NO RADAR DHAKA

REAL-WORLD OPERATIONS

Saturday 17th June 2023

1300z-1500z

PILOT BRIEFING PACKAGE

PLEASE DO READ IT CAREFULLY TO FLY IN THE AIRSPACE WITHOUT ANY CONFUSION

vACC BANGLADESH

Preliminaries

A. Purpose and Scope of Document

The main purpose of this document is to use for the event “NO RADAR DHAKA” in order for the pilots to get ready before flying inside Bangladeshi Airspace following the real-world procedures. This document is subjected to use within Bangladesh Virtual Area Control Centre (or BGD vACC) and provides necessary information to pilots flying in the event.

B. Limitation of Liability

This document has been prepared for use on the VATSIM network only. This document is also not affiliated with CAAB and ICAO or any governing aviation body. It should never be used for real world aviation operations. Under no circumstances shall the authors be held liable for any personal injury and/or death from the misuse of this document.

C. Approval

All of the contents inside the document is prepared by Ibrahim Sahil, Director of Events and PR and approved by the Director of Bangladesh vACC, Tanveer Yasser.

D. Cancellation

The arrangement will stay in effect unless one of the following events occurs. A revision is issued that clearly describes the amendments and the newly created effective date; as a result, this document self-cancels after the newly established effective date, or the Bangladesh vACC staff issues a notice period declaring the cancellation of this document.

Version 1.1 Updated on 16th June 1600z

Effective from 17th June 0000z

Table of Contents:

I. Introduction:

In the real world, every Saturday from 2pm to 8pm local time, the radar is turned off for six hours straight in order for ATS Radar maintenance. During this six-hour period, the entire Dhaka FIR enters procedural mode and controls aircraft by instructing them to report their locations and DME from a specific waypoint. The Tower Control performs non-radar procedural controlling and approaches, while the Area Control regulates all aircraft in the sky by asking about the aircraft's current position and providing lateral and vertical separation based on that.

2. Air Traffic Service (ATS) Frequency List

Airport/Facility	Radio Name	Callsign	Frequency
VGHS Hazrat Shahjalal International Airport	Dhaka Ground	VGHS_GND	121.800
	Dhaka Tower	VGHS_TWR	118.300
	Dhaka Approach	VGHS_APP	121.300
	Dhaka Information	VGHS_ATIS	127.400

VGFR Dhaka ACC	Dhaka Control (UPPER)	VGFR_U_CTR	125.700
	Dhaka Control (LOWER)	VGFR_L_CTR	126.700

Other airport tower frequencies, subject to controllers activity

VGEG Shah Amanat International Airport	Chattogram Ground	VGEG_GND	121.800
	Chattogram Tower	VGEG_TWR	118.300
	Chattogram Information	VGEG_ATIS	127.600
VGSY Osmani Int'l Airport	Sylhet Tower	VGSY_TWR	122.900
VGJR Jashore Airport	Jashore Tower	VGJR_TWR	123.200
VGSD Saidpur Tower	Saidpur Tower	VGSD_TWR	128.900
VGCB Cox's Bazar Airport	Cox's Bazar Tower	VGCB_TWR	129.500
VGRJ Shah Makhdum Airport	Rajshahi Tower	VGRJ_TWR	128.300

3. Non-Radar Working operations:

Non-Radar working operations refers to a facility providing Air Traffic Service without the use of the radar. Hence all the facilities that have radar, subject to control Air Traffics with the help of POSITION REPORTING, just how they do over ATLANTIC OCEAN CROSSING.

Departure and arrival separation is usually given for 3-5 minutes or minimum 5 miles and enroute separation is given atleast 10 miles, can go upto 30 miles depending on the traffics in the airway. The separation is calculated by fixing a certain NAVAID.

The pilots are expected to be ready to give position reports when asked, how far away or how near to the certain NAVAID or report crossing a certain NAVAID.

Since a Non-Radar environment, the pilots should not expect radar vectors for the approach or departure to join the airway. Pilots are expected arrivals and departure instructions as published by charts. For instance, if ATC needs to cancel SID of an aircraft, then pilots can expect heading departures or radial departure which will be explained in the next section.

