












































GEN 2.3 CHART SYMBOLS

TOPOGRAPHY

1	Contours		8	Gravel		12	Highest elevation on chart	Alternative 
2	Approximate contours		9	Levee or esker	Alternative 			.17456
3	Relief shown by hachures					13	Spot elevation	.6397 .8975
4	Bluff, cliff or escarpment		10	Unusual land features appropriately labelled		14	Spot elevation (of doubtful accuracy)	.6370?
5	Lava flow			Active volcano		15	Coniferous trees	
6	Sand dunes		11	Mountain pass		16	Other trees	
7	Sand area					17	Palms	

18	Areas not surveyed for contour information or relief data incomplete	Caution
----	--	---------

HYDROGRAPHY

19	Shore line(reliable)		30	Abandoned canal Note.—Dry canal having landmark value.		38	Reservoir	
20	Shore line(unreliable)		31	Lakes (perennial)		39	Dry lake bed	Alternative 
21	Tidal flats		32	Lakes (non-perennial)	Alternative 			
22	Coral reefs and ledges					40	Wash	Alternative 
23	Large river(perennial)		33	Salt lake		41	Shoals	
24	Small river(perennial)		34	Salt pans(evaporator)		42	Glaciers and ice caps	
25	Rivers and streams (non-perennial)	Alternative 	35	Swamp		43	Danger line (2 m or one fathom line)	
26	Rivers and streams (unsurveyed)		36	Rice field	Alternative 	44	Charted isolated rock	+
27	Rapids					45	Rock awash	⊕
28	Falls		37	Spring, well or water hole	perennial 	46	Unusual water features appropriately labelled	
29	Canal				intermittent 			

Culture

BUILT-UP AREAS

47	City or large town	
48	Town	
49	Village	
50	Buildings	

HIWAYS AND ROADS

57	Dual highway	
58	Primary road	
59	Secondary road	
60	Trail	
61	Road bridge	
62	Road Tunnel	

MISCELLANEOUS (Cont.)

69	Pipeline	
70	Oil or gas field	
71	Tank farms	
72	Nuclear power station	
73	Coast guard station	
74	Lookout tower	
75	Mine	
76	Forest ranger station	
77	Race track stadium	
78	Ruins	
79	Fort	
80	Church	
81	Mosque	
82	Pagoda	
83	Temple	

RAILROADS

51	Railroad (single track)	
52	Railroad (two or more tracks)	
53	Railroad (under construction)	
54	Railroad bridge	
55	Railroad tunnel	
56	Railroad station	

MISCELLANEOUS

63	Boundaries (international)	
64	Outer boundary	
65	Fence	
66	Telegraph or telephone line (when a landmark)	
67	Dam	
68	Ferry	

AERODROMES

84	Civil	Land	
85	Civil	Water	
86	Military	Land	
87	Military	Water	
88	Joint Civil and military	Land	
89	Joint Civil and military	Water	
90	Emergency aerodrome or aerodrome with no facilities		
91	Abandoned or closed aerodrome		
92	Sheltered anchorage		
93	Aerodrome for use on charts on which aerodrome classification is not required <i>e.g. Enroute Charts</i>		
94	Heliport Note. Aerodrome for the exclusive use of helicopters		



95	Note. Where required by the function of the chart, the runway pattern of the aerodrome may be shown in lieu of the aerodrome symbol, for example:	
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AERODROMES (Cont.)







AERODROME DATA IN ABBREVIATED FORM WHICH MAY BE
IN ASSOCIATION WITH AERODROME SYMBOLS














96	<div style="text-align: center;"> <p>Name of aerodrome</p> <p>LIVINGSTONE</p> <p>357 L H 95</p> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p>Elevation given in the units of measurement (metres or feet) selected for use on the chart</p> </div> <div style="text-align: center;"> <p>Length of longest runway in hundreds of metres or feet (whichever unit is selected for use on the chart)</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p>Minimum lighting - obstacles, boundary or runway lights and lighted wind indicator or landing direction indicator</p> </div> <div style="text-align: center;"> <p>Runway hard surfaced, normally all weather</p> </div> </div> <p style="text-align: center; font-size: small;">Note. - A dash (-) is to be inserted where L or H do not apply.</p>
----	--

