

## XFTE VFR Low Altitude Arrival & Departure Procedures

**WARNING:** These procedures may have unknown defects and inaccuracies, are imperfect, and are not known to conform to any procedure development guidelines. They may not be maintained at some point in the future. They are not to be used for navigation. If the weather is bad enough to need these procedures, please consider waiting for better weather.

**Overview:** These procedures may have many comfort and safety advantages compared with a direct route between Obregon and El Fuerte which is about 14 nm shorter. This route stays over low, mostly obstacle-free terrain (mostly 60' – 350' msl) closer to the water, so smooth air is generally found at lower altitudes. Further, if it is cloudy, then this route may offer the following advantages over the direct route:

- the visibility may be greater,
- the ceiling may be higher, and
- the intensity of rain showers may be lower

These benefits are obtained by avoiding the direct route's high terrain, proximity to even higher terrain, and tendency of that high terrain to cause orographic lifting which enhances the intensity of storms blowing in from the Gulf of California. If a pilot wishes to fly under the ceiling presented by clouds, this route offers low terrain under the course. The use of pre-programmed waypoints may enhance the situational awareness of the pilot on days with visibility limitations. Separate routes for arrival and departure provide traffic separation in the El Fuerte area. The procedures have been test flown at 1300' msl – on course, and 1 nm to left and right of course. Obstacles observed within 2 nm of course that seemed to be hazardous to those flights at 1300' are recorded here.

**XFTE Arrival Procedure:** Fly route MMCN to FTE74, then FTE73, then FTE72, then over FTE 32 at 1300' TPA to observe the barracks flag or windsock. For Runway 32 landing, fly over the runway 32 on the upwind, then enter left traffic. For Runway 14 landing, approaching or after observing the flag/windsock, join the left downwind for runway 14 and make left traffic for landing. Antennas that were observed were not a factor with the recommended runway 14 base leg location and properly lined up on the center line on final with normal descent angle (no VGSI available). The calm wind runway is Runway 32, and winds generally favor runway 32. The wind socks may not be visible or operational, and the Mexican flag flying high over the military barracks in the ramp area provides a good alternative to a windsock. In high wind, beware loss of headwind component when descending below the surrounding vegetation at runway.

If programmed waypoints are not used, then follow Highway 15 south east (the four-lane divided freeway that runs next to the Ciudad Obregon airport). When Hwy 15 turns south to Los Mochis, continue following the railroad and 2 high tension power lines until you are 86 nm southeast of MMCN. After making sure the ridge on the left has disappeared into the alluvial plain, turn left over the alluvial plain, cross the El Fuerte river and follow the railroad to El Fuerte, turning left at the train station

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onto the final approach course of 321 degrees magnetic for the runway 2.1 nm away. The road from the train station to the town gradually diverges from under the flight path to about a half mile left of the flight path at the runway 32 threshold.

**XFTE Departure Procedure:** Runway 32: Climb straight ahead through 800', avoiding the 120' agl and 100' agl antennas left and right of departure path. Then turn left direct FTE71. Runway 14: Climb through 800', then right turn direct FTE71. Both Runways: After FTE71, then proceed direct to MMCN.

If you are not using programmed waypoints, proceed about 16.9 nm southwest of the airport on a 228 degree magnetic track from the airport, making sure to stay to the left of the entire mountain ridge as it descends into the coastal plain. At 16.9 nm after crossing the two high tension power lines and railroad tracks, stay on the left side of the tracks northwest to Ciudad Obregon. Once the four-lane divided freeway (Hwy 15) joins up with the power lines and railroad tracks, you can follow Hwy 15 all the way to the airport, going past Navajoa airport on the way.

