INTRODUCTION TO
INDOAVIS
AERONAUTICAL NAVIGATION
CHARTS USER'S GUIDE

5

IFR EN-ROUTE CHART LEGEND

These charts are for training purposes only and not to be use for flight

INDOAVIS®

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INTRODUCTION TO INDOAVIS AERONAUTICAL CHART USER'S GUIDE

English Version

IFR EN-ROUTE CHART LEGEND

IFR H/L ENROUTE CHART LEGEND

(Instrument Flight Rules High / low altitude En-route Chart Legend)

GENERAL

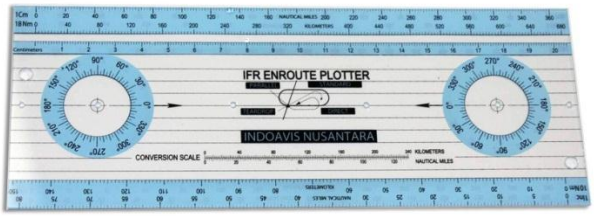
The discussions and examples in this section will be based primarily on the IFR (Instrument Flight Rule) En-route High and Low Altitude Charts. Other IFR products use similar symbols in various colors. The chart legends list aeronautical symbols with a brief description of what each symbol depicts. This section will provide a more detailed discussion of some of the symbols and how they are used on IFR charts.

INDOAVIS charts are prepared in accordance with specifications of the Interagency Cartographic, and are approved by representatives of the ICAO Doc 8697 Aeronautical Chart Manual.

IFR HIGHT/LOW ALTITUDE ENROUTE CHART are compiled and constructed using the best available aeronautical and topographical reference charts. Most Indoavis En-route Charts use the Mercator projection. The design is intended primarily for airway instrument navigation to be referenced to cockpit instruments. Charts are identified by code letters for Indonesia only areas covered by a series, by parenthetical letters for the altitude coverage, and by numbers for the individual chart. For example, INA-1 / INA2 is a chart of the Indonesia series covering both high and low altitude operations and is number 2 of the series.

MILEAGES

Most En-route and Area Chart mileages are represented on the plotter. Check the top of margin of the chart in use for the correct scale. All chart scales, and all plotter scales, are in nautical miles. Indoavis Enroute chart scale is 1Cm = 18Nm.



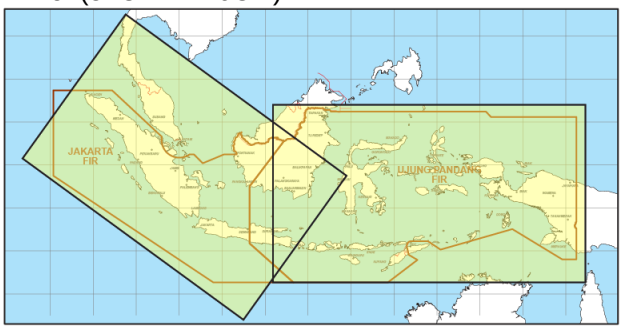
INDOAVIS IDENTIFICATION SHEET

IFR H/L Altitude EN-ROUTE Chart, Specially for Flight Navigation covering Indonesia, Singapore, Malaysia, Brunei Darussalam, Timor Leste and some part of Australian.

ENROUTE SPLIT

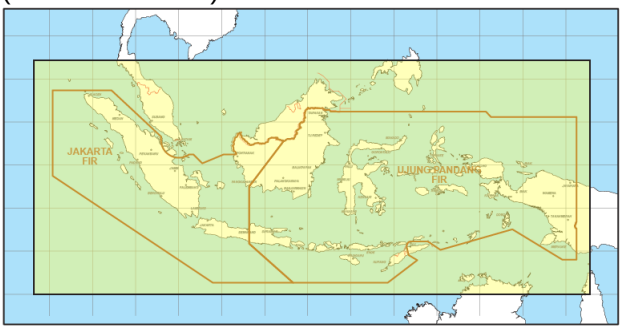
IFR H/L EN-ROUTE Split, used for Flight, divided into two sheets, INA1 for the Western region and INA2 for the Eastern region.