AERODROME SYMBOLS FOR APPROACH CHARTS

97	Aerodromes affecting the traffic pattern on the aerodrome on which the procedure is based		98	The aerodrome on which the procedure is based	
----	---	---	----	---	---

RADIO NAVIGATION AIDS*




99	Basic radio navigation aid symbol Note. This symbol may be used with or without a box to enclose the data.			107	Collocated VOR and TACAN radio navigation aids	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">VORTAC</div>  </div>
100	Non-directional radio beacon	NDB		108	Instrument landing system ILS	<div style="text-align: center;"> <p>PLAN VIEW</p>  <p>Electronic</p> <p>FRONT COURSE</p> <p>BACK COURSE</p> <p>PROFILE</p>  <p>Electronic</p> <p>GLIDE PATH</p> </div>
101	VHF omnidirectional radio range	VOR				
102	Distance measuring equipment	DME				
103	Collocated VOR and DME radio navigation aids	VOR/DME				
104	DME distance	<div style="text-align: center;"> <p>Distance in kilometres (nautical miles) to DME → 15 km</p> <p>Identification of radio navigation aid → KAV</p> </div>		109	Radio marker beacon	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Elliptical</div>  </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="margin-right: 10px;">Bone Shape</div>  </div> <p style="font-size: small;">Note. Marker beacon may be shown by outline, or stipple, or both.</p>
105	VOR radial	<div style="text-align: center;"> <p>Radial bearing from, and identification of, VOR → R 090 KAV</p> </div>				
106	UHF tactical air navigation aid	TACAN				

110	<p>Compass rose</p> <p>To be orientated on the chart in accordance with the alignment of the station (normally Magnetic North)</p> <div></div> <p><i>Note.— Additional points of compass may be added as required.</i></p>	<p>Compass rose to be used as appropriate in combination with the following symbols:</p> <table><tr><td>VOR</td><td></td></tr><tr><td>VOR/DME</td><td></td></tr><tr><td>TACAN</td><td></td></tr><tr><td>VORTAC</td><td></td></tr></table>	VOR		VOR/DME		TACAN		VORTAC	
VOR										
VOR/DME										
TACAN										
VORTAC										

AIR TRAFFIC SERVICES

111	Flight information region	FIR		117	Air defence identification zone	ADIZ	
112	Aerodrome traffic zone	ATZ		118	Advisory route	ADR	
113	Control area Airway Controlled route	CTA AWY		119	Visual flight path	compulsory with radio communication requirement compulsory, without radio communication requirement recommended	
114	Uncontrolled route			120	Scale-break (on ATS route)	Altern	
115	Advisory airspace	ADA					
116	Controlled zone	CTR					

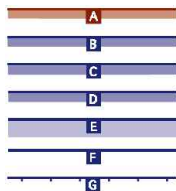

			Significant Point depiction for conventional navigation		Significant point depiction for area navigation			
121	Basic Symbols with functionality	REPORTING FLY-BY/FLY-OVER	On request (N/A)	Compulsory (N/A)	On request fly-by	Compulsory fly-by	On request flyover	Compulsory flyover
		VFR reporting point						
		Intersection INT						
		VORTAC						
		TACAN						
		VOR						
		VOR/DME						
		NDB						
		Waypoint WPT	Not used	Not used				

122	Change-over point		123	AIS/MET reporting point	MRP	Compulsory		124	Final approach fix	FAF	
	To be superimposed on the appropriate route symbol at right angles to the route					On request					




125	Altitudes/flight levels	Altitude/flight level "window"		17 000 10 000	FL 220 10 000
		"At or above" altitude/flight level		7 000	FL 070
		"At or below" altitude/flight level		5 000	FL 050
		"Mandatory" altitude/flight level		3 000	FL 030
		"Recommended" procedure altitude/flight level		5 000	FL 050
		"Expected" altitude		Expect 5 000	Expect FL 050

Note. For use only on SID and STAR charts. Not intended for depiction of minimum obstacle clearance altitude.







