

OEKA AD 2.1 AERODROME LOCATION INDICATOR AND NAME**OEKA - KHASHM ALAN/ Riyadh****OEKA AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA**

1	ARP coordinates and site at AD	243715N 0465507E/ 158°/0.57NM from THR 34
2	Direction and distance from (city)	271°, 11 NM from RIYADH
3	Elevation/Reference temperature	1 848 FT/ 38°C
4	Geoid undulation at AD ELEV PSN	-29.58 FT
5	MAG VAR/Annual change	3°E (2015) / 0.05 Increasing
6	AD Administration, address, telephone, telefax, telex, AFS	MINISTRY OF NATIONAL GAURD Riyadh Saudi Arabia TEL: +966 11 2905100 EXT 29031/28005
7	Types of traffic permitted (IFR/VFR)	VFR
8	Remarks	NIL

OEKA AD 2.3 OPERATIONAL HOURS

1	AD Administration	NIL
2	Customs and immigration	NIL
3	Health and sanitation	NIL
4	AIS Briefing Office	NIL
5	ATS Reporting Office (ARO)	NIL
6	MET Briefing Office	NIL
7	ATS	H24
8	Fuelling	04:00 - 11:00 UTC SAT
9	Handling	Limited / Sunshade
10	Security	H24
11	De-icing	NIL
12	Remarks	NIL

OEKA AD 2.4 HANDLING SERVICES AND FACILITIES

1	Cargo-handling facilities	NIL
2	Fuel/oil types	JET A/ MIL83262, MIL23699, MIL5606
3	Fuelling facilities/capacity	JET A/10000 liters
4	De-icing facilities	NIL
5	Hangar space for visiting aircraft	Limited / Sunshade
6	Repair facilities for visiting aircraft	Limited
7	Remarks	NIL

OEKA AD 2.5 PASSENGER FACILITIES

1	Hotels	NIL
2	Restaurants	NIL

3	Transportation	NIL
4	Medical facilities	NIL
5	Bank and Post Office	NIL
6	Tourist Office	NIL
7	Remarks	NIL

OEKA AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

1	AD category for fire fighting	CAT B
2	Rescue equipment	E - one Titan 6x6.
3	Capability for removal of disabled aircraft	NONE
4	Remarks	NIL

OEKA AD 2.7 SEASONAL AVAILABILITY - CLEARING

1	Types of clearing equipment	NIL
2	Clearance priorities	NIL
3	Remarks	NIL

OEKA AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA

1	Apron surface and strength	Surface :Rigid and Flexible Strength:58/F/B/Y/T
2	Taxiway width, surface and strength	C : Width 23M, Surface Flexible and Strength:58/F/B/Y/T C1: Width 27.73M, Surface Flexible and Strength:58/F/B/Y/T C2: Width 34M, Surface Flexible and Strength:58/F/B/Y/T C3: Width 34M, Surface Flexible and Strength: 58/F/B/Y/T C4: Width 34M, Surface Flexible and Strength:58/F/B/Y/T C5: Width 28.44M, Surface Flexible and Strength:58/F/B/Y/T D : Width 28.5M, Surface Flexible and Strength:58/F/B/Y/T E : Width 34M, Surface Flexible and Strength:58/F/B/Y/T F : Width 34M, Surface Flexible and Strength:58/F/B/Y/T G : Width 23M, Surface Flexible and Strength:58/F/B/Y/T
3	Altimeter checkpoint location and elevation	NIL
4	VOR checkpoints	TWY C1, VOR checkpoints 243644.18N 0465526.33E TWY C5, VOR checkpoints 243747.82N 0465501.7E
5	INS checkpoints	NIL
6	Remarks	NIL

OEKA AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

1	Use of aircraft stand ID signs, TWY guide lines and visual docking/parking guidance system of aircraft stands	Taxi guidance signs at all intersections with TWY and RWY and all holding positions.
2	RWY and TWY markings and LGT	RWY: Designation, THR, TDZ, CL, edge and appropriate, marked and lighted. TWY: Edge and CL lights, holding positions at all TWY/RWY intersections marked and lighted.
3	Stop bars	Stop bar where appropriate.
4	Remarks	NIL

OEKA AD 2.10 AERODROME OBSTACLES

In approach/TKOF areas			In circling area and at AD		Remarks
1			2		3
RWY NR/Area affected	Obstacle type Elevation Markings/LGT	Coordinates	Obstacle type Elevation Markings/LGT	Coordinates	
a	b	c	a	b	
16	Area2d 2355 FT	244449N 0464842E			
	Area2d 2449 FT	244945N 0465254E			
	Area 2c 2531 FT	244308N 0465350E			
	Area 2b 2530 FT	244308N 0465348E			
	Area 2c 2140 FT	243825N 0465424E			
	Area 2c 2064 FT	243754N 0465431E			
	TOWER 2990 FT	242845N 0463325E			
	Area2d 2646 FT	245719N 0470115E			
	Area2d 2436 FT	244923N 0465236E			
	Area 2d 2987 FT	244917N 0463711E			
	Area 2c 2182 FT	243512N 0465321E			
	Area 2b 2132 FT	243854N 0465424E			

In approach/TKOF areas			In circling area and at AD		Remarks
1			2		3
RWY NR/Area affected	Obstacle type Elevation Markings/LGT	Coordinates	Obstacle type Elevation Markings/LGT	Coordinates	
a	b	c	a	b	
34	Area 2d 3046 FT	244241N 0464028E			
	Area 2c 2404 FT	243516N 0465725E			
	Area 2c 2075 FT	243532N 0465509E			
	Area 2c 2041 FT	243644N 0465460E			
	Area 2b 2530 FT	244308N 0465348E			
	Area2d 2471 FT	242732N 0470111E			
	Area 2c 2075 FT	243532N 0465509E			
	Area 2c 2043 FT	243609N 0465511E			
	Area 2c 2051 FT	243943N 0465237E			
	Area 2c 2404 FT	243516N 0465725E			
	Area 2c 2140 FT	243825N 0465424E			
	Area 2b 2086 FT	243946N 0465416E			
	pole1920 FT	243819N 0465445E			
	pole2018 FT	243839N 0465425E			
	pole2130 FT	243841N 0465424E			
	pole2132 FT	243854N 0465424E			
	pole1945 FT	243857N 0465434E			
	pole2014 FT	243906N 0465425E			
	pole2107 FT	243910N 0465424E			
	pole2098 FT	243925N 0465425E			
	pole1994 FT	243926N 0465425E			
	pole2098 FT	243926N 0465424E			
	pole1984 FT	243932N 0465425E			
	pole2037 FT	243930N 0465411E			
	pole2086 FT	243939N 0465420E			
	pole2094 FT	243940N 0465422E			
	pole2080 FT	243950N 0465413E			
	pole2089 FT	243951N 0465414E			

OEKA AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

1	Associated MET Office	NIL
2	Hours of service MET Office outside hours	NIL
3	Office responsible for TAF preparation Periods of validity	NIL
4	Trend forecast Interval of issuance	NIL
5	Briefing/consultation provided	NIL
6	Flight documentation Language(s) used	NIL
7	Charts and other information available for briefing or consultation	NIL
8	Supplementary equipment available for providing information	NIL
9	ATS units provided with information	NIL
10	Additional information (limitation of service, etc.)	NIL

OEKA AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

Designations RWY NR	TRUE BRG	Dimensions of RWY(M)	Strength (PCN) and surface of RWY and SWY	THR coordinates RWY end coordinates THR geoid undulation	THR elevation and highest elevation of TDZ of precision APP RWY
1	2	3	4	5	6
34	341°GEO	2100 x 46	58/F/B/Y/T	243642.60N 0465519.07E	THR 1 834.3 FT TDZ 1841 FT
16	161°GEO	2100 x 46	58/F/B/Y/T	243746.94N 0465454.17E	THR 1 848 FT TDZ 1848 FT

Slope of RWY-SWY	SWY dimensions (M)	CWY dimensions (M)	Strip dimensions (M)	OFZ	Remarks
7	8	9	10	11	12
0.20% - 0.20%	98 x 46	300 x 150	2418 x 150	Available	The basic strip is provided only with a SWY
0.20% - 0.12%	100 x 46	300 x 150	2418 x 150		

OEKA AD 2.13 DECLARED DISTANCES

RWY Designator	TORA (M)	TODA (M)	ASDA (M)	LDA (M)	Remarks
1	2	3	4	5	6
34	2100	2400	2 198	2100	NIL
16	2100	2400	2 200	2100	NIL

OEKA AD 2.14 APPROACH AND RUNWAY LIGHTING

RWY Designator	APCH LGT type LEN INTST	THR LGT colour WBAR	VASIS (MEHT) PAPI	TDZ, LGT LEN	RWY Centre Line LGT Length, spacing, colour, INTST	RWY edge LGT LEN, spacing, colour INTST	RWY End LGT colour WBAR	SWY LGT LEN (M) colour	Remarks
1	2	3	4	5	6	7	8	9	10
34	PALS 300M LIH	green LIH	PAPI Left/ 3° 4 boxes	900 M white	2100 M, 15 M white	White / yellow. LIH	White / yellow. LIH	NIL	NIL
16	PALS 300M LIH	green LIH	PAPI Left/ 3° 4 boxes	900 M white	2100 M, 15 M. white	White / yellow. LIH	White / yellow. LIH	NIL	NIL

OEKA AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

1	ABN/IBN location, characteristics and operational hours	NIL
2	LDI location and LGT Anemometer location and LGT	NIL
3	TWY edge and centre line lighting	Edge: All TWY Centre Line: All TWY
4	Secondary power supply/switch-over time	Yes/3.0 second
5	Remarks	NIL

OEKA AD 2.16 HELICOPTER LANDING AREA

1	Coordinates TLOF or THR of FATO Geoid undulation	OEKA H1 : 243701.27N 0465526.93E OEKA H2 : 243703.23N 0465532.96E OEKA H3 : 243736.94N 0465513.14E OEKA H4 : 243738.89N 0465519.15E OEKA H5 : 243743.87N 0465509.01E NIL
2	TLOF and/or FATO elevation M/FT	OEKA H1 : 561.92 M/ 1 843.53FT OEKA H2 : 562.66 M/ 1 845.98FT OEKA H3 : 564.16 M/ 1 850.88FT OEKA H4 : 565.28 M/ 1 854.58FT OEKA H5 : 563.50 M/ 1 848.72FT
3	TLOF and FATO area dimensions, surface, strength, marking	OEKA H1: 36 x 38M / rigid pavement OEKA H2: 36 x 38M / rigid pavement OEKA H3: 36 x 38M / rigid pavement OEKA H4: 36 x 38M / rigid pavement
4	True BRG of FATO	OEKA H1: 123° OEKA H2: 114° OEKA H3: 020° OEKA H4: 029°
5	Declared distance available	The length of the FATO.
6	APP and FATO lighting	APP and FATO lighting available.
7	Remarks	NIL

OEKA AD 2.17 ATS AIRSPACE

1	Designation and lateral limits	ATZ: Circle radius 3NM centered on ARP (243715N 0465507E)
2	Vertical limits	SFC to 3500 FT MSL
3	Airspace classification	G
4	ATS unit call sign Language(s)	KHASHM ALAN TWR English
5	Transition altitude	13000FT
6	Remarks	NIL

OEKA AD 2.18 ATS COMMUNICATION FACILITIES

Service designation	Call sign	Frequency	Hours of operation	Remarks
1	2	3	4	5
TWR	KHASHM ALAN TWR	122.875MHZ 249.825MHZ	HX HX	NIL NIL
GCA	KHASHM ALAN GCA	123.175MHZ 249.3MHZ	H24 H24	
SMC	KHASHM ALAN GND	249.525MHZ	H24	

OEKA AD 2.19 RADIO NAVIGATION AND LANDING AIDS

Type of aid, MAG VAR, CAT of ILS/MLS (For VOR/ILS/MLS, give declination)	ID	Frequency	Hours of operation	Position of transmitting antenna coordinates	Elevation of DME transmitting antenna	Remarks
1	2	3	4	5	6	7
VOR/DME	RAZ	114.2MHZ 98X	H24	243615.13N 0465531.95E	1900FT	NIL
LOC RWY 34 ILS CAT I	IMNG	111.7MHZ	H24	243757.41N 0465450.12E	1900FT	NIL
GP		333.5MHZ	H24	243653.79N 0465518.71E	1900FT	3° , RDH 57.2FT
DME	IMNG	54X	H24	243654.40N 0465518.57E	1900FT	NIL

OEKA AD 2.20 LOCAL TRAFFIC REGULATIONS

OEKA AD 2.21 NOISE ABATEMENT PROCEDURES

OEKA AD 2.22 FLIGHT PROCEDURES

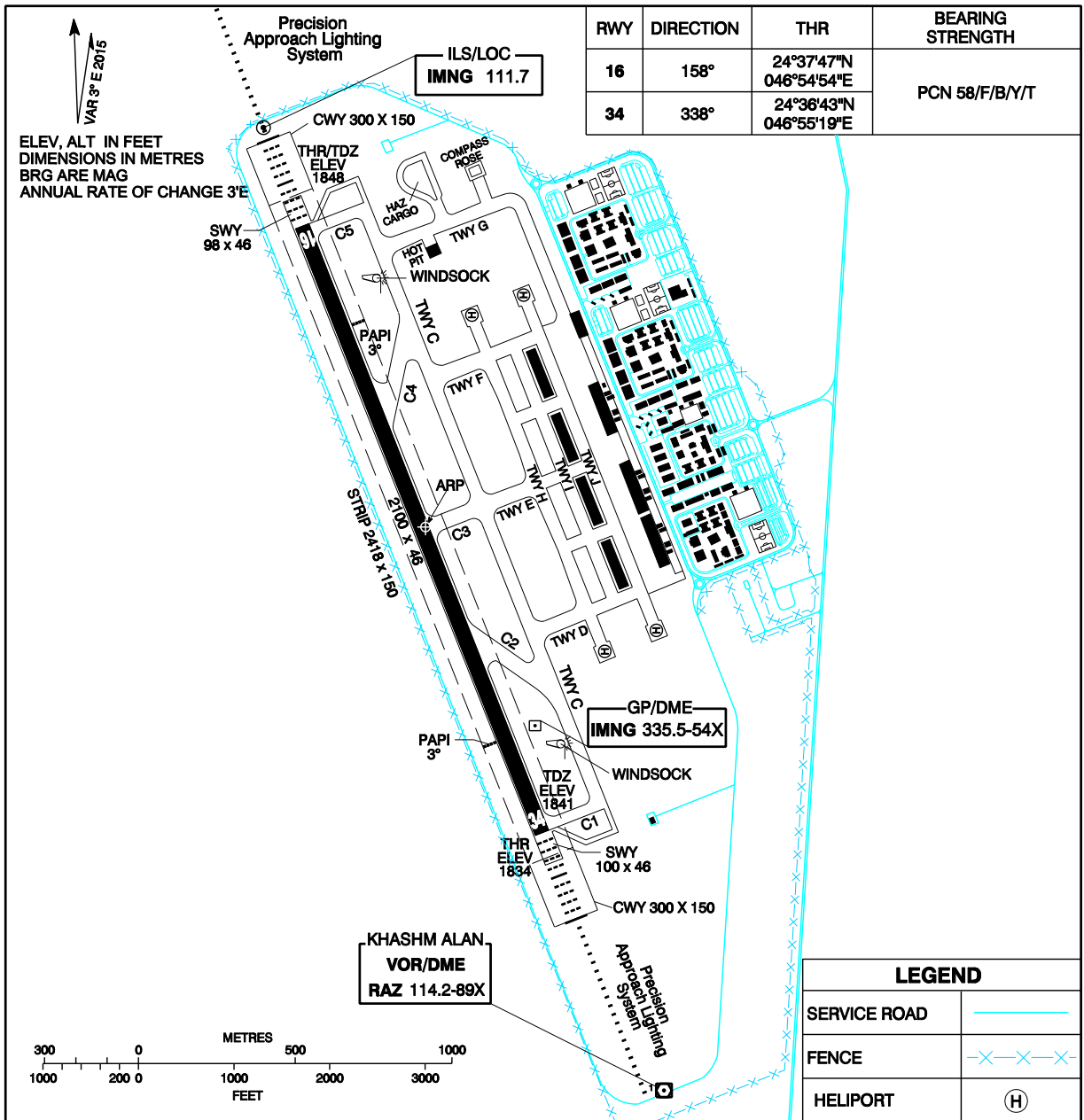
OEKA AD 2.23 ADDITIONAL INFORMATION

OEKA AD 2.24 CHARTS RELATED TO AN AERODROME

Chart name	Page
Aerodrome Chart - ICAO	AD 2-OEKA-9
Aerodrome Obstacle Chart - ICAO Type A (RWY 16/34)	AD 2-OEKA-11
Instrument Approach Chart - ICAO (ILS or LOC RWY 34)	AD 2-OEKA-13
ILS or LOC RWY 34 (aeronautical data tabulation)	AD 2-OEKA-14
Instrument Approach Chart - ICAO (VOR RWY 16)	AD 2-OEKA-15
VOR RWY 16 (aeronautical data tabulation)	AD 2-OEKA-16