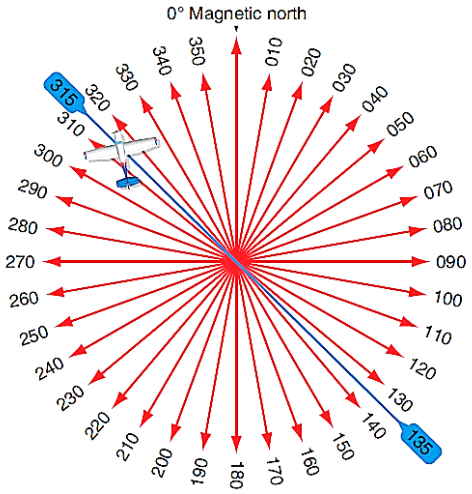
More In-depth study:
https://www.faa.gov/air_traffic/publications/atpubs/atc_html/chap_6.html

4. Usage and emphasis of radials

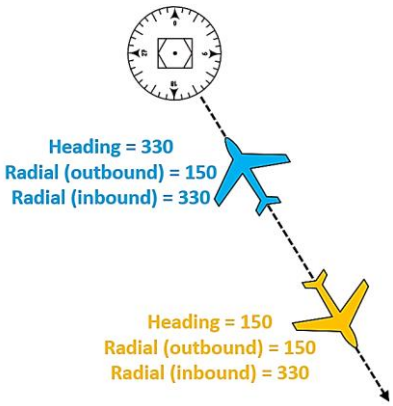
Radials are still used in Real-World ATC in Bangladesh even during radar operations. Pilots are expected to know how to fly radials.

Radials are basically to fly a magnetic course from a particular VOR and usually measured clockwise from true north, magnetic north or some other reference point through 360 degrees.

A Radial and a Heading is not same thing. A heading is a direction with respect from present position.



Radials are always measured OUTBOUND. If and ATC asks to fly radial inbound, pilots need to fly the radial outbound. How is that? If an ATC asks to fly radial inbound of 330, you will just subtract 330 by 180 which will give 150 of radial outbound.



If you want to look into Youtube tutorial, that might work best for you as well. Here are some sample links:

1. How to fly and intercept VOR radials (explained in less than 5 mins)- https://www.youtube.com/watch?v=TuyqzodILk4

2. Intercepting VOR Radials: https://www.youtube.com/watch?v=q2ZJPD8L1Bk

If a pilot fails to intercept radial, they can fly heading with respect from that waypoint and report ATC immediately. It will be less accurate however much safer.

How ATC Callouts in that case will be like?

ATC: Bangladesh 335, cancel SID, after departure maintain radial 275 and climb 3000 feet. Surface wind 130 at 05 knots, cleared for takeoff Runway 14

Pilot reply: Roger, after departure maintain radial 275 and 3000 feet. Cleared for takeoff Bangladesh 335.

Full readback at all times required.

5. Position reporting

In the section 3 at the beginning it was mentioned since there will be no radar, the whole control zone falls under PROCEDURAL CONTROLLING category and all the position will be recorded based on POSITION REPORTING.

ATCs are subjected to ask pilots its position at any time and pilots are mandatory to report position with respect to nearest waypoint including the distance in Nautical Miles and sometimes time in zulu/UTC

Pilots may also require to report crossing a certain NAVAID when asked by ATC.

For example:

Scenario-1:

ATC: Bangladesh 234, report established on outbound radial 342 of DAC VOR

Pilot reply: Bangladesh 234, will report established on outbound radial 342.

Scenario-2:

ATC: Banglastar 336, report crossing ADMIL

Pilot: Report crossing ADMIL, Banglastar 336

Scenario-3:

ATC: Airbus 603, Report estimate CTG and miles

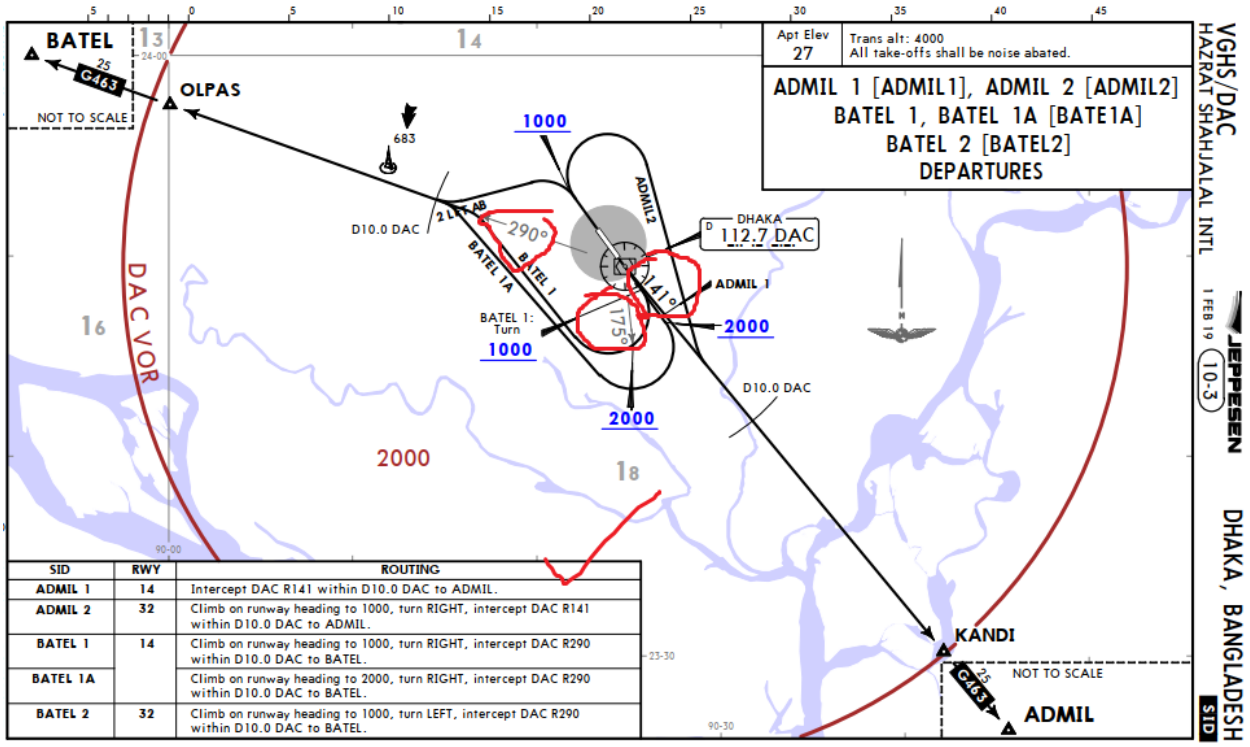
Pilot: We are 30 miles inbound CTG and estimating at 1225z

6. Departure Procedures

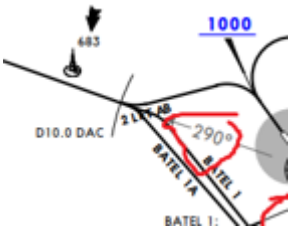
For BANGLADESH Charts: www.bdvacc.net/charts

Pilots are expected to follow SID and fly the whole thing. Controllers will try their best not to cancel SID and assign any kinds of radial. But if it happens, pilots are expected to fly radials as previously mentioned in the previous sections.

Most of SID out of Dhaka airport are radial SID, and the outbound radial is written onto it. If controllers asks that REPORT ESTABLISH ON XXX RADIAL even after giving proper SID departure, then the controller actually asked for the published SID radial. Below a photo is a proper example.



The drawn circles are the proper SID radials that you need when you have established on the SID and going toward the first fix of the SID. Following the BATEL1A departure, if pilots ask to establish on the radial 290 and report, then you should REPORT ESTABLISHED ON RADIAL 290 at this place:



At D10.0 DAC line.

