

TEGUCIGALPA/Toncontin Intl (TGU/MHTG)

Elevation 3307ft

CATEGORY C

No AV brief available

GENERAL

- Toncontin Intl Airport is situated in Tegucigalpa, 4 nm south of the city centre and surrounded by built up areas
- The airfield is surrounded by steep terrain on all sides, which combined with the short and sloped runway and orographic wind effects makes the RNAV (RNP) Rwy 02 one of the world's most challenging approaches
- Arrivals to Rwy 20 are less affected by terrain but remain challenging
- Transition altitude 19,000 ft

Threats

CFIT

- Terrain surrounds the airfield on all sides with numerous close-in obstacles.
- Part of the hill on short final Rwy 02 has been quarried away in recent years, but there is still a hill over 3,800 ft asl (over 500 ft above the threshold elevation) on the 02 extended centreline at 1 nm. The RNAV (RNP) approach leaves the aircraft pointing at this hill at the VDP.
- Beyond this terrain rises over 4,300 ft asl within 2 nm of the airport and to in excess of 5,000 ft asl within 4 nm
- The 6,000 ft contour is within 10 nm to the W and there is a peak of 7,612 ft asl at 10 nm NE
- Missed approach requires LNAV and accurate tracking is essential due to proximity of terrain. Consider how this will be flown.

Runway Excursion

- Unstable approaches, especially to Rwy 02, as a result of being high/and or fast at 1000R or failing to achieve centreline alignment
- Rwy 02 has a significant displaced threshold (LDA 1664m)
- RNAV approaches have a 3.5° nominal glidepath
- **Rwy 02 -- touchdown MUST be achieved before 1st taxiway after threshold or a go around MUST be initiated**



- Runway lighting is poor and pilot activated (118.7 MHz)
- Rwy 02 PAPIs are set at 5.3° and are designed for small aircraft. **They are NOT suitable for use by large aircraft**
- Rwy 20 PAPIs set at 5°
- Runway is slippery when wet
- High rates of descent and density altitudes may lead to under-flaring and risk of hard landing

Loss of Control

- Turbulence and WINDSHEAR may be expected at any point during the approach, and particularly in the later stages

- WINDSHEAR has been cited as a contributing factor in a number of fatal accidents at TGU

Special Considerations

- At typical temperatures TAS will be approximately IAS + 12-15% and therefore turning radii, ground speed and rates of descent will be notably higher than usual. Ensure sufficient time is allowed to slow and configure the aircraft and particularly note the impact on the visual turn to Rwy 02 final
- Things will happen extremely quickly in the latter stages of the RNP approach. Establish the aircraft in the landing configuration early.
- See 'HOT AND HIGH OPERATIONS' brief for additional information

ARRIVAL

Diversion Airports

GUATEMALA CITY	GUA/MGGT	195 nm/280°T	CAT B
SAN PEDRO	SAP/MHLM	092 nm/334°T	CAT B

- Guatemala City is the preferred diversion airfield and will be staffed during World Flight.

Approach

- Rwy 02 is the preferred runway and also the most challenging of the two options.
- RNP AR capability with GPS and RF legs is required to fly any of the RNAV approaches. VOR approaches are available for aircraft without this capability.
- Delays are likely. Holds are at MELVO and TALAG.

Rwy 02

Approach Preparation

- The Simfest preference is to fly the RNAV (RNP) approach, and special authorisation from the Honduran CAA has been obtained to enable us to fly this approach during World Flight
- There are two RNAV approaches available, a "North" approach which starts at MELVO and a "South" approach which starts overhead the TNT VOR/DME and brings arrivals from the south overhead the airfield to pick up the main procedure
- Note the missed approach speed limit of 175 kt and confirm this is correctly set in the FMS

Initial Approach

- The approach proper starts at TG015. The aim is to bring the aircraft through the valley to a position from which a visual turn through 104° can be made to align the aircraft with the runway.
- The approach should be flown auto-coupled in LNAV/VNAV. Confirm that the RNP value on PROG page 4/4 is set to 0.30, and PM should have PROG page 4/4 open in order to monitor the ANP and XTK error throughout the approach.
- It is strongly recommended that the aircraft should be established in the landing configuration with checks completed no later than TG014
- By TG014 ensure the MCP altitude is set to 4400 ft to allow the aircraft to descend on the VNAV path. Once established on the VNAV path the missed approach altitude may be set; no

missed approach altitude is specified on the charts but 8,000 feet would be a sensible initial value in the absence of ATC instruction

