RIO DE JANEIRO INT (GIG/SBGL)

Elevation 28ft

CATEGORY B

AV brief – required

BAV AV brief not available

GENERAL

- Rio de Janeiro International is situated on Governador Island in Guanabara Bay.
- City is mainly to the W and SW.

Threats

CFIT

- Coastline is very mountainous.
- 8.5 nm S is Sugar Loaf Mountain standing nearly 1,400ft asl. W of this the terrain is more mountainous with a peak to nearly 3,400ft asl at 7 nm S.
- 10 nm W there is a N-S range of peaks reaching nearly 3,400ft asl at 14 nm SW and nearly 3,200ft asl at 13 nm W.
- W, towards Sao Paulo, is a range with peaks to nearly 7,000ft asl. 10 nm N the terrain rises steeply reaching over 5,700ft asl by 17 nm N and nearly 7,500ft asl at 23 nm NE.
- Lido MRC Chart depicts this terrain.

Runway Incursion

- Due max wingspan limitations on Twy B between F and G, expect Rwy crossing when landing Rwy 15 or departing Rwy 33: Landing Rwy 15: If unable to vacate by Twy F, expect to exit via Twy H and cross Rwy 15/33 at Twy J.
- Departure Rwy 33: Expect to cross Rwy 15/33 at Twy F for departure from Twy H.
- Local regulations allow Code D and E aircraft to taxi on Twy B between F and G at the beginning of a change to Rwy 33, provided that a Follow Me is used.

Loss of Control

- Birds of all sizes such as vultures and herons are a problem, especially on approach to Rwys 10 and 15.

Mid Air Collision

- Large BALLOONS and balloon type objects may be encountered. 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.
- 5 airports within 8 nm of each other.
- Local traffic controlled in Portuguese.

Special Considerations

- Brazilian ATC is run by the military and therefore a lot of their procedures are not necessarily those used in commercial aviation. STAR phraseology differs as follows:
  - "Cleared via arrival XXX" means fly the arrival route XXX at the published FL/altitudes.
  - "Cleared arrival XXX" means fly the arrival route XXX at the FL/altitudes issued by ATC.
- ATC use the following Rwy pairing for departure and arrivals:
  - Rwy 10 Dep/Rwy 15 Arr: This is the preferred and most efficient setup and can only be used in good weather and when aircraft arriving into SDU can fly visual/circling approaches. SDU traffic does not interfere with GIG traffic.
  - Rwy 10 Dep/Arr: Used when conditions are such that visual/circling approaches cannot be flown into SDU. SDU and GIG operate as a single airfield rather than two separate

ones. Without this set up the NDB Z Rwy 20 approach to SDU would conflict with the missed approach from ILS Z Rwy 15 at GIG. Expect delays under this set up.
- Rwy 15 Dep/Arr: Same as above but winds do not favour a landing on Rwy 10 or it is closed. SDU and GIG operate as a single airfield rather than two separate ones. Expect delays under this set up.
- Rwy 33 Dep/Rwy 28 Arr: The NDB Y Rwy 20 at SDU crosses the final approach of ILS Z Rwy 28 at GIG. Extra separation of 1,000ft vertically and 5 nm horizontally is required leading to arrival and departure delays. Traffic on a northerly departure from SDU cross PCX which is on the STAR and ILS approach to Rwy 28 so it may be necessary to use the published holds.
- Rwy 33 Dep/Arr: This is the most complex and delaying procedure because the approaches to both GIG and SDU interfere with each other. Aircraft arriving into SDU fly over the initial missed approach routings for Rwys 10 and 28. The stop altitude is 1,000' below the traffic arriving into SDU and handling of the missed approach should be carefully briefed.

ARRIVAL

Diversion Airports			
SAO PAULO INT	GRU/SBGR	200 nm/258°T	CAT B
CAMPINAS	VCP/SBKP	220 nm/266°T	CAT B
BELO HORIZZONTE	CNF/SBCF	200 nm/348°T	CAT B

Initial Approach

BAV Crew Reports

- Numerous reports of laser beams being pointed towards aircraft on approach.

- Rio TMA is challenging with a mix of high terrain, significant weather as well as having 5 airports within 8 nm of each other. They all interact with each other and affect the traffic flow in and out of GIG. Operations at Santos Dumont (SDU) have a significant effect on operations at GIG such that under certain runway configurations, SDU and GIG are controlled as if they were a single airfield.
- Standard of spoken English can be limited with all local traffic controlled in Portuguese. Controllers are not trained in conversational English and therefore standard RT must be used. Ensure you communicate at an appropriate pace. When making requests allow time for possible misunderstandings and be patient.
- When referring to navaids use the phonetic alphabet.
- If fuel becomes an issue then ATC expect crews to use the following phraseology. Anything else will not be understood by ATC.
  - Minimum Fuel Advisory. This does not give priority to land and ATC will simply provide the length of delay and/or number in landing sequence. Crews should use this for planning/contingency purposes and it has the same meaning as it does in the USA and Japan.
  - MAYDAY Fuel. ATC will give you priority to land and should be used in accordance with OM A guidance.