1. The Sheet INA-1 Is coverage area West Indonesia, Malaysia and Singapore, with the paper size of (52Cm x 110Cm).
2. The Sheet INA-2 is East Indonesia, Brunai darusalam and Timor Leste, with the paper size of (52Cm x 110Cm)



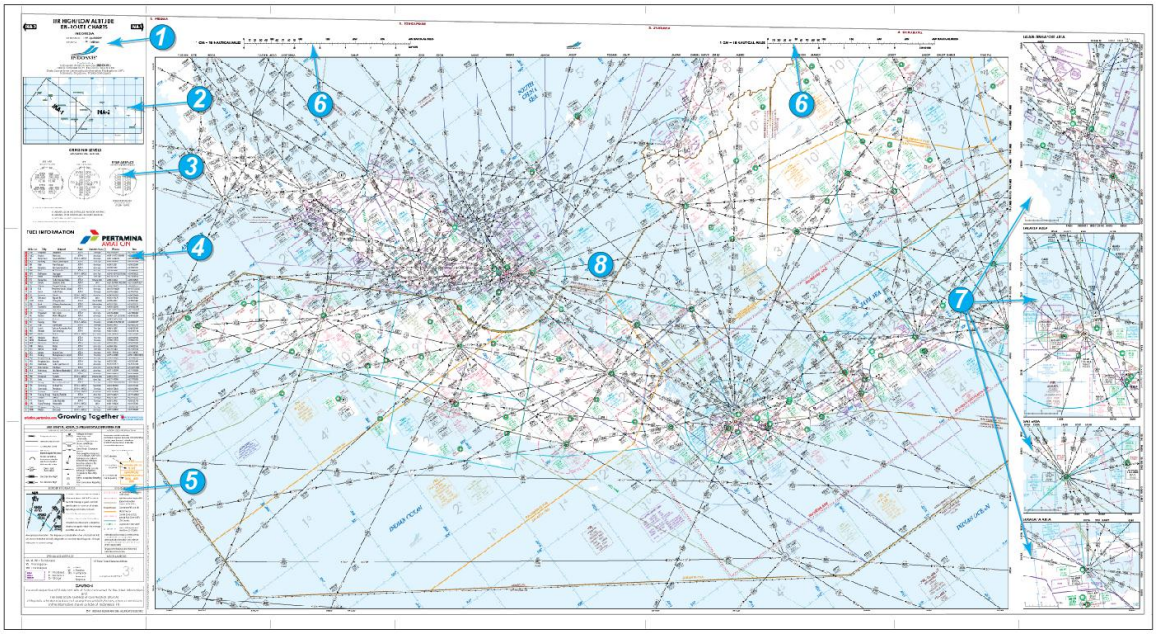
ENROUTE WALL

IFR H/L EN-ROUTE Wall used for Operation Room, covering in one sheet with the paper size of (550Cm x 210Cm)



The scale of chart is 1Cm = 18Nm.

