告非 RVSM 准许状况。 For a pilot of a non-RVSM approved State aircraft to report non-RVSM approval status, in response to the phrase (call sign) CONFIRM RVSM APPROVED.</p>	<p>不是 RVSM, 是国家航空器</p> <p>NEGATIVE RVSM, STATE AIRCRAFT*</p>

<p>用于拒绝进入 RVSM 空域 Denial of clearance into the RVSM airspace:</p>	<p>(呼号) 不能许可进入 RVSM 空域, 保持[上升或下降到]高度层 (数字) (呼号 call sign)UNABLE ISSUE CLEARANCE INTO RVSM AIRSPACE, MAINTAIN [or DESCEND TO, or CLIMB TO] FLIGHT LEVEL</p>
<p>用于飞行员报告严重颠簸影响航空器保持 RVSM 的高度保持要求的能力 For a pilot to report when severe turbulence affects the aircraft's capability to maintain the height-keeping requirements for RVSM.</p>	<p>由于颠簸, 不能保持 RVSM。 UNABLE RVSM DUE TURBULENCE*</p>
<p>用于飞行员报告航空器的设备等级已经降低到 RVSM 空域内飞行所要求的最低航空器系统性能规范 (MASPS) 以下。 (该短语用来表示不符和最低航空器系统性能规范 MASPS, 既用于起始时, 也用于在问题消除之前或航空器脱离 RVSM 空域之前, 在 RVSM 空域的侧向界限之内的所用频率上的首次联络时。) For a pilot to report that the aircraft's equipment has degraded enroute below that required MASPS-Minimum Aviation System Performance Standards for flight within the RVSM airspace. (This phrase is to be used to convey both the initial indication of the non-MASPS compliance, and henceforth, on initial contact on all frequencies within the lateral limits of the RVSM airspace until such time as the problem ceases to exist, or the aircraft has exited the RVSM airspace.)</p>	<p>由于设备原因不能保持 RVSM。 UNABLE RVSM DUE EQUIPMENT*</p>
<p>用于在设备或与天气有关的应急情况之后, 飞行员报告可恢复在 RVSM 空域飞行的能力。 For a pilot to report the ability to resume operations within the RVSM airspace after an equipment or weather-related contingency.</p>	<p>准备好恢复 RVSM 运行 READY TO RESUME RVSM</p>
<p>用于管制员确认航空器已经再次取得 RVSM 准许的状况, 或确认飞行员已经准备好恢复 RVSM 飞行。 For a controller to confirm that an aircraft has regained its RVSM approval status or to confirm that the pilot is ready to resume RVSM operations.</p>	<p>能够恢复 RVSM 时报告 REPORT WHEN ABLE TO RESUME RVSM</p>

例 1: 非 RVSM 准许的国家航空器, 现在保持 7 800 米( FL256 ), 随后申请上升到 9800 米( FL321 )

Example 1: A non-RVSM approved aircraft, maintaining 7 800m (FL256), subsequently requests a climb to 9 800 m (FL321).

Pilot: (call sign) REQUEST 9 800 m (FL321), NEGATIVE RVSM

Controller: (call sign) CLIMB TO 9 800 m (FL321)

Pilot: (call sign) CLIMB TO 9 800 m (FL321), NEGATIVE RVSM

例 2: 非 RVSM 准许的国家航空器, 现在保持 11000 米( FL361 ), 随后申请上升到 11600 米( FL381 )

Example 2: A non-RVSM approved aircraft, maintaining 11 000 m (FL361), subsequently requests a climb to 11 600 m (FL381)

Pilot: (call sign) REQUEST 11 600 m (FL381), NEGATIVE RVSM

Controller: (call sign) CLIMB TO 11 600 m (FL381)

Pilot: (call sign) CLIMB TO 11 600 m (FL381), NEGATIVE RVSM

例 3: 非 RVSM 准许的民用航空器, 现在保持 8 400 米( FL276 ), 随后申请上升到 9 800 米( FL321 )

Example 3: A non-RVSM approved civil aircraft maintaining 8 400 m (FL276), subsequently requests a climb to 9 800 m (FL 321)

Pilot: (call sign) REQUEST 9 800 m ( FL321 ) , NEGATIVE RVSM

Controller: (call sign) UNABLE ISSUE CLEARANCE INTO RVSM AIRSPACE, MAINTAIN 8 400 m (FL276)

例 4: 管制员指挥 RVSM 准许的民用航空器保持高度 9 200 米, 但是管制员通过雷达发现航空器在 FL302 高度飞行 (注: 飞行员应当飞 FL301, 这时雷达标牌显示为 0917; 如果飞行员实际在飞 FL302, 这时雷达标牌显示为 0920)。这时, 管制员提醒航空器驾驶员按照中国民航飞行高度层配备标准示意图 (表) 飞对应的英制飞行高度层

Example 4: Air traffic controller instructs a RVSM approved civil aircraft to maintain 9 200 m, but he finds the aircraft is actually flying FL302. ATC will inform the Pilot to use the China RVSM FLAS Diagram to determine the corresponding flight level in feet

Controller: (call sign) MAINTAIN 9 200m.

Pilot: (call sign) MAINTAIN 9 200m.

Controller: (call sign) MAINTAIN 9 200m, CONVERT ALTITUDE WITH CHINA RVSM FLIGHT LEVEL CHART.

The Pilot shall use the China RVSM FLAS Diagram to determine that, for 9 200m, the corresponding flight level in feet is FL301, then flies the aircraft at FL301, and then:

Pilot: (call sign) MAINTAIN 9 200m

**ATS 部门之间的协调**  
**Coordination between ATS units**

段落 Para	语义 Message	用语 Phraseology
1	<p>口头补充未能自动传输的第 18 项飞行计划信息的自动化预计电报交换</p> <p>To verbally supplement an automated estimate message exchange which does not automatically transfer Item 18 flight plan information.</p>	<p>NEGATIVE RVSM or NEGATIVE RVSM STATE AIRCRAFT [根据可应用性 as applicable]</p>
2	<p>口头补充非 RVSM 准许航空器的预计电报</p> <p>To verbally supplement estimate messages of non-RVSM approved aircraft.</p>	<p>NEGATIVE RVSM or NEGATIVE RVSM STATE AIRCRAFT [根据可应用性 as applicable]</p>
3	<p>交流有关航空器由于严重颠簸或严重的天气现象[设备失效, 根据可应用性]造成的不能进行 RVSM 飞行的原因</p> <p>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 weather-related phenomenon [or equipment failure, as applicable].</p>	<p>UNABLE RVSM DUE TURBULENCE [or EQUIPMENT, 根据可应用性 as applicable]</p>

对符合我国高度层配备标准的高度，其高度的读法示例见表 C  
*Pronunciation of Flight Levels in metric system is published in the table C as follows*

表 C - 飞行高度层的读法

Table C - Pronunciation of Flight Levels

高度层 Flight Level	汉语读法 Chinese Pronunciation	英语读法 English Pronunciation
600m	六百	SIX HUN-dred METERS
900m	九百	NIN-er HUN-dred METERS
1200m	一千二 或 么两	WUN TOU-SAND TOO HUN-dred METERS
1500m	一千五 或 么五	WUN TOU-SAND FIFE HUN-dred METERS
1800m	一千八 或 么八	WUN TOU-SAND AIT HUN-dred METERS
2100m	两么	TOO TOU-SAND WUN HUN-dred METERS
2400m	两千四	TOO TOU-SAND FOW-er HUN-dred METERS
2700m	两千七 或 两拐	TOO TOU-SAND SEV-en HUN-dred METERS
3000m	三千	TREE TOU-SAND METERS
3300m	三千三	TREE TOU-SAND TREE HUN-dred METERS
3600m	三千六	TREE TOU-SAND SIX HUN-dred METERS
3900m	三千九	TREE TOU-SAND NIN-er HUN-dred METERS
4200m	四千二 或 四两	FOW-er TOU-SAND TOO HUN-dred METERS
4500m	四千五	FOW-er TOU-SAND FIFE HUN-dred METERS
4800m	四千八	FOW-er TOU-SAND AIT HUN-dred METERS
5100m	五千一 或 五么	FIFE TOU-SAND WUN HUN-dred METERS
5400m	五千四	FIFE TOU-SAND FOW-er HUN-dred METERS
5700m	五千七 或 五拐	FIFE TOU-SAND SEV-en HUN-dred METERS
6000m	六千	SIX TOU-SAND METERS
6300m	六千三	SIX TOU-SAND TREE HUN-dred METERS
6600m	六千六	SIX TOU-SAND SIX HUN-dred METERS
6900m	六千九	SIX TOU-SAND NIN-er HUN-dred METERS
7200m	拐两	SEV-en TOU-SAND TOO HUN-dred METERS
7500m	拐五	SEV-en TOU-SAND FIFE HUN-dred METERS
7800m	拐八	SEV-en TOU-SAND AIT HUN-dred METERS
8100m	八千一 或 八么	AIT TOU-SAND WUN HUN-dred METERS
8400m	八千四	AIT TOU-SAND FOW-er HUN-dred METERS
8900m	八千九	AIT TOU-SAND NIN-er HUN-dred METERS
9200m	九千二	NIN-er TOU-SAND TOO HUN-dred METERS

9500m	九千五	NIN-er TOU-SAND FIFE HUN-dred METERS
9800m	九千八	NIN-er TOU-SAND AIT HUN-dred METERS
10100m	么洞么	TEN TOU-SAND WUN HUN-dred METERS Or WUN ZE-RO TOU-SAND WUN HUN-dred METERS
10400m	么洞四	TEN TOU-SAND FOW-er HUN-dred METERS Or WUN ZE-RO TOU-SAND FOW-er HUN-dred METERS
10700m	么洞拐	TEN TOU-SAND SEV-en HUN-dred METERS Or WUN ZE-RO TOU-SAND SEV-en HUN-dred METERS
11000m	么么洞 或 么么零	ELEVEN TOU-SAND METERS Or WUN WUN TOU-SAND METERS
11300m	么么三	ELEVEN TOU-SAND TREE HUN-dred METERS Or WUN WUN TOU-SAND TREE HUN-dred METERS
11600m	么么六	ELEVEN TOU-SAND SIX HUN-dred METERS Or WUN WUN TOU-SAND SIX HUN-dred METERS
11900m	么么九	ELEVEN TOU-SAND NIN-er HUN-dred METERS Or WUN WUN TOU-SAND NIN-er HUN-dred METERS
12200m	么两两	WUN TOO TO-SAND TOO HUN-dred METERS
12500m	么两五	WUN TOO TO-SAND FIFE HUN-dred METERS
13100m	么三么	WUN TREE TOU-SAND WUN HUN-dred METERS
13700m	么三拐	WUN TREE TOU-SAND SEV-en HUN-dred METERS
14300m	么四三	WUN FOW-er TOU-SAND TREE HUN-dred METERS
14900m	么四九	WUN FOW-er TOU-SAND NIN-er HUN-dred METERS

附件 D : 遭遇危险天气和航空器系统失效时的应急处置程序

ATTACHMENT D: Contingency Actions for Weather Encounters and Aircraft System Failures

应急情况下飞行员的初始行动

Initial Pilot Actions in Contingency Situations

当不能够保持飞行高度 (FL) 或者不能确定航空器高度保持性能时飞行员的初始行动 Initial Pilot Actions when unable to maintain flight level (FL) or unsure of aircraft altitude-keeping capability:
<ul style="list-style-type: none"><li>• 通知管制员并请求下列协助</li><li>• Notify ATC and request assistance as detailed below.</li> <li>• 尽可能保持管制许可的飞行高度, 同时评估当时的情况</li><li>• Maintain cleared flight level, to the extent possible, while evaluating the situation</li> <li>• 通过目视, 或者使用 TCAS 观察空中交通</li><li>• Maintain watch for conflicting traffic both visually and by reference to TCAS</li> <li>• 打开外部灯光用以警示附近的其他航空器</li><li>• Alert nearby aircraft by illuminating exterior lights</li> <li>• 如果无法与管制员建立联系, 在 121.5 MHz 频率( 作为备份, 可以使用驾驶员之间空对空 123.45 MHz 频率) 上广播航空器位置、飞行高度和机组行动意图</li><li>• If unable to contact ATC, broadcast position, flight level and intention on 121.5 MHz (or, as a backup, the VHF inter-pilot air-to-air frequency 123.45 MHz)</li></ul>

严重颠簸和/或者山地波所导致的约 60 米 (200 英尺) 的高度偏差

Severe Turbulence and/or Mountain Wave Activity (MWA) Induced Altitude Deviations of Approximately 60 米 (200 feet)

飞行员: <ul style="list-style-type: none"><li>• 当遭遇严重颠簸和/或者山地波导致约 60 米 (200 英尺) 或以上的高度偏差时, 飞行员应向管制员报告 “由于颠簸, 不能保持 RVSM”。</li><li>• 如果管制员没有发出指令, 要求管制引导指令以避免附近高度上的空中交通。</li><li>• 如果需要, 向管制员申请改变高度。</li><li>• 向管制员报告颠簸和/或者山地波的地理位置和严重程度</li></ul>	管制员: <ul style="list-style-type: none"><li>• 评估交通情况以决定是否可以通过提供横向、纵向和增加垂直间隔的方法调配航空器, 在允许的情况下, 使用合适的最小间隔。</li><li>• 向飞行员通报飞行冲突的情况。</li><li>• 发布新的空中交通许可, 指挥航空器改变飞行高度。</li><li>• 向其他航空器通报驾驶员空中报告的情况</li></ul>
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<p><b>Pilot will:</b></p> <ul style="list-style-type: none"> <li>• When experiencing severe turbulence and/or MWA induced altitude deviations of approximately 60m (200ft) or greater, pilot will contact ATC and state ‘Unable RVSM Due (state reason)’ (e.g., turbulence, mountain wave)</li> <li>• If not issued by the controller, request vector clear of traffic at adjacent FL’s</li> <li>• If desired, request FL change</li> <li>• Report location and magnitude of turbulence or MWA to ATC</li> </ul>	<p><b>Controller will:</b></p> <ul style="list-style-type: none"> <li>• Assess the traffic situation to determine if the aircraft can be accommodated through the provision of lateral, longitudinal or increased vertical separation and, if so, apply the appropriate minimum.</li> <li>• Advise pilot of conflicting traffic</li> <li>• Issue FL change, traffic permitting</li> <li>• Issue PIREP to other aircraft</li> </ul>
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**遭遇山地波**

**Mountain Wave Activity (MWA) Encounters – General**

注：遭遇不会导致近似 60 米（200 英尺）或以上高度偏差的山地波。下列程序用于指导飞行员在遭遇程度较轻的山地波时的处置程序。

*Note: MWA encounters do not necessarily result in altitude deviations on the order of 60m (200 ft). The guidance below is intended to address less significant MWA encounters.*