**Other Notes:** The highest terrain under the course is believed to be about 460' msl 3 nm before reaching FTE72. Many terrain high points and obstacles are near the course – see the charts for the observed hazards of greatest relevance close to the course when flying at 1300'. After much discussion, Obregon flight plan agents twice accepted a 1500' enroute altitude. The tower accepted position reports at 1300' without comment. Advise the flight plan agent you will be near highway 15 and will cut over to El Fuerte near PERTI intersection on Victor 8 airway. **Radio reception:** at 1300' msl, the comm radio only has about 30 – 40 nm range to Obregon and 50 nm range to Los Mochis. Further, inside 50 miles to Los Mochis there are many places where the mountains block transmission. **Obstacles** are presented as being encountered on the way to the next waypoint, at a certain distance to that way point, with the number of nautical miles left (L) or right (R) of course (cross-tracked or xtrk) where a plane might first strike the obstacle, and an estimated altitude of the top of the obstacle. Be aware that the farther below the height of the obstacle that the plane is, the closer to course the plane might contact the obstacle. Also, some of the obstacles parallel the course for a mile or more. High terrain is southeast of El Fuerte and along the ridge paralleling the path going northwest of FTE71. Beware of uncharted obstacles and man-made obstacles created after the publishing date of this procedure. **Alternate airports** are available at Navajoa and Los Mochis (MMLM). Beware of higher obstacles on the way to Los Mochis. Taxi service is available to El Fuerte from Los Mochis for a cost of about \$90 for a taxi with four people and bags. Bus service is also available and is cheaper and perhaps safer. In this area, magnetic north points 9 degrees east of True North. Instrument approach procedures are available for Ciudad Obregon Int'l and Los Mochis (Valle del Fuerte Int'l).

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### Waypoint Coordinates

Waypoint	North/West	Degrees			Degrees		Degrees
		Minutes	Seconds	Minutes	Minutes		
MMCN	North	27	23	34.9	27	23.582	27.39303
	West	109	50	0.2	109	50.003	109.83339
FTE 32	North	26	23	35.6	26	23.593	26.39322
	West	108	36	28.9	108	36.482	108.60803
FTE71	North	26	14	18.3	26	14.305	26.23842
	West	108	53	13.6	108	53.227	108.88711
FTE72	North	26	21	49.0	26	21.817	26.36361
	West	108	35	18.4	108	35.307	108.58844
FTE73	North	26	13	16.2	26	13.270	26.22117
	West	108	49	0.0	108	49.000	108.81667
FTE74	North	26	12	32.3	26	12.538	26.20897
	West	108	56	2.6	108	56.043	108.93406
MMLM	North	25	41	9.9	25	41.165	25.68608
	West	109	4	52.3	109	4.872	109.08119

**WARNING: Programming waypoints in flight or using unverified waypoints in flight can possibly lead to a fatal accident.**

When programming waypoints, pilots are advised to program the waypoints into a GPS navigation instrument, create a route with the waypoints, verify that the magnetic headings and distances between waypoints in the route correspond to the numbers shown in these charts, and fly the pre-programmed route in clear weather before attempting to fly it with restrictions to ceiling or visibility. Beware of possible significant errors in the location of your plane versus obstacles and other features on a moving map used in navigation in this area.

Pilots may enter both the arrival and departure procedure as a single route to make it easier and quicker to turn back to the departure point if conditions warrant doing so. Turn around by flying a U-Turn over to the opposite direction leg. Activate that leg in your navigation instrument to get distance to waypoint information for obstacles. The two procedures are flown like a two-lane highway: Fly in the right hand lane.

