

Flying the Sahara Desert

Five flights from Casablanca, Morocco to Giza, Egypt

By Dave Athay

DCA 1315

The Sahara Desert is a vast, lawless region covering all of northern Africa. Settlements are sparse and limited to a few regions where water can be found.

Flying across the Sahara is in many ways like flying between islands. Navigation by dead reckoning is necessary due to the great distances between nav aids. In flight simulator, this can be accomplished easily by using a flight computer like the E-6B to calculate a wind correction angle and groundspeed for each leg. Maintain the corrected heading until the signal from the nav aid is picked up, and then fly directly to the nav aid. I find navigating by this method very satisfying when I pick up a signal after a long leg and find myself not far from my planned track.

All headings given are magnetic.

Special thanks to Tim Cook DCA 813 for helping me to publish this charter.



Leg 1

The first leg of the journey takes you from Casablanca, Morocco on the Atlantic Ocean, over the Atlas Mountains and into the Sahara Desert at Adrar, Algeria. Climb to at least 13,000 ft. to clear the mountains. It will be safe to descend at about the same time as reaching the OZT VOR. The remainder of the flight should be made below 10,000 ft.

There will be some blind spots between nav aids, but the signals are generally very strong. Expect to pick up VORs at ranges well in excess of 100 nm and NDBs at around 100 nm.

From – To	<u>Flight Description.</u> "Allocated runways and related information may change when flying online or using Real Weather"				Course (Leg) Deg	Distance (Leg) nm	ETE (leg) HH+MM
		Init. Hdg – 167deg	Init. Alt – 13,500ft	Apt Elev. – 656ft			
Casablanca (GMMN) Morocco To Adrar (DAUA) Algeria	Departure: Departure runway at your option, depending on weather. After take off, turn direct to SLK VOR/DME, 112.50. Commence Climb to 13.500ft.				+/- 167	15.4	
	Enroute: To OZT VOR/DME, 116.70. turn slightly right to 168deg to intercept OZT 168R. Direct to VOR To HKI NDB, 419.0. Turn left to 139deg, and start your descent to 9,500ft. Direct to NDB Tune NAV1 to ADR VOR/DME, 112.6, and fly to ADR VOR as bearing point. Commence descent to 5500ft. Commence your descent to 2000ft 1hr and 36 mins after station passage HKI.				168 139	134.0 142.0	
	Approach: To airport, runway, approach type and landing pattern at your option Land: Touat-Ch Sidi Mohamed Belkebi (04 or 22) Length: 9,855ft Width: 148ft Surface: Concrete				107	271	
Flight: 1315-01-01	Arrival Airport Elev. – 919ft				Estimated totals for this flight>>>		563nm

Notes DCA0565 :

* Casablanca Anfa airport was closed in 2007, and all activities transferred to Benslimane airport, GMMB. (Source : Wikipedia) → Departing from GMMN

Leg 2

From here, it's pretty much a sea of sand for the next 2,000 miles or so. Adrar and Illizi are both oases, and you'll find there's really not much in between.

From – To	<u>Flight Description.</u> "Allocated runways and related information may change when flying online or using Real Weather"			Course (Leg) Deg	Distance (Leg) nm	ETE (leg) HH+MM
		Init. Hdg – 103deg	Init. Alt – 7,500ft	Apt Elev. – 919ft		
Adrar (DAUA) Algeria To Illizi (DAAP) Algeria	Departure: Tune NAV1 to NSL VOR/DME, 113.10 Departure runway at your option, depending on weather. After take off, turn to +/- 107deg. As soon as VOR is received, direct to VOR			103	147.0	
	Enroute: Overhead NSL, turn left and track NSL 094R Outbound. When signal fades, tune NAV1 to ILZ VOR/DME, 115.60 as bearing point. Commence descent to 2,800ft 2hour 9mins after station passage NSL.....			094	329.0	
	Approach: To airport, runway, approach type and landing pattern at your option Land: Takhamalt runway (09 or 27) Length: 9,969ft Width: 148ft Surface: Bituminous					
Flight: 1315-01-02	Arrival Airport Elev. – 1,778ft			Estimated totals for this flight>>>		476nm

Leg 3

Airports and nav aids are becoming increasingly scarce as you work your way into Libya. Sebha, however, appears to be the most well populated stop so far.

