LIMA (LIM/SPJC)

Elevation 113ft

CATEGORY B

AV brief – not required

GENERAL

- Peru's capital has become the third-largest city in the Americas, but its rapidly growing population of nearly nine million is currently served by just one single runway airport – Jorge Chávez International.
- The airport will undergo huge expansion in the coming years with a new terminal and second runway to the west. Until then, expect ground congestion as the airport gets busier.
- The airport is on the coast in Callao, 6nm to the W of the city centre.
- There are naval and air force bases adjacent to the airfield – photography of these is prohibited.
- There are associated restricted areas within the terminal area – request ATC clearance before deviating from route.

Threats

CFIT

- The Andes dominate central Peru.
- A thorough examination of the Lido MRC and its relation to the relevant STAR is essential.
- The high MSAs require vigilance with altimeter setting procedures.
- The immediate airport area is mostly flat desert coastal plain, 2nm inland.
- Significant obstacles 2nm to the SSE of 450ft amsl and 3nm to the E of 1120ft amsl.
- Rwy 15 short finals is a hill to 341ft amsl to the left of the centreline.
- Terrain 5nm to the E reaches 2480ft amsl.
- Terrain 35nm to the E reaches 12,500ft amsl.
- Terrain 65nm to the E reaches 18,900ft amsl.
- A 250 knots restriction occurs early on the STAR and is above FL100. High IAS will lead to high rates of descent and ground speeds close to MSA. This will increase the risk of EGPWS Caution or Warning so it is recommended to moderate the speed accordingly and if necessary reduce speed to 250 kts earlier than required in the STAR.
- Arrivals and departures take place at night so the magnitude of the terrain will not be visible.

Runway Excursion

- Rwy 33 has a displaced threshold of 610m (LDA 2897m).
- The single runway is reported as being rough and bumpy with neither grooves nor a crown.
- The runway must be considered as being slippery when wet, with the appropriate implications on take-off and landing performance.

Runway Incursion

- Beware of aircraft vacating Rwy 15 at Twy C, stopping short of Twy A and infringing the runway.
- No stop bars. ‘Greens’ lead straight onto runway.
- No green taxiway centreline lights or markers, yellow lines only.
- No obvious lighting at RW15 holding point, making inadvertent runway incursion possible.

Loss of Control

- Birdstrikes have been reported at Lima.
- Congestion and confusion may occur during Low vis ops, although these occur mostly outside our scheduled hours of operation.
- A temperature inversion might be expected on departure during the summer months, which may be relevant at high aircraft weights.

Mid Air Collision

- Expect local traffic to be controlled in Spanish.
- A training school operates 30nm to the S during daylight hours, mostly to Pisco.
- The air force base operates 13nm to the S with MiG-29s and Mirages; traffic may interfere with departures from Rwy 15.
- There is very little VFR traffic except helicopters up to 3000ft.
- There is a small chance of simultaneous movements in opposite directions from the single runway.

Special Considerations: Driftdown procedures

- En-route: Refer to the B777 Perf Manual if using UQ103/UW1/UG431.
- Arrival: The final stages of the flight involve crossing the Andes. In the event of a decompression immediately prior to this, options are very limited. See B777 Perf Manual Chapter 5 for escape routes and diversion options.
- Departure: See B777 Perf Manual Chapter 5 for procedures to be followed on AMVEX 3G/3H/3J SIDs, LROL 3G/3H SIDs and OPROS 1G/1H/1J SIDs. F SIDs are not currently considered.

Alternates

Enroute

- Once leaving the Caribbean, this route goes into what will be for most crews unfamiliar territory.
- Whilst sufficient alternates are available they are not as numerous as other areas of our operation.
- Peru has plentiful airfields but most of them are military-controlled.
- These have few scheduled services and therefore a lack of facilities.
- However most have runways of at least 2500m and could be considered in an emergency.
- Many major cities in the area are at altitude and the airports are close to or above the maximum elevation for B777 operation.
- The following airfields have been authorised:

MPTO (Panama City)	SKRG (Medellin, Colombia)	SVMC (Maracaibo, Venezuela)
SLVR (Santa Cruz, Bolivia)	SBEG (Manaus, Brazil)	SPRU (Trujillo)
SEMT (Manta, Ecuador)	SPQT (Iquitos, Peru)	
SPCL (Pucallpa, Peru) and the diversion airfields below:		

ARRIVAL

Diversion Airports

PISCO	PIO/SPSO	114 nm/152°T	CAT B
CHICLAYO	CIX/SPHI	348 nm/332°T	CAT A
GUAYAQUIL(Ecuador)*	GYE/ICAO	612 nm/344°T	CAT A

*Only Guayaquil is currently accustomed to longhaul/widebody scheduled services.

Holding

- Airborne congestion occurs daily. Peak periods are:

  1300-1430z 2300-0100z 0230-0430z

- Expect holding patterns at VUMOM, PADIS, KALAR or ILROL or extended vectoring.
- At peak times movements exceed 35/hr.
- Airborne delays are reported up to 20 mins but ATC endeavour to give longhaul flights priority.