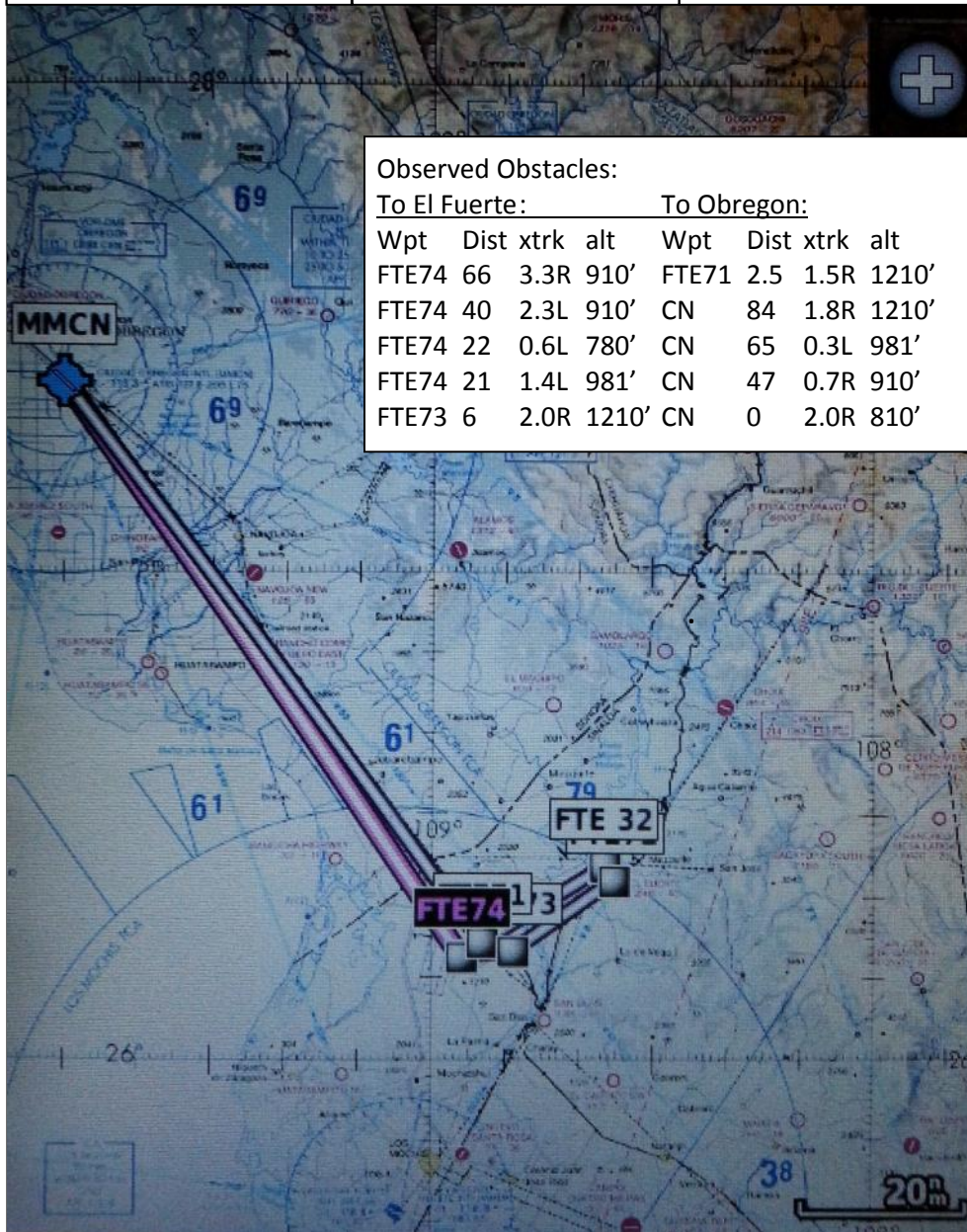
Rwy length 4500'  
 TDZE 320'

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XFTE, Navajoa CTAF **122.8**

Mochis Aprch/Twr **118.8**

Obregon Tower **118.3**



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Rwy length	4500'
TDZE	320'

XFTE CTAF	122.8
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Mochis Aprch/Twr	118.8
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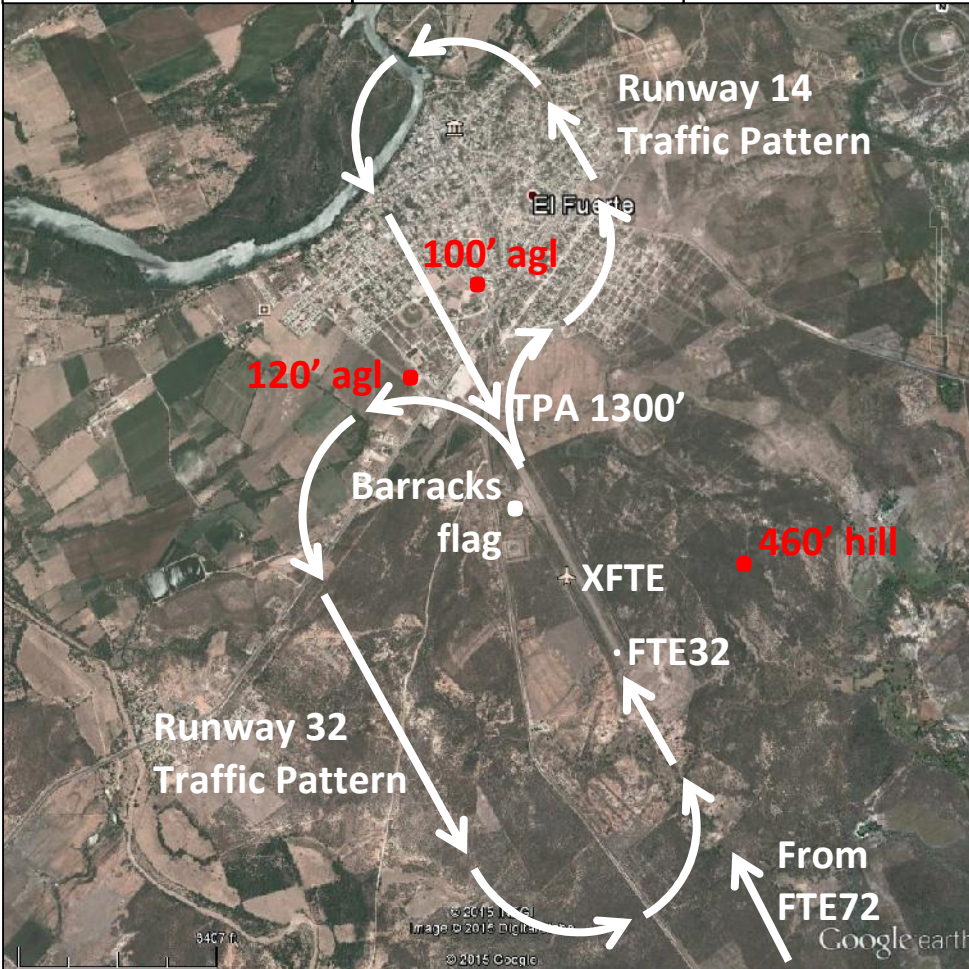
Obregon Tower	118.3
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Rwy length	4500'
TDZE	320'