AIRSPACE CLASSIFICATIONS

126	Airspace classifications		Aeronautical data in abbreviated form to be used in association with airspace classification symbols:
81	Alternative		






AIRSPACE RESTRICTIONS

128	Restricted airspace (prohibited, restricted or danger area)		Common boundary of two areas	
129	International boundary closed to passage of aircraft except through air corridor			





OBSTACLES

130	Obstacle		134	Exceptionally high obstacle (optional symbol)	
131	Lighted obstacle		135	Exceptionally high obstacle-lighted (optional symbol)	
132	Group obstacles		136		
133	Light group obstacles				




















MISCELLANEOUS

137	Prominent transmission line		140	Wind Turbine-unlighted and lighted	
138	Isogonic line or isogonal		141	Wind Turbine-Minor group and group in major area, lighted	
139	Ocean station vessel (normal position)				

VISUAL AIDS






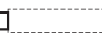
142	Marine light <i>Note 2. Characteristics are to be indicated as follows:</i>		Note 1. Marine alternating lights are red and white unless otherwise indicated. Marine lights are white unless colours are stated.			
			<div>Alt B F</div> <div>Alternating Blue Fixed</div>	<div>Fl G Gp</div> <div>Flashing Green Group</div>	<div>Occ R SEC</div> <div>Occulting Red Sector</div>	<div>sec (U) W</div> <div>Second Unwatched White</div>
143	Aeronautical ground light		<div>Electronic</div> 	144	Lightship	

SYMBOLS FOR AERODROME/HELIPORT CHARTS

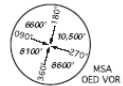
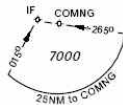


145	Hard surface runway		154	Point light	
146	Pierced steel plank or steel mesh runway		155	Obstacle light	
147	Unpaved runway		156	Landing direction indicator (lighted)	
148	Stopway SWY		157	Landing direction indicator (unlighted)	
149	Taxiways and parking areas		158	Stop bar	
150	Helicopter alighting area on an aerodrome		159	Runway-holding position	
151	Aerodrome reference point			Pattern A	
152	VOR check-point			Pattern B	
153	Runway visual range (RVR) observation site			Note. For application, see Annex 14, Volume I, 5.2.10.	
			160	Intermediate holding position	
				Note. For application, see Annex 14, Volume I, 5.2.11.	
			161	Hot spot	
				Note. Hot spot location to be circled.	

Change : Amended error(140 wind tuibine → wind turbine).







SYMBOLS FOR AERODROME OBSTACLE CHARTS - TYPE A, B AND C

		Plan	Profile			Plan	Profile
162	Tree or shrub	*		167	Terrain penetrating obstacle plane		
163	Pole, tower, spire, antenna, etc.	⊙		168	Escarpment		
164	Building or large structure	■		169	Stopway		
165	Railroad	—+—+—+—		170	Clearway		
166	Transmission line or overhead cable	—T—T—					