Chart name	Page
Instrument Approach Chart - ICAO (VOR RWY 34)	AD 2-OEKA-17
VOR RWY 34 (aeronautical data tabulation)	AD 2-OEKA-18
Standard Departure Chart - Instrument (SID) - ICAO (SID RNAV RWY 16)	AD 2-OEKA-19
SID RNAV RWY 16 (aeronautical data tabulation) 1	AD 2-OEKA-20
SID RNAV RWY 16 (aeronautical data tabulation) 2	AD 2-OEKA-21
Standard Departure Chart - Instrument (SID) - ICAO (SID RNAV RWY 34)	AD 2-OEKA-23
SID RNAV RWY 34 (aeronautical data tabulation) 1	AD 2-OEKA-24
SID RNAV RWY 34 (aeronautical data tabulation) 2	AD 2-OEKA-25
Standard Arrival Chart - Instrument (STAR) - ICAO (STAR RNAV RWY 16/34)	AD 2-OEKA-27
STAR RNAV RWY 16/34 (aeronautical data tabulation) 1	AD 2-OEKA-28
STAR RNAV RWY 16/34 (aeronautical data tabulation) 2	AD 2-OEKA-29
Standard Arrival Chart - Instrument - ICAO (STAR RWY 16/34)	AD 2-OEKA-31
STAR RWY 16/34 (aeronautical data tabulation)	AD 2-OEKA-32
RNAV Arrlval Transition Chart RWY 16/34	AD 2-OEKA-33
RNAV Arrlval Transition Chart RWY 16/34 (aeronautical data tabulation)	AD 2-OEKA-34
Instrument Approach Chart - ICAO (RNAV (GNSS) RWY 16)	AD 2-OEKA-35
RNAV (GNSS) RWY 16 (aeronautical data tabulation)	AD 2-OEKA-36
Instrument Approach Chart - ICAO (RNAV (GNSS) RWY 34)	AD 2-OEKA-37
RNAV (GNSS) RWY 34 (aeronautical data tabulation)	AD 2-OEKA-38
Instrument Approach Chart - ICAO (PAR RWY 16)	AD 2-OEKA-39
PAR RWY 16 (aeronautical data tabulation)	AD 2-OEKA-40
Instrument Approach Chart - ICAO (PAR RWY 34)	AD 2-OEKA-41
PAR RWY 34 (aeronautical data tabulation)	AD 2-OEKA-42

AERODROME CHART - ICAO 24°37'15"N ELEV 1848 TWR: 122.875 249.825
046°55'07"E ATIS:
SMC: **KHASHM ALAN**



CHANGE : TWY C1,C2,C3,C4,C5 and TWY D,E,F,G,H,I,J added

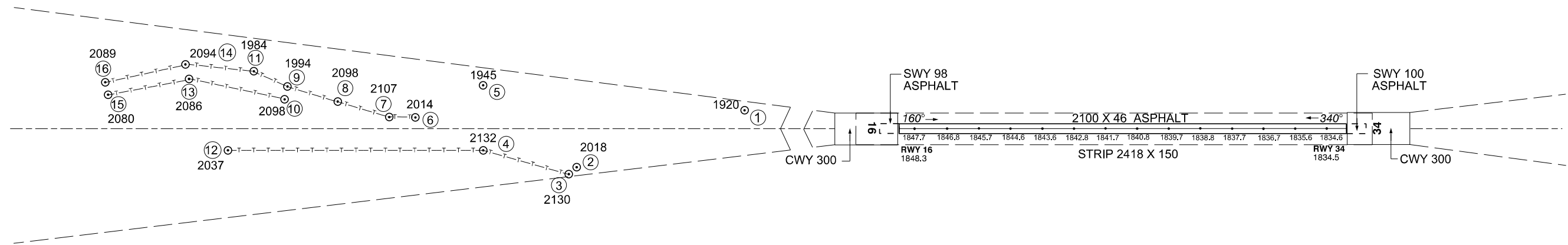
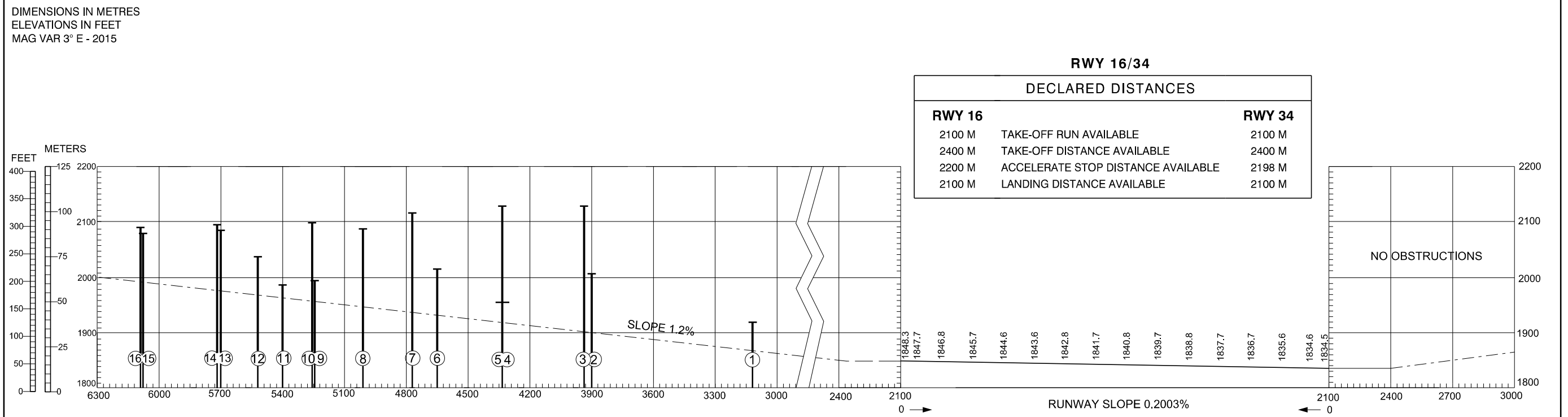
DECLARED DISTANCES

RWY	TORA	TODA	ASDA	LDA
34	2100	2400	2198	2100
16	2100	2400	2200	2100

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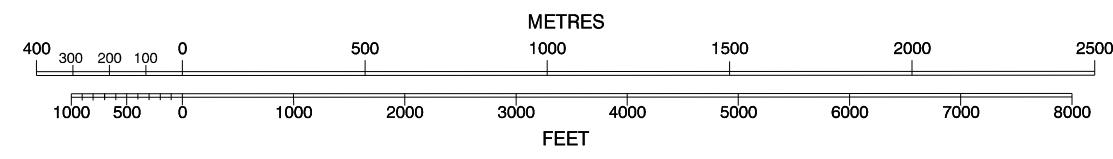
AERODROME OBSTACLE CHART - ICAO
TYPE A (OPERATING LIMITATIONS)

Riyadh/KHASHM ALAN
RWY 16/34



CHANGE : Order of Accuracy revised

LEGEND	
IDENTIFICATION NUMBER	①
POLE, TOWER, SPIRE, ANTENNA, ETC.	⊙
OVERHEAD CABLE	-T-T-T-T-



ORDER OF ACCURACY
HORIZONTAL .01 M
VERTICAL .01 M

AMENDMENT RECORD		
No.	DATE	ENTERED BY

Based on survey dated MARCH 2016

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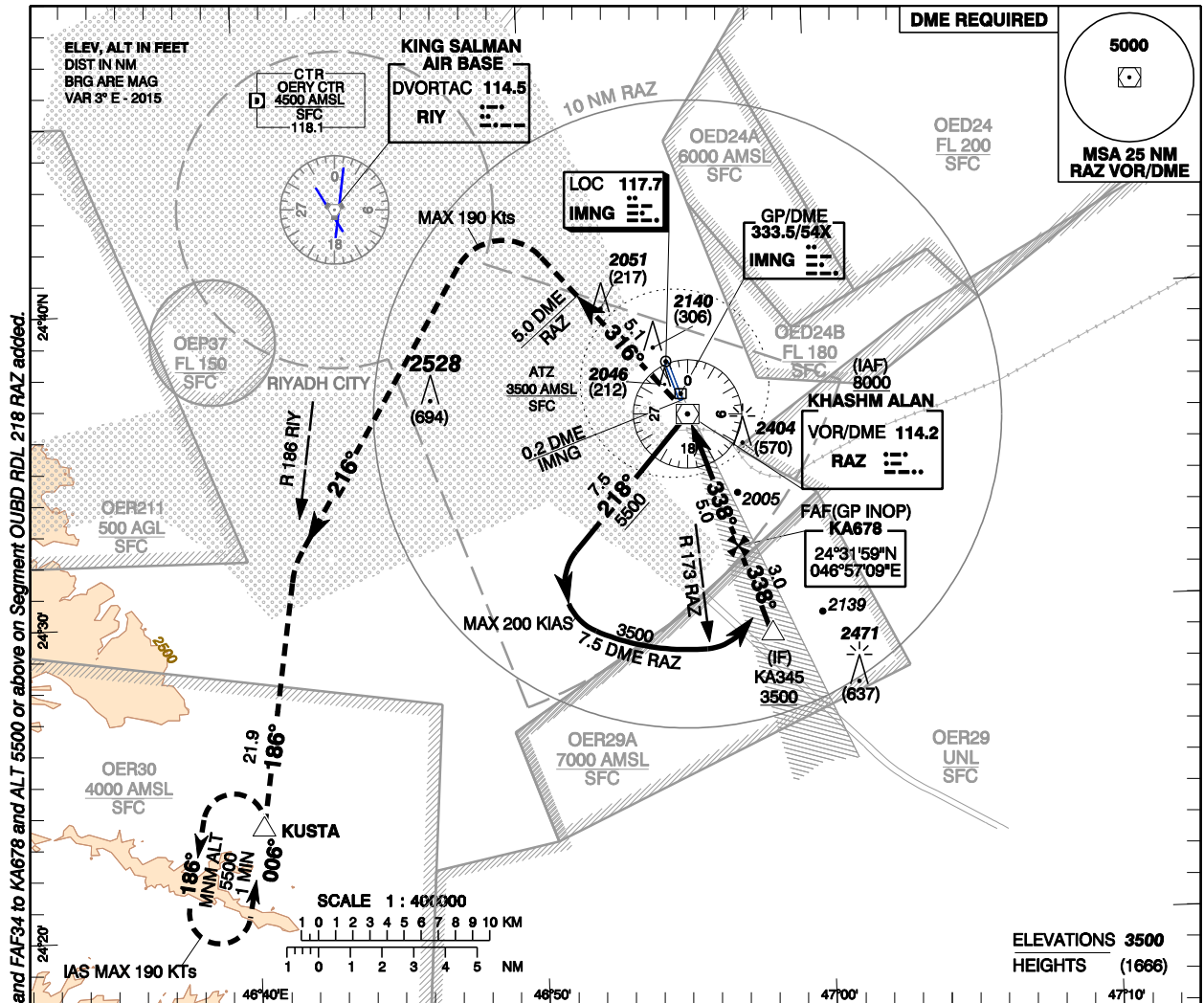
**INSTRUMENT
APPROACH
CHART - ICAO**

**AERODROME ELEV 1848 ft
HEIGHTS RELATED TO
THR RWY 34 - ELEV 1834 ft**

Riyadh APP:	120.0	126.0
TWR:	122.875	249.825
GND:	123.075	249.525

RIYADH/Khashm Alan (OEKA)

ILS or LOC RWY 34



CHANGE: Rename RAZ/IF to KA345 and FAF34 to KA678 and IAS MAX 190 Kts added on Segment OUBD RDL 218 RAZ added.

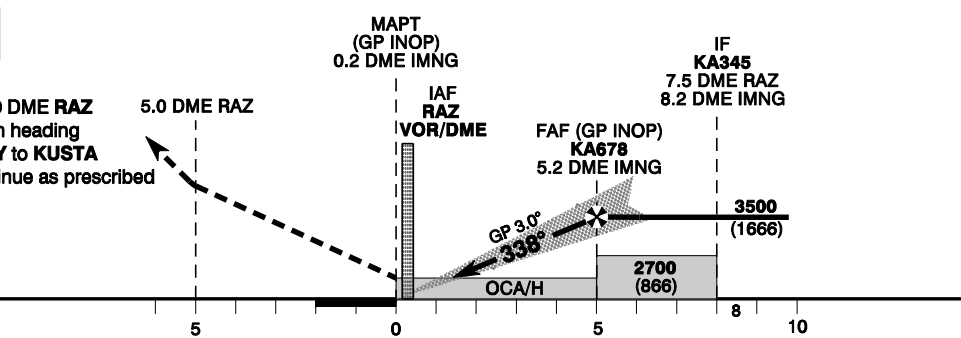
**TRANSITION ALT 13000
TRANSITION LEVEL FL150**

MISSED APPROACH
Climb on heading 316° to 5.0 DME RAZ
turn left (MAX IAS 190 Kts) on heading
216° to intercept RDL186 RIY to KUSTA
at 5500 FT and hold or continue as prescribed
by ATC.

ILS RDH 50

THR ELEV 1834

NM to/from THR RWY 34



Amdt : Original, 11 OCT 18

		ACFT CAT	A	B	C	D									
Straight-in Approach	CAT I	OCA(H)	1979(145)	1985(151)	1996(162)	2007(173)	GND SPEED	Knots	70	90	110	130	150	170	190
	GP INOP	RVR(m)	750					Rate of Descent	ft/min	370	480	580	690	800	910
Circling		OCA(H)	2340(506)				DME IMNG NM	5.2	5	4	3	2			
		VIS(m)	1900					ALT (HGT) 3.0° APCH	3500(1666)	3436(1602)	3118(1284)	2800(966)	2482(848)		
		OCA(H)	N/A												
		VIS(m)	N/A												



- CIRCLING NOT AUTHORIZED
- LOC/DME : TIMING NOT AUTHORIZED
- RVR/VIS RELATED TO CAT 1 MNM DH
- ILS CAT I MNM DH 200 FT

ICAO PANS OPS

RIYADH/Khashm Alan (OEKA)

ILS or LOC RWY 34

AERONAUTICAL DATA TABULATION

ILS approach to RWY 34 from RAZ VOR/DME		
Fix/point	Coordinates	
KA345 (IF) RDL 158/7.5 DME RAZ - 8.2 IMNG	24°29'08.5"N	046°58'14.2"E
KA678 (FAF/GP INOP) - RDL 158/5.2 DME IMNG	24°31'58.8"N	046°57'08.6"E
KUSTA (MAHF) - RDL 186/19.9 DME RIY	24°23'27.7"N	046°40'15.2"E
IMNG ILS/LOC	24°37'57.3"N	046°54'50.2"E
IMNG GP/DME	24°36'54.5"N	046°55'18.8"E
RIY DVORTAC	24°43'10.3"N	046°43'27.0"E
RAZ VOR/DME (IAF)	24°36'15.5"N	046°55'29.6"E
THR RWY 34 (MAPT)	24°36'42.60"N	046°55'19.07"E

CHANGE : Rename RAZIF to KA345 and FAF34 to KA678.