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XFTE CTAF <b>122.8</b>	Mochis Apprch/Twr <b>118.8</b>	Obregon Tower <b>118.3</b>
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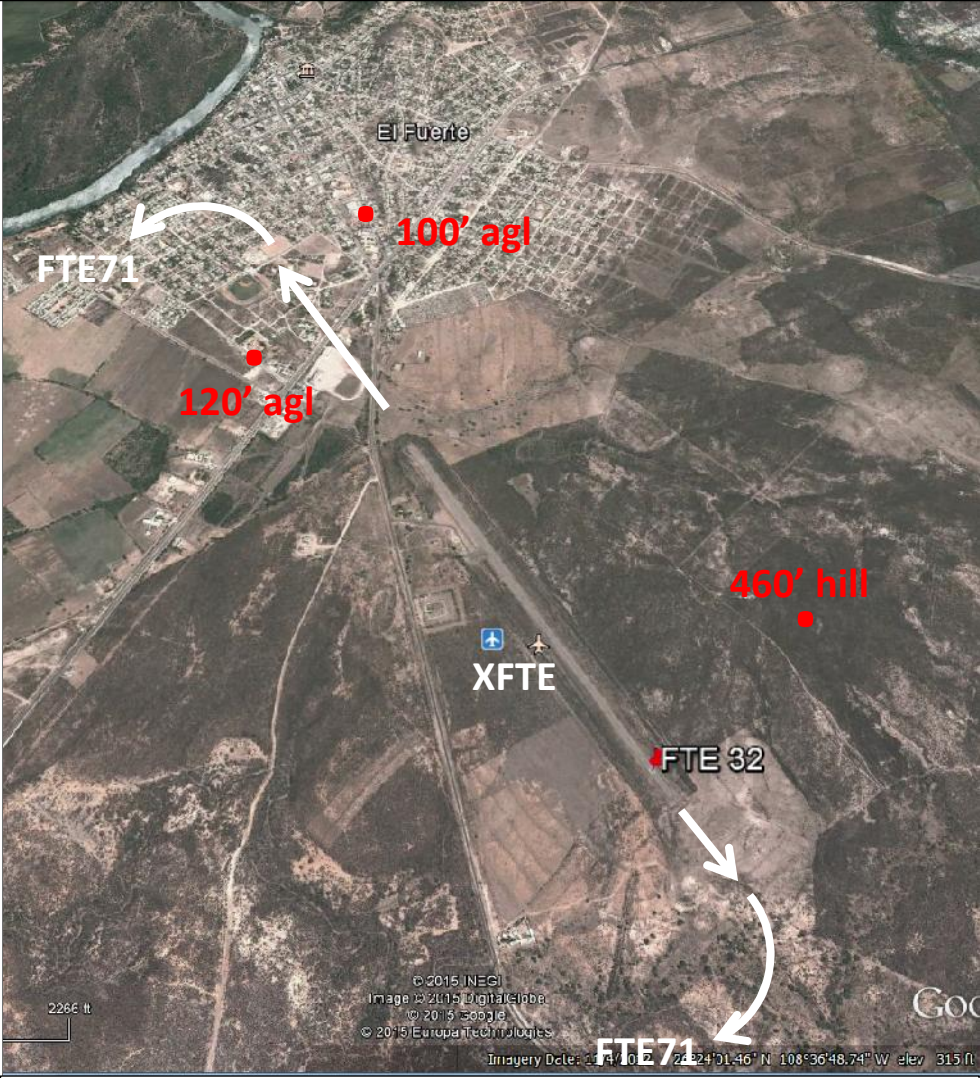


