

Madrid Barajas (Adolfo Suarez) (MAD/LEMD)

Elevation 1998ft

CATEGORY AB

AV brief not required

GENERAL

- The aerodrome is situated on a raised plateau 7.5nm NE of the city of Madrid, considerable high ground is present N and NW of the airfield

Threats

CFIT

- A spine of mountains runs from WSW to the NE. This terrain reaches elevations of 7,000ft amsl with the most significant elevation being c8,300ft amsl 25nm NW of the airfield.
- There is an isolated area of high terrain 15nm due west of the airfield with an elevation of 2,300ft amsl.
- Due to the high terrain to the N there are descent restrictions on the approaches to the southerly runways, high MSAs to the N limit the maximum allowable rate of descent. SSAs to the S are lower, liase with ATC as soon as possible if extra track miles are required.

Runway Incursion

- As Taxiway layout, structure and instructions can cause confusion. Briefing expected taxi route and reviewing standard taxi routes will reduce workload on initial contact with ground controller.
- Multiple departure runway holding points exist in close proximity, ensure correct intersection data is being used.

Runway Excursion

- ATC track miles to run may not be accurate, especially during busy arrival periods. Late changes to the southerly runways will significantly reduce track miles.
- The 2000ft elevation leads to higher TAS on approach which, due to the consequential increase in GS, will require higher than normal rates of descent to maintain a 3° profile.
- Visual illusions possible: deep inset thresholds on landing runways can lead to ducking under the glide path and the 60M runway width can cause a prolonged float leading to deep landings.
- Summer temperatures can exceed 40°C which gives a density altitude of 5-6000ft, thermal effects can cause up and down-draughts between 50ft and 200ft which can affect the flare wi
- Valley on approach to NW runways can cause misleading Radio Altimeter callouts, use Baro altimeter to set gates for configuring aircraft
- Anticipate tailwind on approach to NW runways even when surface wind is calm

Loss of Control

- Good energy management on approaches to southerly runways is vital due to terrain restrictions, high elevation and temperatures in summer can give high TAS. Rushed approaches are common to all runways
- Crossing ridge to the N aircraft may experience rapidly shifting winds which can cause difficulty when reducing speed
- Marked temperature inversions can lead to raid speed increases on approach or rapid decreases on departure

Special Considerations

- Controllers may use Spanish when speaking to Spanish registered aircraft
- Northerly departures are noise sensitive with substantial fines for violations,
- Transition Altitude is high at 13,000ft

ARRIVAL

Diversions Airports

BARCELONA	BCN/LEMD	295 nm/079°T	CAT B
VALENCIA	VLC/LEVC	190 nm/112°T	CAT B
BILBAO	BIO/LEBB	205 nm/010°T	CAT B
MALAGA	AGP/LEMG	265 nm/190°T	CAT B

Note: All listed alternates are CAT B

Approach

- At earliest opportunity, if ATC are online, ask for the runway in use and expected STAR.
- Approaches to the Southerly runways are more challenging due to the terrain restrictions affecting descent clearance.
- Only RW32L/R and 18L/R are available for landing, make runway requests (eg 32R instead of 32L) on initial contact with Approach controller.
- Speed reductions below 210/220kts occur late in the approach which can make configuring the aircraft difficult once established and can lead to not achieving the stable approach criteria.
- Moderate turbulence is often experienced on all approaches, especially in summer months.
- Set conservative bottom lines for energy management and be prepared to tell ATC what you need to avoid high energy situations.

GROUND

- BA uses stands on Terminal 4S.
- Navigraph/LIDO charts include standard taxi routes which should be briefed before calling ground controller.
- Taxiways are laid-out in a block structure, eg November consists of N1, N2, N3 etc, if in doubt stop the aircraft and ask ATC for assistance.
- External power and Pre-Conditioned Air are available on stand.

DEPARTURE

- Request start-up clearance 15 mins prior to ETD with expected start-up time.
- Runway 14L/36R is allocated to Eastbound flights, 14R/36L is allocated to westbound flights.
- Expect RNAV SIDs to be allocated.
- In N configuration 36R SIDS will only be to RBO, PINAR and NANDO, 36L SIDS will be SIE, AVILA, DISKO and VTB.
- Ensure SID is being accurately followed and intervene if necessary. Use of NADP 1 procedures is advised for close in turns.

WEATHER

- Madrid has extremes of weather with freezing conditions and snow in the winter months and in the summer months temperatures of 40-45°C and large thunderstorms.
- **Mean Temperatures and precipitation**
Jan Max 10°C, Min 0°C, 3mm

Jul Max 33 °C, Min 15°C, 1mm

OPERATIONAL INFORMATION

Handling Agent	IBERIA
Handling Agent VHF	131.55
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:	Airport (PCA+GPU) Use both ground services at all times GHA (External Air Cart) - DO NOT USE – Use APU for bleed air, use ground electrical power to reduce fuel burn