- Handover of control may occur once visual reference has been achieved and can be maintained to touchdown

Visual Segment

- The segment from TG011 to touchdown is visual and it is essential that visual reference with both the airfield and surrounding terrain can be maintained throughout.
- F/D and ND lateral and vertical guidance should be available as the final turn is coded as an RF leg from TG011 to TG010 and RW02
- The approach broadly follows the Las Casitas highway outlined in blue below. The cloverleaf junction ringed in yellow is a useful aiming point to judge the rollout and progress of the turn.



- High rates of descent of close to 900 fpm will be necessary due to the 3.5° glidepath and effects of density altitude. However, it should **not** be necessary to unduly increase the RoD in the visual segment.
- Landing performance is critical and the aircraft must not be allowed to float. Touchdown must be no later than the first taxiway after the threshold or a go around **must** be flown.
- Note that a slightly earlier than usual flare may be necessary due to the steeper than usual approach and effects of density altitude.

Missed Approach

- The missed approach should be thoroughly briefed and rehearsed as missed approaches are common and may be required at any stage of the approach, including from the flare.
- The missed approach requires LNAV tracking. This must be **manually** selected above 400 ft AGL; it is critical that this is not missed as there is a 4,512 ft hill at 4 nm on the Rwy 20 extended centreline. Accurate tracking of the missed approach route is absolutely essential.
- Consider how a go-around from very low height or a windshear go around would be handled
- Consider how a go-around from an earlier point in the approach would be handled

VOR Rwy 02

- The RNP approach is the preferred approach. However, should it be necessary in extremis to fly the VOR approach, it is recommended that the aircraft be flown level at the MDA to a

position overhead the airfield from which a visual left-hand circuit can be flown to touchdown, with a base/final leg approximating that of the RNP approach. This is because the straight-in VOR approach takes the aircraft over the high terrain at the approach end of the runway, requiring excessive (>1500 fpm) rates of descent in the final stages of the approach in order to place the aircraft in a position for landing.

Rwy 20

- The RNP Rwy 20 approach is generally less challenging than that for Rwy 02 as the terrain allows for a much more 'straight' final segment with only minimal track changes in the final stages.
- However, it should not be underestimated and there is a significant risk of rushed/fast approaches as a result of the relatively short track mileage to touchdown in comparison to Rwy 02.
- Note that MELVO to touchdown is only 12.6 nm, and TG024 to touchdown only 8.5 nm with a 3.5° glidepath at high density altitude. It is strongly recommended that the aircraft be fully configured no later than TG024.
- The missed approach is toward terrain. It requires RNP 0.3 and contains RF legs. Accurate LNAV tracking is essential and the procedure should be thoroughly briefed and rehearsed. Ensure speed constraints are correctly entered and achieved. PM should monitor PROG Page 4 for RNP vs ANP and XTK error.

GROUND

- All civilian aircraft must remain west of the runway due to the military area to the east, depicted on charts as MH(R)-4

DEPARTURE

- Full length departure Rwy 02 will require backtrack.
- All departures are from Rwy 02 due to terrain. Extremely high climb gradients are required which will significantly restrict RTOW.
- SIDs require GPS and RNP2. This should be confirmed and monitored on PROG p4/4.

WEATHER

- Temperatures are more or less constant throughout the year
- Dry season (Nov-Apr) sees little rainfall and slightly cooler temperatures
- Oct 1998 saw HURRICANE MITCH cause widespread flooding and damage
- Wet season (May-Oct) characterised by convective build-up during the day, thunderstorms and heavy rainfall in the afternoons

OPERATIONAL INFORMATION

Handling Agent	Swissport
Handling Agent VHF	
Potable Water	Uplift not permitted

IF ONLY Electrical Power is required	Use ground power at all times
If BOTH electrical power and air conditioning is required:	Use APU; keep GPU connected to reduce APU fuel burn