

**MEXICO CITY (MEX/MMMX)**

Elevation 7316ft

**CATEGORY B**

No AV brief available

**GENERAL**

- Benito Juarez Intl is located in the east suburbs of Mexico City on a high plateau surrounded by mountains.

**Threats****CFIT**

- Consider how weather avoidance should be handled as this may take you away from the published profile
- Highest terrain is the active volcano Mt Popocatepetl, nearly 18,000 ft asl at 35 nm SE.
- Range of mountains running S from a position about 18 nm E of the airfield and some 7 nm SE of the Rwy 23 approach paths. 10,000 ft contour is reached at 15 nm and there is a peak to nearly 13,600 ft asl at 20 nm E.
- At 15 nm range on the far side of the city is a range of mountains curving from NW round to S. The 10,000 ft contour lies about 17 nm W and 15 nm SW. The terrain reaches nearly 13,000 ft asl by 16 nm SW.
- Notable isolated spot elevation of 10,200 ft asl to the NE at 038°/22 nm
- Closer in is high ground commencing 5 nm N and reaching nearly 10,300 ft asl at 10 nm N
- **Accurate navigation to and from radio facilities is required to maintain adequate terrain clearance. Raw data should also be used as a backup to ensure accurate track keeping in accordance with published procedures**

**Runway Incursion**

- The runways are marked left and right in Spanish: "Izquierda" = left, "Derecha" = right
- Caution when cleared to cross 05L that you are following the A1 taxiway. It is easy to end up lined up on 05L or taxiing to Terminal 2.
- Runway lighting intensity is low with no centreline lights. Rwy turn offs and taxiways do not have centreline lighting. Runway turnoffs identified by blue taxiway edge lights only and are difficult to see at night, especially at the end of 05R

**Runway Excursion**

- Unstable approaches in particular to Rwy 05R due to being high and/or fast at 1000R
- Do not confuse streetlights N of the runways with runway lights
- Rubber slicks near the end of the Rwys give slippery conditions when wet
- Limited lateral guidance on rwys as centreline lights often u/s. Rwy 05R/23L centreline markings faded throughout and particularly at the midpoint
- Potential for late runway changes
- Runways can be slow to drain off water

**Mid Air/Ground Collision**

- Local traffic is controlled in Spanish
- Exercise extreme caution when taxiing and parking. Some taxiway guidelines give much reduced separation from other aircraft, obstacles and airport road traffic.
- Apron lights and vehicles are bright making it difficult to see aircraft on the other runway during the takeoff/landing roll or taxiing in front of you
- Taxiway A unsuitable for heavy jets
- While taxiing for takeoff Rwy 05R via threshold 05L an aircraft may well be cleared (in Spanish) to land on Rwy 05L; experience suggests it is prudent to be well clear of Rwy 05L and its

undershoot as quickly as possible.

- There is a service road that runs parallel to Taxiway H1 which is not depicted on charts. At night it is brightly lit and there is the possibility of confusing it with Taxiway H1.

### Special Considerations

- The airfield elevation of 7,316 ft gives a high TAS of approximately IAS +15% and consequently a high ground speed and large turn radii. High temperatures will compound this effect.
- A low platform altitude coincident with the completion of the final turn on to Rwy 05L/R and G/S intercept can significantly increase the workload. Establishing the aircraft in the landing configuration early will reduce ground speed and workload for the final approach.
- Mt Popocatepetl is an active volcano so volcanic ash encounters are possible.

## ARRIVAL

### Diversion Airports

CANCUN	CUN/MMUN	696 nm/080°T	CAT A
GUADALAJARA	GDL/MMGL	248 nm/285°T	CAT A
HOUSTON	IAH/KIAH	666 nm/018°T	CAT A
DALLAS, Fort Worth	DFW/KDFW	813 nm/007°T	CAT A

Others that may be used include Miami and Phoenix

- Transition altitude is 18,500 ft
- Enroute area QNHs are used
- There is a speed restriction of 250 kt within 30 nm of MEX VOR below 18,000 ft

### Approach

- The airfield elevation is 7,316 ft. With this in mind, consider using FL200 for the 10,000 ft check.
- Note 20,000 ft max flap extension altitude and ensure this is observed.
- Approaches from the north route via SLM to SMO. Confirm whether ATC expect you to 'descend via' or in accordance with their clearances, and carefully monitor all altitude selections.
- **If cleared to 'descend via' crews are reminded to confirm the lowest published altitude relating to their specific STAR clearance. There is potential for confusion as some altitudes are published which are relevant ONLY to transitions beyond the SLM.**
- 05R is the usual landing runway. **The high density altitude, combined with terrain and a late turn to a short final approach make this one of the most challenging approaches on the B744 route network.**
- Last minute changes to 23L are possible. This should be considered when preparing for the approach and it is worth setting the 23L approach up in RTE 2. If this is done make sure the transition is correctly sequenced prior to activating RTE 2.
- It is not uncommon to be taken off the published arrival and given a heading to intercept a VOR radial with the remainder of the approach as published. Radials are often equivalent to one of the other STARS. ATC may clear you direct SMO or MAVEK (same position). Consider how to handle these requirements.