<p>飞行员的行动:</p> <ul style="list-style-type: none"> <li>• 向管制员报告遭遇了山地波。</li> <li>• 向管制员报告山地波的地理位置和严重程度。</li> <li>• 如需要，向管制员申请改变飞行高度或偏离既定航路。</li> </ul> <p><b>Pilot actions:</b></p> <ul style="list-style-type: none"> <li>• Contact ATC and report experiencing MWA.</li> <li>• Report location and magnitude of MWA to ATC.</li> <li>• If so desired, pilot may request a FL change or deviation from the intended route.</li> </ul>	<p>管制员的行动:</p> <ul style="list-style-type: none"> <li>• 向驾驶员通报临近飞行高度上的空中交通冲突。</li> <li>• 如果驾驶员请求，在空中交通允许的情况下指挥或引导航空器避开附近高度上的其它航空器。</li> <li>• 在空中交通允许的情况下，指挥航空器改变飞行高度层。</li> <li>• 向其他的航空器通报驾驶员空中报告的情况</li> </ul> <p><b>Controller actions:</b></p> <ul style="list-style-type: none"> <li>• Advise pilot of conflicting traffic at adjacent FL.</li> <li>• If pilot requests, vector aircraft to avoid merging target with traffic at adjacent RVSM flight levels, traffic permitting.</li> <li>• Issue FL change or re-route, traffic permitting.</li> <li>• Issue PIREP to other aircraft.</li> </ul>
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## 遭遇尾流颠簸

### Wake Turbulence Encounters

<p>飞行员应当:</p> <ul style="list-style-type: none"><li>• 报告管制员并申请雷达引导、改变高度, 如可能, 实施侧向偏置, 航空器向右偏置 1-2 海里。</li></ul> <p><b>Pilot should:</b></p> <ul style="list-style-type: none"><li>• Contact ATC and request vector, FL change or, if capable, a lateral offset to right 1 or 2 NM.</li></ul>	<p>管制员应当:</p> <ul style="list-style-type: none"><li>• 发布雷达引导、改变高度的指令, 如可能, 实施侧向偏置, 指挥航空器向右偏置 1-2 海里 (在情况允许时)。</li></ul> <p><b>Controller should:</b></p> <ul style="list-style-type: none"><li>• Issue clearance of vector, FL change or lateral offset to right 1 or 2 NM, traffic permitting.</li></ul>
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由于设备原因不能保持 RVSM (自动高度控制系统、高度告警系统或所有主高度表失效)

### Unable RVSM Due Equipment (Failure of Automatic Altitude Control System, Altitude Alerter or All Primary Altimeters)

<p>飞行员将:</p> <ul style="list-style-type: none"><li>• 报告管制员 “由于设备原因不能保持 RVSM”。</li><li>• 向管制员申请离开 RVSM 空域的指令, 除非运行情况允许采取其他方法。</li></ul> <p><b>Pilot will:</b></p> <ul style="list-style-type: none"><li>• Contact ATC and state “Unable RVSM Due Equipment”.</li><li>• Request clearance out of RVSM airspace unless operational situation dictates otherwise.</li></ul>	<p>管制员将:</p> <ul style="list-style-type: none"><li>• 为航空器提供 600 米 (2000 英尺) 垂直间隔, 或者使用适当的水平间隔。</li><li>• 指挥航空器离开 RVSM 空域, 除非运行情况允许采取其他方法 (例如, 如果空中交通量少时, 管制员可以允许其仍保持在 RVSM 空域内飞行, 并提供 600 米 (2000ft) 垂直间隔)。</li></ul> <p><b>Controller will:</b></p> <ul style="list-style-type: none"><li>• Provide 600m (2,000ft) vertical separation or appropriate horizontal separation.</li><li>• Clear aircraft out of RVSM airspace unless operational situation dictates otherwise.</li></ul>
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### 一个主高度表仍然处于正常运行状态

#### One Primary Altimeter Remains Operational

<p>飞行员将:</p> <ul style="list-style-type: none"><li>• 交叉检查备用高度表。</li><li>• 通知管制员目前依靠一个主高度表运行。</li><li>• 如不能确定主高度表的精确度, 按照全部主高度表失效的程序采取行动。</li></ul>	<p>管制员将:</p> <ul style="list-style-type: none"><li>• 确实收到目前航空器依靠一个主高度表运行的情况(注: 这时航空器仍可处于RVSM空域内飞行, 除非航空器报告“由于设备原因不能保持RVSM”)。</li><li>• 移交给下一个的管制员或管制单位时通报目前航空器依靠一个主高度表运行的情况。</li></ul>
<p><b>Pilot will:</b></p> <ul style="list-style-type: none"><li>• Cross check stand-by altimeter.</li><li>• Notify ATC of operation with single primary altimeter.</li><li>• If unable to confirm primary altimeter accuracy, follow actions for failure of all primary altimeters.</li></ul>	<p><b>Controller will:</b></p> <ul style="list-style-type: none"><li>• Acknowledge operation with single primary altimeter.</li></ul> <p><i>Note: Aircraft are able to operate in RVSM airspace at this situation except that pilot report unable RVSM due equipment.</i></p> <ul style="list-style-type: none"><li>• Relay to other controllers or facilities who will subsequently handle the aircraft and any special handling requirement or being provided.</li></ul>

### 应答机失效

#### Transponder Failure

<p>飞行员将:</p> <ul style="list-style-type: none"><li>• 报告管制员并申请继续在许可的高度上运行。</li><li>• 如果管制员发出新的管制指令, 按照管制指令执行。</li></ul> <p><b>Pilot will:</b></p> <ul style="list-style-type: none"><li>• Contact ATC and request authority to continue to operate at cleared flight level.</li><li>• Comply with revised ATC clearance, if issued.</li></ul>	<p>管制员将:</p> <ul style="list-style-type: none"><li>• 考虑允许航空器继续在许可的高度上运行, 必要时指挥其他航空器避让。</li><li>• 如果需要, 发出新的管制指令。</li></ul> <p><b>Controller will:</b></p> <ul style="list-style-type: none"><li>• Consider request to continue to operate at cleared flight level.</li><li>• Issue revised clearance, if necessary.</li></ul>
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## 紧急下降或者改变高度

### Contingency Procedures for Aircraft Requiring Rapid Descent

<p><b>飞行员:</b></p> <ul style="list-style-type: none"><li>• 向管制员报告航空器的准确位置, 如果需要请求另行配备飞行高度层。</li><li>• Notify ATC of aircraft location and request FL change as required.</li><li>• 当航空器遇有紧急情况, 飞行安全受到威胁时, 机长可以决定改变原配备的飞行高度层, 但必须立即报告管制员, 并对该决定负责。</li><li>• Upon declaring an emergency a pilot may exercise his right and change his assigned flight level. He shall notify ATC immediately and submit a report upon arrival at the destination.</li><li>• 如果需要紧急下降但无法与管制员建立联系时:</li><li>• 改变高度层的方法是: 从航空器飞行的方向向右转 30 度, 并以此航向飞行 20 公里, 再左转平行原航线上升或者下降到新的高度层, 然后转回原航线(在适当时候)。注: 转回原航线可能与在该航线中心线上飞行的其他航空器产生飞行冲突。</li><li>• 通过广播与附近的航空器建立联系并发出警示, 在合适的时机使用当前频率和 121.5Mhz (作为备份, 可以使用驾驶员之间空对空 123.45 MHz 频率) 报告应答机编码、飞行高度层、准确位置和意图等;</li><li>• 通过目视或者使用 TCAS 观察附近的航空器;</li><li>• 打开航空器所有的外部灯光。</li><li>• If unable to contact ATC and rapid descent required:</li><li>• Deviation procedure for level change: turn 30° right and track out 20 kilometers (i.e. deviate right of airway centerline by 10 km or 5 nm), then, turn left to track parallel the original route, then climb or descend to the new level, and then return to the original one (when appropriate).</li></ul>	<p><b>管制员:</b></p> <ul style="list-style-type: none"><li>• 管制员批准航空器改变飞行高度层时, 必须明确改变的高度层以及改变高度层的地段和时间。</li><li>• Issue ATC clearance to change flight level.</li></ul>
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*Note: when return to the original route, it is possible to have conflict traffic on that route.*

- Establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: flight identification, flight level, aircraft position and intention on the frequency in use, as well as on frequency 121.5 MHz (or, as a backup, the VHF inter-pilot air-to-air frequency 123.45 MHz).
- Establish visual contact with conflicting traffic.
- Turn on all aircraft exterior lights.

## 附件 E: 不同飞行高度层系统之间的高度转换程序

### ATTACHMENT E: Flight Level Transition Procedures between Different FLAS system

1. 2007年11月21日16:00(世界时),北京、广州、昆明、兰州、上海、沈阳、乌鲁木齐和武汉情报区,以及三亚管制区01号扇区(岛内空域)实施缩小垂直间隔后,在中国与相邻国家的飞行情报区之内就出现了两种不同的飞行高度系统,对于进入和离开中国空域的航空器就需要制定专门的高度层转换程序。

(A) 中国米制 RVSM 飞行高度层系统与 ICAO 英制 RVSM 飞行高度层系统的转换

ICAO 英制 RVSM 飞行高度层系统已经在福冈、香港和仁川等飞行情报区实施使用。因此,相对于实施缩小垂直间隔之前的情况,管制移交程序更简单和平顺。中国缩小垂直间隔飞行高度层转换为英尺后的英制高度,比对应的 ICAO 英制 RVSM 飞行高度层系统高 100 英尺。

(B) 中国米制 RVSM 飞行高度层系统与常规垂直间隔米制飞行高度层系统的转换

在实施缩小垂直间隔之前,中国与俄罗斯、蒙古、哈萨克斯坦和朝鲜等使用常规垂直间隔米制高度层的国家之间需要进行飞行高度层的转换。中国实施缩小垂直间隔之后,除非俄罗斯、蒙古和朝鲜等国在其空域内实施缩小垂直间隔,否则中国仍然需要与这些国家之间进行飞行高度层的转换。

2. 签派员和飞行员应当掌握航空器沿航线进出中国国境时的高度层转换程序和规定的转换区域,特别是进入中国境内 RVSM 空域的航空器应当何时开始使用高度层公英制对照表。

-当进入中国境内空域时,主高度表为英制的航空器(波音、空客等机型)应当使用英制高度表,从管制员首次指令该航空器到一个中国使用的米制飞行高度层起,开始使用中国民航缩小垂直间隔公英制高度转换表。

-当进入中国境内空域时,主高度表为米制的航空器(II-96, II-62, Tu-214, Tu-154 等机型)应当转换并使用英制高度表,从管制员首次指令该航空

1. There will be two different Flight Level Allocation Scheme (FLAS). in adjacent FIR when China implements RVSM in the Beijing, Guangzhou, Kunming, Lanzhou, Shanghai, Shenyang, Urumqi and Wuhan FIRs and Sector 01 (airspace over the island) of the Sanya FIR on 1600UTC on 21 November 2007. So the transition procedures will be needed for aircraft enter or exit China airspace

(A) **China Metric RVSM FLAS vs ICAO RVSM FLAS**

ICAO RVSM FLAS is implemented in Fukuoka, Hong Kong, Incheon FIRs, etc. The transition procedures are relatively easier and smother than the situation before Chinese RVSM implementation. All China RVSM Flight level in feet is 100 feet above the ICAO RVSM Flight level.

(B) **China Metric RVSM FLAS vs Metric CVSM FLAS**

Before RVSM, China need conduct flight level transition with Russia, Mongolia, Kazakhstan and DPRK, etc. Metric CVSM FLAS. After China RVSM, China still need conduct flight level transition with Russia, Mongolia and DPRK, etc. Metric CVSM FLAS unless these countries also implement RVSM within their airspace.

2. Dispatchers and pilots shall identify the specific transition area and transition procedure for the route into/out of China. Special attention shall be given to the moment when the China meter to feet converse table shall be used for aircraft entering China RVSM airspace:

-When entering China Airspace, aircraft with primary FEET altimeters (Airbus, Boeing, etc.) shall fly using the feet altimeter and use the China RVSM conversion table from the initial clearance to a metric FL in the China FLAS.

-When entering China Airspace, aircraft with primary METER altimeters (II-96, II-62, Tu-214, Tu-154, etc.) shall switch and fly using the feet altimeter and use the China

器到一个中国使用的米制飞行高度层起，或者从该航空器进入中国境内空域开始，使用中国民航缩小垂直间隔公英制高度转换表。

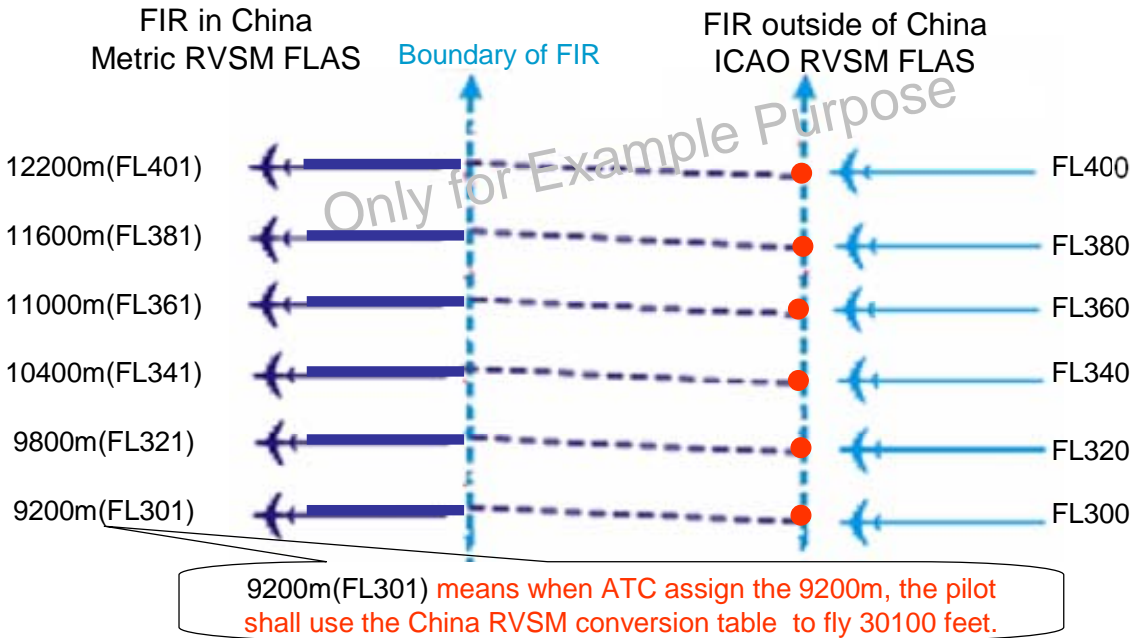
请参考下面的图例。在转换程序图示中，米制高度层后面带括号的英制高度层，例如“12500m (FL411)”，表示当管制员发布一个中国使用的米制高度层时，驾驶员应当使用中国民航缩小垂直间隔公英制对照表来飞对应的英尺高度。

RVSM conversion table from the initial clearance to a metric FL in the China FLAS; or from the time of entering China airspace.

Please refer to the legend of the map (Only for example). In transition procedures map, a metric FL followed by a bracket such as “12500m (FL411)” means when ATC assign a China metric FL, Pilot shall use the China RVSM conversion table to fly in corresponding in FEET.