Amdt : Original, 11 OCT 18

ICAO PANS OPS

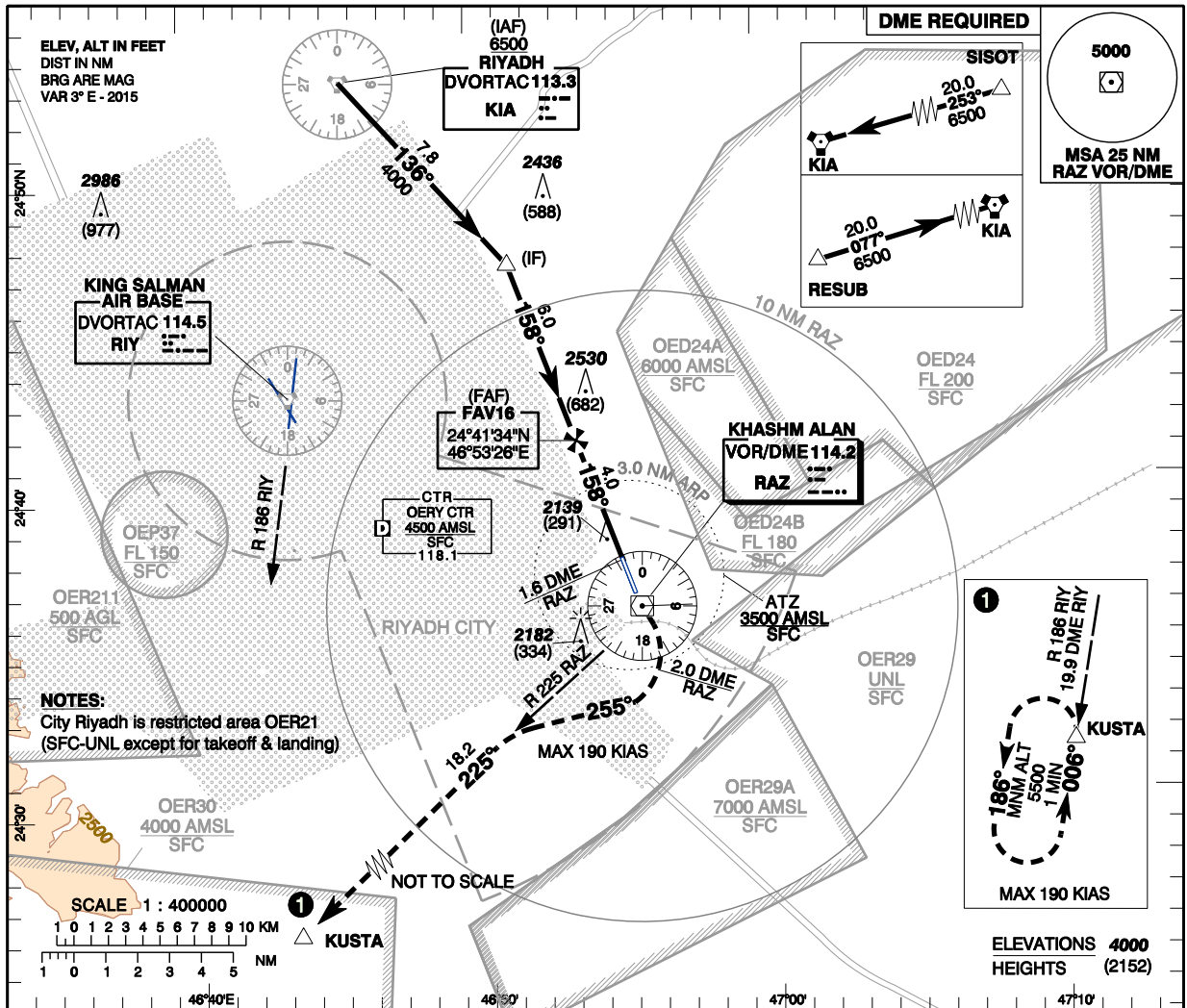
**INSTRUMENT
APPROACH
CHART - ICAO**

**AERODROME ELEV 1848 ft
HEIGHTS RELATED TO
THR RWY 16 - ELEV 1848 ft**

Riyadh APP:	120.0	126.0
TWR:	122.875	249.825
GND:	123.075	249.525

RIYADH/Khashm Alan (OEKA)

VOR RWY 16



**TRANSITION ALT 13000
TRANSITION LEVEL FL150**

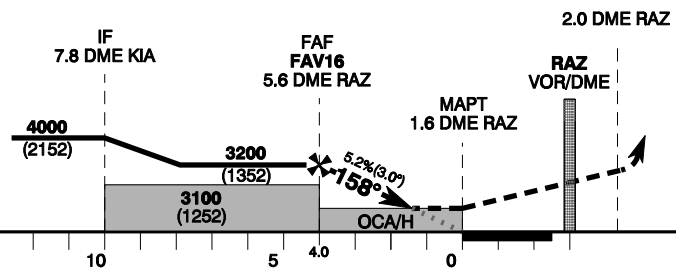
MISSED APPROACH

Climb on heading 183° to 2.0 DME RAZ at or above 2800 FT then right turn on heading 255° to intercept RDL 225 RAZ (IAS MAX 190 Kts) to KUSTA and hold at 5500 FT or continue as prescribed by ATC

TCH 50

THR ELEV 1848

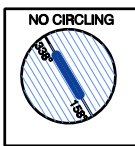
NM to/from THR RWY 16



CHANGE: FREQ table revised.

Amtd: Original, 11 OCT 18

	ACFT CAT	A	B	C	D	GND SPEED									
						Knots	70	90	110	130	150	170	190		
Straight-in Approach	VOR	OCA(H)	2390 (542)				Rate of Descent	ft/min	370	480	580	690	800	910	1010
		RVR(m)	2100												
Circling		OCA(H)	N/A				DME RAZ NM		5.6		5		4		
		VIS(m)	N/A				ALT(HGT) 5.2% APCH		3200 (1352)		3009 (1161)		2691 (843)		



- TIMING NOT AUTHORISED
- CIRCLING NOT AUTHORISED
- RVR RELATED TO MAD (H) = OCA (H)

ICAO PANS OPS

Riyadh/Khashm Alan (OEKA)

VOR RWY 16

AERONAUTICAL DATA TABULATION

VOR approach to RWY 16 from SISOT		
Fix/point	Coordinates	
IF (IF) - RDL 136/7.8 DME KIA/ RDL 338/11.6 DME RAZ	24°47'14.3"N	046°51'14.1"E
FAV16 (FAF) - RDL 338/5.6 DME RAZ	24°41'33.9"N	046°53'26.2"E
SISOT - RDL 073/20.0 DME KIA	24°57'55.1"N	047°06'56.5"E
MAPT - RDL 338/1.6 DME RAZ	24°37'46.9"N	046°54'54.2"E
KUSTA (MAHF) - RDL 225/18.9 DME RAZ	24°23'27.7"N	046°40'15.2"E
KIA DVORTAC (IAF)	24°53'10.0"N	046°45'34.0"E
RIY DVORTAC	24°43'10.3"N	046°43'27.0"E
RAZ VOR/DME	24°36'15.5"N	046°55'29.6"E
THR RWY 16	24°37'46.94"N	046°54'54.17"E

VOR approach to RWY 16 from RESUB		
Fix/point	Coordinates	
IF (IF) - RDL 136/7.8 DME KIA/ RDL 338/11.6 DME RAZ	24°47'14.3"N	046°51'14.1"E
FAV16 (FAF) - RDL 338/5.6 DME RAZ	24°41'33.9"N	046°53'26.2"E
RESUB - RDL 257/20.0 DME KIA	24°49'45.1"N	046°23'53.9"E
MAPT - RDL 338/1.6 DME RAZ	24°37'46.9"N	046°54'54.2"E
KUSTA (MAHF) - RDL 225/18.9 DME RAZ	24°23'27.7"N	046°40'15.2"E
KIA DVORTAC (IAF)	24°53'10.0"N	046°45'34.0"E
RIY DVORTAC	24°43'10.3"N	046°43'27.0"E
RAZ VOR/DME	24°36'15.5"N	046°55'29.6"E
THR RWY 16	24°37'46.94"N	046°54'54.17"E

CHANGE : New Table

Amdt: Original, 11 OCT 18

ICAO PANC OPS

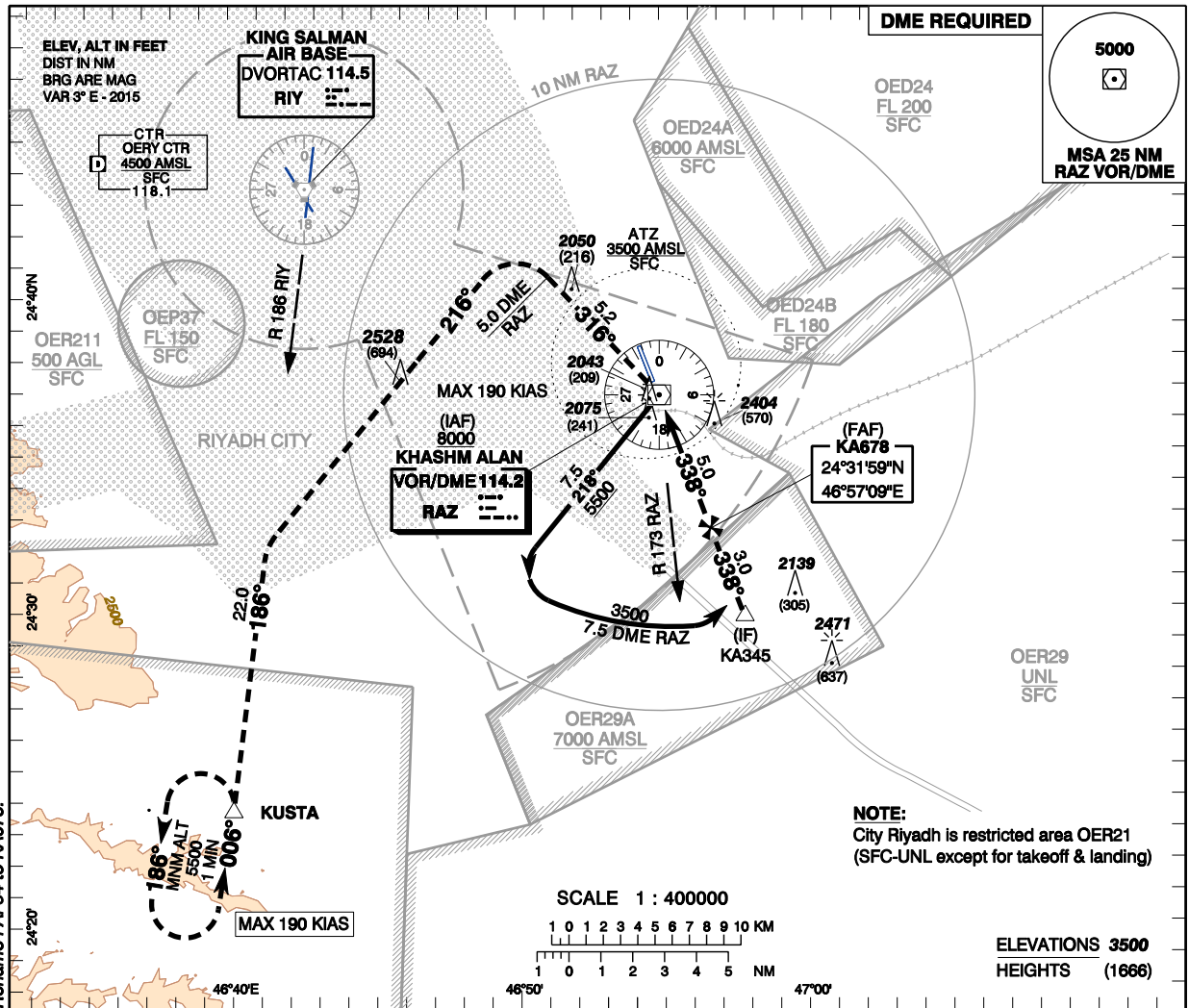
**INSTRUMENT
APPROACH
CHART - ICAO**

AERODROME ELEV 1848 ft
HEIGHTS RELATED TO
THR RWY 34 - ELEV 1834 ft

Riyadh APP:	120.0	126.0
TWR:	122.875	249.825
GND:	123.075	249.525

RIYADH/Khashm Alan (OEKA)

VOR RWY 34



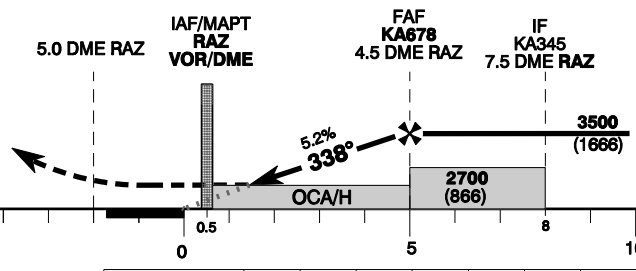
TRANSITION ALT 13000
TRANSITION LEVEL FL150

MISSED APPROACH
Climb on RDL 316 RAZ to 5.0 DME RAZ at or above 3000 FT, turn left on heading 216° (IAS MAX 190 Kts) to intercept RDL 186 RIY to KUSTA at 5500 FT and hold or continue as prescribed by ATC

TCH 50

THR ELEV 1848

N/M to/from THR RWY 34



Amdt : Original, 11 OCT 18

Straight-in Approach	ACFT CAT	A	B	C	D	GND SPEED							
						Knots	70	90	110	130	150	170	190
VOR	OCA(H)	2330 (496)				Rate of Descent	370	480	580	690	800	910	1010
	RVR(m)	1500											
Circling	OCA(H)	N/A				DME RAZ NM	4.5	4	3	2	1		
	VIS(m)	N/A				ALT (HGT) 5.2% APCH	3500 (1666)	3341 (1507)	3023 (1189)	2705 (871)	2387 (553)		



- TIMING NOT AUTHORISED
- CIRCLING NOT AUTHORISED
- RVR RELATED TO MDA(H) = OCA (H)

ICAO PANS OPS

RIYADH/Khashm Alan (OEKA)

VOR RWY 34

AERONAUTICAL DATA TABULATION

VOR approach to RWY 34 from RAZ VOR/DME		
Fix/point	Coordinates	
KA345 (IF) - RDL 158/7.5 DME RAZ	24°29'08.5"N	046°58'14.2"E
KA678 (FAF) - RDL 158/4.5 DME RAZ	24°31'58.8"N	046°57'08.6"E
KUSTA (MAHF) - RDL 186/19.9 DME RIY	24°23'27.7"N	046°40'15.2"E
RAZ VOR/DME (IAF/MAPT)	24°36'15.5"N	046°55'29.6"E
RIY DVORTACA	24°43'10.3"N	046°43'27.0"E
THR RWY 34	24°36'42.60"N	046°55'19.07"E

CHANGE : Add IF Name KA345 and Rename FAF34 to KA678.

Amdt : Original, 11 OCT 18

ICAO PANS OPS

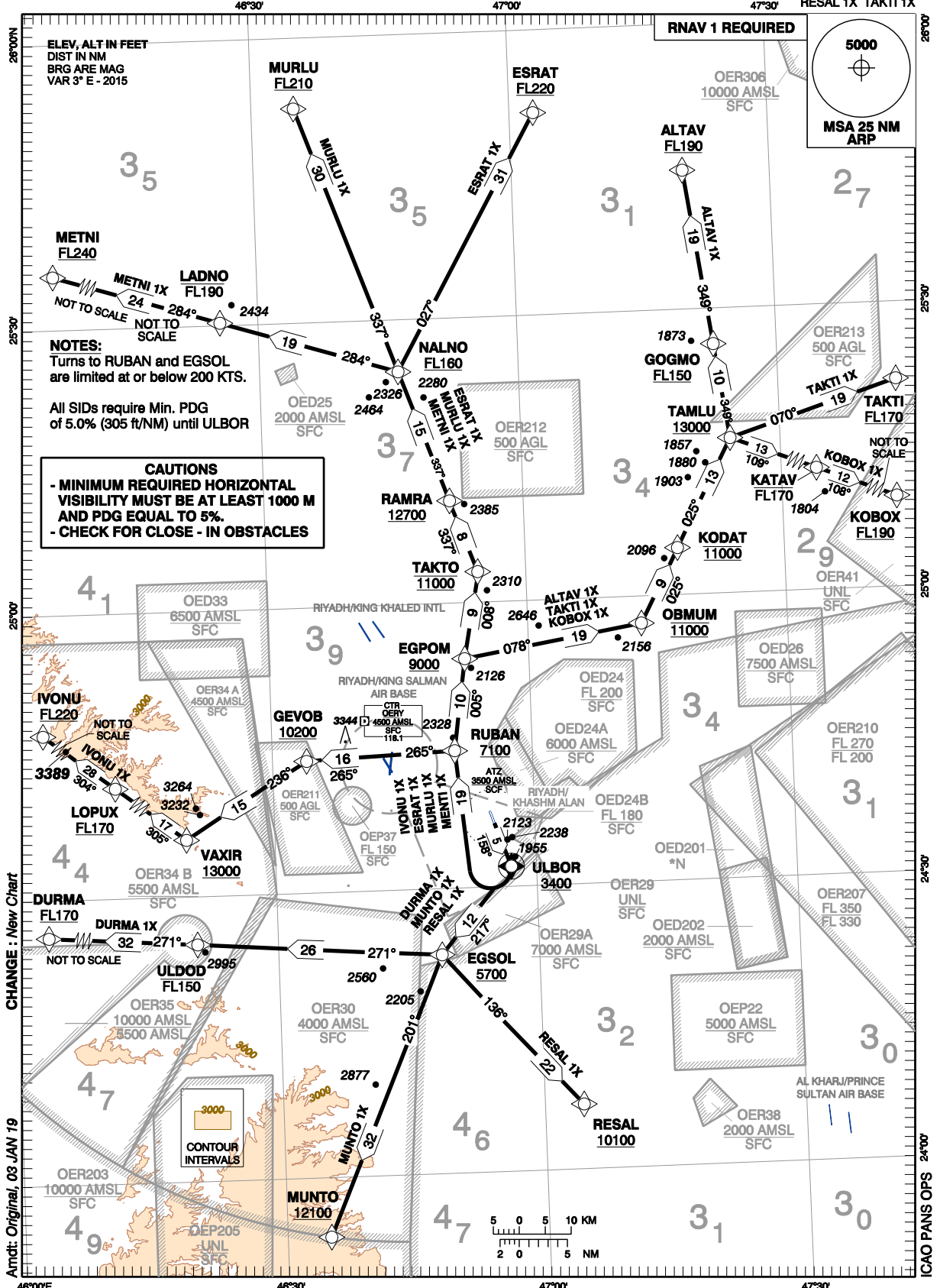
**STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

