IVAO MOROCCO DIVISION

RULES BASED PILOTS AND ATC

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Author's Note:

The IVAO staff Morocco has decided to implement this document to help controllers and pilots operating in our airspace. It is condensed information from the real and adapted to the simulation. All that is stated in this guide reflects the author. However, it is important to have some theoretical basis to be able to approach this document in the best conditions (party links).

Good reading

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SUMMARY:

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3-Frequencies

4-The Clearances

5-The phraseology during a flight (IFR, VFR)

Definitions

All words or phrases you find in bold with a * will be defined in this section.

ADS-B / C: The means by which the terms of an ADS agreement is exchanged between the ground system and the aircraft, which specifies the conditions under which the ADS reports

Start and the data they include. This is a surveillance method used by airlines and air traffic controllers.

AGL: Above Ground Level. Above the ground (Height)

AMSL: Above Mean Sea Level. Above mean sea level (Altitude)

ATC: Air Traffic Controller. Term that is used to name the air controllers.

aircraft category (a / c):

ACFT CAT	V_{at}	Range of Speeds for Initial and Intermediate Approach	Range of Final Approach Speeds	Max Speeds for Visual Manoeuvring (Circling)	Max Speeds for Missed Approach
A	< 91	90 – 150	70 – 100	100	110
B	91 – 120	120 – 180	85 – 130	135	150
C	121 – 140	160 – 240	115 – 160	180	240
D	141 – 165	185 – 250	130 – 185	205	265
E	166 – 210	185 – 250	155 – 230	240	275
H	N/A	70 – 120	60 – 90	N/A	90

SPEEDS FOR PROCEDURE IN KNOTS IAS

Examples of aircraft according to their category:

-A: C172, DHC6 ...

-B: Baron 58, ATR-72, Beechcraft 350, ...

C: A320, B737, B757, ...

-D: B777, B747, A380, ...

-E: Formerly the Concorde

FIR: Flight Information Region. airspace where are provided the flight information and alert services (managed by an area control center)

HAP: Time Planned Approach. Calculated and provided by ATC for a traffic waiting on an IAF. This is the time at which the aircraft is to leave the queue to start the approach. It must be given if there is a queue for 10 min or more

MEA: Minimum Enroute Altitude. minimum enroute altitude on airways, taking into account a margin of obstacles, radar and radio reception (if available).

RNAV: Area navigation. This system allows any aircraft to navigate arbitrary trajectories (of LIVE on random points) thanks to various external or internal sources (GPS, DME / DME, VOR / VOR, INS / IRS). Each source has its precision, and according to the space traversed, some precision may be required.

RVSM: Reduce Vertical Separation Minimum. aircraft certification ensuring the vertical separation of 1000ft between each wheel traffic between FL290 and FL410

TMA: Terminal Control Area. control area established at the intersection of airways in the vicinity of one or more major aerodromes. This space is usually controlled by a unit approach.

Aircraft Tonnage: classifies aircraft according to its maximum takeoff weight and thus its effect in the air (wake turbulence)

-Low Tonnage: weight below 000kg 7

-Middle Tonnage: 7 000kg weight between 136 and 000kg

-Gros Carrier: mass greater than 136 000kg

-Jumbo A380

Warning not to be confused with aircraft categories (A, B, C, D and E). For example, an ATR-72 (Category B) is a medium tonnage.

Sierra transponder mode: to convey a complete and accurate identification to radar controllers. This includes: the position of the aircraft, the flight number and fairly accurate altitude (25ft increments).

Transponders

DEPARTURES:

International flight: 6401 - 6477

Domestic flight North: 3401 - 3477

Domestic flight South: 3601 - 3677

TRANSIT :

Transit North: 1401 - 1477

Transit South: 6201 - 6277

ARRIVALS:

Casablanca (GMMN): 4501 - 4577

Rabat (GMME): 4401 - 4477

Tanger (GMTT) / Al Hoceima (GMTA): 4201 - 4277

Fès (GMFF) / Oujda (GMFO) / Nador (GMMW): 4601 - 4677

Marrakech (GMMX) / Ouarzazate (GMMZ): 4701 - 4777

Agadir (GMAD) / Laayoune (GMML) / Dakhla (GMMH) / Errachidia (GMFK): 5401 - 5477

VFR: 7000 - 7077

Military: 5100 - 5177

HI-JACK (forbidden in IVAO): 7500

RADIO PAN: 7600

EMERGENCY: 7700

IFR UNICOM: 2000

VFR UNICOM: 7000

Frequencies

Casablanca Ground: 130.600

Casablanca Tower: 118.500

Casablanca Approach: 119.000

Rabat Tower: 118.300

Rabat Approach: 118.900

Tangier Tower: 119.500

Tangier Approach: 121.200

Fès Tower: 118.600

Fès Approach: 118.500

Marrakech Tower: 118.700

Marrakech Approach: 119.700

Agadir Tower: 118.600

Al Hoceima Tower: 118.700

Casablanca Oceanic control: 124.500

Casablanca North control: 125.500

Casablanca Est control: 125.100

Casablanca South control: 126.700

The Clearances

The initial IFR clearances in Morocco are given in this order:

-starting Type (standard or omnidirectional)

-Runway

-Altitude / Initial Level (s) or cruise (minimum 4000ft)

- (QNH)

-Transponder

VFR initial clearances in Morocco are given in this order:

-Runway in use

-QNH

-Transponder

(Rolling to the breakpoint may be approved)

The STAR preferences granted to trafficking or DCT on the IAF. A radar guidance can be provided on request of the pilot or proposed.

ATC provides separation between traffic (minimum 5 nm / 1000ft) in 15nm and regulation of road traffic between established on the same road.

The phraseology

a) F-MASA, C172, VFR in RWY laps, with GMMN_TWR

-Pilot: Casablanca Tour Hello, F-MASA, ask setting VFR route for runway laps, with ALPHA information on board.

-ATC: FSA, hello, flight plan approved, transponder 7101, QNH1015, report ready to TAXY.

-Pilot: Startup (S/U) approved, transponder 7001, QNH1015, report to TAXY.

At first contact, the pilot can also ask the "starting parameters" (as on arrival):

-Pilot: Casablanca Tour Hello, F-MASA, asking the starting parameters for RWY laps.

-ATC: FSA, runway (RWY) 35R, 110/7 wind, visibility greater than or equal to 10km, 20 temperature, dew point 18 QNH1015 QFE1014, 21: 30z.

-Pilot: rwy 35R, QNH 1015, we are ready to S/U, FSA.

...

-Pilot: FSA, we are ready to taxy.

-ATC: FSA, taxy to holding point (H/P) Q runway 35R, Report Q.

-Pilot: taxi H/P Q rwy 35R, report at H/P Q FSA.

If traffic on the ground:

-ATC: FSA visual on the A320 taxy to S point?

-Pilot: Affirm, FSA.

-ATC: FSA, behind the A320, taxy H/P Q rwy 35R and report ready, number 2.

-Pilot: Behind the A320, taxy to H/P Q rwy 35R and report ready number 2, FSA.

...

-Pilot: FSA, ready for departure.

-ATC: FSA, line up (L/U) rwy 35R clear takeoff (T/O) wind 110/7, report back left hand wind rwy 35L.

-Pilot: L/U and T/O rwy 35R, report back left hand wind rwy 35L.

-Pilot: FSA, back left hand wind rwy 35L for a Touch and Go (T/G).

-ATC: FSA, traffic A320 final rwy 35L, report traffic in sight.

-Pilot: FSA, view A330 traffic.

-ATC: FSA, behind the A330 report final rwy 35L, Number 2.

-Pilot: Behind the A320 report final rwy 35L, Number 2.

-Pilot: FSA final rwy 35L.

-ATC: FSA, clear to touch rwy 35L, wind 110/7.

-Pilot: Clear for touch rwy 35L, FSA

...

-Pilot: FSA, final rwy 35L for complete.

-ATC: FSA, clear to land rwy 35L, winds 110/7.

-Pilot: clear to land rwy 35L.

-Pilot: FSA, rwy vacated by P, ask general aviation parking lot.

-ATC: FSA, Taxy to park general aviation, you leave the frequency at parking, good day.

-Pilot: Taxy to general aviation parking and leave frequency at park, good day FSA.

b) F-MASA, VFR navigation GMMN-GMME with GMMN_TWR and GMME_TWR

-Pilot: Casablanca Tower Hello, F-MASA, ask setting VFR route to Rabat, with ALPHA information on board.

-ATC: FSA, hello, flight plan approved, transponder (SQ) 7001, QNH1015, report to taxy.

-Pilot: Approved S/U, SQ 7001, QNH1015, report to taxy.

-Pilot: FSA, we are ready to taxy.

-ATC: FSA, Taxi to Holding Point Q, rwy 35R, report at H/P.

-Pilot: Taxi to H/P rwy 35R, report at H/P, FSA.

-Pilot: FSA, H/P Q rwy 35R.

-ATC: FSA, L/U rwy 35R, clear to T/O, wind 110/7, report airborn with the planned altitude (and estimated time of arrival).