**Scenario One: China RVSM FLAS vs ICAO RVSM FLAS**

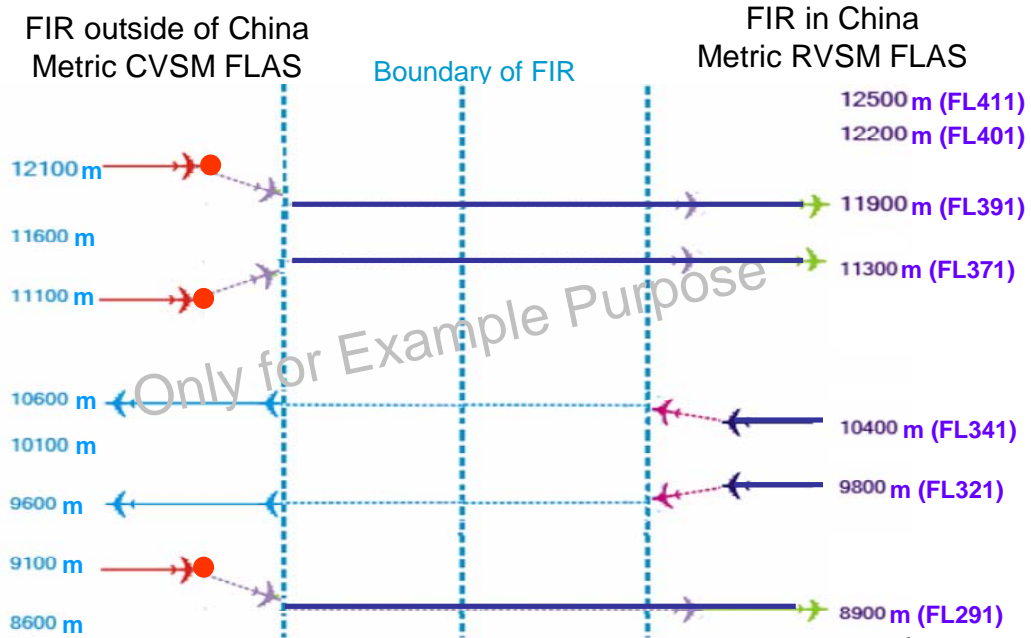
**Aircraft Entering China Airspace  
from Airspace Applying ICAO RVSM FLAS (in feet)**



- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

Scenario Two: China RVSM FLAS vs Metric CVSM FLAS

Aircraft Entering China Airspace  
from Airspace Applying Metric CVSM (Russia, etc)



8900m(FL291) means when ATC assign the 8900m, the pilot shall use the China RVSM conversion table to fly 29100 feet.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

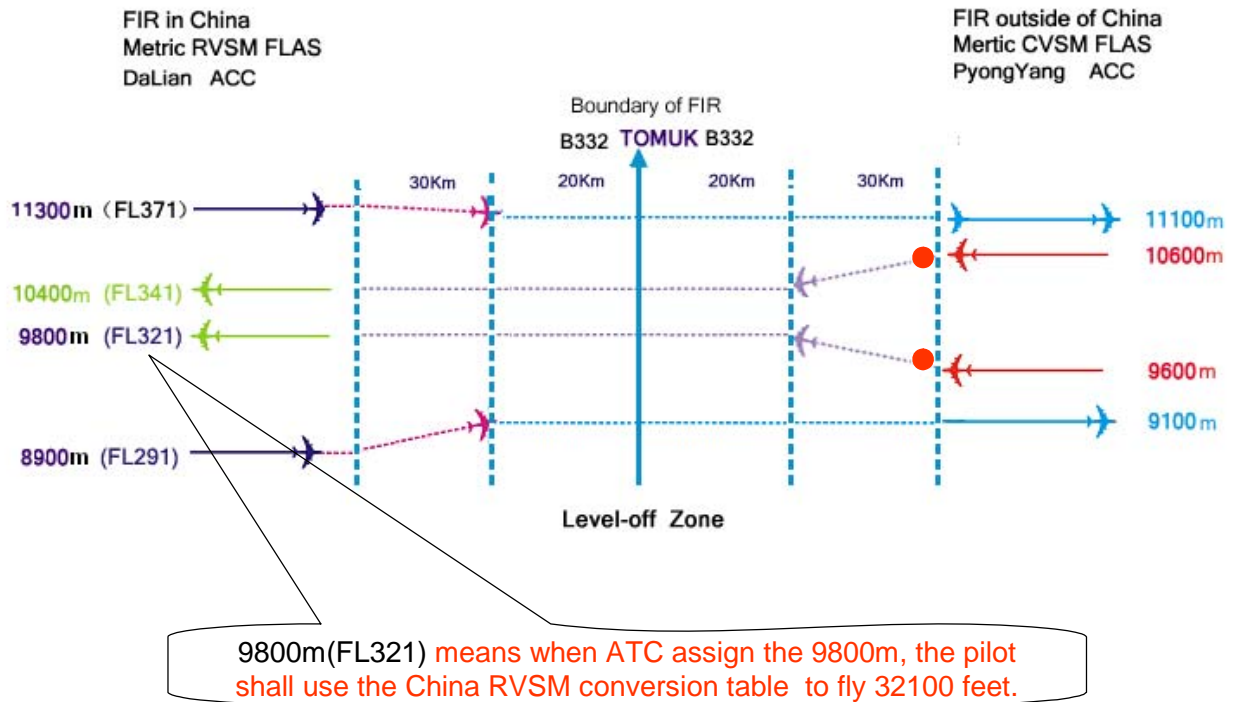
<p>3. 关于中国实施缩小垂直间隔后与周边国家/情报区管制移交程序的有关信息，请参阅后面的高度层转换程序。</p>	<p>3. For information concerning China RVSM Transition Procedures with adjacent countries/FIRs, please refer to following Flight level transition procedures.</p>
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## Shenyang FIR

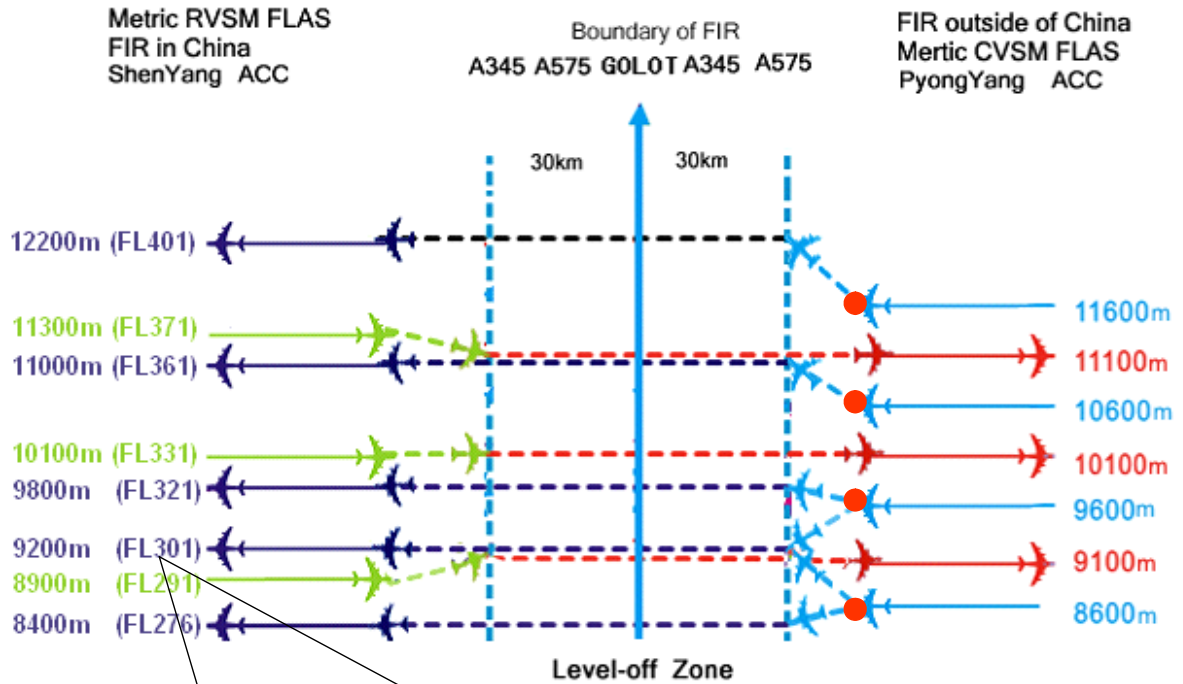
### China and D.P.R.Korea Point 1

#### Transition procedure between Dalian ACC and Pyongyang ACC (TOMUK)



- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

Transition procedure between Shenyang ACC and Pyongyang ACC (GOLOT)



9200m(FL301) means when ATC assign the 9200m, the pilot shall use the China RVSM conversion table to fly 30100 feet.

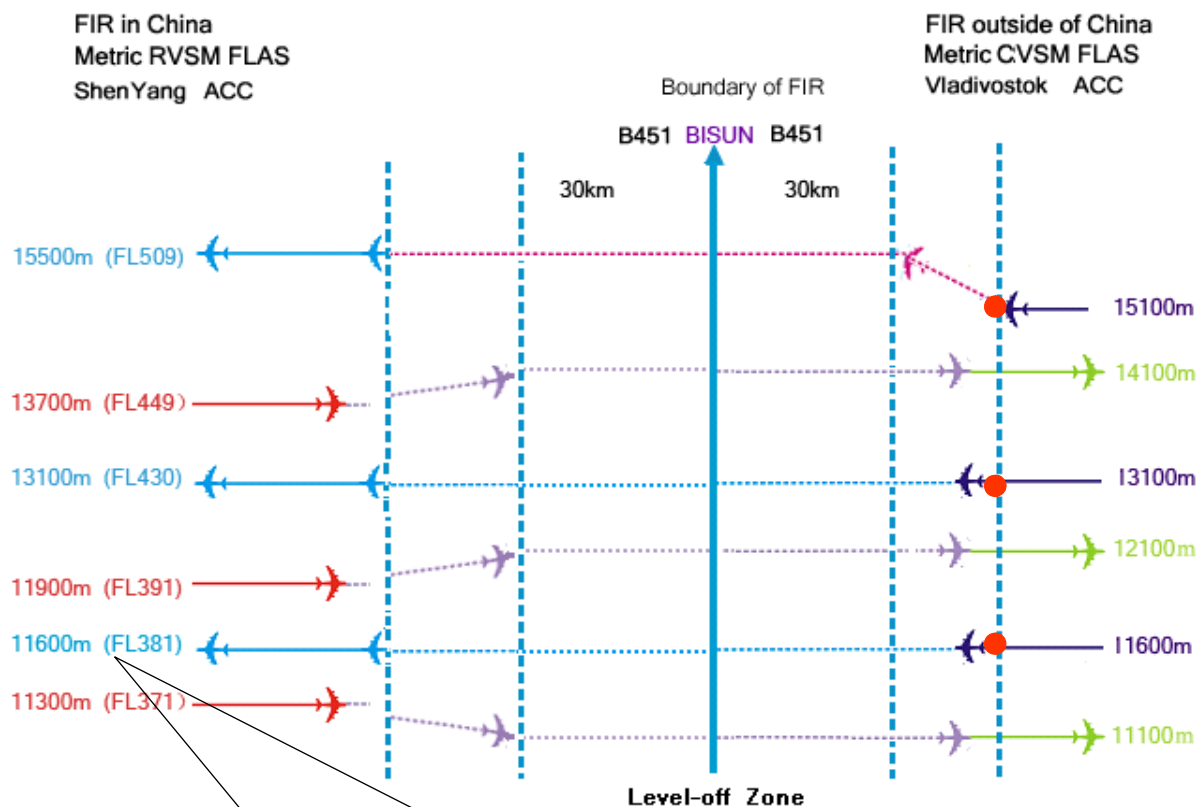
Note: 1. 600m (or more than )vertical separation should be used with opposite flight in protective area.

2. The three group levels of (9800m matching 10100m),(11100m matching 11000m) and (9100m matching 9200m)cannot be used at the same time.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

China and Russia Point 3

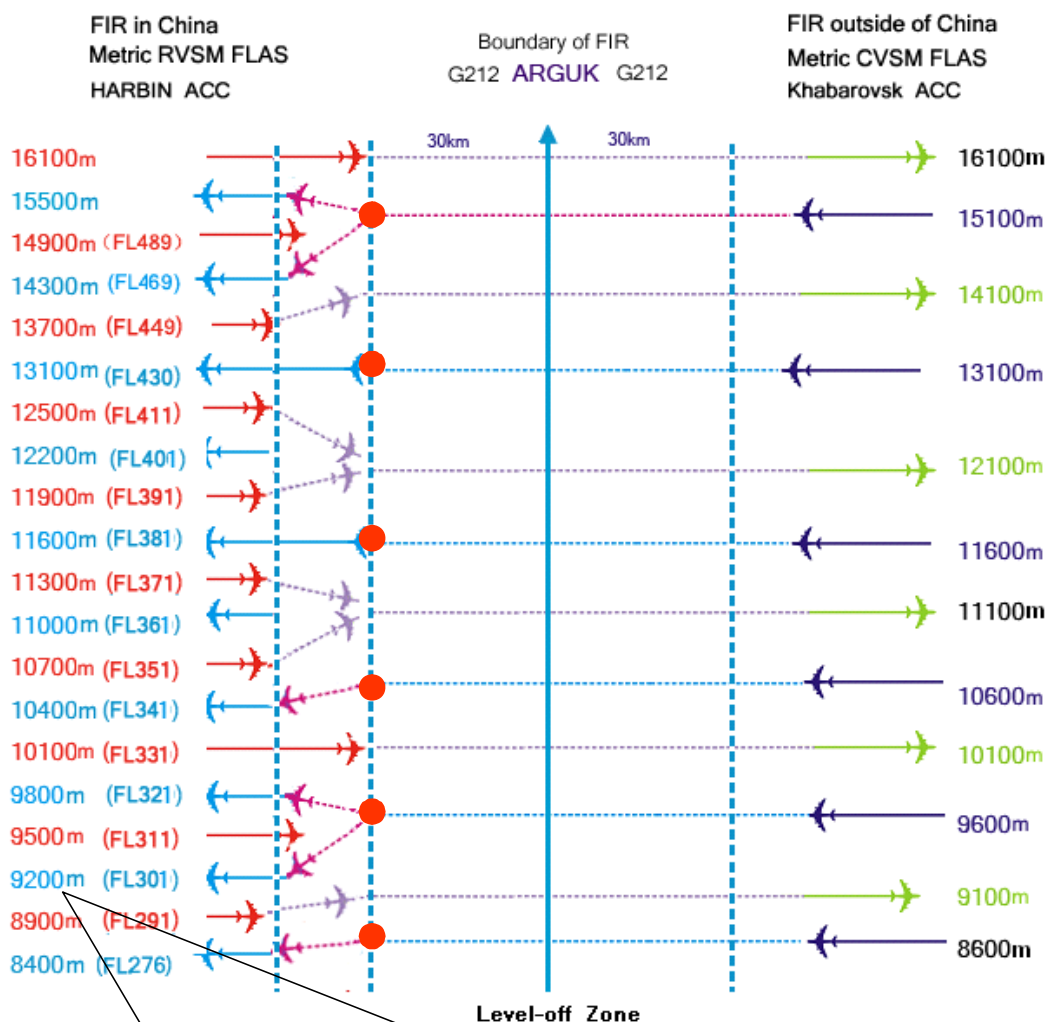
Transition procedure between Shenyang ACC and Vladivostok ACC (BISUN)