**TRANSITION ALTITUDE
13000 FT**

Riyadh APP:	120.0	126.0
TWR	122.875	249.825
GND	123.075	249.525

RIYADH/Khashm Alan (OEKA)

SID RNAV RWY 16
ALTAV 1X DURMA 1X ESRAT 1X IVONU 1X
KOBUX 1X METNI 1X MUNTO 1X MURLU 1X
RESAL 1X TAKTI 1X



**STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

RIYADH/Khashm Alan (OEKA)

SID RNAV RWY 16

ALTAV 1X DURMA 1X ESRAT 1X IVONU 1X
KOBBOX 1X METNI 1X MUNTO 1X MURLU 1X
RESAL 1X TAKTI 1X

TABULAR DESCRIPTION

SID RNAV RWY 16										
serial Number	Path Description	Waypoint Identifier	Fly Over	Course M°(T°)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (NM/h)	Navigation Specification
RESAL 1X DEPARTURE										
010	CF	ULBOR	Y	158(160.5)	-3.0	4.9	-	+3400	-200	RNAV 1
020	TF	EGSOL	-	217(220.2)	-3.0	11.8	-	+5700	-	RNAV 1
030	TF	RESAL	-	136(138.5)	-3.0	21.6	-	+10100	-	RNAV 1
MUNTO 1X DEPARTURE										
010	CF	ULBOR	Y	158(160.5)	-3.0	4.9	-	+3400	-200	RNAV 1
020	TF	EGSOL	-	217(220.2)	-3.0	11.8	-	+5700	-	RNAV 1
030	TF	MUNTO	-	201(203.3)	-3.0	31.8	-	+12100	-	RNAV 1
DURMA 1X DEPARTURE										
010	CF	ULBOR	Y	158(160.5)	-3.0	4.9	-	+3400	-200	RNAV 1
020	TF	EGSOL	-	217(220.2)	-3.0	11.8	R	+5700	-	RNAV 1
030	TF	ULDOD	-	271(274.1)	-3.0	25.7	-	-FL150	-	RNAV 1
040	TF	DURMA	-	271(273.9)	-3.0	31.6	-	+FL170	-	RNAV 1
IVONU 1X DEPARTURE										
010	CF	ULBOR	Y	158(160.5)	-3.0	4.9	-	+3400	-200	RNAV 1
020	DF	RUBAN	-	-	-3.0	18.5	R	+7100	-	RNAV 1
030	TF	GEVOB	-	265(267.8)	-3.0	15.6	-	+10200	-	RNAV 1
040	TF	VAXIR	-	236(238.5)	-3.0	15.1	-	+13000	-	RNAV 1
050	TF	LOPUX	-	305(307.4)	-3.0	17.3	-	+FL170	-	RNAV 1
060	TF	IVONU	-	304(307.2)	-3.0	27.7	-	+FL220	-	RNAV 1
KOBBOX 1X DEPARTURE										
010	CF	ULBOR	Y	158(160.5)	-3.0	4.9	-	+3400	-200	RNAV 1
020	DF	RUBAN	-	-	-3.0	18.5	R	+7100	-	RNAV 1
030	TF	EGPOM	-	005(008.3)	-3.0	9.7	-	+9000	-	RNAV 1
040	TF	OBMUM	-	078(080.8)	-3.0	18.9	-	@11000	-	RNAV 1
050	TF	KODAT	-	025(027.8)	-3.0	8.8	-	@11000	-	RNAV 1
060	TF	TAMLU	-	025(027.9)	-3.0	12.8	-	+13000	-	RNAV 1
070	TF	KATAV	-	109(111.5)	-3.0	12.5	-	-FL170	-	RNAV 1
080	TF	KOBBOX	-	108(111.1)	-3.0	12.4	-	+FL190	-	RNAV 1
TAKTI 1X DEPARTURE										
010	CF	ULBOR	Y	158(160.5)	-3.0	4.9	-	+3400	-200	RNAV 1
020	DF	RUBAN	-	-	-3.0	18.5	R	+7100	-	RNAV 1
030	TF	EGPOM	-	005(008.3)	-3.0	9.7	-	+9000	-	RNAV 1
040	TF	OBMUM	-	078(080.8)	-3.0	18.9	-	@11000	-	RNAV 1
050	TF	KODAT	-	025(027.8)	-3.0	8.8	-	@11000	-	RNAV 1
060	TF	TAMLU	-	025(027.9)	-3.0	12.8	-	+13000	-	RNAV 1
070	TF	TAKTI	-	070(072.6)	-3.0	18.5	-	+FL170	-	RNAV 1
ALTAV 1X DEPARTURE										
010	CF	ULBOR	Y	158(160.5)	-3.0	4.9	-	+3400	-200	RNAV 1
020	DF	RUBAN	-	-	-3.0	18.5	R	+7100	-	RNAV 1
030	TF	EGPOM	-	005(008.3)	-3.0	9.7	-	+9000	-	RNAV 1
040	TF	OBMUM	-	078(080.8)	-3.0	18.9	-	@11000	-	RNAV 1
050	TF	KODAT	-	025(027.8)	-3.0	8.8	-	@11000	-	RNAV 1
060	TF	TAMLU	-	025(027.9)	-3.0	12.8	-	+13000	-	RNAV 1
070	TF	GOGMO	-	349(352.1)	-3.0	10.0	-	+FL150	-	RNAV 1
080	TF	ALTAV	-	349(352.1)	-3.0	18.5	-	+FL190	-	RNAV 1
ESRAT 1X DEPARTURE										
010	CF	ULBOR	Y	158(160.5)	-3.0	4.9	-	+3400	-200	RNAV 1
020	DF	RUBAN	-	-	-3.0	18.5	-	+7100	-	RNAV 1
030	TF	EGPOM	-	005(008.3)	-3.0	9.7	-	+9000	-	RNAV 1
040	TF	TAKTO	-	008(010.6)	-3.0	9.2	-	@11000	-	RNAV 1
050	TF	RAMRA	-	337(340.3)	-3.0	8.0	-	+12700	-	RNAV 1
060	TF	NALNO	-	337(340.3)	-3.0	14.6	-	+FL160	-	RNAV 1
070	TF	ESRAT	-	027(029.6)	-3.0	30.7	-	+FL220	-	RNAV 1
MURLU 1X DEPARTURE										
010	CF	ULBOR	Y	158(160.5)	-3.0	4.9	-	+3400	-200	RNAV 1
020	DF	RUBAN	-	-	-3.0	18.5	-	+7100	-	RNAV 1
030	TF	EGPOM	-	005(008.3)	-3.0	9.7	-	+9000	-	RNAV 1
040	TF	TAKTO	-	008(010.6)	-3.0	9.2	-	@11000	-	RNAV 1
050	TF	RAMRA	-	337(340.3)	-3.0	8.0	-	+12700	-	RNAV 1
060	TF	NALNO	-	337(340.3)	-3.0	14.6	-	+FL160	-	RNAV 1
070	TF	MURLU	-	337(340.2)	-3.0	29.7	-	+FL210	-	RNAV 1
METNI 1X DEPARTURE										
010	CF	ULBOR	Y	158(160.5)	-3.0	4.9	-	+3400	-200	RNAV 1
020	DF	RUBAN	-	-	-3.0	18.5	-	+7100	-	RNAV 1
030	TF	EGPOM	-	005(008.3)	-3.0	9.7	-	+9000	-	RNAV 1
040	TF	TAKTO	-	008(010.6)	-3.0	9.2	-	@11000	-	RNAV 1
050	TF	RAMRA	-	337(340.3)	-3.0	8.0	-	+12700	-	RNAV 1
060	TF	NALNO	-	337(340.3)	-3.0	14.6	-	+FL160	-	RNAV 1
070	TF	LADNO	-	284(287.1)	-3.0	19.4	-	-FL190	-	RNAV 1
080	TF	METNI	-	284(286.9)	-3.0	23.7	-	+FL240	-	RNAV 1

CHANGE - New Table
Amdt: Original, 03 JAN 19

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**STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

RIYADH/Khashm Alan (OEKA)

SID RNAV RWY 16

ALTAV 1X DURMA 1X ESRAT 1X IVONU 1X
KOBBOX 1X METNI 1X MUNTO 1X MURLU 1X
RESAL 1X TAKTI 1X

WAYPOINT LIST

SID RNAV RWY 16					
Waypoint Identifier	Coordinates		Waypoint Identifier	Coordinates	
DURMA	24°27'10.0"N	045°46'10.0"E	RESAL	24°08'49.0"N	047°04'27.0"E
IVONU	25°03'23.0"N	045°40'30.0"E	TAKTI	25°21'53.0"N	047°43'40.0"E
KOBBOX	25°07'16.0"N	047°49'46.0"E	MURLU	25°52'34.0"N	046°34'56.0"E
MUNTO	23°53'45.0"N	046°34'59.0"E	ESRAT	25°51'17.0"N	047°02'47.0"E
EGSOL	24°23'03.1"N	046°48'46.4"E	ALTAV	25°44'38.0"N	047°19'53.0"E
ULDOD	24°24'57.5"N	046°20'42.5"E	METNI	25°37'15.0"N	046°00'31.0"E
KATAV	25°11'44.6"N	047°36'59.7"E	GOGMO	25°28'15.9"N	047°22'41.9"E
RUBAN	24°44'28.1"N	046°51'02.7"E	TAKTO	25°03'13.5"N	046°54'28.8"E
VAXIR	24°35'59.5"N	046°19'48.5"E	RAMRA	25°10'46.3"N	046°51'28.8"E
LOPUX	24°46'32.9"N	046°04'43.3"E	NALNO	25°24'32.1"N	046°46'03.2"E
EGPOM	24°54'06.7"N	046°52'34.7"E	LADNO	25°30'17.0"N	046°25'35.6"E
OBMUM	24°57'10.5"N	047°13'07.7"E	ULBOR	24°32'08.5"N	046°57'05.8"E
KODAT	25°04'57.7"N	047°17'37.9"E	GEVOB	24°43'53.3"N	046°33'56.1"E
TAMLU	25°16'19.0"N	047°24'13.0"E			

ROUTING

SID	TEXT
RESAL 1X	(Min PDG 5.0% until ULBOR) Climb on runway heading to ULBOR at or above 3400 FT. Turn right on track 217° to EGSOL at or above 5700 FT then continue to RESAL on track 136° at or above 10100 FT.
MUNTO 1X	(Min PDG 5.0% until ULBOR) Climb on runway heading to ULBOR at or above 3400 FT. Turn right on track 217° to EGSOL at or above 5700 FT then continue to MUNTO on track 201° at or above 12100 FT.
DURMA 1X	(Min PDG 5.0% until ULBOR) Climb on runway heading to ULBOR at or above 3400 FT. Turn right on track 217° to EGSOL at or above 5700 FT then continue to ULDOD on track 271° at or below FL150. Proceed on track 271° to DURMA at or above FL170.
IVONU 1X	(Min PDG 5.0% until ULBOR) Climb on runway heading to ULBOR at or above 3400 FT. Turn right direct to RUBAN at or above 7100 FT then proceed on track 265° to GEVOB at or above 10200 FT. Track 236° to VAXIR at or above 13000 FT then turn right on track 305° to LOPUX at or above FL170. Continue climbing to IVONU on track 304° at or above FL220.
KOBBOX 1X	(Min PDG 5.0% until ULBOR) Climb on runway heading to ULBOR at or above 3400 FT. Turn right direct to RUBAN at or above 7100 FT then proceed on track 005° to EGPOM at or above 9000 FT. Track 078° to OBMUM at 11000 FT, track to KODAT on track 025° at 11000 FT then continue climbing to TAMLU at or above 13000 FT. Proceed to KATAV at or below FL170 then to KOBBOX on track 108° at or above FL190.
TAKTI 1X	(Min PDG 5.0% until ULBOR) Climb on runway heading to ULBOR at or above 3400 FT. Turn right direct to RUBAN at or above 7100 FT then proceed on track 005° to EGPOM at or above 9000 FT. Track 078° to OBMUM at 11000 FT then track 025° to proceed to KODAT at 11000 FT. Then TAMLU at or above 13000 FT then to TAKTI on track 070° at or above FL170.
ALTAV 1X	(Min PDG 5.0% until ULBOR) Climb on runway heading to ULBOR at or above 3400 FT. Turn right direct to RUBAN at or above 7100 FT then proceed on track 005° to EGPOM at or above 9000 FT. Track 078° to OBMUM at 11000 FT then track 025° to proceed to KODAT at 11000 FT. Then TAMLU on track 025° at or above 13000 FT. Turn left on track 349° crossing GOGMO at or above FL150 and then proceed to ALTAV at or above FL190.
ESRAT 1X	(Min PDG 5.0% until ULBOR) Climb on runway heading to ULBOR at or above 3400 FT. Turn right direct to RUBAN at or above 7100 FT then proceed on track 005° to EGPOM at or above 9000 FT. Continue climbing to TAKTO at 11000 FT on track 008° to RAMRA at or above 12700 FT. Climb to NALNO on track 337° at or above FL160 and then proceed to ESRAT on track 027° at or above FL220.
MURLU 1X	(Min PDG 5.0% until ULBOR) Climb on runway heading to ULBOR at or above 3400 FT. Turn right direct to RUBAN at or above 7100 FT then proceed on track 005° to EGPOM at or above 9000 FT. Continue climbing to TAKTO at 11000 FT on track 008° to RAMRA at or above 12700 FT. Climb to NALNO on track 337° at or above FL160 and then proceed to MURLU on track 337° at or above FL210.
METNI 1X	(Min PDG 5.0% until ULBOR) Climb on runway heading to ULBOR at or above 3400 FT. Turn right direct to RUBAN at or above 7100 FT then proceed on track 005° to EGPOM at or above 9000 FT. Continue climbing to TAKTO at 11000 FT on track 008° to RAMRA at or above 12700 FT. Climb to NALNO on track 337° at or above FL160 and then proceed to LADNO at or below FL190 on track 284°. Climb to METNI on track 284° at or above FL240

CHANGE : Routing of SID KOBBOX 1X & ALTAV 1X revised

Amndt: Original, 03 JAN 19

ICAO PANS OPS

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**STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

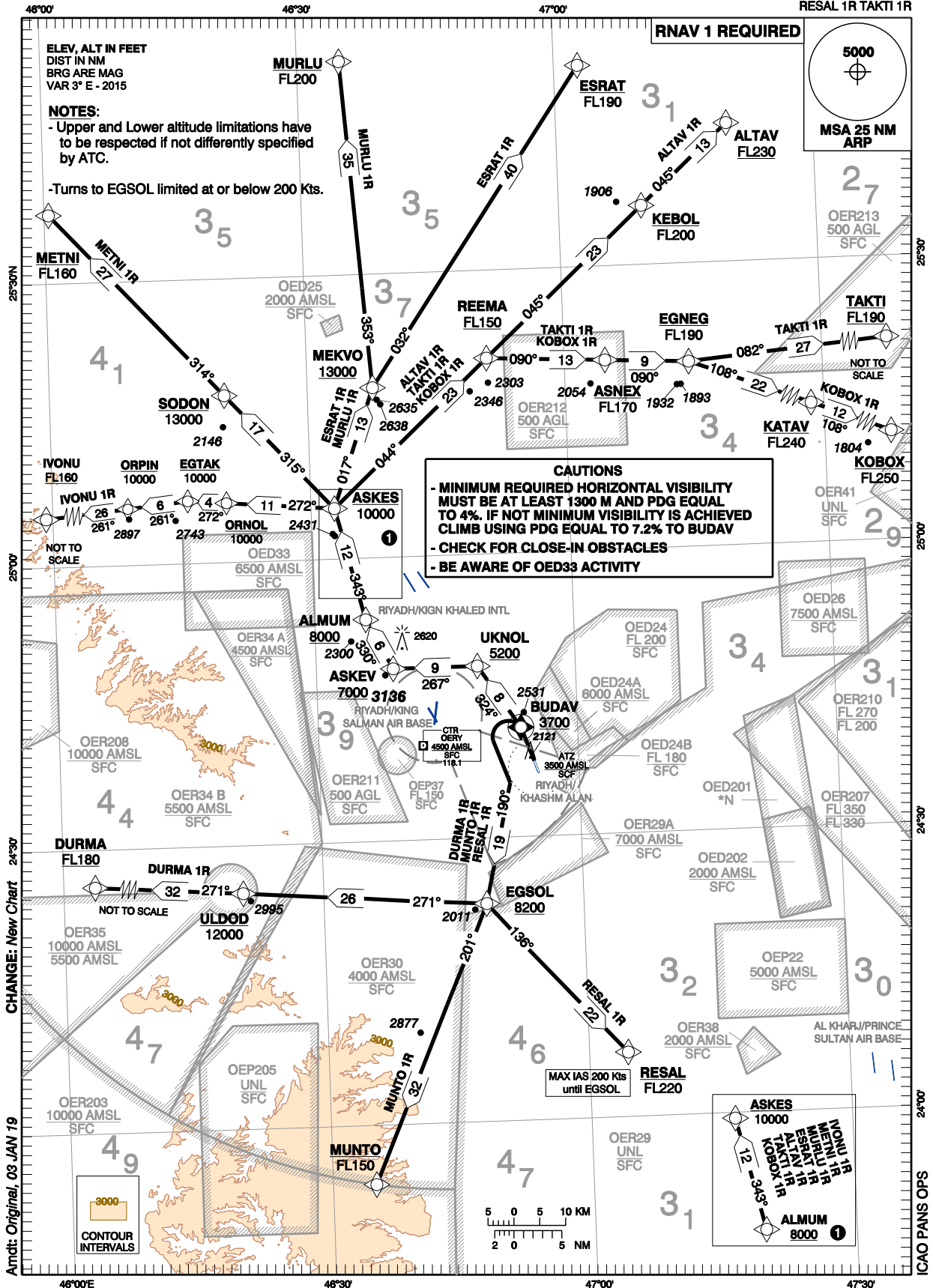
**TRANSITION ALTITUDE
13000 FT**

Riyadh APP:	120.0	126.0
TWR	122.875	249.825
GND	123.075	249.525

RIYADH/Khashm Alan (OEKA)