From – To	<u>Flight Description.</u> "Allocated runways and related information may change when flying online or using Real Weather"			Course (Leg) Deg	Distance (Leg) nm	ETE (leg) HH+MM
		Init. Hdg – 089deg	Init. Alt – 7,500ft	Apt Elev. – 1,778ft		
Illizi (DAAP) Algeria To Sebha (HLLS) Libya	Departure: Departure runway at your option, depending on weather. To UBR NDB, 417.0. Direct to NDB.....			089	223.0	
	Enroute: To Fix 01. Turn left and track 073R towards SEB VOR/DME, 114.70. Waypoint reached when DME reads 45nm. Commence descent to 2,500ft. Continue to VOR Direct to SEB VOR/DME, 114.70, your bearing point.			073 073	48.0 45.0	
	Approach: (Midfield crosswind entry) To airport, runway, approach type and landing pattern at your option			131	1.9	
	Land: Sebha runway (13 or 31) Length: 11,740ft Width: 148ft Surface: Asphalt					
Flight: 1315-01-03	Arrival Airport Elev. – 1,427ft			Estimated totals for this flight>>>		325.6nm

Leg 4

From the middle of nowhere to the middle of nowhere.

From – To	<u>Flight Description.</u> "Allocated runways and related information may change when flying online or using Real Weather"			Course (Leg) Deg	Distance (Leg) nm	ETE (leg) HH+MM
		Init. Hdg – 099deg	Init. Alt – 7,500ft	Apt Elev. – 1,427ft		
Sebha (HLLS) Libya To Kufra (HLKF) Libya	Departure: Departure runway at your option, depending on weather. After take off, intercept SEB VOR/DME, 114.70 99R.....					
	Enroute: To TZR NDB, 269.0. Turn right and track 100R OB from SEB until you pick up the NDB. Direct to NDB..... Overhead TZR NDB, turn right to 123deg. Tune KFR VOR/DME, 113.20 as bearing point. As soon as signal is received, intercept KFR 123R. Commence descent to 2,500ft when DME reads 32nm. Slow to 120kts. Direct to VOR.....			99	335.0	
				123	150.0	
	Approach: To airport, runway, approach type and landing pattern at your option Land: Kufra runway (02 or 20) Length: 11,848ft Width: 148ft Surface: Asphalt					
Flight: 1315-01-04	Arrival Airport Elev. – 1,367ft			Estimated totals for this flight>>>		515nm

Leg 5

The first viable navaid on the course into Egypt is the FYM VOR, which is very near Cairo. This means you'll have to cross almost all of Egypt simply by dead reckoning, or celestial navigation. Once you cross the VOR, head for Giza. If you have fuel, you may want to take a short diversion to see the Great Pyramids and the Sphinx, located only a few miles from your destination airport. You've come a long way- might as well see the sights!

If, somehow, you manage to get off course and miss the VOR- fly east until you hit the Nile river- an unmistakable landmark- and follow the river to Giza and the pyramids.

From – To	<u>Flight Description.</u> "Allocated runways and related information may change when flying online or using Real Weather"			Course (Leg) Deg	Distance (Leg) nm	ETE (leg) HH+MM
		Init. Hdg – 045deg	Init. Alt – 7,500ft			
Kufra (HLKF) Libya To Cairo Intl (HECA) Egypt	Departure: Departure runway at your option, depending on weather. After take off, turn to 045deg and intercept KFR VOR/DME, 113.20, 045R					
	Enroute: To FYM VOR/DME, 117.30. Turn right and track 045R OB from KFR. When you lose the signal from KFR, retune to FYM VOR and intercept FYM 045R. Direct to VOR			045	492.0	
	To MKT NDB. Maintain heading 045deg, track 045R outbound from FYM. Commence descent to 1,200ft when DME reads 8nm. Make sure you stay exactly on track. Tune ADF to MKT NDB, 317.0. When needle moves, direct to NDB.			045	60.0	
	Approach: Maintain heading 045deg. When crossing the Nile, tune NAV1 to ILS IZFL, 110.90 To airport, runway, approach type and landing pattern at your option Land: Embaba runway (05 or 23) Length: 3,782ft Width: 115ft Surface: Asphalt			045	08.3	
Flight: 1315-01-05	Arrival Airport Elev. – 467ft			Estimated totals for this flight>>>		560nm

Note DCA0565 :

* Embaba airport (HEEM) was closed in 2002 and replaced by a theme park and apartment blocks (Source : Wikipedia). Using HECA instead



Thanks for flying my first charter. Please let me know what you think and/or share your stories and screenshots!

Dave Athay
DCA 1315
davidathay@hotmail.com

Note

P.S. : If you are looking for the pyramids...