Notes: Highest terrain under course is 460' at 3 nm to FTE72. 460' msl hill right of Rwy 32. Rwy 14 downwind goes to the river for a long, straight-in approach to avoid antennas. The closest antenna at about 120' above the runway may penetrate the rwy 14 arrival slope. Use a Traffic Pattern Alt of 1300'. Use Los Mochis altimeter on arrival.

Rwy length	4500'
Parking elevation	320'

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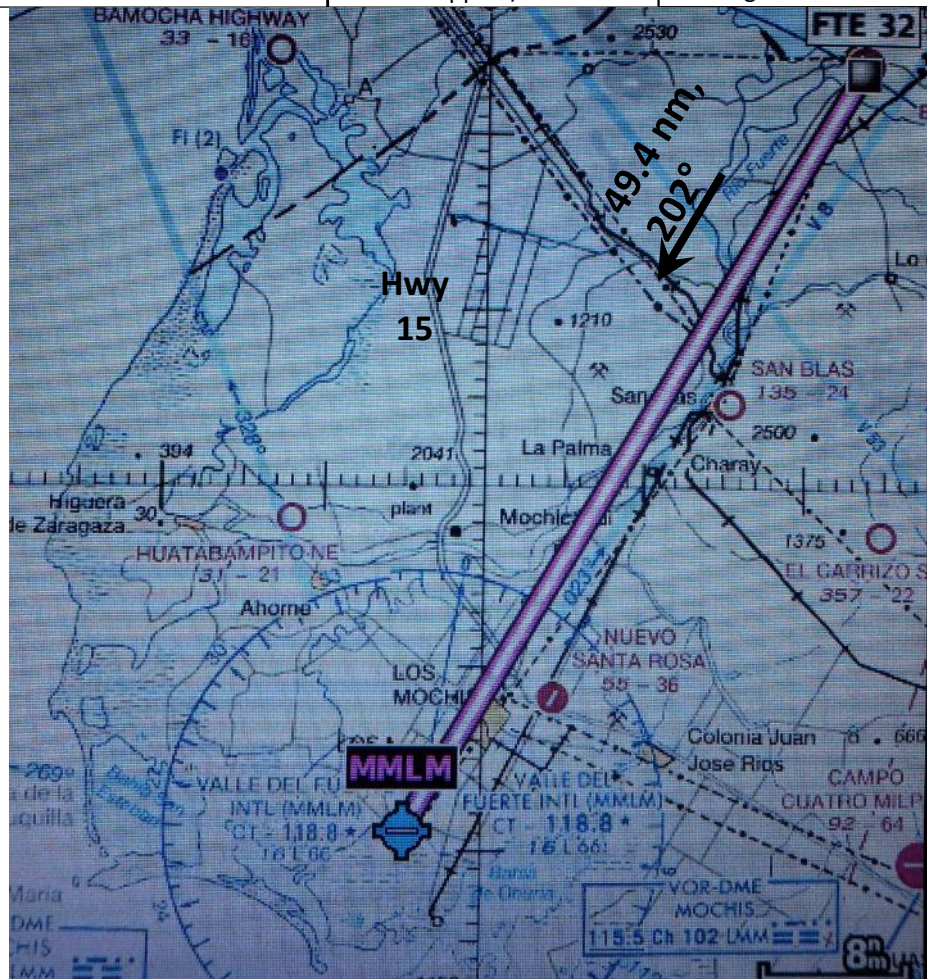


Notes: Use caution for 120' agl antenna left of departure path on runway 32. With low climb performance this antenna may be at or above your altitude as you fly by. See also MM79 Departure Ground Procedures v4.