SID RNAV RWY 34

ALTAV 1R DURMA 1R ESRAT 1R IVONU 1R
KOBOL 1R METNI 1R MUNTO 1R MURLU 1R
RESAL 1R TAKTI 1R



**STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

RIYADH/Khashm Alan (OEKA)

SID RNAV RWY 34
ALTAV 1R DURMA 1R ESRAT 1R IVONU 1R
KOBUX 1R METNI 1R MUNTO 1R MURLU 1R
RESAL 1R TAKTI 1R

TABULAR DESCRIPTION

SID RNAV RWY 34										
serial Number	Path Description	Waypoint Identifier	Fly Over	Course M°(T°)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (NM/h)	Navigation Specification
MUNTO 1R DEPARTURE										
010	DF	BUDAV	Y	-	-3.0	4.0	-	+3700	-200	RNAV 1
020	TF	EGSOL	-	190(193.0)	-3.0	18.9	L	+8200	-200	RNAV 1
030	TF	MUNTO	-	201(203.3)	-3.0	31.8	-	-FL150	-	RNAV 1
RESAL 1R DEPARTURE										
010	DF	BUDAV	Y	-	-3.0	4.0	-	+3700	-200	RNAV 1
020	TF	EGSOL	-	190(193.0)	-3.0	18.9	-	+8200	-200	RNAV 1
030	TF	RESAL	-	136(138.5)	-3.0	21.6	-	-FL220	-	RNAV 1
DURMA 1R DEPARTURE										
010	DF	BUDAV	Y	-	-3.0	4.0	-	+3700	-200	RNAV 1
020	TF	EGSOL	-	190(193.0)	-3.0	18.9	-	+8200	-200	RNAV 1
030	TF	ULDOD	-	271(274.1)	-3.0	25.7	-	-12000	-	RNAV 1
040	TF	DURMA	-	271(273.9)	-3.0	31.6	-	+FL180	-	RNAV 1
ALTAV 1R DEPARTURE										
010	DF	BUDAV	Y	-	-3.0	4.0	-	+3700	-	RNAV 1
020	TF	UKNOL	-	324(326.5)	-3.0	7.9	-	+5200	-	RNAV 1
030	TF	ASKEV	-	267(270.0)	-3.0	8.9	-	+7000	-	RNAV 1
040	TF	ALMUM	-	330(332.7)	-3.0	5.9	-	+8000	-	RNAV 1
050	TF	ASKES	-	343(346.2)	-3.0	12.4	-	-10000	-	RNAV 1
060	TF	REEMA	-	044(047.3)	-3.0	22.5	-	+FL150	-	RNAV 1
070	TF	KEBOL	-	045(047.7)	-3.0	22.9	-	-FL200	-	RNAV 1
080	TF	ALTAV	-	045(047.8)	-3.0	12.5	-	+FL230	-	RNAV 1
TAKTI 1R DEPARTURE										
010	DF	BUDAV	Y	-	-3.0	4.0	-	+3700	-	RNAV 1
020	TF	UKNOL	-	324(326.5)	-3.0	7.9	-	+5200	-	RNAV 1
030	TF	ASKEV	-	267(270.0)	-3.0	8.9	-	+7000	-	RNAV 1
040	TF	ALMUM	-	330(332.7)	-3.0	5.9	-	+8000	-	RNAV 1
050	TF	ASKES	-	343(346.2)	-3.0	12.2	-	-10000	-	RNAV 1
060	TF	REEMA	-	044(047.3)	-3.0	22.5	-	+FL150	-	RNAV 1
070	TF	ASNEX	-	090(092.9)	-3.0	12.4	-	-FL170	-	RNAV 1
080	TF	EGNEG	-	090(093.1)	-3.0	8.8	-	-FL190	-	RNAV 1
090	TF	TAKTI	-	082(085.1)	-3.0	26.6	-	@FL190	-	RNAV 1
KOBUX 1R DEPARTURE										
010	DF	BUDAV	Y	-	-3.0	4.0	-	+3700	-	RNAV 1
020	TF	UKNOL	-	324(326.5)	-3.0	7.9	-	+5200	-	RNAV 1
030	TF	ASKEV	-	267(270.0)	-3.0	8.9	-	+7000	-	RNAV 1
040	TF	ALMUM	-	330(332.7)	-3.0	5.9	-	+8000	-	RNAV 1
050	TF	ASKES	-	343(346.2)	-3.0	12.2	-	-10000	-	RNAV 1
060	TF	REEMA	-	044(047.3)	-3.0	22.5	-	+FL150	-	RNAV 1
070	TF	ASNEX	-	090(092.9)	-3.0	12.4	-	-FL170	-	RNAV 1
080	TF	EGNEG	-	090(093.1)	-3.0	8.8	-	-FL190	-	RNAV 1
090	TF	KATAV	-	108(111.0)	-3.0	21.9	-	-FL240	-	RNAV 1
100	TF	KOBUX	-	108(111.1)	-3.0	12.4	-	-FL250	-	RNAV 1
MURLU 1R DEPARTURE										
010	DF	BUDAV	Y	-	-3.0	4.0	-	+3700	-	RNAV 1
020	TF	UKNOL	-	324(326.5)	-3.0	7.9	-	+5200	-	RNAV 1
030	TF	ASKEV	-	267(270.0)	-3.0	8.9	-	+7000	-	RNAV 1
040	TF	ALMUM	-	330(332.7)	-3.0	5.9	-	+8000	-	RNAV 1
050	TF	ASKES	-	343(346.2)	-3.0	12.2	-	-10000	-	RNAV 1
060	TF	MEKVO	-	017(018.4)	-3.0	13.4	-	+13000	-	RNAV 1
070	TF	MURLU	-	353(356.0)	-3.0	34.6	-	-FL200	-	RNAV 1
ESRAT 1R DEPARTURE										
010	DF	BUDAV	Y	-	-3.0	4.0	-	+3700	-	RNAV 1
020	TF	UKNOL	-	324(326.5)	-3.0	7.9	-	+5200	-	RNAV 1
030	TF	ASKEV	-	267(270.0)	-3.0	8.9	-	+7000	-	RNAV 1
040	TF	ALMUM	-	330(332.7)	-3.0	5.9	-	+8000	-	RNAV 1
050	TF	ASKES	-	343(346.2)	-3.0	12.2	-	-10000	-	RNAV 1
060	TF	MEKVO	-	017(018.4)	-3.0	13.4	-	+13000	-	RNAV 1
070	TF	ESRAT	-	032(034.5)	-3.0	40.3	-	-FL190	-	RNAV 1
METNI 1R DEPARTURE										
010	DF	BUDAV	Y	-	-3.0	4.0	-	+3700	-	RNAV 1
020	TF	UKNOL	-	324(326.5)	-3.0	7.9	-	+5200	-	RNAV 1
030	TF	ASKEV	-	267(270.0)	-3.0	8.9	-	+7000	-	RNAV 1
040	TF	ALMUM	-	330(332.7)	-3.0	5.9	-	+8000	-	RNAV 1
050	TF	ASKES	-	343(346.2)	-3.0	12.2	-	-10000	-	RNAV 1
060	TF	SODON	-	315(317.5)	-3.0	16.6	-	-13000	-	RNAV 1
070	TF	METNI	-	314(317.4)	-3.0	26.5	-	-FL160	-	RNAV 1
IVONU 1R DEPARTURE										
010	DF	BUDAV	Y	-	-3.0	4.0	-	+3700	-	RNAV 1
020	TF	UKNOL	-	324(326.5)	-3.0	7.9	-	+5200	-	RNAV 1
030	TF	ASKEV	-	267(270.0)	-3.0	8.9	-	+7000	-	RNAV 1
040	TF	ALMUM	-	330(332.9)	-3.0	5.9	-	+8000	-	RNAV 1
050	TF	ASKES	-	343(346.2)	-3.0	12.2	-	-10000	-	RNAV 1

CHANGE: RESAL 1R Departure speed limit to WPT EGSOL added

Amdt: Original, 03 JAN 19

ICAO PANS OPS

**STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

RIYADH/Khashm Alan (OEKA)

SID RNAV RWY 34
ALTAV 1R DURMA 1R ESRAT 1R IVONU 1R
KOBUX 1R METNI 1R MUNTO 1R MURLU 1R
RESAL 1R TAKTI 1R

TABULAR DESCRIPTION										
SID RNAV RWY 34										
serial Number	Path Description	Waypoint Identifier	Fly Over	Course M°(T°)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (NM/h)	Navigation Specification
IVONU 1R DEPARTURE										
060	TF	ORNOL	-	272(274.7)	-3.0	11.4	-	-10000	-	RNAV 1
070	TF	EGTAK	-	272(274.6)	-3.0	4.1	-	-10000	-	RNAV 1
080	TF	ORPIN	-	261(264.2)	-3.0	6.4	-	-10000	-	RNAV 1
090	TF	IVONU	-	261(264.1)	-3.0	25.8	-	+FL160	-	RNAV 1

WAYPOINT LIST					
SID RNAV RWY 34					
Waypoint Identifier	Coordinates		Waypoint Identifier	Coordinates	
BUDAV	24°41'33.9"N	046°53'26.3"E	MURLU	25°52'34.0"N	046°34'56.0"E
MUNTO	23°53'45.0"N	046°34'59.0"E	MEKVO	25°17'59.1"N	046°37'36.1"E
RESAL	24°06'49.0"N	047°04'27.0"E	ESRAT	25°51'17.0"N	047°02'47.0"E
EGSOL	24°23'03.1"N	046°48'46.4"E	SODON	25°17'39.8"N	046°20'19.9"E
ULDOD	24°24'57.5"N	046°20'42.5"E	METNI	25°37'15.0"N	046°00'31.0"E
DURMA	24°27'10.0"N	045°46'10.0"E	UKNOL	24°48'11.3"N	046°48'38.5"E
KEBOL	25°36'14.4"N	047°09'37.9"E	ASKEV	24°48'12.0"N	046°38'53.9"E
ALTAV	25°44'38.0"N	047°19'53.0"E	ALMUM	24°53'29.3"N	046°35'54.3"E
ASNEX	25°20'02.9"N	047°04'44.4"E	ASKES	25°05'21.1"N	046°32'42.5"E
TAKTI	25°21'53.0"N	047°43'40.0"E	ORNOL	25°08'17.3"N	046°20'12.1"E
REEMA	25°20'41.5"N	046°50'57.9"E	ORPIN	25°05'58.8"N	046°08'44.2"E
EGNEG	25°19'34.8"N	047°14'28.2"E	EGTAK	25°06'37.2"N	046°15'42.7"E
KATAV	25°11'44.6"N	047°36'59.7"E	IVONU	25°03'23.0"N	045°40'30.0"E
KOBUX	25°07'16.0"N	047°49'46.0"E			

ROUTING	
SID	TEXT
RESAL 1R	(Min PDG 7.2% until BUDAV) Climb direct to BUDAV at or above 3700 FT then turn left on track 190° to EGSOL at or above 8200 FT (MAX IAS 200Kts). Continue on track 136° to RESAL at or below FL220
MUNTO 1R	(Min PDG 7.2% until BUDAV) Climb direct to BUDAV at or above 3700 FT then turn left on track 190° to EGSOL at or above 8200 FT (MAX IAS 200Kts) . Continue on track 201° to MUNTO at or below FL150.
DURMA 1R	(Min PDG 7.2% until BUDAV) Climb direct to BUDAV at or above 3700 FT then turn left on track 190° to EGSOL at or above 8200 FT (MAX IAS 200Kts) . Continue on track 271° to ULDOD at or below 12000 FT then proceed to DURMA on track 271° at or above FL180.
ALTAV 1R	(Min PDG 7.2% until BUDAV) Climb direct to BUDAV at or above 3700 FT continue on track 324° to UKNOL at or above 5200 FT. Track 267° to ASKEV at or above 7000 FT and then turn right to ALMUM at or above 8000 FT on track 330°. Continue climbing to ASKES at or below 10000 FT on track 343° and then REEMA at or above FL150 on track 044°. Continue direct to KEBOL at or below FL200 on track 045°. Proceed to ALTAV on track 045° at or above FL230.
TAKTI 1R	(Min PDG 7.2% until BUDAV) Climb direct to BUDAV at or above 3700 FT continue on track 324° to UKNOL at or above 5200 FT. Track 267° to ASKEV at or above 7000 FT and then turn right to ALMUM at or above 8000 FT on track 330°. Continue climbing to ASKES at or below 10000 FT on track 343° and then REEMA at or above FL150 on track 044°. Continue direct to ASNEX at or below FL170 and then to EGNEG at or below FL190 on track 090°. Track 082° to TAKTI at FL190.
KOBUX 1R	(Min PDG 7.2% until BUDAV) Climb direct to BUDAV at or above 3700 FT continue on track 324° to UKNOL at or above 5200 FT. Track 267° to ASKEV at or above 7000 FT and then turn right to ALMUM at or above 8000 FT on track 330°. Continue climbing to ASKES at or below 10000 FT on track 343° and then REEMA at or above FL150 on track 044°. Continue direct to ASNEX at or below FL170 and then to EGNEG at or below FL190 on track 090°. Track 108° to KATAV at or below FL240 and then track 108° to KOBUX at or below FL250.
ESRAT 1R	(Min PDG 7.2% until BUDAV) Climb direct to BUDAV at or above 3700 FT continue on track 324° to UKNOL at or above 5200 FT. Track 267° to ASKEV at or above 7000 FT and then turn right to ALMUM at or above 8000 FT on track 330°. Continue climbing to ASKES at or below 10000 FT on track 343° and then track 017° to MEKVO at or above 13000 FT. Continue climbing to ESRAT on track 032° at or below FL190.
MURLU 1R	(Min PDG 7.2% until BUDAV) Climb direct to BUDAV at or above 3700 FT continue on track 324° to UKNOL at or above 5200 FT. Track 267° to ASKEV at or above 7000 FT and then turn right to ALMUM at or above 8000 FT on track 330°. Continue climbing to ASKES at or below 10000 FT on track 343° and then track 017° to MEKVO at or above 13000 FT. Continue climbing to MURLU on track 353° at or below FL200.
METNI 1R	(Min PDG 7.2% until BUDAV) Climb direct to BUDAV at or above 3700 FT continue on track 324° to UKNOL at or above 5200 FT. Track 267° to ASKEV at or above 7000 FT and then turn right to ALMUM at or above 8000 FT on track 330°. Continue climbing to ASKES at or below 10000 FT on track 343° and then track 315° to SODON at or below 13000 FT. Continue climbing to METNI on track 314° at or below FL160.
IVONU 1R	(Min PDG 7.2% until BUDAV) Climb direct to BUDAV at or above 3700 FT continue on track 324° to UKNOL at or above 5200 FT. Track 267° to ASKEV at or above 7000 FT and then turn right to ALMUM at or above 8000 FT on track 330°. Continue climbing to ASKES at or below 10000 FT on track 343° and then track 272° to EGTAK at or below 10000 FT passing through ORNOL at or below 10000 FT. Track 261° to ORPIN at or below 10000 FT . Continue to IVONU on track 261° at or above FL160.