11600m(FL381) means when ATC assign the 11600m, the pilot shall use the China RVSM conversion table to fly 38100 feet.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

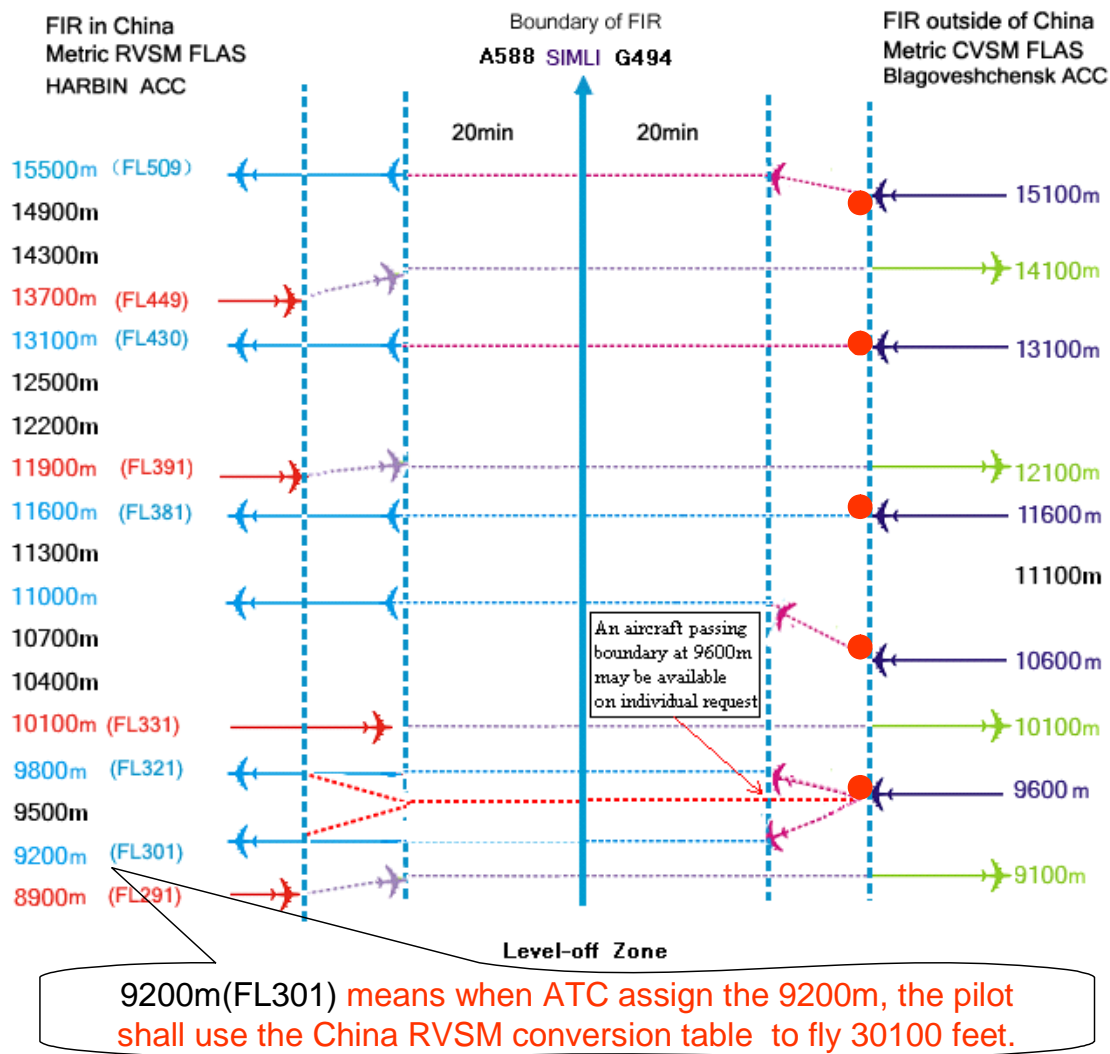
Transition procedure between Harbin ACC and Khabarovsk ACC (ARGUK)



9200m(FL301) means when ATC assign the 9200m, the pilot shall use the China RVSM conversion table to fly 30100 feet.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

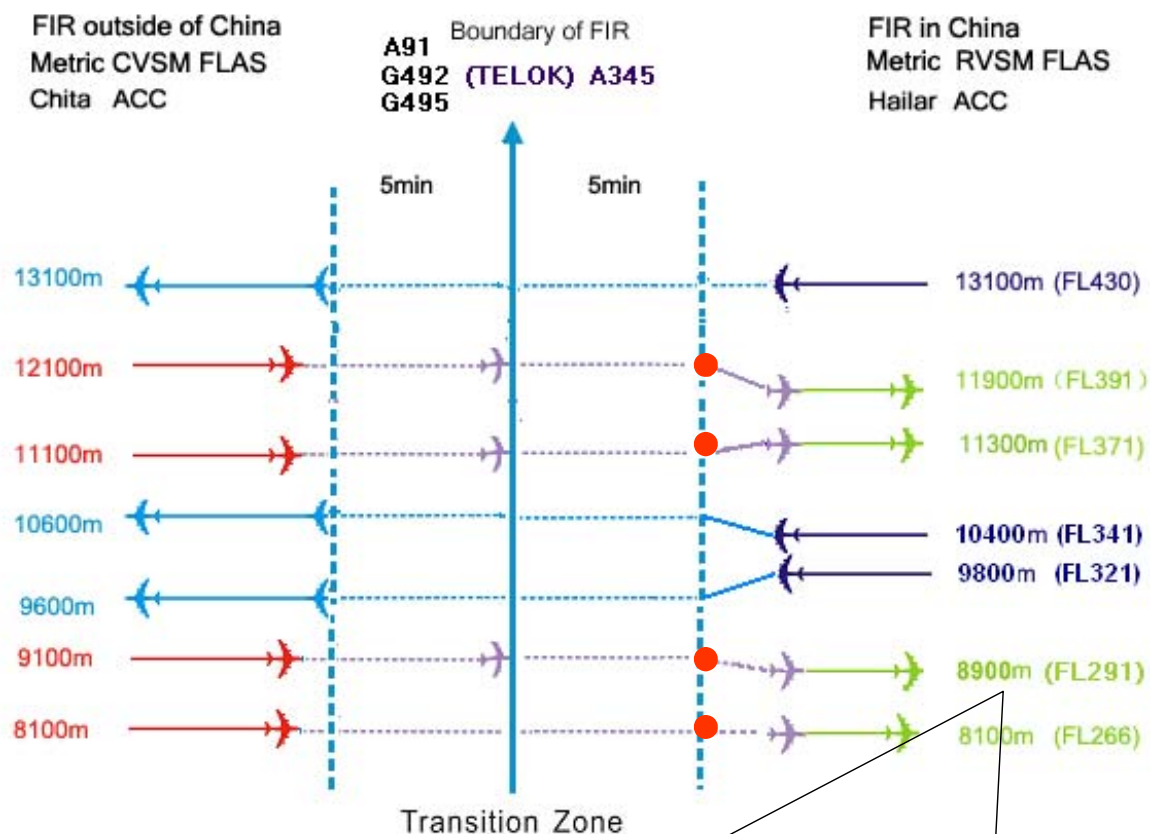
Transition procedure between Harbin ACC and Blagoveshchensk ACC (SIMLI)



- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

China and Russia Point 6

Transition procedure between Hailar ACC and Chita ACC (TELOK)



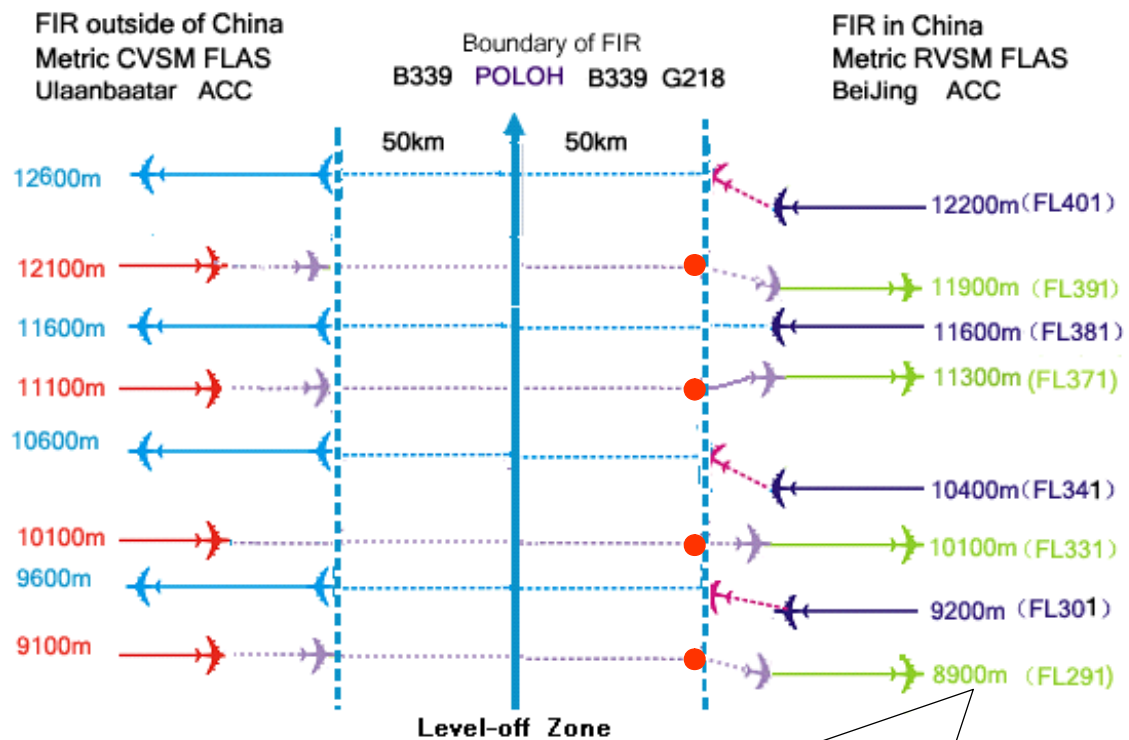
8900m(FL291) means when ATC assign the 8900m, the pilot shall use the China RVSM conversion table to fly 29100 feet.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

## Beijing FIR

### China and Mongolia Point 7

#### Transition procedure between Beijing ACC and Ulaanbaatar ACC (POLOH)



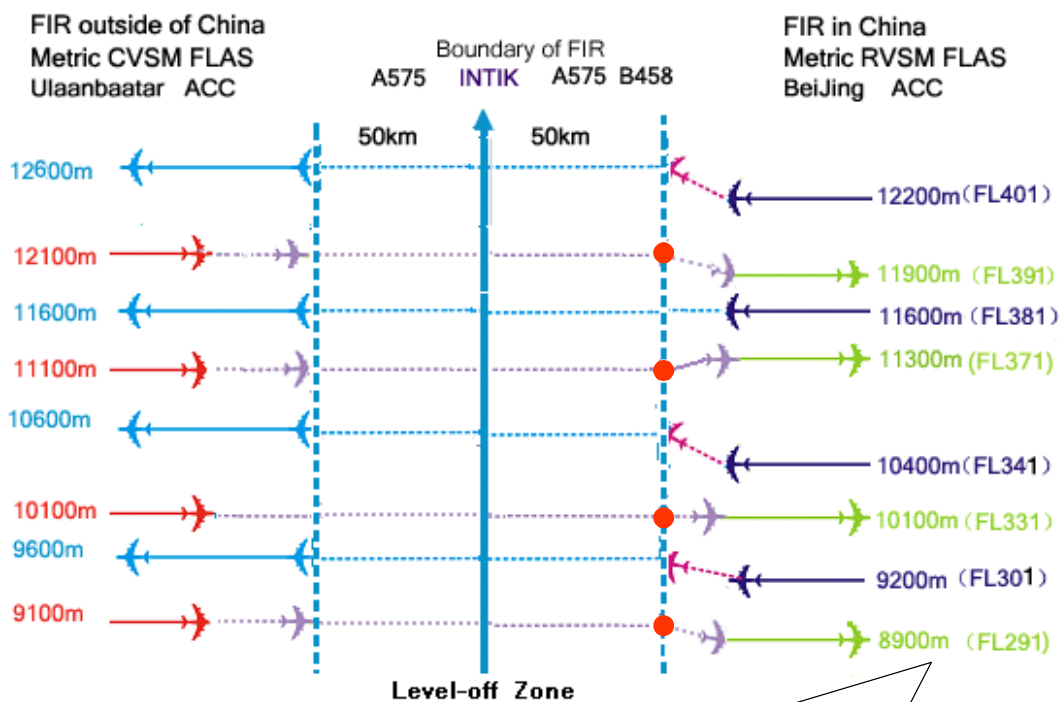
8900m(FL291) means when ATC assign the 8900m, the pilot shall use the China RVSM conversion table to fly 29100 feet.

Note: Ulaanbaatar ACC shall accept Flights coming from Beijing FIR 8400m(FL276). Hohhot ACC shall executed the control below 8400(FL276) inclusive.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

China and Mongolia Point 8

Transition procedure between Beijing ACC and Ulaanbaatar ACC (INTIK)



8900m(FL291) means when ATC assign the 8900m, the pilot shall use the China RVSM conversion table to fly 29100 feet.

Note: Ulaanbaatar ACC shall accept Flights coming from Beijing FIR 8400m(FL276). Hohhot ACC shall executed the control below 8400(FL276) inclusive.

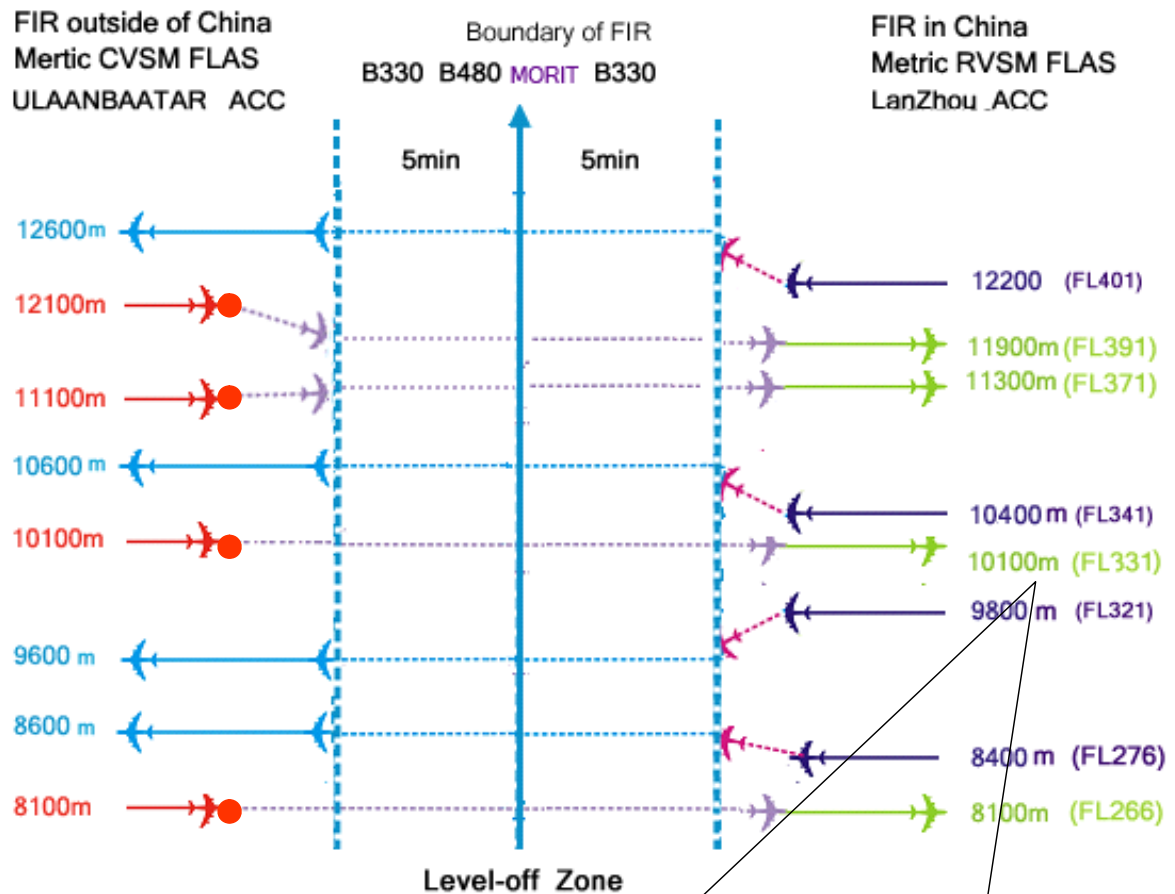
- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.