-Pilot: Alignment, clear to T/O rwy 35R, report airborn with altitude (and the estimated time of arrival) FSA.

-Pilot: FSA, airborn, climbing to 1500ft (Rabat to believe 22: 01Z).

-ATC: FSA Roger, report 1500ft.

-Pilot: Report 1500ft.

ATC may set an altitude restriction and / or position for spacing or regulation.

-ATC: FSA maximum 1500ft cause departure IFR.

...

-Pilot: FSA, 1500ft.

-ATC: FSA, contact Rabat tower 118.3, goodbye.

-Pilot: Contact Rabat tower 118.3 goodbye FSA.

-Pilot: RABAT tower hello, F-MASA, 1500ft enroute to your facility, information DELTA on board.

-ATC: FSA, hello, rwy 03 QNH1015, report airport in sight.

-Pilot: Rwy03 QNH1015, report airport in sight.

-Pilot: FSA, view airport.

-ATC: FSA, made a direct approach to runway 03, remember final.

A direct approach is given for VFR reach directly the final step.

A semi-direct approach VFR is given to join the base leg.

-Pilot: FSA, final rwy 03.

-ATC: Clear to land rwy 03, wind calm.

-Pilot: Clear to land runway 03.

...

c) RAM35C, IFR, B737.800, GMMN-GMME, rwy35R in use, with GMMN_TWR and GMMM_CTR.

-Pilot: Casablanca tower, hello, RAM35C, ask for clearance RABAT, information JULIET on Board.

-ATC: RAM35C, clear to RABAT, starting LKM1D, rwy 35R, climb 4000ft initially, QNH 1013, 3401 on transponder.

...

-Pilot: RAM35C, clear to Rabat, LKM1D, rwy 35R, 4000ft initialy, QNH1013, SQ3401.

-ATC: RAM35C, S/U and P/B approved, report to taxi.

-Pilot: S/U and P/B approved, report to taxi, RAM35C.

-Pilot: RAM35C, we're ready to taxy.

-ATC: RAM35C, is approved, taxi to H/P S rwy 35R.

-Pilot: RAM35C, taxi to H/P S rwy 35R.

-Pilot: RAM35C, H/P S rwy 35R.

-ATC: RAM35C, line up and call ready.

-Pilot: We align and report ready, RAM35C.

-Pilot: RAM35C, ready for departure.

-ATC: RAM35C, clear to T/O rwy 35R, wind calm.

-Pilot: Clear to T/O rwy 35R, RAM35C.

-ATC: RAM35C, contact Casablanca control over 125.500, goodbye.

-Pilot: Contact Casablanca control on 125.500, goodbye RAM35C.

-Pilot: Casablanca control hello, RAM35C climbing to 4000ft, LKM1D.

-ATC: RAM35C hello, identified, continu LKM1D, climb FL220.

d) RAM 35 C, IFR, B737.800, LEMD-GMMN with GMMM_CTR GMMN_APP / TWR.

-Pilot: Casablanca center hello RAM35C from (point), FL370, believe (BISMI) 21: 09Z.

-ATC: RAM35C hello, this is copied, you are identified, BISMI3A arrival, report ready to descent.

-Pilot: Arrival BISMI3A report ready to descend, RAM35C.

-Pilot: RAM35C, ready to descend.

-ATC: RAM35C, descent FL250.

...

-ATC: Contact Casablanca approach 119.900, goodbye

...

-Pilot: Casablanca Approach hello, RAM35C descending to 6000ft.

-ATC: RAM 35C hello, identified, 6000ft on BISMI.

-ATC: RAM35C clear to Bismi approach, ILS rwy 35L, report established.

...

-Pilot: RAM35C, report established.

-ATC: RAM35C, contact Casablanca tower 118.500, goodbye.

...

-Pilot: Casablanca Tower hello, RAM35C, established ILS 35L.

-ATC: RAM35C hello clear to land rwy 35L, winds 120/7

For IFR, VFR as it is advisable to request reports on different phases of flight or significant points. This keeps a regular ATC-pilot contact, especially during the cruise. These reports include at least: position, FL / altitude, time of passage and the next estimated position.

These transcripts are only examples. The key is to ensure proper phraseology and suitable for everyone.

<u>Useful links:</u>

-IVAO HQ website: http://ivao.aero/

- IVAO MA website: http://ma.ivao.aero/

-forum MA IVAO: http://ma.forum.ivao.aero/index.php

-IVAO Training Pilot (ENG): https://ivao.aero/training/pilot/TOC_documents.asp

-IVAO ATC training (ENG): https://ivao.aero/training/atc/TOC_documents.asp

-SIA Morocco: www.sia-aviation.gov.ma/