ADDITIONAL SYMBOLS FOR USE ON PAPER AND ELECTRONIC CHARTS

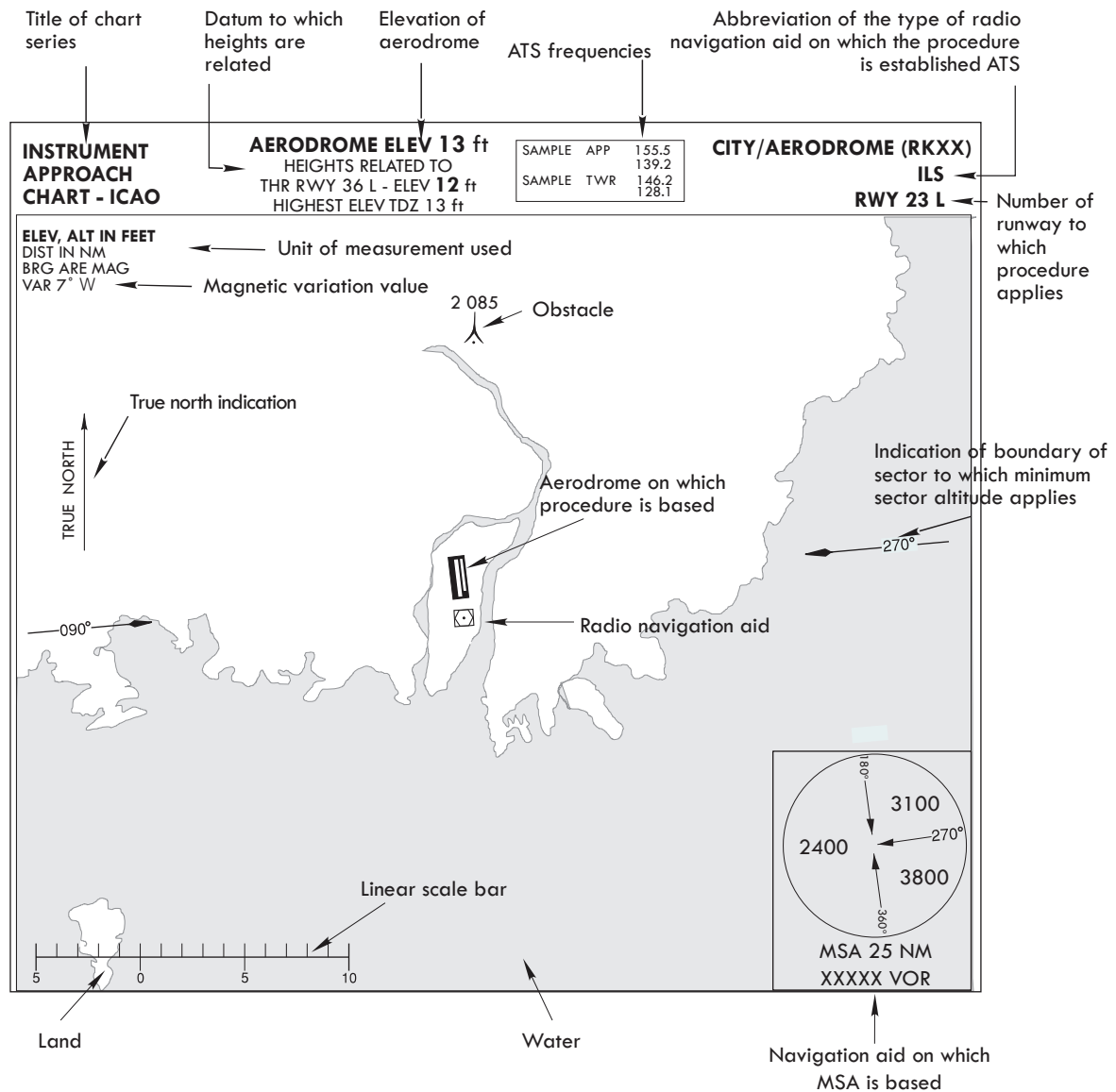
PLAN VIEW			Electronic
171	Minimum sector altitude <i>Note. This symbol may be modified to reflect particular sector shapes.</i>	MSA	
172	Terminal arrival altitude <i>Note. This symbol may be modified to reflect particular TAA shapes.</i>	TAA	
173	Holding pattern		
174	Missed approach track		

PROFILE

175	Runway	
176	Radio navigation aid (type of aid and its use in the procedure to be annotated on top of the symbol)	
177	Radio marker beacon (type of beacon to be annotated on top of the symbol)	
178	Collocated radio navigation aid and marker beacon (type of aid to be annotated on top of the symbol)	
179	DME fix (distance from DME and the fix use in the procedure to be annotated on top of the symbol)	
180	Collocated DME fix and marker beacon (distance from DME and the type of beacon to be annotated on top of the symbol)	