## Lanzhou FIR

### China and Mongolia Point 9

#### Transition procedure between Lanzhou ACC and Ulaanbaatar ACC (MORIT)



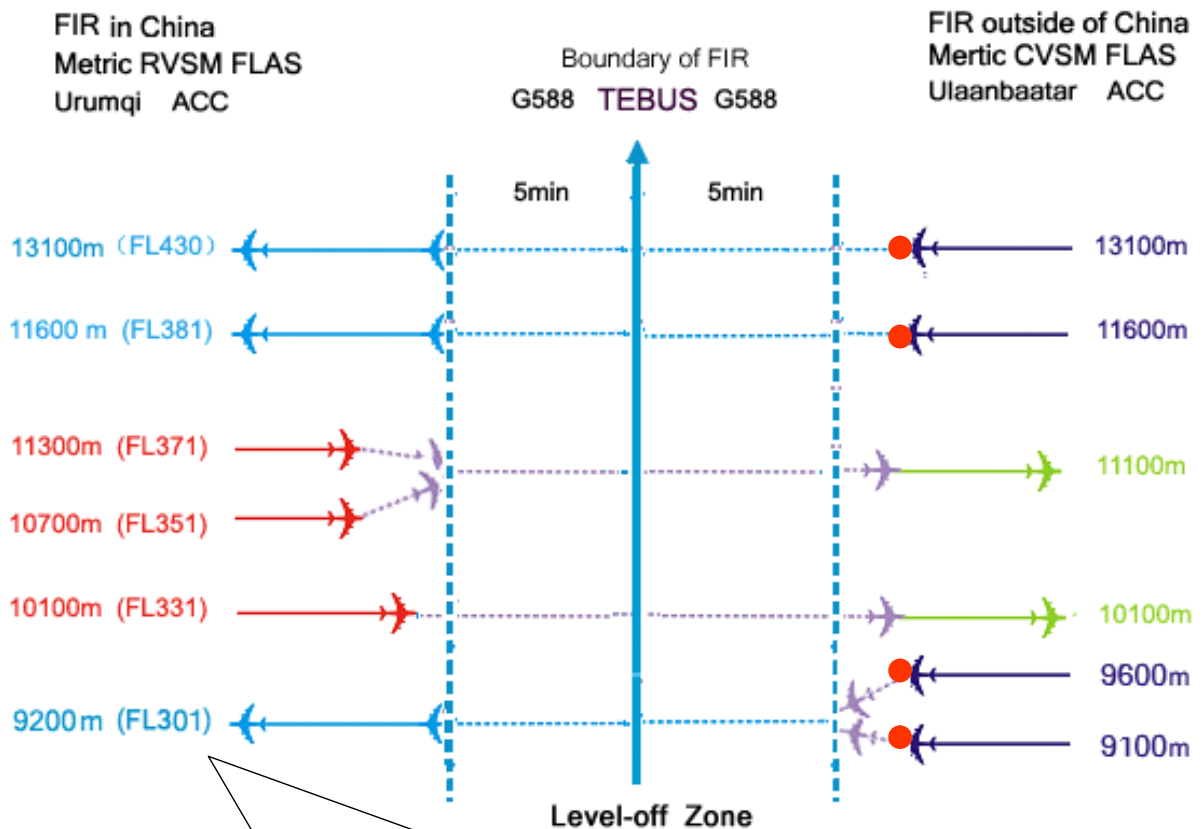
10100m(FL331) means when ATC assign the 10100m, the pilot shall use the China RVSM conversion table to fly 33100 feet.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

## Xinjiang FIR

### China and Mongolia Point 10

#### Transition procedure between Urumqi ACC and Ulaanbaatar ACC (TEBUS)

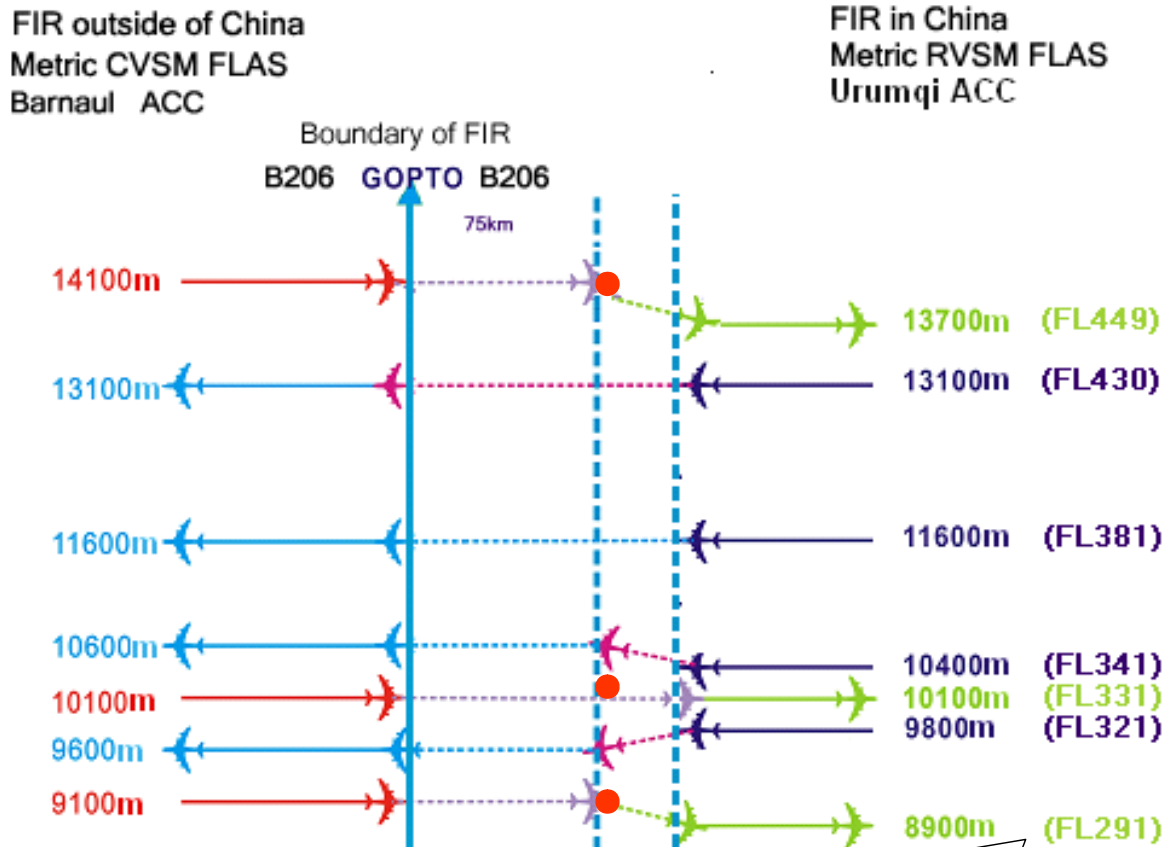


9200m(FL301) means when ATC assign the 9200m, the pilot shall use the China RVSM conversion table to fly 30100 feet.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

China and Russia Point 11

Transition procedure between Urumqi ACC and Barnaul ACC (GOPTO)

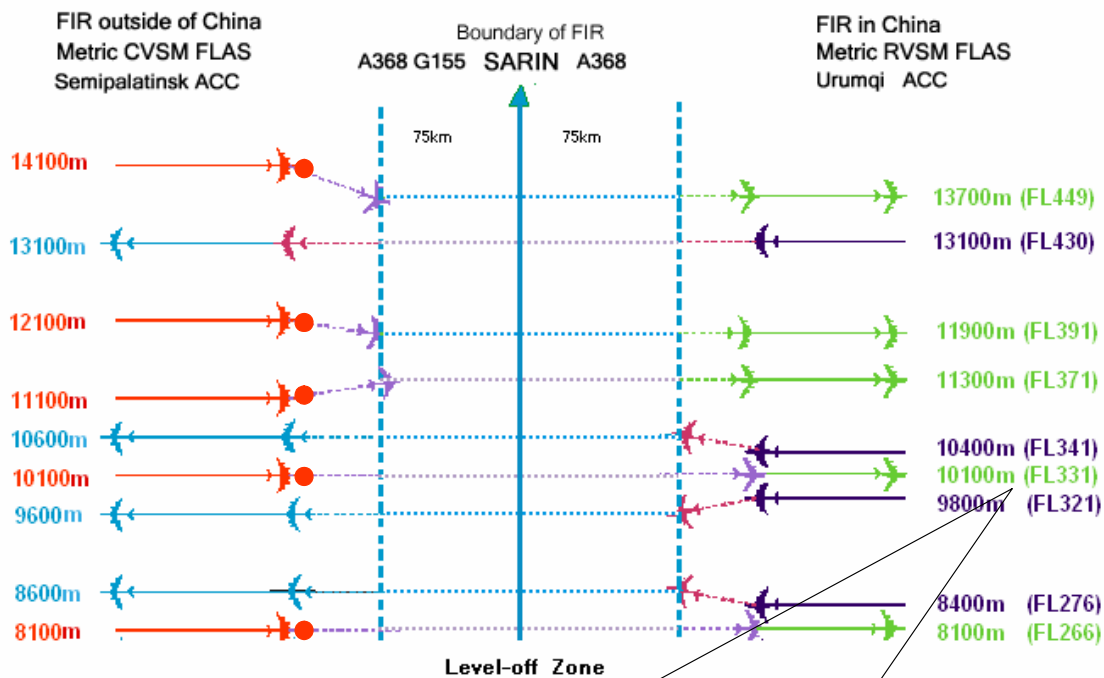


8900m(FL291) means when ATC assign the 8900m, the pilot shall use the China RVSM conversion table to fly 29100 feet.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

China and Kazakhstan Point 12

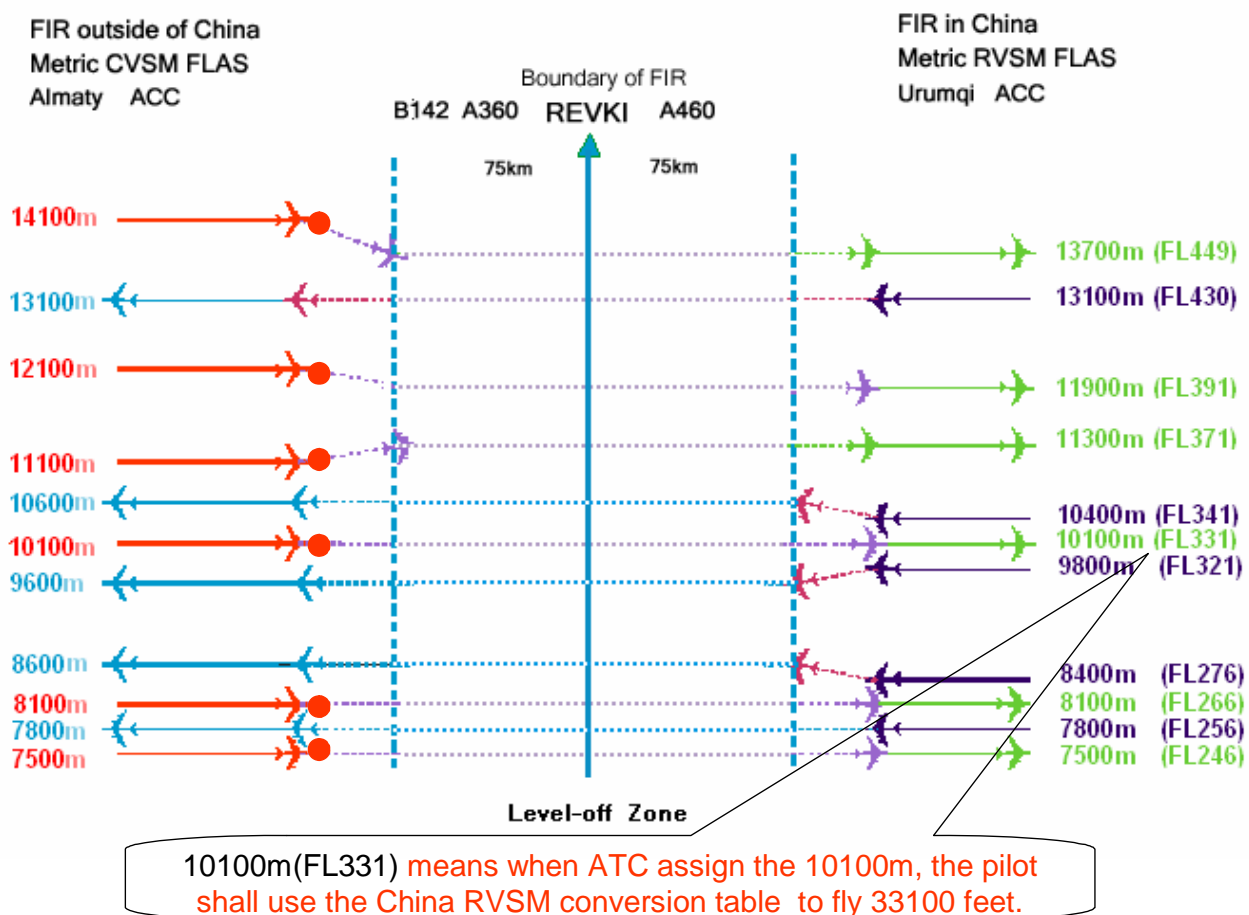
Transition procedure between Urumqi ACC and Semipalatinsk ACC (SARIN)



10100m(FL331) means when ATC assign the 10100m, the pilot shall use the China RVSM conversion table to fly 33100 feet.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

Transition procedure between Urumqi ACC and Almaty ACC (REVKI)



