

## SOUTH AMERICA AND CARIBBEAN AREA

The basic North Atlantic procedures are given in the N. America Area Briefing.

### EUROPE – CARIBBEAN

#### ROUTING

S-bound, the first Oceanic CTA entered is Shanwick, followed by Santa Maria at 45°N and New York at 40°W. Minimum Navigation Performance Specification (MNPS) airspace is left at 27°N.

Alternatively aircraft are routed via Brest, Madrid and Lisbon FIRs with Oceanic Clearance from Santa Maria.

#### ATC PROCEDURES

SW bound – Oceanic clearance is requested from Shanwick Oceanic on VHF soon after take-off. A full read-back of an oceanic clearance, including track co-ordinates, is the standard requirement and is always required if the clearance is received on HF.

Some of the tracks used to the Caribbean cross up to three Oceanic CTA boundaries in quick succession.

**Note:** That Adams Radar on Barbados provide a Radar service and should be contacted.

**NE bound** – Oceanic clearance is normally given on the ground. However, there will often be level restrictions until Piarco is contacted.

The Oceanic clearance may differ from that given on OFP when the routing is likely to conflict with the OTS for that day. Sometimes level restrictions will be given to enable the flight to pass under the OTS.

#### COMMUNICATIONS

Communications can sometimes be difficult in Piarco CTA and San Juan Oceanic CTA, even though the latter is an ARINC (USA) manned Unit.

**Met Reports** – These are required on all routes to the Caribbean. It is basically adding temperature and spot wind to the end of each position report.

**Transponders** – Standard Oceanic procedure. Squawk A2000 30 mins after entry into an Oceanic CTA.

**Cuban Airspace** – Caribbean arrivals from the N will involve over-flying Cuba. If needed HF communication with Havana is through “BOYEROS RADIO”, CAR HF/RT NETWORK.

#### VOLCANOES

Mexico – (Popocatepetl) 35 nm SE of Mexico City – See AIS for any cautions on ash emissions.

Montserrat – (16°44'N 62°11'W). See AIS for any cautions on ash emissions.

**BRIEFING CONSIDERATIONS FOR CARIBBEAN APPROACHES**

SESMA data and ASRs confirm the experience of, and ongoing threat from, high energy and unstable approaches during operation into Caribbean airfields.

To enable appropriate threat identification in the Descent Brief, use the Flight Ops Safety Plan and review the following guidance, to ensure that compliance with the Safe Landing Policy, including the Stable Approach Criteria is achieved.

**Avoid**

At the briefing stage consider:

- What are you going to fly?

Expect change – develop a strategy for a change of runway or approach type; particularly when changing to a visual approach or to reduced track miles.

Agree the profile to be monitored in order to achieve the Stable Approach Criteria (SAC) by 1000ft auto callout and, of particular importance, how compliance with the profile will be confirmed.

Set gates and bottom lines to ensure SAC are achieved by 1000ft auto callout and maintained to touchdown.

- How you are going to fly it?

Use of AFDS modes for non-ILS and visual approaches.

Monitor the gates you have set and brief what you will do if gates are not met with a plan for early intervention.

Although the 1000ft auto callout is the bottom line for achieving the SAC, success relies on achieving the planned profile throughout the approach to touchdown.

- Brief and plan the go-around.

**Trap**

- Identify the threats associated with any changes to your plan; verbalise and resolve the threats.
- Review the agreed profile, monitor the profile and intervene if the profile is not being flown.

**Mitigate**

- Effective intervention is difficult during high workload due to runway or approach changes in unfamiliar environments.
- Anticipate the 1000ft auto callout with a review of the vertical profile, aircraft configuration and approach speed.
- If SAC not achieved by 1000ft auto callout and maintained to touchdown, flight crew must initiate go-around.

**High Energy approaches can lead to runway end excursions and Controlled Flight into Terrain.**

**EUROPE – RECIFE (BRAZIL)****ROUTING**

The route to Rio de Janeiro and the E coast of South America lies across Portugal, then out over Madeira or the Canary Islands making landfall on South America near Recife.

**REDUCED VERTICAL SEPARATION MINIMUM (RVSM)**

RVSM airspace is now established between Europe and South America in the EUR/SAM Corridor.

Vertical separation will be reduced to 1,000ft between flight levels 290 and 410 inclusive. "W" will be entered in item 10 of flight plans to indicate an aircraft is equipped to operate in RVSM airspace. In addition entry and exit points and requested flight level within the corridor are to be included in item 15 of the flight plan.

**Longitudinal Separation** – The application of 10 minutes longitudinal separation using the Mach No Technique will be applied to aircraft operating at or above FL250 within the Canaries, Dakar Oceanic, Recife and SAL Oceanic FIRS (EUR/SAM Corridor). This may be reduced to 5 minutes if the preceding aircraft arriving at the OCEANIC entry point is flying at speed of Mach.06 greater than following aircraft.

Requirements when using the Mach No Technique:

- i. The planned True Mach Number for each portion of the route shall be specified in item 15 of the Flight Plan.
- ii. The Mach number approved by ATC shall be adhered to and approval shall be requested before making any change. If immediate temporary change essential (e.g. due to turbulence), notify ATC as soon as possible and advise adjacent aircraft using 121.5. Clearance for a prolonged reduction in Mach number may not be possible if the 10 minute separation is compromised.

**ATC PROCEDURES**

When crossing FIR/Oceanic CTA boundaries S of 30°N, except those between domestic FIRs, contact the onward ATC Unit 15-20 mins before entry into their airspace and request onward clearance.