Approach

MSAs enroute and on the initial stages of an arrival may be in excess of 20,000ft and will require a check of the Perf Manual concerning driftdowns.

MTCAs are advisory safety altitudes derived by Lido and are on occasion higher than the restrictions on the STAR. Crews should remember that minimum altitudes on STARs are published by the state and are both legal and safe.

- Arrivals will normally be via a VADOS 2 from the East (UM527) or an ILROL 3 from the North (UT228).
- A proactive check of MSA before deviating from the lateral profile is essential (OM A Section 8.11.4 – Deviation from Flight Planned Route and OM A Section 8.13.3.b – IMC Flight Below Minimum Safe Altitude (MSA), OM B Section 2.15.11 – Deliberate Deviation from Planned Route). Shortcuts are unlikely to be helpful.
- Full use should be made of the Lido MRC charts which breakdown the safe altitudes by sector.
- For reference: VADOS (not shown on the chart) is overhead Lago Junin - the large lake shown on the MRC (~85nm NE of Lima).
- ATC will often clear aircraft to 5000ft with the STAR. There should be a discussion in the briefing on the use of the MCP and altitude selections.
- ATC may request high speed. Crew must proactively monitor RODs in accordance with OM A Section 8.13.3.e – Rate of Descent Limit (the '3 within 3' rule).
- The preferred runway is Rwy 15 due noise. The great majority of arrivals are in this direction.
- Rwy 15 – Expect ILS V, a standard ILS approaching over the sea. ILS T is for LVOs. ILS U and ILS S are similar but procedural.
- Rwy 33 – Single 3.03° VOR approach is 1° offset and will overfly the city.

GROUND

- Expect to vacate at D (c.2000m, 90° turn) or G (c. 2600m, RET).
- If ground is congested, aircraft may be asked to vacate at F (full length) to hold short of the apron.
- Ground congestion peaks 1500-1630z.
- Be aware if vacating D but unable to proceed to the gate, the tail may remain infringing the runway. KLM report several instances of this being 'uncomfortable' albeit in a B777-300ER.
- Landing Rwy 33 expect to vacate at A, although B is technically possible.
- Preferred parking stands are 17 and 19 but 22 and 21 can also be used.
- Marshalling assistance is provided when VGS guidance is u/s.
- Parking on stand 22 is tight but no special procedures are required as long as no aircraft larger than a B767 are parked on stands 40D, 40E or 27.

DEPARTURE

- Rwy 15 preferred runway.
- Rwy 33 compulsory from 0500-1000 UTC due noise.
- Call Lima Clearance 20 mins prior to departure for ATC clearance.
- Pushback, start-up and taxi on Ground.
- Departure delays of 10 mins are common so an expeditious turnaround may be advantageous.
- Emergency turn procedures are in CARD.

SIDs

- AMVEX, ILROL and OPROS departures have all been considered by BA. F SIDs are not currently considered.
- These SIDs have associated driftdown procedures.
- Early experience is that these SIDs are achievable at medium weights using VNAV and derated climb.
- However, this may not be possible at high weights, in unfavourable atmospheric conditions or using Rwy 33.
- The following options are available:
  - Ask ATC for an unrestricted climb on first contact with Departure.
  - Consider a climb at max angle speed and/or removing the climb rate.
  - Consider extending the SID.
- A request to extend the SID may be made with ATC once airborne and will almost always be granted immediately and at pilot's discretion. If required, plan the extra miles earlier in the departure, over the sea. 30nm should be sufficient.
- The Critical Targets for planning are (refer to Perf Manual (Trent-895)):

  FL250 or above by **AMVEX/ILROL** (Lido Charts)

  FL290 or above by **20nm beyond AMVEX/ILROL** (Perf Manual)

  FL200 or above by **OPROS** (Lido Charts)

  FL260 or above by **20nm beyond OPROS** (Perf Manual)

B777-200/-200ER Operation Only

- This is a focus airfield where CLC will target MACTOW aft of the Alternate Forward CG Limit.
- Refer to FCOM SP.CG.

WEATHER

- Desert climate controlled primarily by the cooling effect of the Humboldt current.
- This brings year-round light S'ly winds and dry air masses.
- Lima is one of the world's driest capitals. Only in winter (Jun to Aug) is any amount of drizzle likely.
- However, there are high amounts of cloud cover for the latitude and desert topography.
- Humidity is high.
- Dense, regular winter fogs are caused by the proximity to the coast (18-24 days per month).
- Summer fogs are occasional, caused by marked inversions.

- All fogs generally occur in the morning.
- The airport operates in IMC less than 15% of the time even in winter (Cat IIIb available).
- Temperatures have never been recorded outside the range of 8° to 34°C.

OPERATIONAL INFORMATION

Handling Agent	Talma Servicios Aeroportuarios
Handling Agent VHF	131.650
Potable Water	Uplift Permitted