7. Arrival Procedures

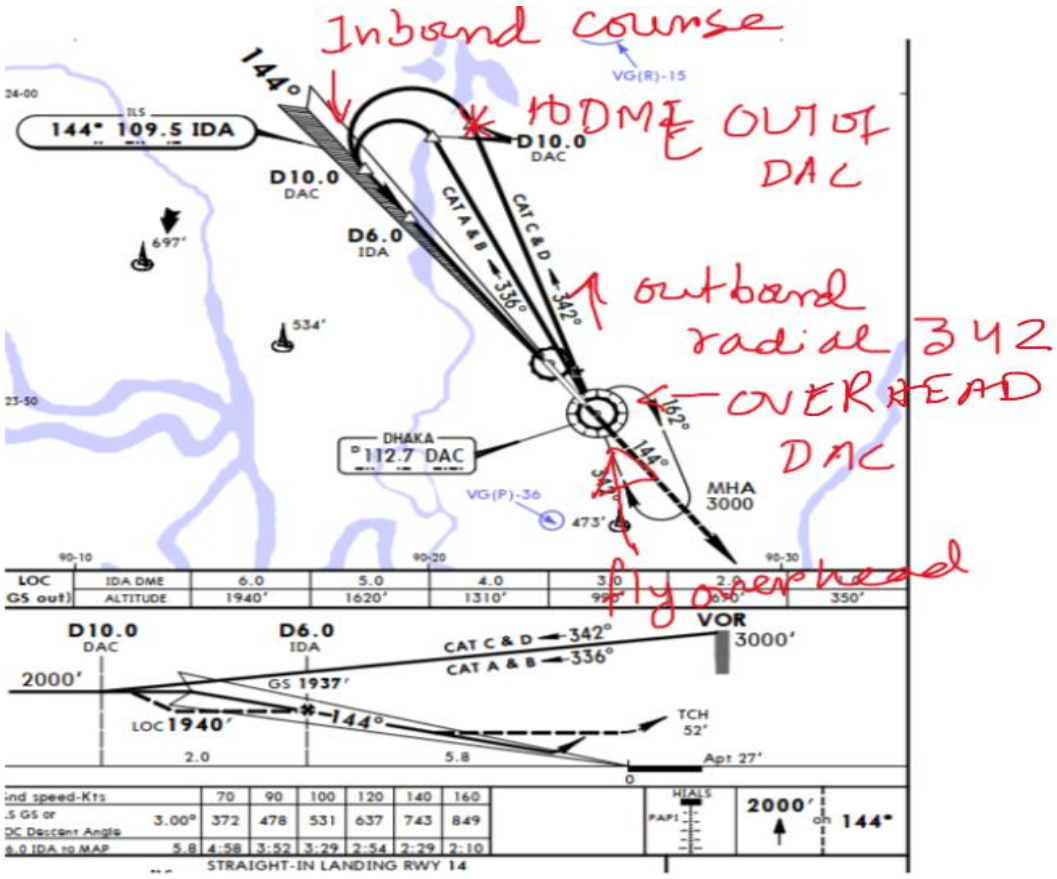
Bangladeshi airports do not have any kind of STAR. So the pilot will have to follow the approach plate that are present on the chart. Pilots can expect any one from 3 types of arrival:

1. VOR-DME ILS Approach (Standard approach in Dhaka, except aircraft coming from Sylhet and Saidpur)

2. VOR-DME ARC Approach or commonly known as 12-DME Arc Approach for ILS 14. In some places the DME arc is 10 miles.

3. RNP Approach (rare case, but can be given with transition)

Let us start with an example of an VOR-DME ILS APPROACH.



Here in this case, the aircraft will have to fly overhead DAC VOR to establish outbound radial 342 (if jets) or 336 (if turboprops or GA Aircraft). Thereafter at 10 DME, then the aircraft will turn inbound for the localizer. Be prepared ATC might extend the outbound leg by upto 5 DME depending on the traffic sequence. Here there are total 4 reporting points. First one is overhead DAC, second one just one mile outbound DAC after established on the radial, and 3rd point is turning inbound. The last one after established on the localizer.