1. CHART FORMAT



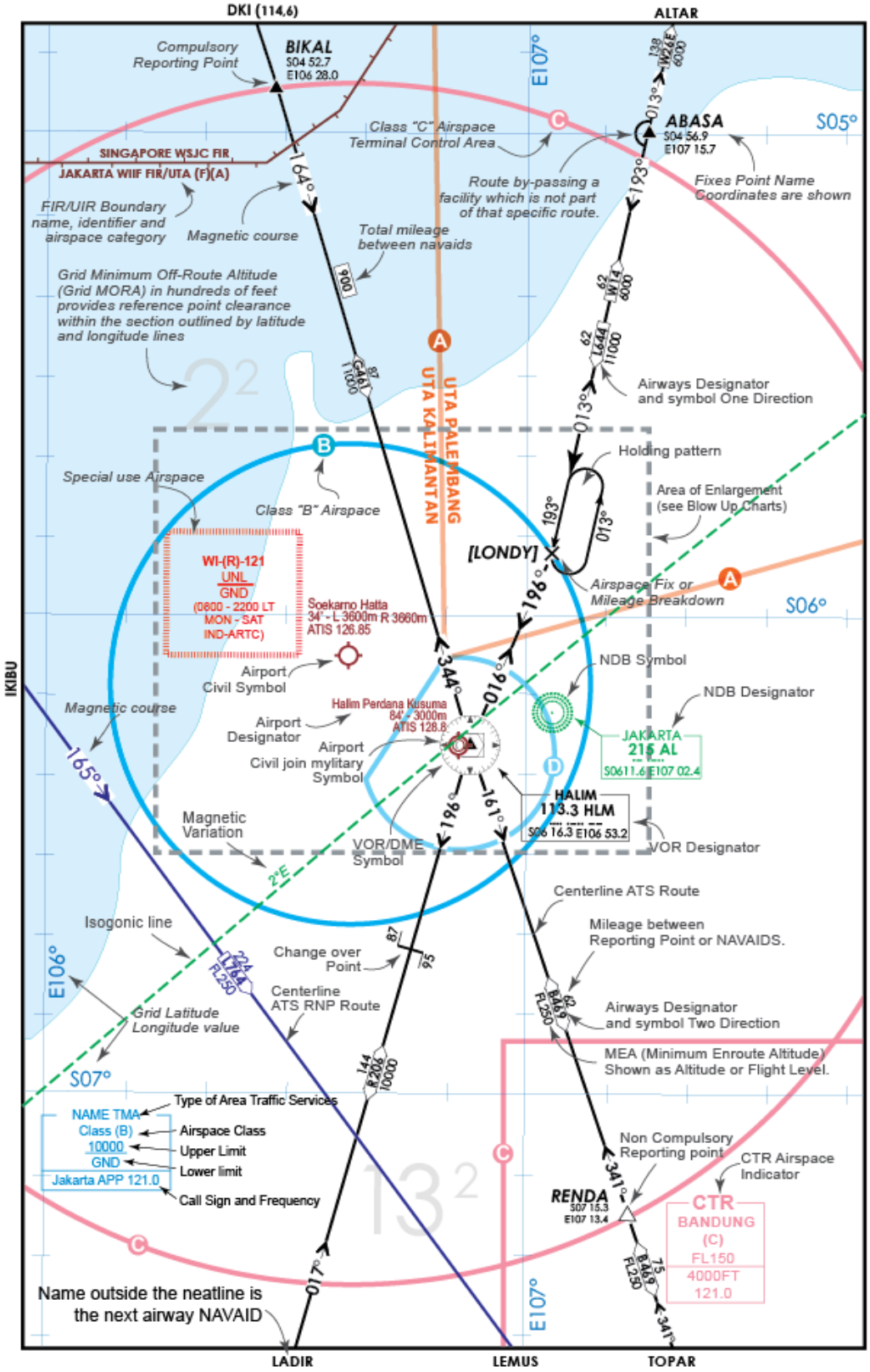
INFORMATION FORMAT INA1

The data is interpreted as follows

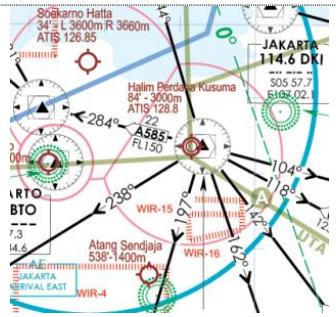
1. Chart title, Country name, Effective and Edition Dates
2. Chart Index
3. IFR Cruising Levels
4. Airport Fuel Information
5. IFR chart Legend and Symbols
6. Scale Bar in Nm and Inches / Cm
7. Enlargement of area locations
    a. Batam, Singapore
    b. Jakarta TMA Area
    c. Bali CTR Area
    d. Surabaya CTR Area
8. INA1 Map View

2. CHART LEGEND

The following legend pages briefly explain symbology used on Enroute Charts worldwide. *Not all items apply in all areas.* Refer to Chart Glossary for more complete definitions of items.