Canaries Control has extended range VHF and Radar with a range of 300-400 nm from Las Palmas.

Sal should be contacted 15 mins prior to entry, normally on VHF, but this is not always possible. Sometimes Flight Plan details will not have been received.

After Sal FIR, Dakar Control should be contacted, normally on HF. Recife Radio and Dakar Control share the same family of frequencies, SAT. On approaching the South American coast, the flight will be handed over to Recife Centre on VHF.

**SOUTH AMERICA****OPERATIONAL**

The South American continent covers a vast area. For example, Brazil is bigger than Australia. Study of an elementary atlas of this area is useful.

**Aids**

The facilities at major aerodromes are quite good, although Radar assistance is somewhat hampered by the language problem.

Serviceability of nav aids may not be correctly NOTAMed.

**Safety Altitudes**

The safety altitude in the area of most of the BAVirtual destinations is high.

Any departure from the designated holding areas, or specified procedures can lead to a rapid degradation of terrain clearance. Safety altitudes need to be carefully monitored when diverting, especially in the event of an engine failure.

There have been numerous instances of flights being cleared by ATC to an altitude below the MSA. In a non Radar environment, the controllers assume that the crew know their position, and when they can descend. Hence, prior to descent, check the MSA, and keep track of position.

When Radar is not available, a published or assigned altitude will be given which must be reached before continuing past a specified fix. It may be necessary to enter a hold to climb or descend as necessary to achieve this.

**AIR TRAFFIC CONTROL**

South American ATC controllers in general understand the term “direct” to mean to proceed without delay along the flight planned route. Pilots receiving a “direct” clearance in S.America should verify the intended meaning checking MSA if necessary.

A call to ground control prior to start is expected at most aerodromes. ATC clearance is not normally given until the aircraft is taxiing.

Due to traffic and terrain, many SIDs involve multiple turns and altitude requirements. Do not rely on Radar monitoring to pick up any errors.

ATC coordination is not always efficient, so re-confirm clearances when given a frequency change.

VFR traffic will be controlled in local language and traffic information may be poor; a good look out is required. Such traffic may be encountered at fairly high altitude (10,000ft) due to the high terrain. Most Latin American airlines turn their landing lights on in the aerodrome area.

**COMMUNICATIONS**

Language is a major problem in South America; English comes a very poor second to Portuguese or Spanish. Hence do not be surprised if you cannot understand a controller, or him you. Allow plenty of time to negotiate, use standard phraseology, speak slowly and distinctly and be patient and alert at all times.

Do not use slang or such terms as “Boundary” or “FIR”, use the correct phonetic designator. Use the word “decimal” rather than “point” for frequencies, etc.

Listen carefully; transmissions are sometimes weak and garbled. If a controller's response to a message is a simple "Roger", be careful as he may not have understood.

Blanking of signals by high ground is a problem.

Use the correct name for the ATC unit especially when calling an aerodrome. The latter may not be the same as the aerodrome name.

#### TAKE-OFF

Due to terrain, and numerous crossing restrictions, SIDs must be followed carefully. Basically the most prudent philosophy is to climb as quickly as possible.

#### PUBLIC ADDRESS ANNOUNCEMENTS

- The term "Latin America" is preferred to "South America".
- Use the name of the destination aerodrome, and not just the city name, e.g. "El Dorado International Airport, Bogota".
- Generally:      Temperature – Centigrade.  
                         Altitude – Metres.  
                         Speed – Km/hr.

#### BRAZIL

Air traffic control in the upper airspace is by Recife and Brasilia centres, and is generally good. Brasilia will identify the flight on initial contact and then pass the message "under Radar surveillance". This indicates that position reports may be omitted.

ATC will occasionally confirm that the flight is passing a reporting point to indicate that surveillance is maintained.

Most of the population live along the coast, and hence most aerodromes and air traffic is in this area. Brazilian territory extends 200 nm from the coast.

Large BALLOONS, balloon type objects and Kites may be encountered over Brazil. They are a religious tradition; the activity reaches a peak from mid Jun to Aug. Aircraft have, in the past, been forced to take avoiding action; ATC are unlikely to warn the aircraft.

#### UNICOM

Brazil uses a non-standard Unicom frequency of 123.45 as 122.8 clashes with a number of ATC facilities. It is recommended that 122.8 is monitored on Box 2 as non-local pilots may not be aware.

#### DESCENT

The Brazil AIP warns that ATC may clear aircraft to set the QNH and descend to an altitude which is above the Transition Level. This procedure is used when a continuous approach is anticipated without long periods of level flight following initial descent from cruising level. This procedure is used at Rio.

Magnetic variation in N and E Brazil is in excess of 20°W.

**EMERGENCY**

When an aircraft is in an emergency condition within the Brazilian FIR ATC shall be informed using the following classifications:

**WHITE ALERT** – Possibility of an accident are remote but there are signs of danger that may require a warning to ATC. **Example:** Aircraft in emergency due to low fuel status.

**YELLOW ALERT** – There is a good chance of an aeronautical accident, and the rescue services are required to attend.

**RED ALERT** – An aeronautical accident is unavoidable or it has already happened.

All emergency messages will be preceded by MAYDAY, MAYDAY, MAYDAY or PAN, PAN, PAN in case of urgency.

**VENEZUELA**

Apart from Caracas, few aerodromes have good facilities.

Traffic between Maiquetia ACC and Piarco ACC is co-ordinated.

EUR/SAM CORRIDOR RVSM AIRSPACE