ATC callouts will be like:

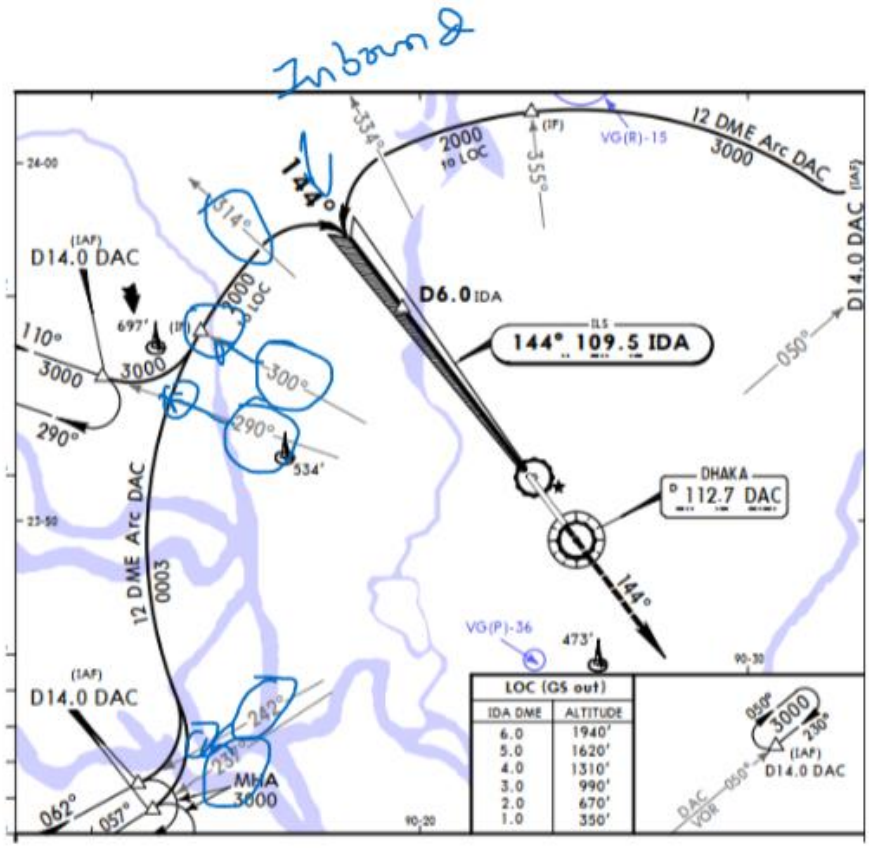
ATC: Capella 447, report overhead DAC

ATC: Capella 447, report established on outbound radial 342

ATC: Capella 447, cleared for the approach, descend 2000 feet, report turning inbound

Let us now start with the VOR DME-ARC ILS approach or XX-DME Arc Approach. Here it depends from where you are coming, you might join the arc from several entry point. In that case you will need to point out at which radial you will be entering into. Usually when you put the TRANSITION into the FMC, from the waypoint to the ARC entry, there will be something

waypoint like D235J or D300H. The middle 3 digits refers to the radial. Same goes for when you will be asked to report crossing radials, you will need to report it. On the next page a diagram is provided circling the crossing/joining radials.



The blue circle lines are the radial crossing/joining zones.

ATC callouts be like:

ATC: Boeing 747, report joining radial 242

ATC: Boeing 747, report crossing radial 300 and descend 2000 feet

ATC: Boeing 747, report turning inbound.

RNP is fairly easy, so that is not shown here.

8. Holdings

It is fairly a common practice to hold at a certain position for traffic separation during NON-RADAR environment conditions or even at radar environment as well. A pilot may have to hold over a certain waypoint, sometimes for a given period of time. And sometimes to make a 360 orbit.

9. What to expect and What not to expect

Expect:

- Holdings
- Constant position reports
- Cancellation of SIDs and prepare for radial departure
- Expect delays due to non-radar separation time.
- Quick action to the ATC callout
- Holdings if go-around

Not to expect:

- Radar vectors for landing
- Rush to get clearance
- Flight following service.

10. Important information about WAYPOINT changes

There are some changes on WAYPOINT NAMES (effective from 15th June 0000z)

1. **BATEL** changed to **IDLOX**
2. **MIMAR** changed to **OPORA**
3. **UBLIN** changed to **AVNUL**
4. **SARAR** changed to **BASEX**

There is also change in SID related to BATEL.

Previously **BATEL1, BATEL1A** for Runway 14 and **BATEL2** for RWY 32

Now (effective from 15th June 0000z), **IDLOX1, IDLOX1A** for Runway 32 and **IDLOX2** for RWY 32