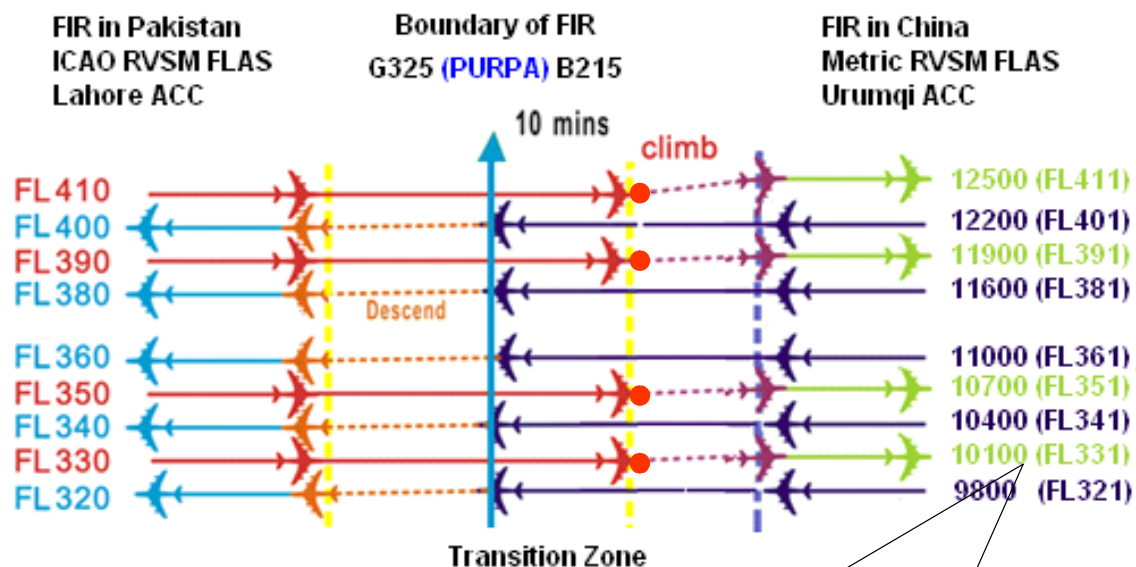
- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

**China and Kyrgyzstan Point 14**

**Transition procedure between Urumqi ACC and Bishkek ACC (KAMUD)**

This chart can be downloaded from the website (<http://www.atmb.net.cn/rvsm/>)

Transition procedure between Urumqi ACC and Lahore ACC (PURPA)



10100m(FL331) means when ATC assign the 10100m, the pilot shall use the China RVSM conversion table to fly 33100 feet.

Note: Aircraft maintaining flight level 9800, 10400, 11000, 11600, 12200 meters from China to Pakistan after passing PURPA shall automatically descend to and maintain FL320, FL340, FL360 FL380, FL400 before GILGIT irrespective of establishing radio contact with Lahore ACC.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

## **Kunming FIR**

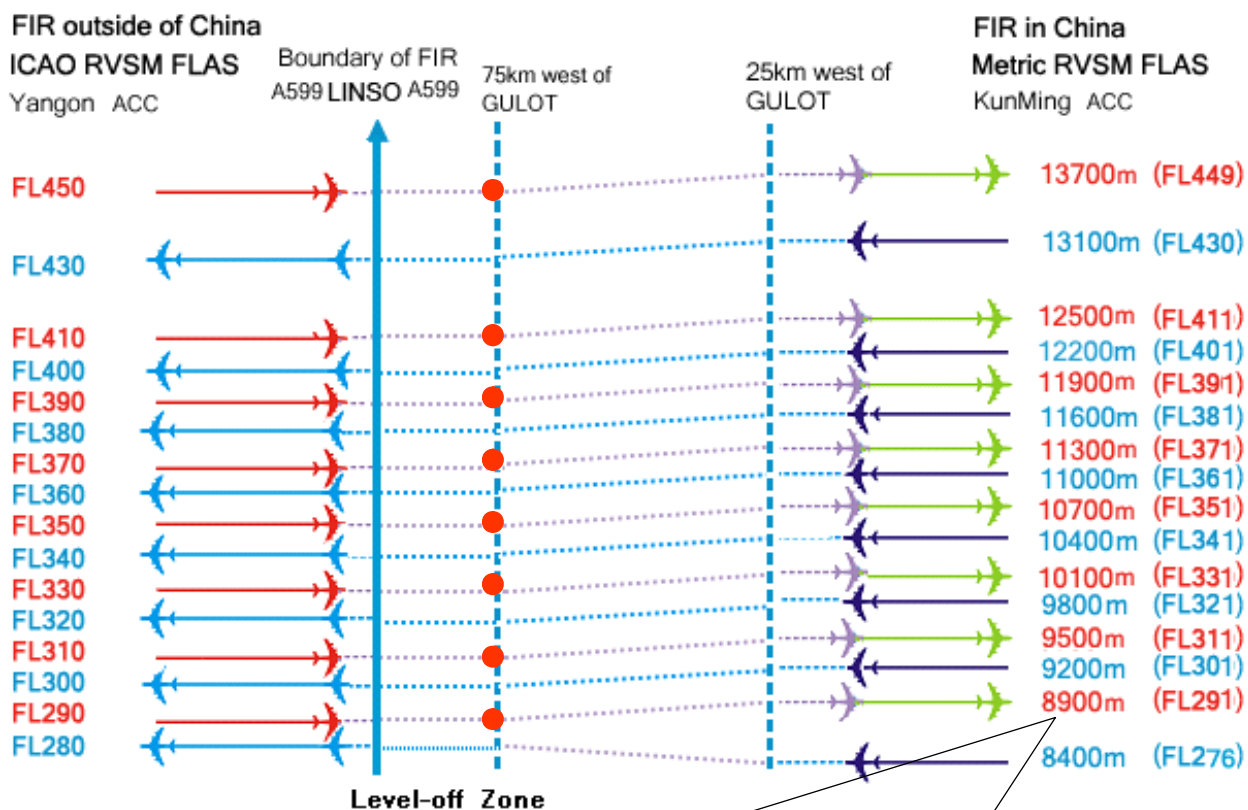
### **China and Nepal Point 16**

#### **Transition procedure between Lhasa ACC and Kathmandu ACC (NONIM)**

This chart can be downloaded from the website (<http://www.atmb.net.cn/rvsm/>)



Transition procedure between Kunming ACC and Yangon ACC (LINSO)

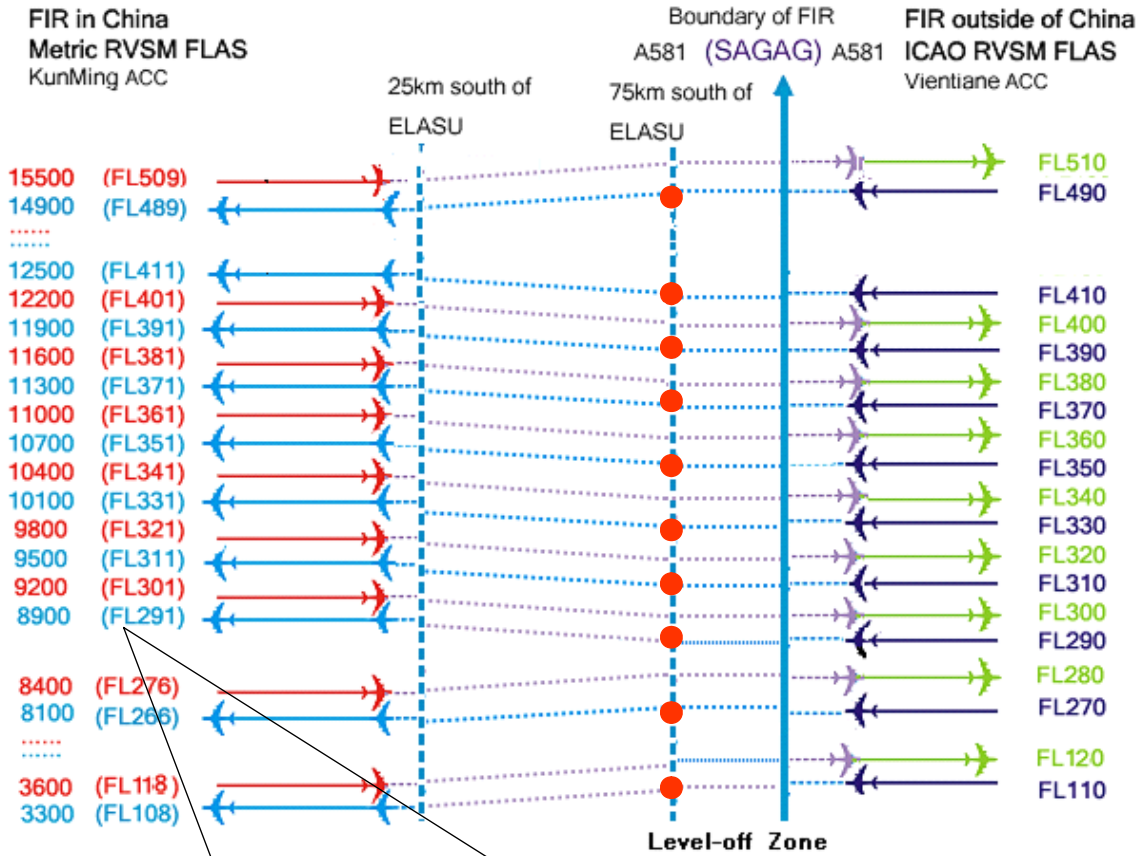


8900m(FL291) means when ATC assign the 8900m, the pilot shall use the China RVSM conversion table to fly 29100 feet.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

China and Laos Point 18

Transition procedure between Kunming ACC and Vientiane ACC (SAGAG)



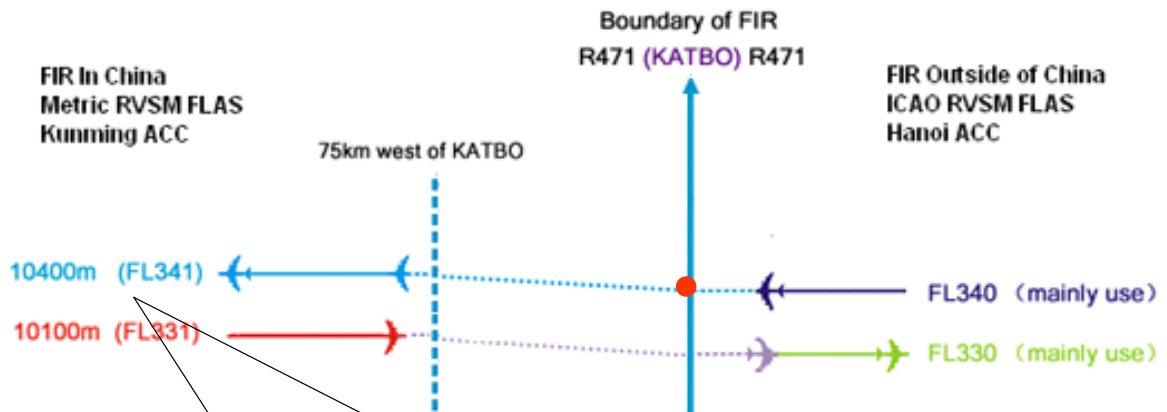
8900m(FL291) means when ATC assign the 8900m, the pilot shall use the China RVSM conversion table to fly 29100 feet.

Note: All the assigned flight levels from BIDRU to SAGAG are totally opposite to the magnetic heading regulation. For example, aircraft fly westbound at odd flight levels, and fly eastbound at even flight levels.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

## China and Vietnam

### Transition procedure between Kunming ACC and Ha Noi ACC (KATBO)



10400m(FL341) means when ATC assign the 10400m, the pilot shall use the China RVSM conversion table to fly 34100 feet.

Note: 1. All other flight levels are available subject to prior co-ordination between two ACCs.  
2. This is a new ATC Route. The route will be published in the EN-ROUTE Chart of AIP when it put into used.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

## **Guangzhou FIR**

### **China and Vietnam Point 19**

#### **Transition procedure between Nanning ACC and Ha Noi ACC (TEBAK)**

ATS route: R474

Nanning ACC to Ha Noi ACC:

FL200, FL220, FL240, FL260, FL280, FL300, FL320, FL360, FL380, FL400.

Ha Noi ACC to Nanning ACC:

FL230, FL250, FL270, FL290, FL310, FL330, FL350, FL370, FL390, FL410.

## **Sanya FIR**

### **China and Vietnam Point 20**

#### **Transition procedure between Sanya ACC and Ha Noi ACC (ASSAD)**

Route structure as follow:

Within Sanya FIR: ATS route A202: ASSAD – SAMAS

Within Ha Noi FIR: ATS route A202: VILAO – ASSAD;  
ATS route A206: NALAO – ASSAD.

Ha Noi FIR to Sanya FIR–FL290, FL330, FL370, FL 390 and FL410

Sanya FIR to Ha Noi FIR–FL280, FL300, FL340, FL380 and FL400

## Shanghai FIR

### China and Japan Point 21

#### Transition procedure between Shanghai ACC and Fukuoka ACC (SADLI)

Assignment of flight levels for the corridor on ATS route A593 shall be:

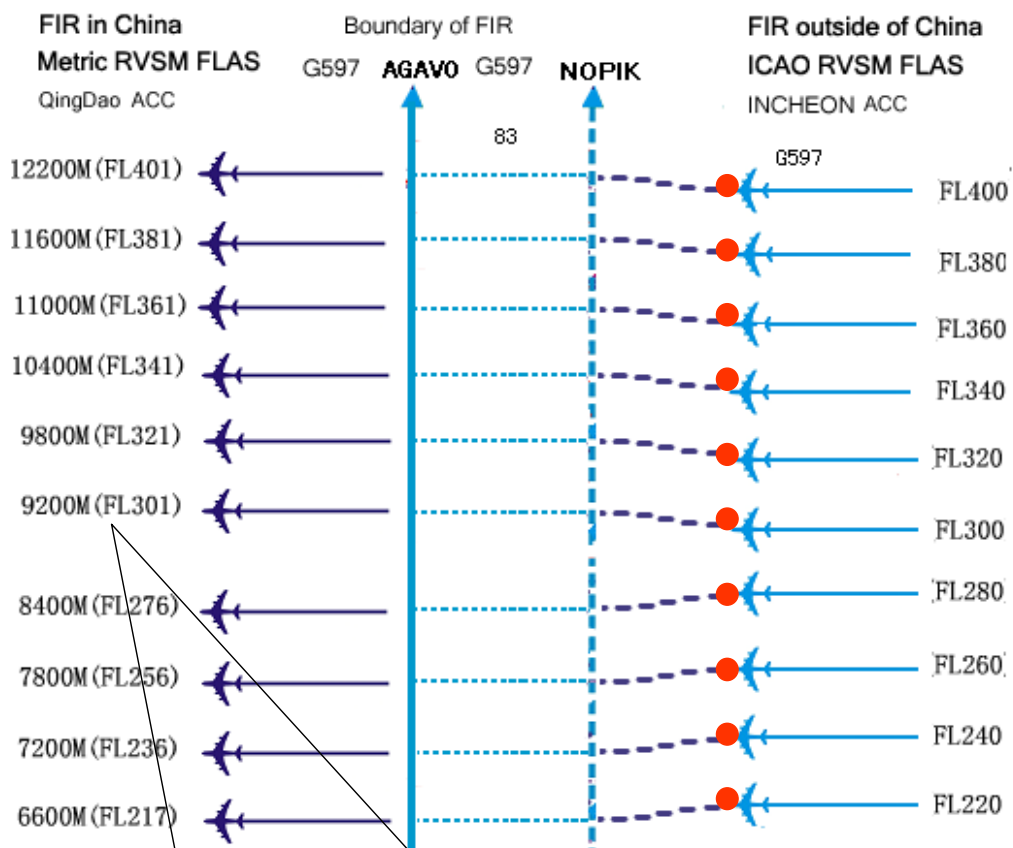
- a. Aircrafts from Shanghai ACC to Fukuoka ACC assigned FL250、FL290、FL310 and FL390 without coordination with and approval of Incheon ACC.
- b. Aircrafts from Fukuoka ACC to Shanghai ACC assigned FL240、FL280、FL300 and FL400 without coordination with and approval of Incheon ACC.