- Rwy 05R: expect ATC speed control of 200 kt to SMO and 160 kt thereafter.
- Rwy 23L: as above except 200 kt to SLM.
- If flying the ILS approach, brief the procedure for capturing the G/S from above. However use of the RNAV approach is recommended as this improves the transition from the STAR to the approach.
- Ensure the aircraft is fully configured with the landing checklist completed BEFORE making the turn to final as this will minimise workload.
- VOR/DME 05L has a 3.25° glidepath
- If offered, a switch to Rwy 05L should be resisted due to the reduction in track mileage
- A sidestep to land on 23R following an ILS 23L approach is also sometimes used. The threshold of Rwy 23R is further displaced than that of 23L.
- Landing clearance may be given while the runway is still occupied
- Some STAR pages depict minimum crossing FL/Alts at fixed radii from SLM. Positively confirm with ATC if in any doubt about cleared level and check against Radar Minimum Altitudes chart.

### **Rwy 05R**

ILS DME ONE is a procedural approach defined by conventional nav aids.

ILS DME TWO is basically the same approach but defined instead by RNAV waypoints.

The approach requires capture of the G/S very quickly after rolling wings level on the LOC. Any delay in descending to the platform altitude of 8,800ft (which is only 1,500 ft aal) as the turn on to final is started can result in “chasing” the G/S from above and of course you will only 500 ft available to achieve stability.

- The approach starts at SMO. MAV EK is an RNAV waypoint at the same location.
- Arrival at SMO is generally in accordance with the published STAR or via ATC instruction to intercept an inbound radial (often the 340 radial – which is not on the approach chart).
- Once at SMO you will be cleared for the ILS, with the expectation that you will follow the published lateral and vertical profiles.
- Plan to configure to an intermediate flap setting (e.g. 20) at SMO to ensure the aircraft does not drift above the profile.
- Use LNAV for the lateral profile, and arm LOC as you start the final turn. Note that this is a 113° turn which, combined with the increased radius of turn due to high GS, can result in going through the localiser even though it will have captured.
- Passing SMO set the MCP to 8,800 ft and use VNAV for the descent. If you choose to use a different vertical mode you will need to set appropriate values in the MCP. It is vital to descend promptly to 8,800 ft and arm G/S as soon as LOC is captured.
- During the turn to final an RoD of approximately 900 fpm will be required to help maintain the profile. A similar RoD can be expected once the G/S is captured.

### **Rwy 23L**

- The approach starts from SLM and tends to be easier to manage than 05R
- When intercepting the LOC from LNAV mode, the aircraft may parallel the LOC without capturing it. Ensure LOC is captured early on so that the G/S can also be captured, thus reducing the likelihood of having to capture from above.

- A switch to 23R may be offered – this increases the track miles to touchdown
- Terrain constraints mean ATC are sometimes forced to achieve separation through quite aggressive speed control
- Go around is toward terrain

### GROUND

- EOT (Engine Out Taxi) not approved
- Simfest normally park on Stand 31A
- Caution is advised when taxiing to Rwy 05R – signage where Twy A1 splits from Twy A has been reported to be confusing

### DEPARTURE

- Use FCOM1 Noise Abatement Procedure
- Packs OFF etc should be used to enhance performance. If using Packs OFF for departure bear in mind the high elevation and be mindful of distractions – if the packs are not reconfigured by the time the aircraft passes 10,000 ft a CABIN ALTITUDE warning will be generated, and above 14,000 ft cabin altitude the ‘rubber jungle’ will drop!
- On pushback from most T1 stands you will be blocking the main taxiway. This can also result in extensive pushback delays. Starting one engine on stand may be a good option.
- B747 - hot/hung starts are a possibility. To avoid this a manual engine start should be carried out, one engine at a time. Await max motoring before introducing fuel.
- Rwy 05L departures are more restricted by obstacles than 05R
- Departures from Rwy 23L/R have a higher workload due to terrain restrictions
- ATC speed restrictions as low as 180 kt may be issued; advise unable to comply if this would result in an unacceptable delay to flap retraction/acceleration
- If routed direct TAMPICO or PACHUCA on departure, bear in mind the isolated spot elevation of 10,200 ft asl at MEX 038°/22 nm

### WEATHER

- Dry Season (Nov – Apr): mainly dry and sunny with a few light showers.
- Early morning radiation fog is a possibility
- On occasions depressions move south in to the Gulf of Mexico giving low cloud and poor visibility over a wide area and strong to gale force northerly winds behind the cold front, leading to dust and poor visibility
- Early morning mist and smog usually dissipates by midday
- Wet Season (May – Oct): Frequent afternoon thunderstorms. Rain falls almost daily in July and August, and hurricanes to the east can also influence the weather.

**OPERATIONAL INFORMATION**

Handling Agent	Menzies
Handling Agent VHF	132.45
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