CHANGE: ALT of WPT RESAL & SID IVONU 1R Revised

Amdt: Original, 03 JAN 19

ICAO PANS OPS

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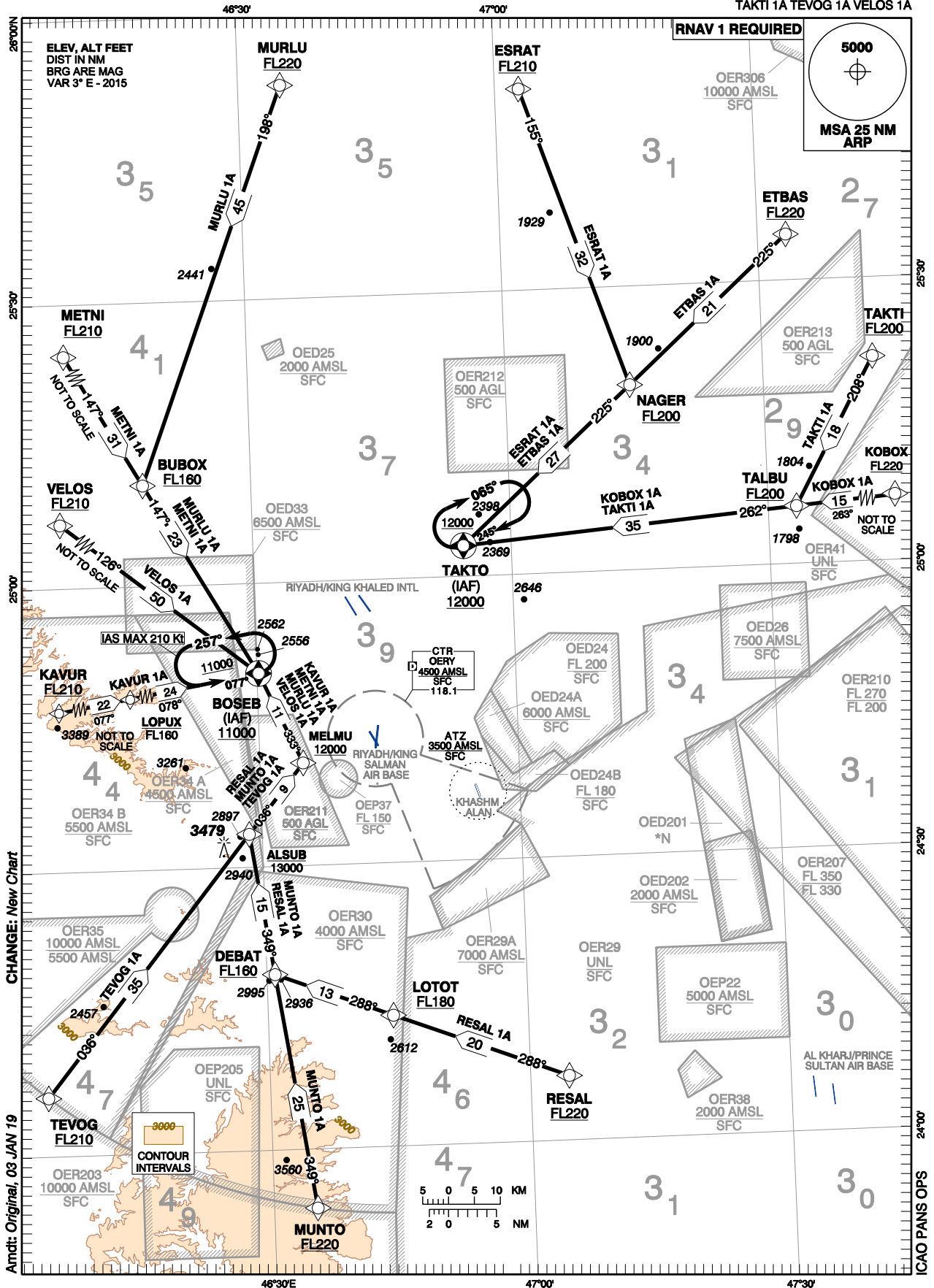
**STANDARD ARRIVAL CHART -
INSTRUMENT (STAR) - ICAO**

**TRANSITION LEVEL
FL150**

Riyadh APP: 120.0	126.0
TWR	122.875 249.825
GND	123.075 249.525

RIYADH/Khashm Alan (OEKA)

STAR RNAV RWY 16/34
ESRAT 1A ETBAS 1A KAVUR 1A KOBOX 1A
METNI 1A MUNTO 1A MURLU 1A RESAL 1A
TAKTI 1A TEVOG 1A VELOS 1A



**STANDARD DEPARTURE CHART -
INSTRUMENT (STAR) - ICAO**

RIYADH/Khashm Alan (OEKA)

STAR RNAV RWY 16/34

ESRAT 1A ETBAS 1A KAVUR 1A KOBOX 1A
METNI 1A MUNTO 1A MURLU 1A RESAL 1A
TAKTI 1A TEVOG 1A VELOS 1A

TABULAR DESCRIPTION

STAR RNAV RWY 16/34										
serial Number	Path Description	Waypoint Identifier	Fly Over	Course M°(T°)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (NM/h)	Navigation Specification
ETBAS 1A ARRIVAL										
010	IF	ETBAS	-	-	-	-	-	+FL220	-	RNAV 1
020	TF	NAGER	-	225(228.2)	-3.0	20.5	-	+FL200	-	RNAV 1
030	TF	TAKTO	-	225(228.0)	-3.0	26.8	-	+12000	-	RNAV 1
040	HM	TAKTO	Y	245(247.9)	-3.0	1 min	R	+12000	-	RNAV 1
ESRAT 1A ARRIVAL										
010	IF	ESRAT	-	-	-	-	-	+FL210	-	RNAV 1
020	TF	NAGER	-	155(157.7)	-3.0	32.4	-	+FL200	-	RNAV 1
030	TF	TAKTO	-	255(228.0)	-3.0	26.8	-	+12000	-	RNAV 1
040	HM	TAKTO	Y	245(247.9)	-3.0	1 min	R	+12000	-	RNAV 1
KAVUR 1A ARRIVAL										
010	IF	KAVUR	-	-	-	-	-	+FL210	-	RNAV 1
020	TF	LOPUX	-	077(080.3)	-3.0	22.3	-	-FL180	-	RNAV 1
030	TF	BOSEB	-	078(080.5)	-3.0	23.5	-	+11000	-	RNAV 1
040	HM	BOSEB	Y	077(080.1)	-3.0	1 min	L	+11000	-210	RNAV 1
KOBOX 1A ARRIVAL										
010	IF	KOBOX	-	-	-	-	-	+FL220	-	RNAV 1
020	TF	TALBU	-	263(265.5)	-3.0	15.0	-	+FL200	-	RNAV 1
030	TF	TAKTO	-	262(265.2)	-3.0	35.4	-	+12000	-	RNAV 1
040	HM	TAKTO	Y	245(247.9)	-3.0	1 min	R	+12000	-	RNAV 1
METNI 1A ARRIVAL										
010	IF	METNI	-	-	-	-	-	+FL210	-	RNAV 1
020	TF	BUBOX	-	147(150.0)	-3.0	30.6	-	+FL180	-	RNAV 1
030	TF	BOSEB	-	147(150.2)	-3.0	23.2	-	+11000	-	RNAV 1
040	HM	BOSEB	Y	077(080.1)	-3.0	1 min	L	+11000	-210	RNAV 1
MUNTO 1A ARRIVAL										
010	IF	MUNTO	-	-	-	-	-	+FL220	-	RNAV 1
020	TF	DEBAT	-	349(351.4)	-3.0	25.0	-	+FL180	-	RNAV 1
030	TF	ALSUB	-	349(351.5)	-3.0	15.0	-	-13000	-	RNAV 1
040	TF	MELMU	-	036(039.0)	-3.0	9.4	-	+12000	-	RNAV 1
050	TF	BOSEB	-	333(335.4)	-3.0	10.6	-	+11000	-	RNAV 1
060	HM	BOSEB	Y	077(080.1)	-3.0	1 min	L	+11000	-210	RNAV 1
MURLU 1A ARRIVAL										
010	IF	MURLU	-	-	-	-	-	+FL220	-	RNAV 1
020	TF	BUBOX	-	198(200.7)	-3.0	44.7	-	+FL180	-	RNAV 1
030	TF	BOSEB	-	147(150.2)	-3.0	23.2	-	+11000	-	RNAV 1
040	HM	BOSEB	Y	077(080.1)	-3.0	1 min	L	+11000	-210	RNAV 1
RESAL 1A ARRIVAL										
010	IF	RESAL	-	-	-	-	-	+FL220	-	RNAV 1
020	TF	LOTOT	-	288(290.9)	-3.0	19.6	-	+FL180	-	RNAV 1
030	TF	DEBAT	-	288(290.8)	-3.0	13.2	-	+FL180	-	RNAV 1
040	TF	ALSUB	-	349(351.5)	-3.0	15.0	-	-13000	-	RNAV 1
050	TF	MELMU	-	036(039.0)	-3.0	9.4	-	+12000	-	RNAV 1
060	TF	BOSEB	-	333(335.4)	-3.0	10.6	-	+11000	-	RNAV 1
070	HM	BOSEB	Y	077(080.1)	-3.0	1 min	L	+11000	-210	RNAV 1
TAKTI 1A ARRIVAL										
010	IF	TAKTI	-	-	-	-	-	+FL200	-	RNAV 1
020	TF	TALBU	-	208(210.8)	-3.0	18.3	-	+FL200	-	RNAV 1
030	TF	TAKTO	-	262(265.2)	-3.0	35.4	-	+12000	-	RNAV 1
040	HM	TAKTO	Y	245(247.9)	-3.0	1 min	R	+12000	-	RNAV 1
TEVOG 1A ARRIVAL										
010	IF	TEVOG	-	-	-	-	-	+FL210	-	RNAV 1
020	TF	ALSUB	-	036(039.1)	-3.0	35.0	-	-13000	-	RNAV 1
030	TF	MELMU	-	036(039.0)	-3.0	9.4	-	+12000	-	RNAV 1
040	TF	BOSEB	-	333(335.4)	-3.0	10.6	-	+11000	-	RNAV 1
050	HM	BOSEB	Y	077(080.1)	-3.0	1 min	L	+11000	-210	RNAV 1
VELOS 1A ARRIVAL										
010	IF	VELOS	-	-	-	-	-	+FL210	-	RNAV 1
020	TF	BOSEB	-	126(128.5)	-3.0	49.8	-	+11000	-	RNAV 1
030	HM	BOSEB	Y	077(080.1)	-3.0	1 min	L	+11000	-210	RNAV 1

Path Descriptor	Fix Identifier	Inbound Course M°(T°)	Leg Distance (NM)	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FT)	Speed	Magnetic Variation	Navigation Performance
Hold	TAKTO	245(247.9)	1 min	R	+12000	-	-	-3.0	RNAV 1
Hold	BOSEB	077(080.1)	1 min	L	+11000	-	-210 KT	-3.0	RNAV 1

CHANGE: New Table

Amcdt: Original, 03 JAN 19

ICAO PANS OPS

**STANDARD DEPARTURE CHART -
INSTRUMENT (STAR) - ICAO**

RIYADH/Khashm Alan (OEKA)

STAR RNAV RWY 16/34

ESRAT 1A ETBAS 1A KAVUR 1A KOBOX 1A
METNI 1A MUNTO 1A MURLU 1A RESAL 1A
TAKTI 1A TEVOG 1A VELOS 1A

WAYPOINT LIST

STAR RNAV 16/34					
Waypoint Identifier	Coordinates		Waypoint Identifier	Coordinates	
ETBAS	25°34'51.0"N	047°33'18.0"E	ALSUB	24°33'29.4"N	046°28'29.6"E
NAGER	25°21'11.4"N	047°16'27.0"E	MELMU	24°40'51.1"N	046°35'00.2"E
TAKTO	25°03'13.5"N	046°54'26.8"E	MURLU	25°52'34.0"N	046°34'56.0"E
ESRAT	25°51'17.0"N	047°02'47.0"E	BUBOX	25°10'41.3"N	046°17'25.8"E
KAVUR	24°42'46.0"N	045°40'36.0"E	RESAL	24°06'49.0"N	047°04'27.0"E
BOSEB	24°50'28.4"N	046°30'10.9"E	LOTOT	24°13'51.4"N	046°44'26.0"E
KOBOX	25°07'16.0"N	047°49'46.0"E	TAKTI	25°21'53.0"N	047°43'40.0"E
TALBU	25°06'06.0"N	047°33'17.4"E	TEVOG	24°06'12.0"N	046°04'24.0"E
METNI	25°37'15.0"N	046°00'31.0"E	VELOS	25°21'26.0"N	045°47'12.0"E
MUNTO	23°53'45.0"N	046°34'59.0"E	LOPUX	24°46'32.9"N	046°04'43.3"E
DEBAT	24°18'34.3"N	046°30'56.3"E			

ROUTING

STAR RNAV	
ETBAS 1A ARRIVAL	ETBAS [FL220+] - NAGER [FL200+] - TAKTO [A 12000+]
ESRAT 1A ARRIVAL	ESRAT [FL210+] - NAGER [FL200+] - TAKTO [A 12000+]
KAVUR 1A ARRIVAL	KAVUR [FL210+] - LOPUX [FL160+] - BOSEB [A 11000+]
KOBOX 1A ARRIVAL	KOBOX [FL220+] - TALBU [FL200+] - TAKTO [A 12000+]
METNI 1A ARRIVAL	METNI [FL210+] - BUBOX [FL160+] - BOSEB [A 11000+]
MUNTO 1A ARRIVAL	MUNTO [FL220+] - DEBAT [FL160+] - ALSUB [13000-] - MELMU [A 12000+] - BOSEB [A 11000+]
MURLU 1A ARRIVAL	MURLU [FL220+] - BUBOX [FL160+] - BOSEB [A 11000+]
RESAL 1A ARRIVAL	RESAL [FL220+] - LOTOT [FL180+] - DEBAT [FL160+] ALSUB [13000-] -MELMU [A 12000+] - BOSEB [A 11000+]
TAKTI 1A ARRIVAL	TAKTI [FL200+] - TALBU [FL200+] - TAKTO [A 12000+]
TEVOG 1A ARRIVAL	TEVOG [FL210+] - ALSUB [13000-] - MELMU [A 12000+] - BOSEB [A 11000+]
VELOS 1A ARRIVAL	VELOS [FL210+] - BOSEB [A 11000+]

CHANGE: KAVUR coordinate revised

Amdt: Original, 03 JAN 19

ICAO PANS OPS

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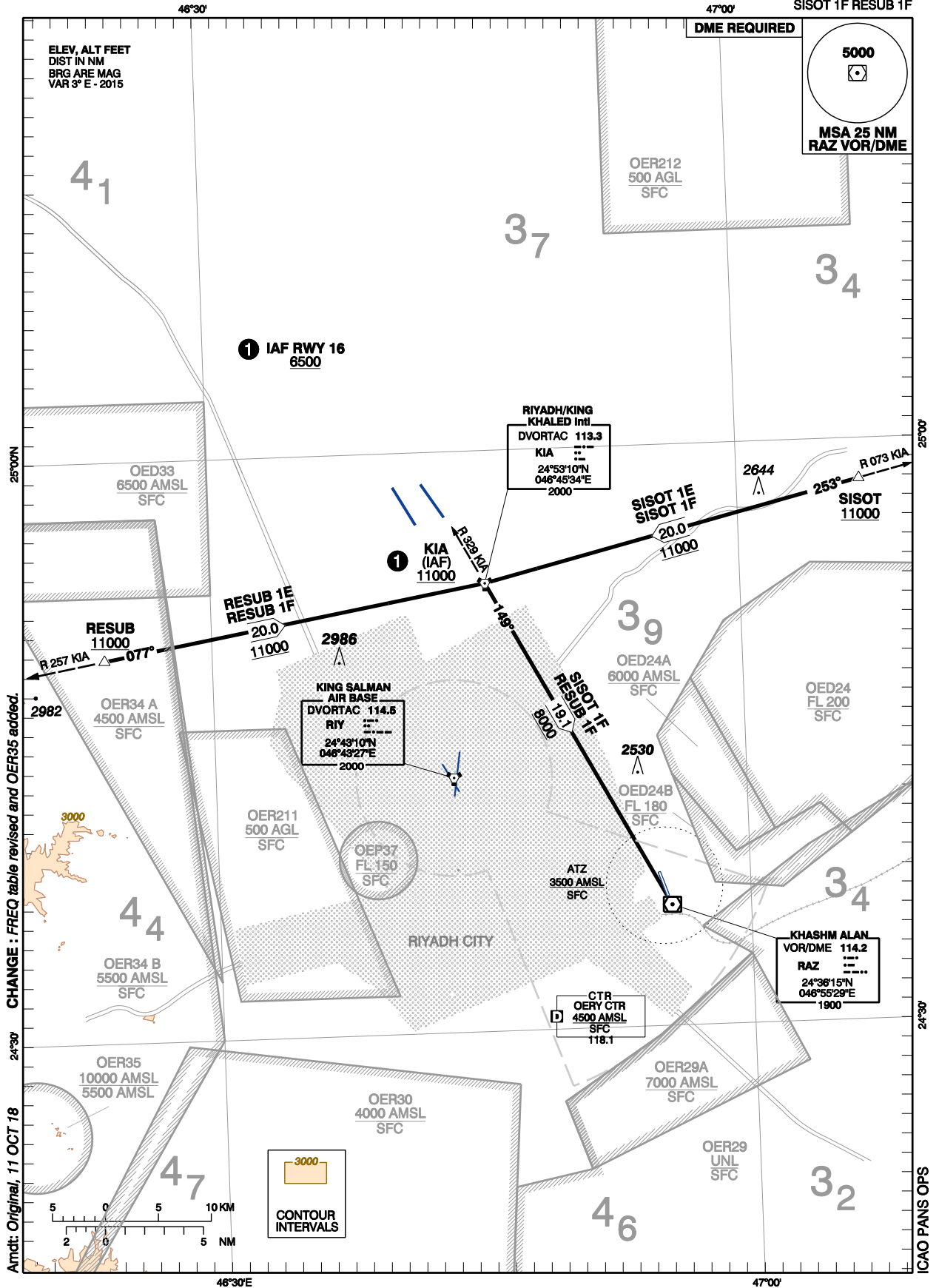
**STANDARD ARRIVAL CHART -
INSTRUMENT (STAR) - ICAO**