Note: the applicable FLs for each ACC refer to Attachment1.

The name of facility	Applicable Routes	Applicable Flight Levels without coordination and approval of the affected ACCs.
Fukuoka ACC	Fukue – AKARA corridor, A593	FL240, FL280, FL300, FL400
Shanghai ACC	Fukue – AKARA corridor, A593	FL250, FL290, FL310, FL390

Transition procedure between Qingdao ACC and Incheon ACC (AGAVO)

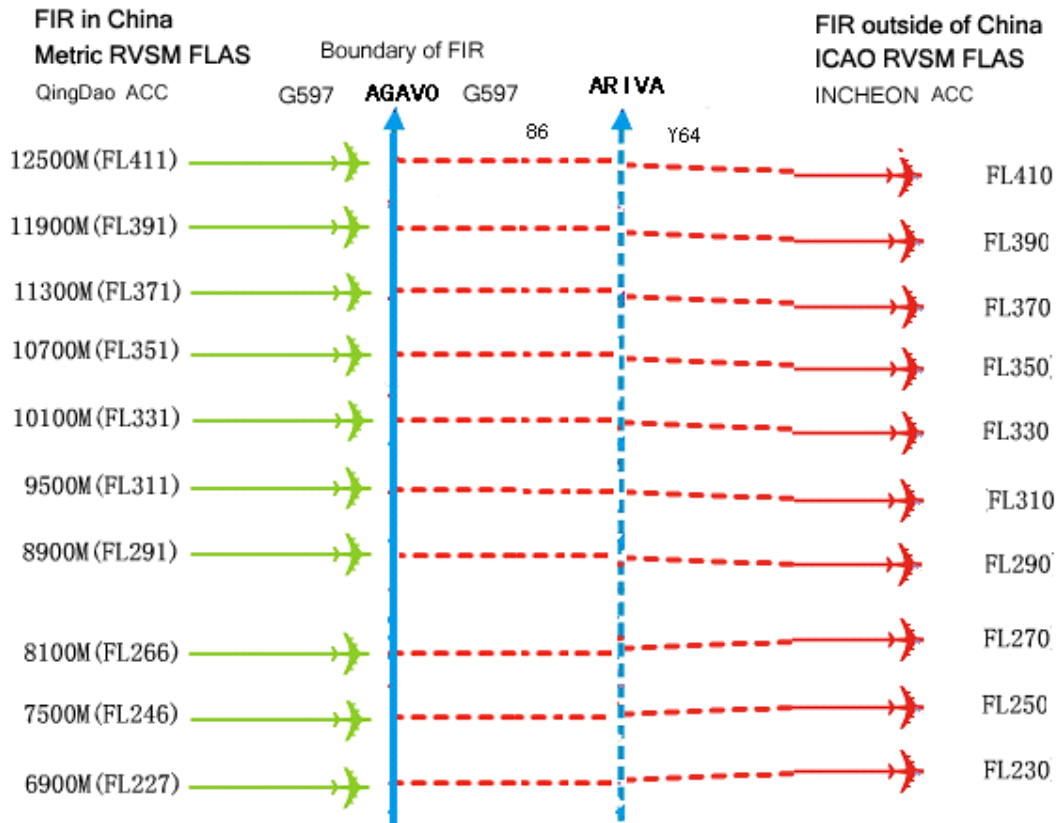
From Incheon to Qingdao



9200m(FL301) means when ATC assign the 9200m, the pilot shall use the China RVSM conversion table to fly 30100 feet.

- Indicates the position where the pilot is expected to receive the FL instruction from ATC for FLAS transition and then begin to use China RVSM conversion table to fly in FEET. Flight level transition shall be conducted in accordance with ATC instruction. In case ATC did not issue the instruction as expected, pilots are to clarify with ATC.

From Qingdao to Incheon



## 附件 F: 中国 RVSM 航空器高度保持性能最低监视要求

### ATTACHMENT F: CHINESE RVSM MINIMUM MONITORING REQUIREMENTS

1、监视要求表和网址的更新: 监视要求表是可更新的文件。一旦获得航空器组或类型的重要性能数据, 中国民航总局就会更新这些航空器组或类型所需的最小监视要求。经验表明性能数据一般会降低监视要求。监视要求表的更新将发布在民航总局 RVSM 相关文件的网页上, 可从中国民航总局 RVSM 主页进入:

<http://www.atmb.net.cn/rvsm/>

2、初始监视: 所有运行或准备运行在 RVSM 空域的中国营运人都要求参与到 RVSM 监视程序中。监视要求的附表给出了与 RVSM 批准过程有关的初始监视要求。在向民航总局申请 RVSM 批准时, 营运人必须给出其为满足基本监视要求而制定的计划。

3、监视航空器情况: 在航空器接受监视以前, 应当完成 RVSM 适航许可的工程性工作。对于该准则的任何例外均需与民航总局相关部门协调。

4、其它地区监视的适用性: 其它地区利用 RVSM 监视程序所获得的监视数据也可用于满足中国的监视要求。

5、在获得运行许可前无需完成监视: 营运人应提交监视计划给民航总局相关部门, 表明他们能够满足下表中所列的各项要求。监视将依照该表执行。

1. UPDATE OF MONITORING REQUIREMENTS CHART AND WEBSITE. The Minimum Monitoring Requirements Chart is a living document. As significant performance data is obtained on specific aircraft groups or types, General Administration of Civil Aviation of China (CAAC) will update the minimum monitoring requirements for those types or groups. Experience has shown that performance data will normally justify reducing the requirements. Updates to the Minimum Monitoring Requirements chart, will be posted on the CAAC RVSM Documentation webpage. The RVSM Documentation page can be accessed from the CAAC RVSM Homepage:

<http://www.atmb.net.cn/rvsm/>

2. INITIAL MONITORING. All operators that operate or intend to operate in airspace where RVSM is applied are required to participate in the RVSM monitoring program. The attached chart of monitoring requirements establishes requirements for initial monitoring associated with the RVSM approval process. In their application to the appropriate civil aviation authority for RVSM approval, operators must show a plan for meeting the applicable initial monitoring requirements.

3. AIRCRAFT STATUS FOR MONITORING. Aircraft engineering work that is required to bring aircraft into compliance with RVSM standards must be completed prior to the aircraft being monitored. Any exception to this rule will be coordinated with the responsible civil aviation authority.

4. APPLICABILITY OF MONITORING FROM OTHER REGIONS. Monitoring data obtained in conjunction with RVSM monitoring programs from other regions can be used to meet Chinese RVSM monitoring requirements.

5. Monitoring prior to the issue of RVSM OPERATIONAL approval is not a requirement. Operators should submit monitoring plans to the responsible civil aviation authority that show how they intend to meet the requirements specified in the table below. Monitoring will be carried out



6、未列入此表的航空器组：如果航空器组未列入最低监视要求表或者需要核实其它的监视相关问题，联系民航总局进行核实。未列入下表的航空器组视情况可按第 2 类监视要求执行。

7、航空器监视分组表：最低监视要求表格之后是航空器组监视的分组表，该表给出了根据航空器机型与系列而划分的监视分组。

8、拖锥数据：使用 RVSM 验证飞行中收集的拖锥数据，可以获得高度测量系统误差评估值，而该评估值可用于完善监视要求。但是，必须证明航空器 RVSM 系统符合批准 RVSM 飞行配置。

9、符合 RVSM 发布标准的航空器监视：如果营运人添加了符合 RVSM 适航要求的新航空器，而此类型航空器已经获得 RVSM 运行许可，同时也完成了附表规定的监视要求，则新添加的航空器无需进行监视。如果营运人添加符合 RVSM 适航要求的新航空器，但是该类型航空器从未获得 RVSM 运行许可，则营运人应该依照附表完成监视。

10、持续监视：航空器监视是一项持续的工作，在 RVSM 实施后仍然继续进行。监视结果的有效期为两年。航空公司机队的监视结果过期时需要进行重新监视。重新监视的要求和初始监视的最低监视要求相同。RVSM 实施之后的中国民航总局负责协调相关单位对航空器进行持续监视。

in accordance with this table.

6. AIRCRAFT GROUPS NOT LISTED ON THE CHART. Contact CAAC for clarification if an aircraft group is not listed on the Minimum Monitoring Requirements chart or for clarification of other monitoring related issues. An aircraft group not listed in the table below will probably be subject to Category 2 monitoring requirements.

7. TABLE OF MONITORING GROUPS. A table of monitoring groups is provided in the pages following the Minimum Monitoring Requirements Chart. The table shows the aircraft types and series that are grouped together for operator monitoring purposes.

8. TRAILING CONE DATA. Altimetry System Error estimations developed using Trailing Cone data collected during RVSM certification flights can be used to fulfill monitoring requirements. It must be documented, however, that aircraft RVSM systems were in the approved RVSM configuration for the flight.

9. MONITORING OF AIRFRAMES THAT ARE RVSM COMPLIANT ON DELIVERY. If an operator adds new RVSM compliant airframes of a type for which it already has RVSM operational approval and has completed monitoring requirements for the type in accordance with the attached chart, the new airframes are not required to be monitored. If an operator adds new RVSM compliant airframes of an aircraft type for which it has NOT previously received RVSM operational approval, then the operator should complete monitoring in accordance with the attached chart.

10. FOLLOW-ON MONITORING. Monitoring is an on-going program that will continue after RVSM implementation. The expiry date of monitoring results is two years. The fleets of the operators are required to be re-monitored when their monitoring results expire. The requirements of the re-monitoring are same as the initial MMR. The CAAC will coordinate a follow-on monitoring program with industry after implementation.

中国地区 RVSM 最低监视要求表

**CHINESE RVSM**

**MINIMUM MONITORING REQUIREMENTS CHART**

<p>监视要求必须与本表一致，但在获得运行许可前无需完成监视。</p> <p><i>MONITORING IS REQUIRED IN ACCORDANCE WITH THIS CHART, HOWEVER, IT IS NOT REQUIRED TO BE COMPLETED PRIOR TO OPERATIONAL APPROVAL</i></p>		
<p>监视类型 MONITORING CATEGORY</p>	<p>航空器机型 AIRCRAFT TYPE</p>	<p>航空公司每个航空器组的最低 监视要求 MINIMUM OPERATOR MONITORING FOR EACH AIRCRAFT GROUP</p>
<p><b>1</b> 获得认可的航空器组别，且监视数据表明其性能符合 RVSM 标准。</p> <p>Group approved and monitoring data indicates performance in accordance with RVSM standards.</p> <p><b>组别定义：</b> 按照相同的设计和规格制造的一组航空器；且其适航许可的批准可归于 RVSM 验证文件（如维修公告、补充型号验证、型号验证数据表等）的同一类型。</p> <p><b>Group Definition:</b> aircraft have been manufactured to a nominally identical design and build and for RVSM airworthiness approval fall into a group established in an RVSM certification document (e.g., Service Bulletin, Supplemental Type Certificate, and Type Certificate Data Sheet).</p>	<p>[A30B, A306], [A312 (GE), A313 (GE)], [A312 (PW), A313 (PW)], A318, [A319, A320, A321], [A332, A333], [A342, A343], A344, A345, A346</p> <p>B712, [B721, B722], [B733, B734, B735], B737(货运机型 Cargo), [B736, B737/BBJ, B738/BBJ, B739], [B741, B742, B743], B74S, B744 (5" Probe), B744 (10" Probe), B752, B753, [B762, B763], B764, B772, B773</p> <p>CL60(600/601), CL60(604), C560, [CRJ1, CRJ2], CRJ7, DC10, [E135, E145], F100, GLF4, GLF5, LJ60</p> <p>L101, MD10, MD11, MD80 (所有系列 All series), MD90</p>	<p>营运人每组机队的 2 架飞机需尽早进行监视，且不迟于 RVSM 运行许可发布后的六个月，或者不迟于中国 RVSM 实施后的六个月。</p> <p><i>注：方括号内的机型可以视为属于同一监视组别。例如，拥有 6 架 A332 与 4 架 A333 航空器的营运人可监视 1 架 A332 与 1 架 A333 或 2 架 A332 航空器或 2 架 A333 航空器。</i></p> <p>Two airframes from each fleet of an operator to be monitored as soon as possible but <b>not later than 6 months after the issue of RVSM operational approval or not later than 6 months after the start of Chinese RVSM operations, whichever occurs later.</b></p> <p><i>Note: For the purposes of monitoring, aircraft within parenthesis [ ] may be considered as belonging to the same monitoring group. For example, an operator with six A332 and four A333 aircraft may monitor one A332 and one A333 or two A332 aircraft or two A333 aircraft.</i></p>

2	<p>获得认可的航空器组别, 但没有足够的监视数据能够表明其性能满足 RVSM 标准。 航空器组别定义同组 1。</p> <p>Group approved but insufficient monitoring data collected to move aircraft to Monitoring Category 1. Group definition applies.</p>	<p>除了列入类别 1 的其它组别航空器包括:</p> <p>Other group aircraft other than those listed above including:</p> <p>A124, ASTR, B703, B731, B732, BE20, BE40, C500, C25A, C25B, C525, C550**, C56X, C650, C750, CRJ9, [DC86, DC87], DC93, DC95, E170, F2TH, [FA50 FA50EX], F70, [F900, F900EX], FA20, FA10, GLF2(II), GLF(IIB), GLF3, GALX, GLEX, H25B(700), H25B(800), H25C, IL62, IL76, IL86, IL96, J328, L29(2), L29(731), LJ31, [LJ35, LJ36], LJ45, LJ55, [RJ70, RJ85, RJ1H], SBR1, T134, T154, T204, P180, PRM1, YK42</p>	<p>营运人每组机队的 60% (如果为小数, 向上取整) 需尽早进行监视, 且不迟于 RVSM 运行许可发布后的六个月, 或者不迟于中国 RVSM 实施后的六个月。</p> <p><b>**关于 C550 监视的详细信息, 参考航空器组表格</b></p> <p>60% of airframes from each fleet of an operator (round up if fractional), as soon as possible but <b>not later than 6 months after the issue of RVSM operational approval or not later than 6 months after the start of Chinese RVSM operations, whichever occurs later.</b></p> <p><b>** Refer to aircraft group table for detail on C550 monitoring</b></p>
3	<p>无组别航空器</p> <p><b>无组别定义:</b> 不能归入上述某种组别, 且在 RVSM 适航批准中被视为单独的航空器。</p> <p>Non-Group</p> <p><b>Non-group Definition:</b> Aircraft that do not fall under the group definition <u>and</u> for RVSM airworthiness approval are presented as an individual airframe.</p>	<p>无组别航空器</p> <p>Non-group approved aircraft</p>	<p>每架无组别航空器都需尽早进行监视, 且不迟于 RVSM 运行许可发布后的六个月, 或者不迟于中国 RVSM 实施后的六个月。</p> <p>100% of aircraft shall be monitored as soon as possible but <b>not later than 6 months after the issue of RVSM operational approval or not later than 6 months after the start of Chinese RVSM operations, whichever occurs later.</b></p>