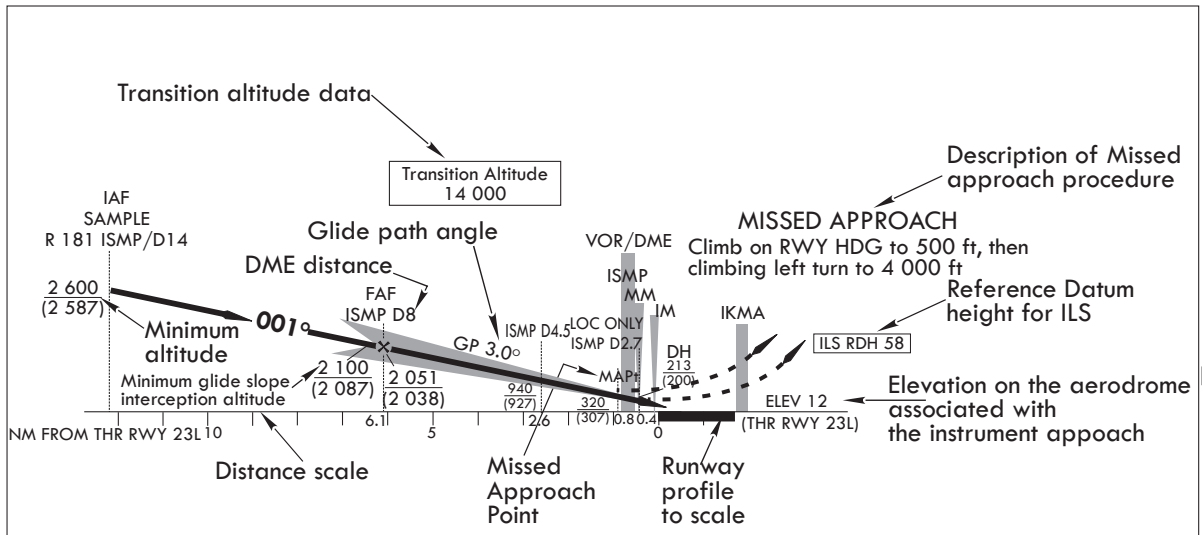
INSTRUMENT APPROACH CHART - FORMAT

1. PLAN VIEW



INSTRUMENT APPROACH CHART - FORMAT(Cont)

2. PROFILE VIEW



3. AERODROME OPERATING MINIMA

- MDA/MDH and, DH/DA are shown in feet.
- RVR visibility values are charted only when the value is not the same as the prevailing visibility value. When a difference occurs, the respective RVR and prevailing visibility values are prefixed with "RVR" and "VIS". When there is no difference, the minimum is shown only once and means either RVR (if RVR is reported for that runway) or visibility if measured otherwise.
 - When RVR and visibility values are the same, it is indicated as "800 m".
 - When RVR and visibility values are not the same, it is indicated as "RVR 800 m VIS 1 600 m".

IFR LANDING MINIMA - for FAA format

* Aerodrome operating minima for joint civil/military aerodrome and military aerodrome is tabulated as follows:

	Decision Height(DH) MSL Decision Altitude(DA) MSL		* Prevailing Visibility/RVR (RVR in 100s of feet)		Height of DH (using QFE) above touchdown zone(HAT)		Ceiling in feet & Prevailing Visibility in SM	
Aircraft Category	A	B	C	D				
Precision Straight-in to Runway 27	S-ILS 27	362 / 24	200	(200-1/2)				
Non-Precision (Localizer) Straight-in to Runway 27	S-LOC 27	440 / 24	278 (300-1/2)	440 / 40	278	(300-3/4)		
	CIRCLING	520-1 350 (400-1)	620-1 1/4 450 (500-11/4)	620-1 3/4 450 (500-13/4)	720-2 1/4 550 (600-21/4)			
Precision Approach Radar straight-in to Runway 27	S-PAR 27	262 / 16	100 (100-1/4)	GS 2.50°				
	Minimum Descent Altitude (MDA)	Height of MDA (using QFE) above touchdown zone(HAT)		Glide Slope Angle	Height of MDA (using QFE) above airport (HAA)			

* Slash(/) denotes RVR Values and a dash(-) denotes Prevailing Visibility.

Aerodrome Operation Minima CONVERSION CHART

CEILING				RUNWAY VISIBILITY			
PUBLISHED MINIMA FEET	REQUIRED EQUIVALENT METERS	RVR VALUES PUBLISHED IN HUNDREDS OF FEET		STATUTE MILE EQUIVALENT	NAUTICAL MILE EQUIVALENT	METERS EQUIVALENT	KILOMETERS EQUIVALENT
100	..... 30	12	.....	1/4(Helicopter Only)	..... 2/10	..... 370	..... .4
200	..... 60						
300	..... 90	16	.....	1/4	..... 2/10	..... 490	..... .5
400	..... 120	20	.....	3/8	..... 3/10	..... 610	..... .6
500	..... 150	24	.....	1/2	..... 4/10	..... 730	..... .7
600	..... 180	32	.....	5/8	..... 6/10	..... 970	..... 1.0
700	..... 210	40	.....	3/4	..... 7/10	..... 1 220	..... 1.2
800	..... 240	45	.....	7/8	..... 8/10	..... 1 370	..... 1.4
900	..... 270	50	.....	1	..... 9/10	..... 1 520	..... 1.5
1 000	..... 300	60	.....	1-1/4	..... 1-1/10	..... 1 830	..... 1.8
1 100	..... 330						
1 200	..... 360						
1 300	..... 390						
1 400	..... 420						
1 500	..... 450						