**TRANSITION ALTITUDE
13000 FT**

Riyadh APP:	120.0	126.0
TWR:	122.875	248.825
GND:	123.075	248.525

RIYADH/Khashm Alan (OEKA)

STAR RWY 16/34
SISOT 1E RESUB 1E
SISOT 1F RESUB 1F



RIYADH/Khashm Alan (OEKA)

STAR RWY 16/34
SISOT 1E RESUB 1E
SISOT 1F RESUB 1F

AERONAUTICAL DATA TABULATION

STAR TRANSITION TO RWY 16/34				
FIX/POINT	COORDINATES		Bearing/Radial (°M KIA)	Distance (DME KIA)
SISOT	24°57'55.1"N	047°06'56.5"E	073.3	20.0
RESUB	24°49'45.1"N	046°23'53.9"E	257.3	20.0
RAZ VOR/DME	24°36'15.5"N	046°55'29.6"E	-	-
KIA DVORTAC	24°53'10.0"N	046°45'34.0"E	-	-

STAR RWY 16/34

THE FOLLOWING INSTRUCTIONS ARE APPLICABLE TO SISOT ARRIVAL
- MAX 210 KIAS UNTIL ESTABLISHED ON R 149 KIA

TRANSITION	RWY	ROUTING
SISOT 1E	16	Descend from SISOT (11000+) to KIA (IAF) (6500+) on R 073 KIA
SISOT 1F	34	On R 073 KIA from SISOT (11000+) to KIA (11000+) then left turn and proceed to RAZ and continue descent to RAZ (8000+) on R 329 RAZ
RESUB 1E	16	Descend from RESUB (11000+) to KIA (IAF) (6500+) on R 257 KIA
RESUB 1F	34	On R 257 KIA from RESUB (11000+) to KIA (11000+) then right turn to RAZ and continue descent to RAZ (8000+) on R 329 RAZ

CHANGE : New table

Amdt: Original, 11 OCT 18

ICAO PANS OPS

**RNAV ARRIVAL
TRANSITION
CHART**

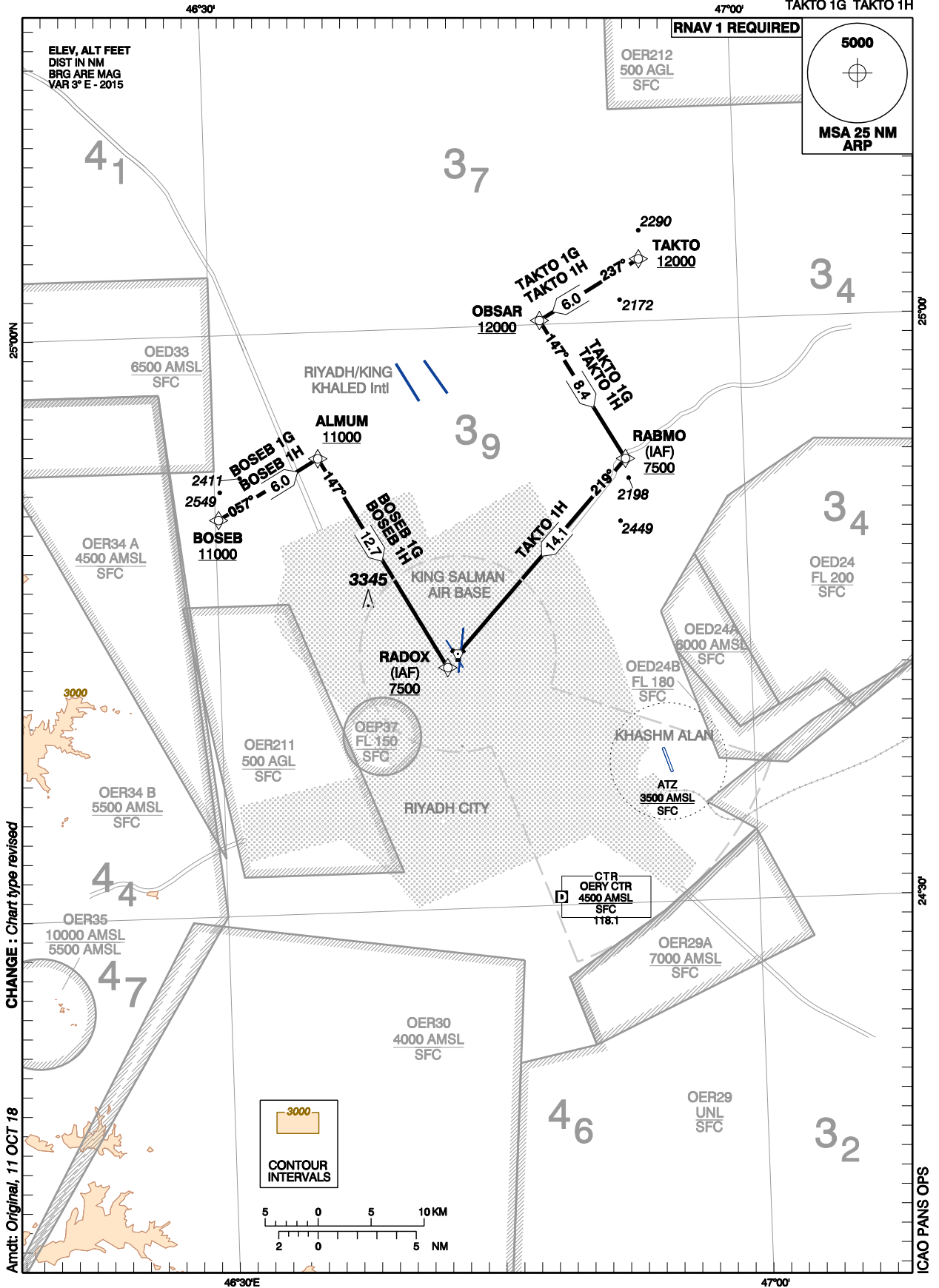
**TRANSITION ALTITUDE
13000 FT**

Riyadh APP:	120.0	126.0
TWR:	122.875	248.825
GND:	123.075	248.525

RIYADH/Khashm Alan (OEKA)

RWY 16/34

**BOSEB 1G BOSEB 1H
TAKTO 1G TAKTO 1H**



**RNAV ARRIVAL
TRANSITION
CHART**

RIYADH/Khashm Alan (OEKA)

RWY 16/34
BOSEB 1G BOSEB 1H
TAKTO 1G TAKTO 1H

TABULAR DESCRIPTION

RNAV ARRIVAL TRANSITION RWY 16/34										
Serial Number	Path Descriptor	Waypoint Identifier	Fly-Over	Course M° (T°)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (M)	Speed Limit (NM/H)	Navigation Specification
TAKTO 1G TRANSITION										
010	IF	TAKTO	-	-	-3.0	-	-	+12000	-	RNAV 1
020	TF	OBSAR	-	237(240.1)	-3.0	6.0	-	+12000	-	RNAV 1
030	TF	RABMO	-	147(150.1)	-3.0	8.4	L	+7500	-	RNAV 1
BOSEB 1G TRANSITION / BOSEB 1H TRANSITION										
010	IF	BOSEB	-	-	-3.0	-	-	+11000	-	RNAV 1
020	TF	ALMUM	-	057(060.0)	-3.0	6.0	-	+11000	-	RNAV 1
030	TF	RADOX	-	147(150.0)	-3.0	12.7	R	+7500	-	RNAV 1
TAKTO 1H TRANSITION										
010	IF	TAKTO	-	-	-3.0	-	-	+12000	-	RNAV 1
020	TF	OBSAR	-	237(240.1)	-3.0	6.0	-	+12000	-	RNAV 1
030	TF	RABMO	-	147(150.1)	-3.0	8.4	L	+7500	-	RNAV 1
040	TF	RADOX	-	219(222.3)	-3.0	14.1	R	+7500	-	RNAV 1

WAYPOINT LIST

RNAV ARRIVAL TRANSITION RWY 16/34		
Waypoint / Fix	Coordinates	
RADOX (IAF)	24°42'28.6"N	046°42'51.0"E
RABMO (IAF)	24°52'57.1"N	046°53'18.6"E
TAKTO	25°03'13.5"N	046°54'26.8"E
OBSAR	25°00'13.5"N	046°48'43.2"E
BOSEB	24°50'28.4"N	046°30'10.9"E
ALMUM	24°53'29.3"N	046°35'54.3"E

TRANSITION ROUTING		
OEKA		
Indicator	RWY	
TAKTO 1G	16	
TAKTO 1H	34	
BOSEB 1G	16	
BOSEB 1H	34	

ROUTE DESCRIPTION

RNAV ARRIVAL TRANSITION RWY 16/34	
TRANSITION RNAV	ROUTING
BOSEB 1G TRANSITION / BOSEB 1H TRANSITION	BOSEB [A11000+] - ALMUM [A11000+] - RADOX [A7500+]
TAKTO 1G TRANSITION	TAKTO [A12000+] - OBSAR [A12000+] - RABMO [A7500+]
TAKTO 1H TRANSITION	TAKTO [A12000+] - OBSAR [A12000+] - RABMO [A7500+] - RADOX [A7500+]

CHANGE: Chart type revised

Amdt: Original, 11 OCT 18

ICAO PANS OPS

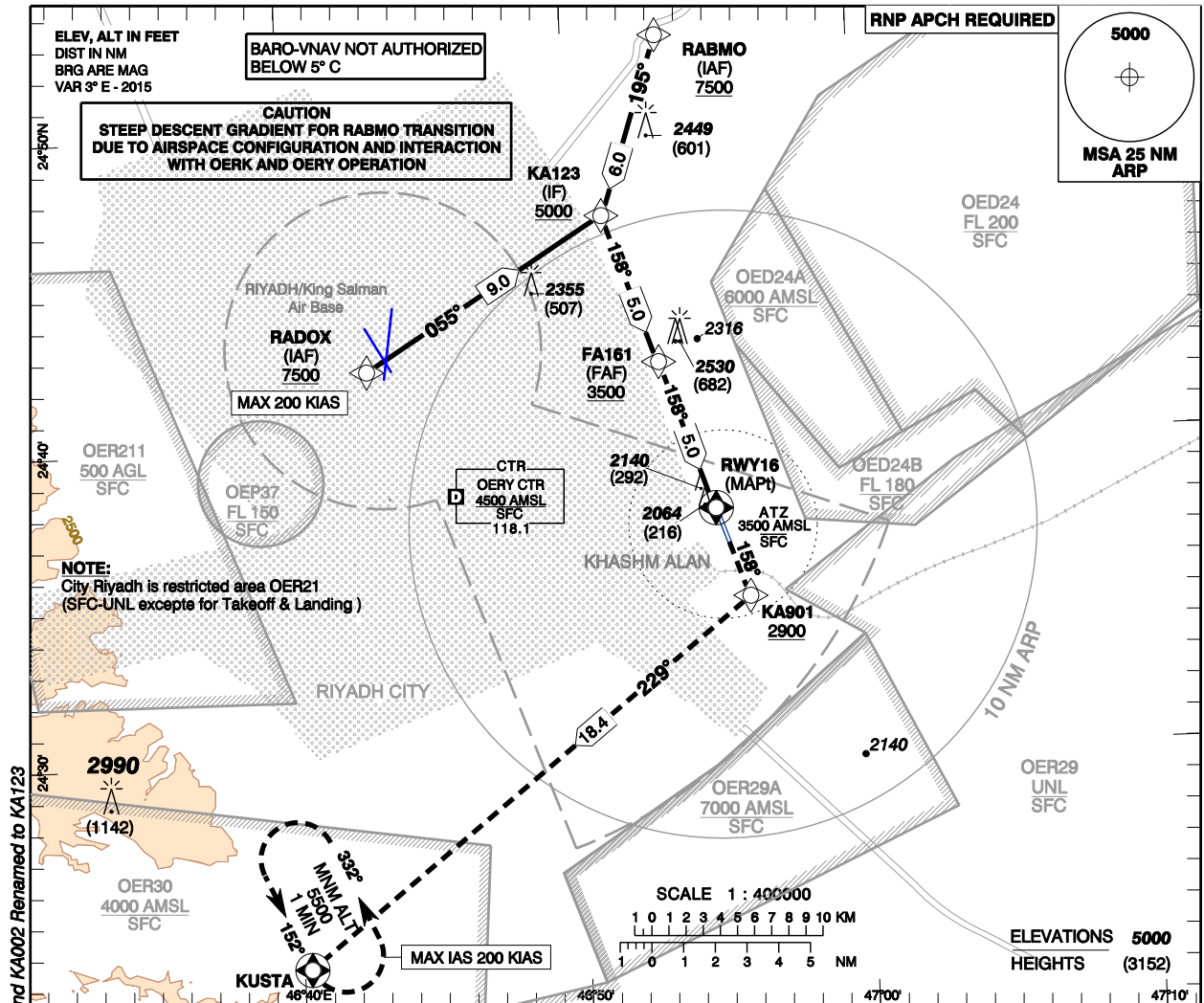
**INSTRUMENT
APPROACH
CHART - ICAO**

**AERODROME ELEV 1848 ft
HEIGHTS RELATED TO
THR RWY 16 - ELEV 1848 ft**

Riyadh APP:	120.0	126.0
TWR:	122.875	249.825
GND:	123.075	249.525

RIYADH/Khashm Alan (OEKA)

RNAV (GNSS) RWY 16



CHANGE: FAF16 Renamed FA161 and KA002 Renamed to KA123

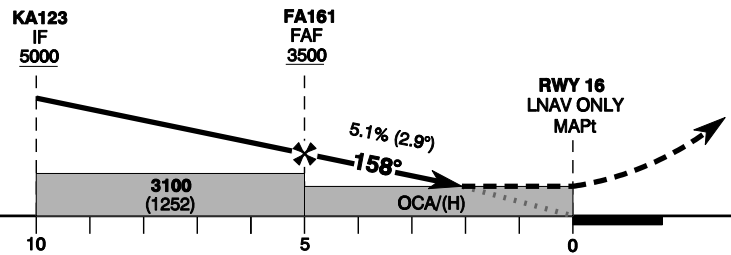
**TRANSITION ALT 13000
TRANSITION LEVEL FL150**

MISSED APPROACH
Climb direct to KA901 at or above 2900 FT,
Continue turning right on track 229° to KUSTA
at 5500 FT and hold or continue as prescribed
by ATC.
Speed limitation 200 Kts IAS or below.