满足航空器组别批准要求的监视组

Monitoring Groups for Aircraft Certified under Group Approval Requirements

监视组别 Monitoring Group	ICAO 标识 ICAO Designator	机型 A/C Type	系列 A/C Series
A124	A124	AN-124 RUSLAN	所有系列 ALL SERIES
A300	A306 A30B	A300 A300	600, 600F, 600R, 620, 620R, 620RF B2-100, B2-200, B4-100, B4-100F, B4-120, B4-200, B4-200F, B4-220, C4-200
A310-GE	A310	A310	200, 200F, 300, 300F
A310-PW	A310	A310	220, 220F, 320
A318	A318	A318	所有系列 ALL SERIES
A320	A319 A320 A321	A319 A320 A321	CJ, 110, 130 110, 210, 230 110, 130, 210, 230
A330	A332, A333	A330	200, 220, 240, 300, 320, 340
A340	A342, A343,	A340	210, 310
A345	A345	A340	540
A346	A346	A340	640
A3ST	A3ST	A300	600R ST BELUGA
AN72	AN72	AN-74, AN-72	所有系列 ALL SERIES
ASTR	ASTR	1125 ASTRA	所有系列 ALL SERIES
ASTR-SPX	ASTR	ASTR SPX	所有系列 ALL SERIES
AVRO	RJ1H, RJ70, RJ85	AVRO	RJ70, RJ85, RJ100
B712	B712	B717	200
B727	B721 B722	B727	100, 100C, 100F, 100QF, 200, 200F
B732	B732	B737	200, 200C
B737 (标准机型) (Classic)	B733 B734 B735	B737	300, 400, 500
B737 新一代(NG) New Generation(NG)	B736 B737 B738 B739	B737 B737 B737 B737	600 700, 700BBJ 800 900

监视组别 Monitoring Group	ICAO 标识 ICAO Designator	机型 A/C Type	系列 A/C Series
B737 (货运机型)	B737	B737	700C
B747 (CL) 标准机型 Classic	B741 B742 B743	B747	100, 100B, 100F, 200B, 200C, 200F, 200SF, 300
B74S	B74S	B747	SR, SP
B744-5	B744	B747	400, 400D, 400F (5" Probes)
B744-10	B744	B747	400, 400D, 400F (10" Probes)
B752	B752	B757	200, 200PF
B753	B753	B757	300
B767	B762 B763	B767	200, 200EM, 200ER, 200ERM, 300, 300ER, 300ERF
B764	B764	B767	400ER
B772	B772	B777	200, 200ER, 300, 300ER
B773	B773	B777	300, 300ER
BE40	BE40	BEECHJET 400A	所有系列 ALL SERIES
BE20	BE20	BEECH 200 -KINGAIR	所有系列 ALL SERIES
C500	C500	500 CITATION, 500 CITATION I, 501 CITATION I SINGLE PILOT	所有系列 ALL SERIES
C525	C525	525 CITATIONJET, 525 CITATIONJET I	所有系列 ALL SERIES
C525-II	C25A	525A CITATIONJET II	所有系列 ALL SERIES
C525 CJ3	C25B	CITATIONJET III	所有系列 ALL SERIES
C550-552	C550	552 CITATION II	所有系列 ALL SERIES
C550-B	C550	550 CITATION BRAVO	所有系列 ALL SERIES
C550-II	C550	550 CITATION II, 551 CITATION II SINGLE PILOT	所有系列 ALL SERIES
C550-SII	C550	S550 CITATION SUPER II	所有系列 ALL SERIES
C560	C560	560 CITATION V, 560 CITATION V ULTRA, 560 CITATION V ULTRA ENCORE	所有系列 ALL SERIES
C56X	C56X	560 CITATION EXCEL	所有系列 ALL SERIES
C650	C650	650 CITATION III , 650 CITATION VI , 650 CITATION VII	所有系列 ALL SERIES
C750	C750	750 CITATION X	所有系列 ALL SERIES
CARJ	CRJ1, CRJ2	REGIONALJET	100, 200, 200ER, 200LR

监视组别 Monitoring Group	ICAO 标识 ICAO Designator	机型 A/C Type	系列 A/C Series
CRJ-700	CRJ7	REGIONALJET	700
CRJ-900	CRJ9	REGIONALJET	900
CL600	CL60	CL-600 CL-601	CL-600-1A11 CL-600-2A12, CL-600-2B16
CL604	CL60	CL-604	CL-600-2B16
BD100	CL30	CHALLENGER 300	所有系列 ALL SERIES
BD700	GL5T	GLOBAL 5000	所有系列 ALL SERIES
CONC	CONC	CONCORDE	所有系列 ALL SERIES
DC10	DC10	DC-10	10, 10F, 15, 30, 30F, 40, 40F
DC86-7	DC86, DC87	DC-8	62, 62F, 72, 72F
DC93	DC93	DC-9	30, 30F
DC95	DC95	DC-9	系列 51
E135-145	E135, E145	EMB-135, EMB-145	所有系列 ALL SERIES
F100	F100	FOKKER 100	所有系列 ALL SERIES
F2TH	F2TH	FALCON 2000	所有系列 ALL SERIES
F70	F70	FOKKER 70	所有系列 ALL SERIES
F900	F900	FALCON 900, FALCON 900EX	所有系列 ALL SERIES
FA10	FA10	FALCON 10	所有系列 ALL SERIES
FA20	FA20	FALCON 20 FALCON 200	所有系列 ALL SERIES
FA50	FA50	FALCON 50, FALCON 50EX	所有系列 ALL SERIES
GALX	GALX	1126 GALAXY	所有系列 ALL SERIES
GLEX	GLEX	BD-700 GLOBAL EXPRESS	所有系列 ALL SERIES
GLF2	GLF2	GULFSTREAM II (G-1159),	所有系列 ALL SERIES
GLF2B	GLF2	GULFSTREAM IIB (G-1159B)	所有系列 ALL SERIES
GLF3	GLF3	GULFSTREAM III (G-1159A)	所有系列 ALL SERIES
GLF4	GLF4	GULFSTREAM IV (G-1159C)	所有系列 ALL SERIES
GLF5	GLF5	GULFSTREAM V (G-1159D)	所有系列 ALL SERIES
H25B-700	H25B	BAE 125 / HS125	700B
H25B-800	H25B	BAE 125 / HAWKER 800XP, BAE 125 / HAWKER 800, BAE 125 / HS125	所有系列 ALL SERIES/A, B/800

监视组别 Monitoring Group	ICAO 标识 ICAO Designator	机型 A/C Type	系列 A/C Series
H25C	H25C	BAE 125 / HAWKER 1000	A, B
IL86	IL86	IL-86	没有系列 NO SERIES
IL96	IL96	IL-96	M, T, 300
J328	J328	328JET	ALL SERIES
L101	L101	L-1011 TRISTAR	1 (385-1), 40 (385-1), 50 (385-1), 100, 150 (385-1-14), 200, 250 (385-1-15), 500 (385-3)
L29B-2	L29B	L-1329 JETSTAR 2	所有系列 ALL SERIES
L29B-731	L29B	L-1329 JETSTAR 731	所有系列 ALL SERIES
LJ31	LJ31	LEARJET 31	没有系列 NO SERIES, A
LJ35/6	LJ35 LJ36	LEARJET 35 LEARJET 36	没有系列 NO SERIES, A
LJ40	LJ40	LEARJET 40	所有系列 ALL SERIES
LJ45	LJ45	LEARJET 45	所有系列 ALL SERIES
LJ55	LJ55	LEARJET 55	没有系列 NO SERIES, B, C
LJ60	LJ60	LEARJET 60	所有系列 ALL SERIES
MD10	MD10	MD-10	所有系列 ALL SERIES
MD11	MD11	MD-11	COMBI, ER, FREIGHTER, PASSENGER
MD80	MD81, MD82, MD83, MD87, MD88	MD-80	81, 82, 83, 87, 88
MD90	MD90	MD-90	30, 30ER
P180	P180	P-180 AVANTI	所有系列 ALL SERIES
PRM1	PRM1	PREMIER 1	所有系列 ALL SERIES
T134	T134	TU-134	A, B
T154	T154	TU-154	A, B, M, S
T204	T204, T224, T234	TU-204, TU-224, TU-234	100, 100C, 120RR, 200, C
YK42	YK42	YAK-42	所有系列 ALL SERIES

**附件 G: 中国 RVSM 实施当日的高度层切换程序**  
**ATTACHMENT G: China RVSM Switchover Arrangements**

<b>中国 RVSM 实施当日的高度层切换程序</b>	<b>China RVSM Switchover Arrangements</b>
<p>以下是自 2007 年 11 月 21 日 16: 00 (世界时) 开始, 向中国缩小垂直间隔进行高度层转换的指导材料:</p> <p>自 2007 年 11 月 21 日 16: 00 (世界时) 开始, 所有将在或已经在中国空域内的 RVSM 飞行高度层内运行的航空器, 都应当按照并遵守中国航行资料汇编 (AIP) 对缩小垂直间隔的运行要求。</p> <p>自 2007 年 11 月 21 日 16: 00 (世界时) 开始, 所有进入中国空域并且飞行高度在 8900 米 (29100 英尺) 至 12500 米 (41100 英尺) (含) 之间的航空器, 将按照中国 RVSM 飞行高度层配备标准来配备高度。</p> <p>自 2007 年 11 月 21 日 16: 00 (世界时) 开始, 所有从中国空域内机场起飞, 申请使用飞行高度在 8900 米 (29100 英尺) 至 12500 米 (41100 英尺) (含) 之间的航空器, 将按照中国 RVSM 飞行高度层配备标准来配备高度。</p> <p>未获准 RVSM 运行的航空器, 在 2007 年 11 月 21 日 16: 00 (世界时) 之后运行时, 将不被批准进入 RVSM 空域。</p> <p>在 2007 年 11 月 21 日 16: 00 (世界时), 此时正在中国空域内运行的航空器将会预期空管部门下列活动:</p> <p><b>2007 年 11 月 21 日 15: 30—16: 00 (世界时) 实施阶段</b></p> <p><b>2007 年 11 月 21 日 15: 30 (世界时)</b> 空中交通管制部门对空广播“空中所有航空器注意, 在 30 分钟之后将实施缩小垂直间隔”</p>	<p>Guidelines for operators during the transition to China RVSM on 21 November at 1600 UTC are as follows:</p> <p>All aircraft that operate or are planning to operate in the RVSM levels within the China sovereign airspace at and beyond 1600 UTC on 21 November shall comply with the RVSM requirements in the China AIP.</p> <p>All aircraft entering China sovereign airspace between 8 900 m (FL 291) and 12 500 m (FL 411) inclusive, at and beyond 1600 UTC on 21 November will be assigned a level in accordance with the China RVSM level allocation.</p> <p>All aircraft departing from China sovereign airspace airports that need to file a level between 8 900 m (FL 291) and 12 500 m (FL 411) inclusive, at and beyond 1600 UTC on 21 November will be assigned a level in accordance with the China RVSM level allocation.</p> <p>RVSM non-approved aircraft should not flight plan into the RVSM airspace if they expected to operate in the airspace after 1600 UTC 21st November.</p> <p>Aircraft operating within China sovereign airspace at 1600 UTC on 21 November can expect:</p> <p><b><u>Implementation Phase on 21 November from 1530 - 1630 UTC</u></b></p> <p><b>1530 UTC</b> ATC will broadcast: “Attention all aircraft, RVSM operations will begin in 30 minutes.”</p>



<p><b>2007年11月21日 15: 30—15: 45 (世界时)</b> 空中交通管制部门将调配未获准RVSM能力的航空器在8400米(含)以下飞行</p> <p><b>2007年11月21日 15: 50 (世界时)</b> 空中交通管制部门对空广播“空中所有航空器注意, 在10分钟之后将实施缩小垂直间隔”</p> <p><b>2007年11月21日 16: 00—16: 30 (世界时)</b> 按照中国民航实施缩小垂直间隔高度层配备, 空中交通管制部门将调配获准RVSM能力的航空器上升或下降到最佳的RVSM飞行高度层 所有在缩小垂直间隔空域内运行的航空器将按照中国民航RVSM飞行高度层配备标准飞行</p>	<p><b>1530 – 1545 UTC</b> ATC will accommodate RVSM non-approved aircraft at and below 8 400 m.</p> <p><b>1550 UTC</b> ATC will broadcast: “Attention all aircraft, RVSM operations will begin at 1600 UTC.”</p> <p><b>1600 – 1630 UTC and onward</b> ATC will clear RVSM approved aircraft to climb or descent to the nearest appropriate RVSM level in accordance with the China RVSM level allocation. All aircraft operating in RVSM airspace will be cleared in accordance with the China RVSM level allocation.</p>
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**附件 H: 中国实施 RVSM 培训指导材料**  
**ATTACHMENT H: China RVSM Training Guidance Material**

<b>中国实施 RVSM 培训指导材料</b>	<b>China RVSM Training Guidance Material</b>
<p>中国实施 RVSM 培训指导材料包括:</p> <ul style="list-style-type: none"> <li>-中国空域缩小垂直间隔的政策和程序</li> <li>-高度层转换区域和转换程序</li>   <li>-中国实施 RVSM 国外航空公司宣讲会:                  中国实施 RVSM 国外航空公司和飞行员指导材料</li> <li>-中国实施 RVSM 安全信息通告</li> <li>-中国实施 RVSM 培训材料 - MD11 飞机特别程序</li>   <li>中国实施 RVSM 培训指导材料可以从中国民航 RVSM 专题网站下载:  <a href="http://www.atmb.net.cn/rvsm">http://www.atmb.net.cn/rvsm</a> 中文版  <a href="http://www.atmb.net.cn/rvsm/index_eg.asp">http://www.atmb.net.cn/rvsm/index_eg.asp</a> 英文版</li> </ul>	<p>China RVSM Training Guidance Material include:</p> <ul style="list-style-type: none"> <li>-Policy and Procedures of RVSM in China Airspace</li> <li>-Transition area and transition procedures.</li>   <li>-China RVSM Briefing for International Operators:                  China RVSM Pilot &amp; Operator Guidance Material</li> <li>-China RVSM information bulletin</li> <li>-MD-11 Special: China RVSM Pilot Training for MD-11 Aircraft</li>   <li>China RVSM Training Guidance Material can be downloaded from China RVSM official Website:  <a href="http://www.atmb.net.cn/rvsm">http://www.atmb.net.cn/rvsm</a>                      Chinese Version  <a href="http://www.atmb.net.cn/rvsm/index_eg.asp">http://www.atmb.net.cn/rvsm/index_eg.asp</a> English Version</li> </ul>