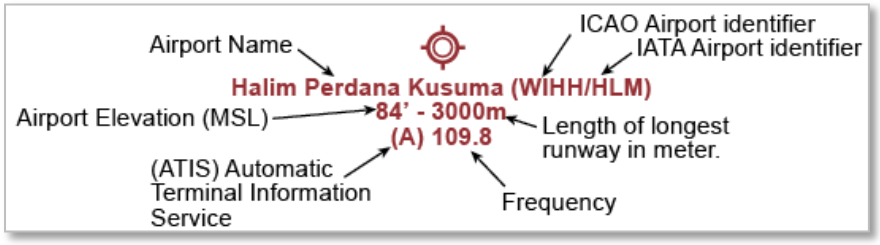


3. AIRPORT SYMBOLS

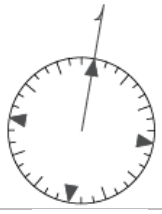
ILLUSTRATION	SYMBOL	DEFINITION
		Civil Aerodrome
		Military Aerodrome
		Join Civil military
		Abandoned Aerodrome
		Seaplane Base

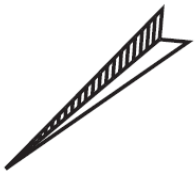
AIRPORT IDENTIFICATION

Associated city names for public airports are shown above or preceding the airport name. If airport name and city name are the same, only the airport name is shown. The airport identifier in parentheses follows the airport name.



4. NAVIGATION AIDS (NAVAID) SYMBOLS

SYMBOLS	NAME	TERMINOLOGIES
	COMPAS	The Compass Rose with magnetic North indicator, Only shown on VOR and VOR/DME. *Note: Compass Roses oriented to Magnetic North*
	VOR	VHF Omnidirectional Radio Range
	TACAN	Tactical Air Navigation
	DME	Distance Measuring Equipment
	VORDME	VHF Omnidirectional Radio Range with Distance Measuring Equipment
	VORTAC	VHF Omnidirectional Radio Range Tactical Air Navigation
	NDB	Non-directional Radio Beacon

	LOC, LDA, or SDF Front Course	ILS or Localizer is show if available at airport. --------- LOC ; Localizer LDA ; Localizer-type Directional Aid SDF ; Simplified Directional Facility

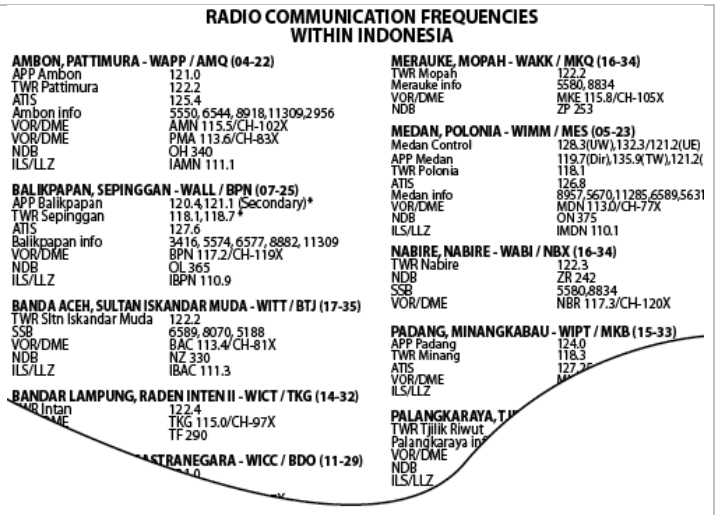
NAVAID IDENTIFICATION

	VOR / VORDME or VORTAC identification component, with frequency, identifier, and Morse Code & coordinates. DME capability is indicated by a small “D” preceding the VOR frequency at frequency paired navaids. VOR and VORTAC navaid operational ranges are identified (when known). On High/Low altitude Enroute Charts, geographical coordinates (latitude and longitude) are shown for navaids forming high or all altitude airways and routes.
	NDB identification component is give in green color when naviad is airways or route component, with frequency, identifier, and Morse Code and coordinates

5. RADIO COMMUNICATION FREQUENCIES

Communications frequencies for the major airports shown on an Area Chart are given in block as illustrate in the left side.

- Call (Identification of location) and frequencies of Control Service for use within list location Radio Frequency Aerodrome
- Call sign CONTROL” and / or “RADAR”
- is omitted in all communication list in several regions.