Rwy length	4500'
TDZE	320'

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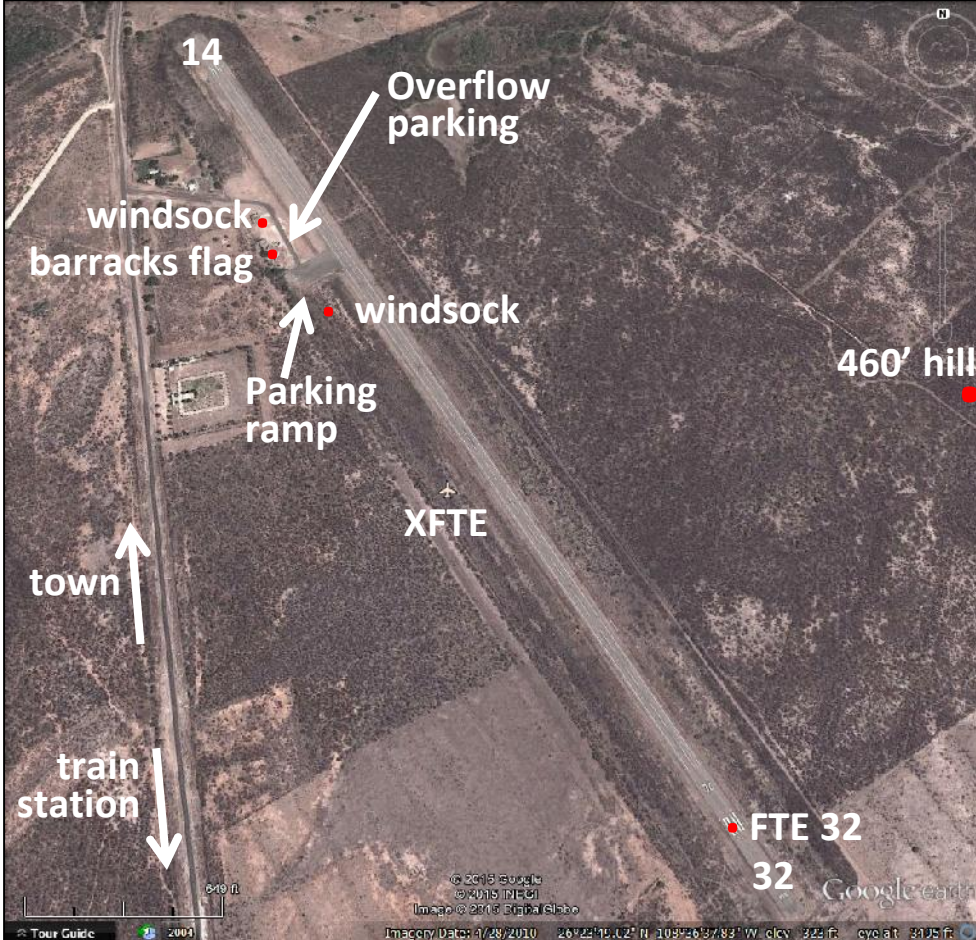
Low mountain ranges block access to MMLM from the north, east & southeast. Well before Hwy 15 heads into the mountains near a 2041' peak, you can divert west to the coast, and follow the coastline until you can come in on a 110° track to MMLM. If diverting from FTE32, a) fly about .5nm left of course from 33nm to to 23 nm to MMLM, b) avoid numerous high obstacles through good visibility or higher altitude, and, c) beware of these obstacles (Distance to MMLM nm, xtrk nm, altitude): 30 0.2R 900', 29 0.0 1000', 28 1.7L 860', 27 1.8R 1300', 26 0.2R 920', 9.5 1.5L 780'. Mountainous shore & islands start about 4 nm south of MMLM. Instrument approaches available.



Rwy length	4500'
Ramp elevn	320'

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Notes: Use caution taxiing on the road past the military barracks to overflow parking. Avoid hitting your wingtips on spinners of parked planes and gunnery sand bag emplacements. The Mexican flag waving above the barracks may be the best indicator of wind direction if the wind socks are unmaintained. When parking, leave adequate space to the runway for departing aircraft to clear your plane easily. Likewise, on the ramp and in overflow push back generously to leave room for a King Air or Caravan to move past you. Always shut down on the paved surface and push/pull your aircraft into its' parking spot.