- ATC may clear aircraft to set the QNH and descend to an altitude that 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.
- Radio failure instructions may occasionally be given on initial contact with Rio Approach.
- The use of clearance limits is being removed and instead the use of published holds should become more common. EATs are not used in the Rio TMA. Should a hold be given then at an appropriate moment request the length of delay. This will be given as number of holds or as time. Crews should provide ATC with an estimate of how long they can hold for. This will not jeopardize the landing sequence number and is used by ATC to avoid giving them clearance limits and rushing aircraft into an approach.
- In the rare event that a clearance limit is given it will consist of a heading, navaid and a radial. It means fly the assigned heading and intercept the given radial to fly to the navaid.
- Unless a greater threat exists (e.g. CB activity), STARs MUST be flown in full prior to intercepting the localiser even if they go through the extended centreline before regaining it. This is to maintain terrain separation and the expected clearance will be '…. Cleared GIGSO 1A arrival. After UTBOM expect ILS X Rwy 15'. If you are unsure of the instructions issued the local advice is to use the phrase 'Unable, I do not understand the procedure'. ATC interpret 'I don't understand' (as opposed to the text above) as I didn't hear what you said, please repeat the instructions verbatim without any form of clarification.
- If CB activity forces deviation from the STAR, extreme caution is needed to ensure safe terrain clearance. In particular there is terrain to the north and south of the extended centreline at a range of approximately 13 miles from Rwy 10.

Approach

- Each approach has an associated Descent Procedure. The Descent Procedure is given in the vertical profile of the relevant approach chart. The Descent Procedure profile may be difficult to fly being alternately steep and shallow with a too early capture of the ILS glide path bringing the aircraft below a minimum height or altitude.
- STAR and final approach for runway 15 are affected by high terrain to the West of the field. The ILS approach procedures for runway 15 indicate an initial descent profile based on 2300ft/min. To avoid a high-energy approach, crews are advised to actively manage the aircraft's energy. Early selection of the gear and flying the minimum speeds allowed for by the procedure will help prevent a high-energy approach. Crew should agree gates during the descent briefing.
- Rwy 15 Approach Terrain – Early configuration is required to ensure compliance with the Stable Approach Policy. A ridge on approach to Rwy 15 will cause the radio altimeter to ramp down from 1250R to below 1000R and back to 1200R generating an early 1000ft call.

B787

- Early configuration is not applicable to the B787, as the 1000ft call is referenced to height above touchdown.

ALL

- Rwy 15 ILS – Pilots should be aware that the 6300' altitude constraint at UTBOM will normally be above the runway 15 ILS glideslope. Pilots should pre-brief the glideslope join from above procedure and be prepared to intervene with landing gear, speedbrake and/or early flap selections to enable a timely capture of the glideslope. On occasion ATC have requested 230

kts to EGBAT which is an unrealistic request on this approach, it is strongly recommended to achieve Flap 5 + Flap 5 manoeuvre speed by UTBOM.

- Rwy 28 ILS – Pilots should be aware that reports have been received of false LOC capture when intercepting the ILS from the north.

BAV Crew Reports
• We arrived for RNAV Z 15 via the UTBOM 2A from MOLSU. Descent speed was 240kts planned with a gate of 180/6300 at UTBOM planned in the FMC. We noticed early on in the approach that VNAV had drawn a very steep profile between SURNA and GIGSO. Intervention was required when the ROD increased well above 3000' per min on the VNAV profile. Matching the speeds at SURNA and UTBOM would probably give a smoother VNAV profile.

GROUND

- Parking is usually on Apron 3.
- BA use terminal 2.

DEPARTURE

- Contact Clearance Delivery at least 10 mins before pushback/taxi.
- Emergency Turn procedures and non-standard acceleration altitudes exist.
- In order to clear the airspace containing the highest density of traffic thereby assisting ATC and leading to short cuts expedite climb until above 6,000'.
- When flying a SID observe all vertical constraints unless they have cleared you with an unrestricted climb.
- Refer to the approach section for a description of Dep/Arr Rwy operations.

WEATHER

- MAY – SEP: These are the Winter months. N-NW wind gives fog in the early morning. This normally lifts to low stratus by about 0900LT (1200Z). Cold fronts bring disturbed weather and with a S to SE flow there may be low cloud and drizzle for long periods.
- OCT – APR: The wet season is from Nov to Mar. Thunderstorms are frequent in the afternoon and evening. They may arrive as a NW squall with up to 40 kt gusts. The aerodrome may drop below limits for a short time. Strong W to SW winds occur with frontal passage.
- In Brazil an aerodrome will close when ceiling and visibility fall below State Limits.

Percentage Frequency of Occasions with VIS <2000 m and/or Ceiling <600ft

UTC	0000	0300	0600	0900	1200	1500	1800	2100
Jan	4.3		0		0		3.6	
Feb	0		0		1.8		0	
Mar	4.8		1.9		4.2		1.3	
Apr	1.4		4.9		2.8		0	
May	2.2		3.9		6.7		2.5	
Jun	1.1		6.3		11.5		2.0	
Jul	1.0		5.5		12.4		2.7	
Aug	1.9		0		4.0		0.9	
Sep	2.2		3.9		1.9		1.1	
Oct	9.3		3.0		5.1		0	
Nov	2.6		3.3		2.2		0	
Dec	2.1		3.1		1.8		1.0	

Percentage Frequency of Occasions with Heavy Cb Activity

UTC	0000	0300	0600	0900	1200	1500	1800	2100
Jan	4.7		0		1.9		5.5	
Feb	11.4		0		0		3.7	
Mar	9.9		0		0		1.3	
Apr	5.6		0		0		1.3	
May	1.2		0		0		0	
Jun	1.2		0		0		0	
Jul	1.1		0		0		0	
Aug	1.0		0		0		0	
Sep	2.2		0		0		0	
Oct	1.9		0		0		1.2	
Nov	6.7		0		0		0	
Dec	5.4		0		0		7.0	

MIDDAY = 1500UTC MIDNIGHT = 0300UTC

OPERATIONAL INFORMATION

Handling Agent	PAX BA/RAMP PROAIR
Handling Agent VHF	
Potable Water	Uplift Permitted

IF ONLY Electrical Power is required	Use ground power at all times
If BOTH electrical power and air conditioning is required:	Use both ground services at all times