RADIO COMMUNICATION FREQUENCIES
WITHIN INDONESIA

AMBON, PATTIMURA - WAPP / AMQ (04-22)

APP Ambon	121.0
TWR Pattimura	122.2
ATIS	125.4
Ambon info	5550, 6544, 8918, 11309, 2956
VOR/DME	AMN 115.5/CH-102X
VOR/DME	PMA 113.6/CH-83X
NDB	OH 340
ILS/LLZ	IAMN 111.1

BALIKPAPAN, SEPINGGAN - WALL / BPN (07-25)

APP Balikpapan	120.4,121.1 (Secondary)*
TWR Sepinggan	118.1,118.7 *
ATIS	127.6
Balikpapan info	3416, 5574, 6577, 8882, 11309
VOR/DME	BPN 117.2/CH-119X
NDB	OL 365
ILS/LLZ	IBPN 110.9

BANDA ACEH, SULTAN ISKANDAR MUDA - WITT / BTJ (17-35)

TWR Sltn Iskandar Muda	122.2
SSB	6589, 8070, 5188
VOR/DME	BAC 113.4/CH-81X
NDB	NZ 330
ILS/LLZ	IBAC 111.3

BANDAR LAMPUNG, RADEN INTEN II - WICT / TKG (14-32)

TWR Intan	122.4
	TKG 115.0/CH-97X
	TF 290

...STRANEGARA - WICC / BDO (11-29)

MERAUKE, MOPAH - WAKK / MKQ (16-34)

TWR Mopah	122.2
Merauke info	5580, 8834
VOR/DME	MKE 115.8/CH-105X
NDB	ZP 253

MEDAN, POLONIA - WIMM / MES (05-23)

Medan Control	128.3(UW),132.3/121.2(UE)
APP Medan	119.7(Dir),135.9(TW),121.2(
TWR Polonia	118.1
ATIS	126.8
Medan info	8957,5670,11285,6589,5631
VOR/DME	MDN 113.0/CH-77X
NDB	ON 375
ILS/LLZ	IMDN 110.1

NABIRE, NABIRE - WABI / NBX (16-34)

TWR Nabire	122.3
NDB	ZR 242
SSB	5580,8834
VOR/DME	NBR 117.3/CH-120X

PADANG, MINANGKABAU - WIPT / MKB (15-33)

APP Padang	124.0
TWR Minang	118.3
ATIS	127.2...
VOR/DME	M...
ILS/LLZ	

PALANGKARAYA, T...

TWR Tjilik Riwut	
Palangkaraya In...	
VOR/DME	
NDB	
ILS/LLZ	

6. SPECIAL USE AIRSPACE

	Special use airspace. The accompanying label indicates it as prohibited, restricted, danger, etc. (T) Training, (A) Alert, (C) Caution, and Military Operations Areas (MOAs).

WI-(R)-121
UNL
GND
(0800 - 2200 LT
MON - SAT
IND-ARTC)

WI	Country identifier WI : Indonesia, WS : Singapore WM : Malaysia YB : Australia	(A)	Alert
(R)	Restricted _____→	(T)	Training
121	designation number	(C)	Caution
UNL	Unlimited (Upper Limit)	(W)	Warning
GND	Ground (Lower Limit)	(D)	Danger
0800-2200	Hours active	(P)	Prohibited
MON-SAT	Day active	(R)	Restricted
IND-ARTC	Controlling Agency	(TRA)	Temporary Reserved Airspace
		(TSA)	Temporary Segregated Area
		(MOA)	Military Operations Area

7. ROUTE COMPONENTS AND AIRWAYS INFORMATION

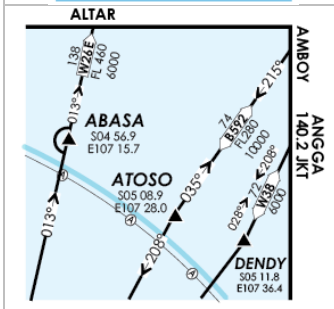
	Airways Route	W32N	Airway and route designators two direction flight
	Diversionary Route	W32N	Airway and route designators single direction flight
	RNP Airway/Route	900	Total mileage between NAVAIDS
	Route by-passing a facility which is not part of that specific route.	9000 FL 40	MEA (Minimum Enroute Altitude) Shown as Altitude or (FL) Flight Level.
139°	NAVAIDS radial & route bearings (magnetic).	D	Direct track Clearance by ATC
	Altitude Change MEA/MOCA Change at other NAVAIDs	87	Mileage between Reporting Point or NAVAIDS.
87 95	COP (Change Over Point) between two stations is indicated by mileages from the station to the point of change.		Scale-break (On ATC Route)