PREVAILING VISIBILITY

STATUTE MILES	NAUTICAL MILES	METERS	KILOMETERS	STATUTE MILES	NAUTICAL MILES	METERS	KILOMETERS
1/8	..... 1/10	..... 200	..... .2	1-3/4	..... 1-5/10	..... 2 800	..... 2.8
1/4	..... 2/10	..... 400	..... .4	1-7/8	..... 1-6/10	..... 3 000	..... 3.0
3/8	..... 3/10	..... 600	..... .6	2	..... 1-7/10	..... 3 200	..... 3.2
	..... 4/10	..... 700	..... .7		..... 1-8/10	..... 3 400	..... 3.4
1/2		..... 800	..... .8	2-1/4	..... 1-9/10	..... 3 600	..... 3.6
	..... 5/10	..... 900	..... .9		..... 2	..... 3 700	..... 3.7
5/8	.....	..... 1 000	..... 1.0		..... 2-1/10	..... 3 900	..... 3.9
	..... 6/10	..... 1 100	..... 1.1	2-1/2	..... 2-2/10	..... 4 000	..... 4.0
3/4	.....	..... 1 200	..... 1.2	2-5/8	.....	..... 4 200	..... 4.2
	..... 7/10	..... 1 300	..... 1.3		..... 2-3/10	..... 4 300	..... 4.3
7/8	.....	..... 1 400	..... 1.4	2-3/4	.....	..... 4 400	..... 4.4
	..... 8/10	..... 1 500	..... 1.5		..... 2-4/10	..... 4 500	..... 4.5
1	.....	..... 1 600	..... 1.6	2-7/8	.....	..... 4 600	..... 4.6
	..... 9/10	..... 1 700	..... 1.7		..... 2-5/10	..... 4 700	..... 4.7
1-1/8	..... 1	..... 1 800	..... 1.8	3	..... 2-6/10	..... 4 800	..... 4.8
1-1/4	..... 1-1/10	..... 2 000	..... 2.0		..... 2-7/10	..... 5 000	..... 5.0
1-3/8	..... 1-2/10	..... 2 200	..... 2.2		..... 2-8/10	..... 5 200	..... 5.2
1-1/2	..... 1-3/10	..... 2 400	..... 2.4		..... 2-9/10	..... 5 400	..... 5.4
1-5/8	..... 1-4/10	..... 2 600	..... 2.6		..... 3	..... 6 000	..... 6.0

Change : Amended phrase(KOLOMETERS → KILOMETERS).

Procedure Coding Tables - for ICAO format

Waypoint/Fix Sequence Numbers		Waypoint/Fix Names		Magnetic Track/True Track between each successive designated significant point		Speed Limit + "Minimum" Speed - "Maximum" Speed @ "Mandatory" Speed ± Speed "Window"	Coordinates		VPA /TCH		Navigation specification		Remarks	
Serial Number	Path Descriptor	Waypoint Identifier	Fly-Over	Course/Track ° M(° T)	Distance (NM)	Turn Direction	Altitude (ft)	Speed (kt)						
001	IF	DANAN	-	-	-	-	+5000	-	373226.0N 1261104.0E (R 291 NCN/D12, R 305 WNG/D14)	-	RNP APCH		IAF	
002	TF	RWY 15L	Y	153(144.6)	2.0	-	@450	-	372902.2N 1262624.6E (R 152 NCN/D1, R 359 WNG/D3)	-301/50	RNP APCH			
004	HM	KESAN	Y	033(025.0)	-	R	-5000 +4000	-	371753.0N 1261558.0E (R 222 NCN/D14, R 235 WNG/D12)	-	RNP APCH		1 min (Outbound Timing)	

RNP APCH ← Procedure Identification
 Magnetic Track/True Track between each successive designated significant point
 Waypoint/Fix Sequence Numbers
 Waypoint/Fix Names
 Fly-Over Waypoint "Y"
 Fly-By Waypoint "-"
 Nautical mile between each successive designated significant point
 Required navigation performance or basis for the approval applicable to the procedure
 + "at or above" Altitude/Flight
 - "at or below" Altitude/Flight
 @ "Mandatory" Altitude/Flight
 ± Altitude/Flight Level "Window"

Chang : Amended phrases(RNAV(GNSS) → RNP APCH).

INTENTIONALLY

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