8. REPORTING FIXES POINT

	IFR Compulsory Reporting Point		RNAV Compulsory Reporting Point
	VFR Compulsory Reporting Point		RNAV Non-Compulsory Reporting Point
	IFR On request Report Reporting Point		Mileage Breakdown
	VFR On request Report Reporting Point	CEGER S08 31.4 E138 25.0	Intersection name, Coordinates are shown
	ATS/MET Reporting Point Compulsory Report	D31/39	Holding Pattern. DME figures, when provided, give the DME distance of the fix as the first figure followed by the outbound limit as the second figure.
	ATS/MET Reporting Point On request Report		

9. BOUNDARIES AND LINES / IDENTICATION

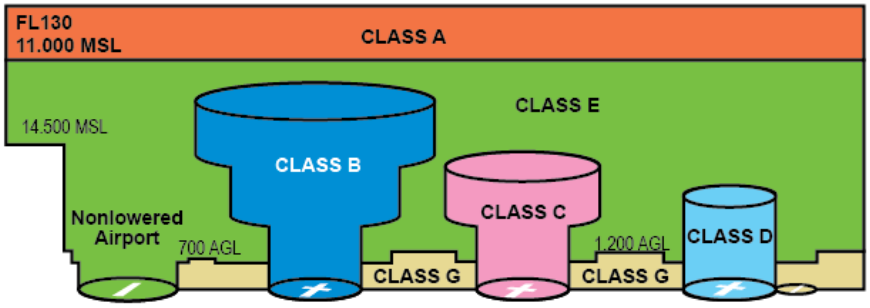
	Air Defense Identification Zone (ADIZ)
	Flight Information Region (FIR).
	Upper Information Region (UIR) Upper Control Areas (UTA).
	International boundary.
Central +6 UTC Eastern +5 UTC	Time zone boundary.
QNH QNE	QNH/QNE boundaries.
2°E	Magnetic variation isogonic lines are indicated at the edge of the chart or are extended fully across the chart in a continuous dashed line.

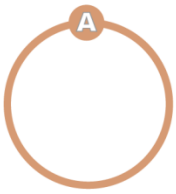
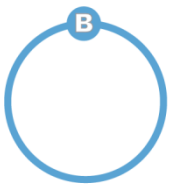
	Area of Enlargement (see Blow Up Charts)
BANDUNG TMA Class (B) 10000 GND Bandung APP 121.0	Type of Area Traffic Services Airspace Class Upper Limit Lower limit Call Sign and Frequency
	Name outside the neatline is the next airway NAVAID to which the total mileage is given. NAVAID identification is shown on all charts. Reporting point name is shown when it is the airway termination Name inside the neat line is the first reporting point outside the chart coverage to which the mileage and MEA are shown. Airway lead information : the frequency and identifier of an offchart NAVAID are shown when the NAVAID designates an on-chart reporting point, change over point or crourse change.

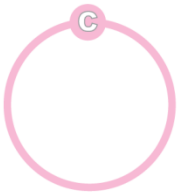
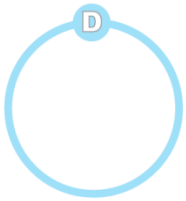
10. AIRSPACE CLASSIFICATIONS

Airspace classification is designated by the letters **(A)** thru **(G).** Classification **(A)** represents the highest level of control and **(G)** represents uncontrolled airspace. The definition of each classification is found in the Glossary portion of this section and the Enroute and Air Traffic Control section of this m a n u a l . The airspace classification letter is displayed in association with the airspace type and vertical limits.

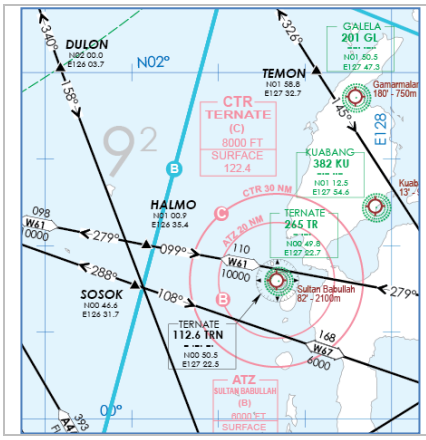
INDONESIAN AIRSPACE CLASSES



	**CLASS A** Airspace; Class A Airspace is the airspace from FL110 (11,000) feet to FL130 (13,000). All pilots flying in Class A airspace shall file an Instrument Flight Rules (IFR) flight plan and receive an appropriate air traffic control (ATC) clearance. When climbing through 11,000 feet, the pilot will change the altimeter setting from the local altimeter (30.01 for example) to 29.92. This ensures all aircraft flying in class A airspace have the same altimeter setting and will have proper altitude separation.
	**CLASS B** Airspace; Class B Airspace is generally the airspace from the surface to 10,000 feet. This airspace is normally around the busiest airports in terms of aircraft traffic. Class B airspace is individually designed to meet the needs of the particular airport and consists of a surface area and two more layers. Most Class B airspace resemble an upside down wedding cake. Pilots must contact air traffic control to receive an air traffic control clearance to enter Class B airspace. Once a pilot receives an air traffic control clearance, they receive separation services from other aircraft within the airspace.

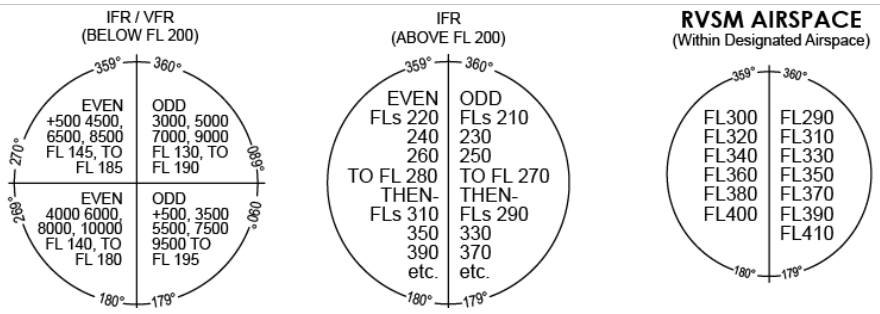
	**CLASS C** Airspace; Class C Airspace is the airspace from the surface to 4,000 feet above the airport elevation. Class C airspace will only be found at airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations. Although Class C airspace is individually tailored to meet the needs of the airport, the airspace usually consists of a surface area with a 5 nautical mile (NM) radius, an outer circle with a 10 NM radius that extends from 1,200 feet to 4,000 feet above the airport elevation and an outer area. Pilots must establish and maintain two-way radio communications with the ATC facility providing air traffic control services prior to entering airspace. Pilots of visual flight rules (VFR) aircraft are separated from pilots of instrument flight rules (IFR) aircraft only. Anchorage International airport.
	**CLASS D** Airspace; Definition. Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures.

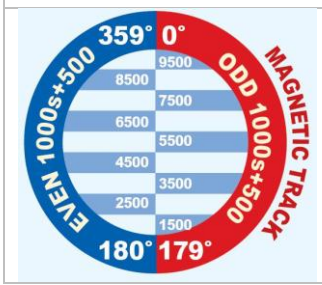
11. ORIENTATION



- Geographical Grid lines and Value
- Large inland
- Grid Minimum Off-Route Altitude
- Grid shown at the intersection of units of latitude and longitude or by complete line.
- Shorelines and large inland lakes are shown.
- Grid Minimum Off-Route Altitude (Grid MORA) in hundreds of feet provides reference point clearance within the section outlined by latitude and longitude lines. Grid MORA values followed by a +/- denote doubtful accuracy, but are believed to provide sufficient reference point clearance

12. CRUISING ALTITUDES





1. **VFR FLIGHTS NOT AUTHORIZED**
   a. Above FL200 in uncontrolled / Advisory airspace
   b. Above FL150 in controlled / Advisory airspace
   c. Between Sunset and sunrise.

2. **FL 200 IS UNUSABLE FOR CRUISING FLIGHT.**

RVSM AIRSPACE AND TRANSITION AREA (FL290 - FL410)