TCH 50

THR ELEV 1848

NM to/from THR RWY 16



Amtdt : Original, 11 OCT 18

	ACFT CAT	A				B				C				D				GND SPEED	Knots	70	90	110	130	150	170	190					
		OCA/H	2280(432)	2290(442)	2300(452)	2310(462)	OCA/H	2570(722)	2570(722)	2570(722)	OCA/H	2570(722)	2570(722)	2570(722)	2570(722)	Rate of Descent	Ft/min										360	460	560	670	770
Straight-in Approach	LNAV/VNAV	RVR/VIS(m)	1300	1400				1500								5.1% (2.9°)															
	LNAV	RVR/VIS(m)	2700																												
Circling	OCA/H	N/A												NM from THR				5	4	3	1										
	RVR/VIS(m)													ALT (HGT) 5.1% APCH				3500 (1652)	3192 (1344)	2884 (1036)	2576 (728)										

RVR/VIS RELATED TO MDA (H) = OCA (H)

ICAO PANS OPS

**INSTRUMENT
APPROACH
CHART - ICAO**

**AERODROME ELEV 1848 ft
HEIGHTS RELATED TO
THR RWY 16 - ELEV 1848 ft**

RIYADH/Khashm Alan (OEKA)

RNAV (GNSS) RWY 16

TABULAR DESCRIPTION

RNAV (GNSS) RWY 16											
Serial Number	Path Descriptor	Waypoint Identifier	Fly-Over	Course M° (T°)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (ft.)	Speed Limit (kt)	VPA/TCH	Navigation Specification
010	IF	RADOX	-	-	- 3.0	-	-	+7500	-200	-	RNP APCH
020	TF	KA123	-	055(58.5)	- 3.0	9.0	-	+5000	-200	-	RNP APCH
010	IF	RABMO	-	-	- 3.0	-	-	+7500	-	-	RNP APCH
020	TF	KA123	-	195(198.3)	- 3.0	6.0	-	+5000	-	-	RNP APCH
010	IF	KA123	-	-	- 3.0	-	-	+5000	-200	-	RNP APCH
020	TF	FA161	-	158(160.5)	- 3.0	5.0	-	+3500	-	-	RNP APCH
030	TF	RWY16	Y	158(160.5)	- 3.0	5.0	-	+1898	-	-2.9/50	RNP APCH
040	DF	KA901	-	-	-	-	-	+2900	-200	-	RNP APCH
050	TF	KUSTA	Y	229(231.4)	- 3.0	18.4	R	@5500	-200	-	RNP APCH
060	HM	KUSTA	Y	152(154.8)	- 3.0	1 min	L	@5500	-200	-	RNP APCH

WAYPOINT LIST

RNAV (GNSS) RWY 16		
Waypoint Identifier	Coordinates	
RABMO	24°52'57.1"N	046°53'18.6"E
RADOX	24°42'28.6"N	046°42'51.0"E
KA123	24°47'14.3"N	046°51'14.1"E
FA161	24°42'30.6"N	046°53'04.2"E
KUSTA	24°23'27.7"N	046°40'15.2"E
KA901	24°34'56.7"N	046°56'00.1"E
RWY16	24°37'46.94"N	046°54'54.17"E

CHANGE: FAF16 Renamed FA161 and KA002 Renamed to KA123

Amdt: Original, 11 OCT 18

ICAO PANS OPS

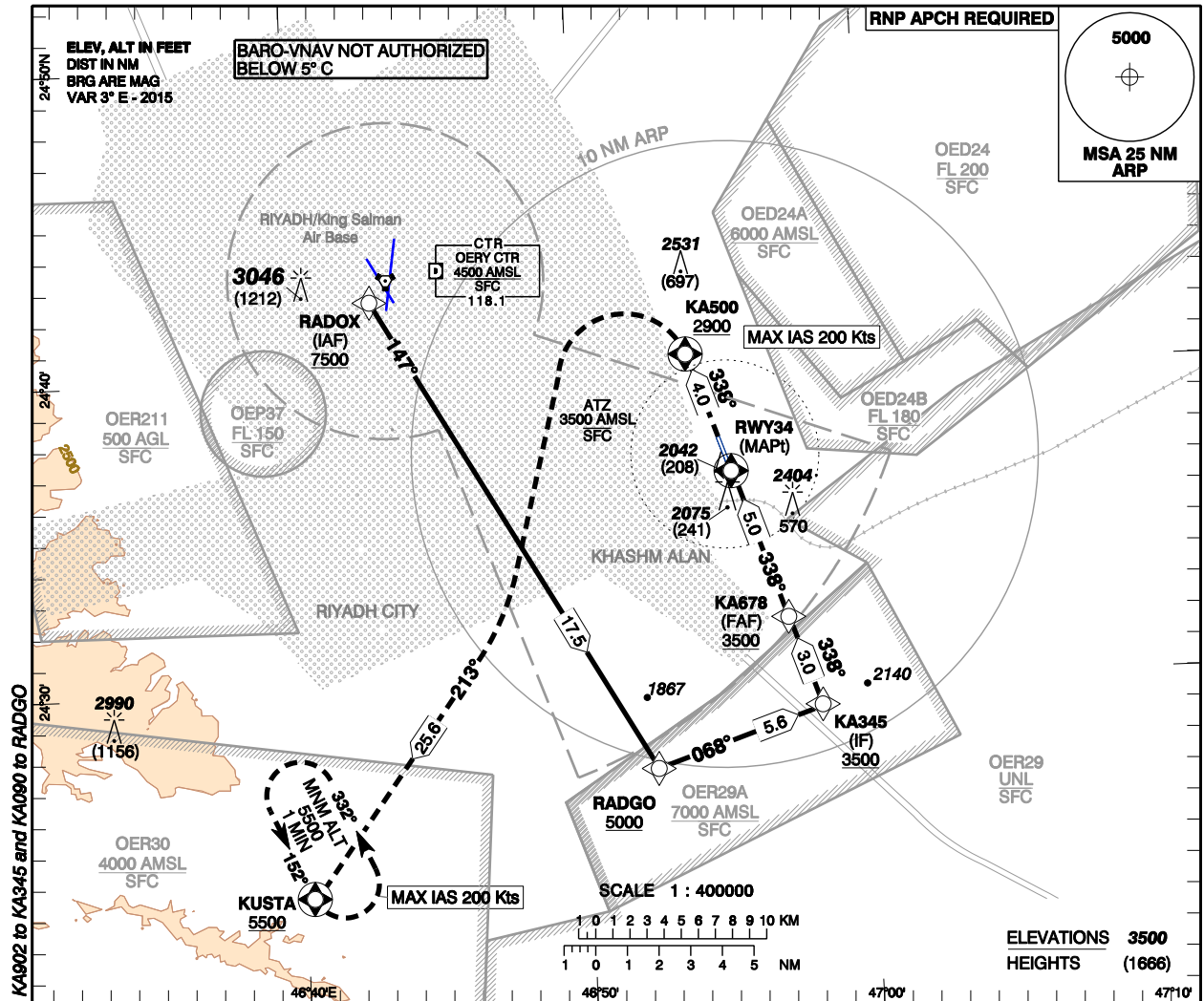
**INSTRUMENT
APPROACH
CHART - ICAO**

**AERODROME ELEV 1848 ft
HEIGHTS RELATED TO
THR RWY 34 - ELEV 1834 ft**

Riyadh APP:	120.0	126.0
TWR:	122.875	249.825
GND:	123.075	249.525

RIYADH/Khashm Alan (OEKA)

RNAV(GNSS) RWY 34



TRANSITION ALT 13000
TRANSITION LEVEL FL150

MISSED APPROACH
Climb direct to KA500 at or above 2900 FT, left turn to intercept track 213° to KUSTA at 5500 FT, and hold or continue as prescribed by ATC. Speed limitation at or below 200 Kts.

TCH 50
THR ELEV 1834
NM to/from THR RWY 34

Scale: 1:400000
ELEVATIONS 3500
HEIGHTS (1666)

ACFT CAT	A	B	C	D	GND SPEED	Knots						
						70	80	110	130	150	170	190
Straight-in Approach	LNAV/VNAV	OCA/H	2190(356)	2200(366)	2210(376)	2220(386)						
	RVR/VIS(m)	900	1000			1100						
Circling	LNAV	OCA/H	2470(636)									
	RVR/VIS(m)	2200										
					NM from THR	5	4	3				
					ALT (HGT) 5.1% APCH	3500 (1666)	3192 (1358)	2884 (1050)	2576 (742)			

RVR/VIS RELATED TO MDA (H) = OCA (H)

**INSTRUMENT
APPROACH
CHART - ICAO**

**AERODROME ELEV 1848 ft
HEIGHTS RELATED TO
THR RWY 34 - ELEV 1834 ft**

RIYADH/Khashm Alan (OEKA)

RNAV(GNSS) RWY 34

TABULAR DESCRIPTION

RNAV(GNSS) RWY 34											
Serial Number	Path Descriptor	Waypoint Identifier	Fly-Over	Course M° (T°)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (ft.)	Speed Limit (kt)	VPA/TCH	Navigation Specification
010	IF	RADOX	-	-	-3.0	-	-	+7500	-	-	RNP APCH
020	TF	RADGO	-	147(150.1)	-3.0	17.5	-	+5000	-200	-	RNP APCH
030	TF	KA345	-	068(070.6)	-3.0	5.6	-	+3500	-	-	RNP APCH
010	IF	KA345	-	-	-3.0	-	-	+3500	-200	-	RNP APCH
020	TF	KA678	-	338(340.6)	-3.0	3.0	-	+3500	-	-	RNP APCH
030	TF	RWY34	Y	338(340.6)	-3.0	5.0	-	@1884	-	-2.9/50	RNP APCH
040	DF	KA500	Y	-	-	-	-	+2900	-200	-	RNP APCH
050	TF	KUSTA	Y	213(216.1)	-3.0	25.6	L	@5500	-200	-	RNP APCH
060	HM	KUSTA	Y	152(154.8)	-3.0	min 1.00	L	@5500	-200	-	RNP APCH

WAYPOINT LIST

RNAV(GNSS) RWY 34		
Waypoint Identifier	Coordinates	
RADOX	24°42'28.6"N	046°42'51.0"E
RADGO	24°27'15.9"N	046°52'25.6"E
KA345	24°29'08.5"N	046°58'14.2"E
KA678	24°31'58.8"N	046°57'08.8"E
RWY34	24°36'42.60"N	046°55'19.07"E
KA500	24°40'29.6"N	046°53'51.2"E
KUSTA	24°23'27.7"N	046°40'15.2"E

CHANGE: Rename KA001 to KA678, KA902 to KA345 and KA090 to RADGO

Amdt : Original, 11 OCT 18

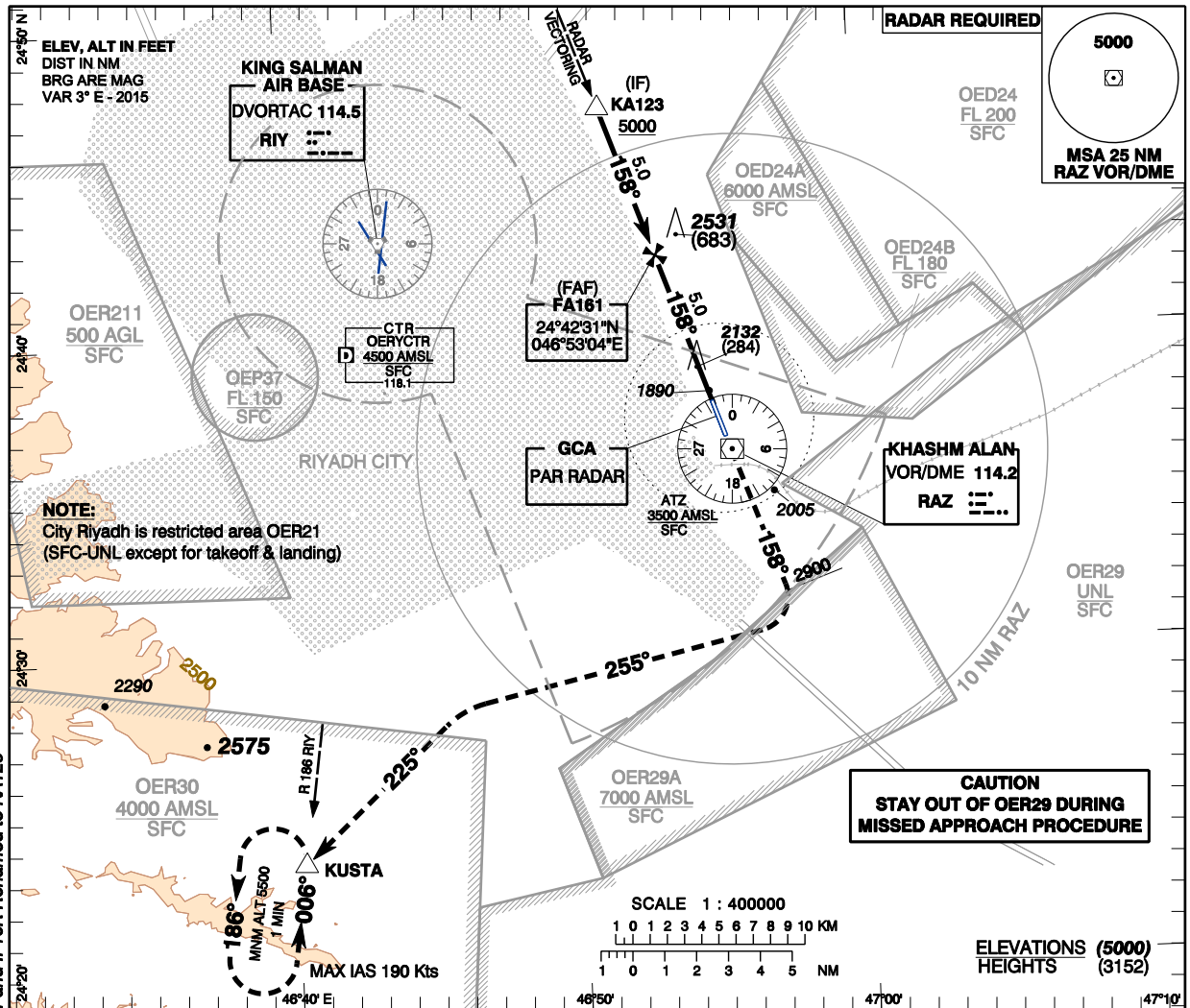
ICAO PANS OPS

**INSTRUMENT
APPROACH
CHART - ICAO**

**AERODROME ELEV 1848 ft
HEIGHTS RELATED TO
THR RWY 16 - ELEV 1848 ft**

Riyadh APP:	120.0	126.0
TWR:	122.875	248.825
GND:	123.075	249.525
GCA:	123.175	249.300

**RIYADH/Khashm Alan (OEKA)
PAR RWY 16**



CHANGE: FAR16 Renamed to FA161 and IF16R Renamed to KA123

**TRANSITION ALT 13000
TRANSITION LEVEL FL150**

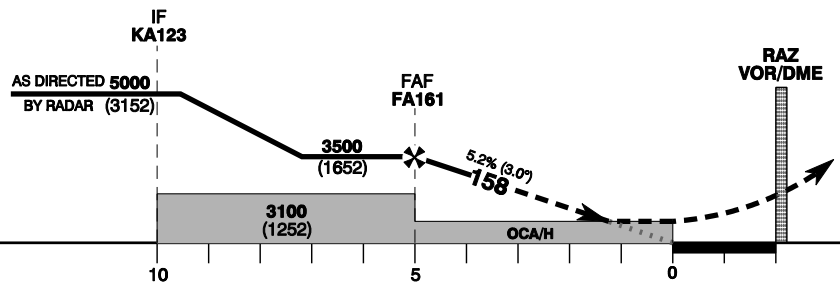
MISSED APPROACH

(MACG 4.0%) Climb straight ahead to 2900 FT and continue as instructed by ATC.
RADIO COMMUNICATION FAILURE
(MACG 4.0%) Climb straight ahead to 2900 FT, turn right on heading 255° to intercept RDL 225 RAZ direct to KUSTA at 5500 FT (MAX IAS 210 Kts), holding or continue as prescribed by ATC.

RDH 50

THR ELEV 1848

NM to/from THR RWY 16



Amdt: Original, 11 OCT 18

		ACFT CAT	A	B	C	D
Straight-in Approach	PAR	OCA(H)	2293(445)			
		RVR(m)	1700			
Circling		OCA(H)	N/A			
		VIS(m)	N/A			

	Knots	70	90	110	130	150	170	190
		GND SPEED	370	480	580	690	800	910
Rate of Descent	ft/min	370	480	580	690	800	910	1010

NM from THR	5	4	3	2
ALT (HGT) 5.24° APCH	3500(1652)	3182(1334)	2864(1016)	2564(698)



- CIRCLING NOT AUTHORIZED
- RVR RELATED TO DA(H) = OCA(H)

ICAO PANS OPS

RIYADH/Khashm Alan (OEKA)

PAR RWY 16

AERONAUTICAL DATA TABULATION

PAR Approach to RWY 16 from RADAR		
FIX/POINT	Coordinates	
KA123 (IF) - RDL 338	24°47'14.3"N	046°51'14.1"E
FA161 (FAF) - RDL 338	24°42'30.6"N	046°53'04.2"E
KUSTA (MAHF) - RDL 225/18.9 DME RAZ	24°23'27.7"N	046°40'15.2"E
RADAR PAR	24°37'20.6"N	046°55'08.5"E
RIY DVORTAC	24°43'10.3"N	046°43'27.0"E
RAZ VOR/DME	24°36'15.5"N	046°55'29.6"E
THR RWY 16	24°37'46.94"N	046°54'54.17"E

CHANGE : FAR16 Renamed to FA161 and IF16R Renamed to KA123

Amdt: Original 11 OCT 18

ICAO PANS OPS

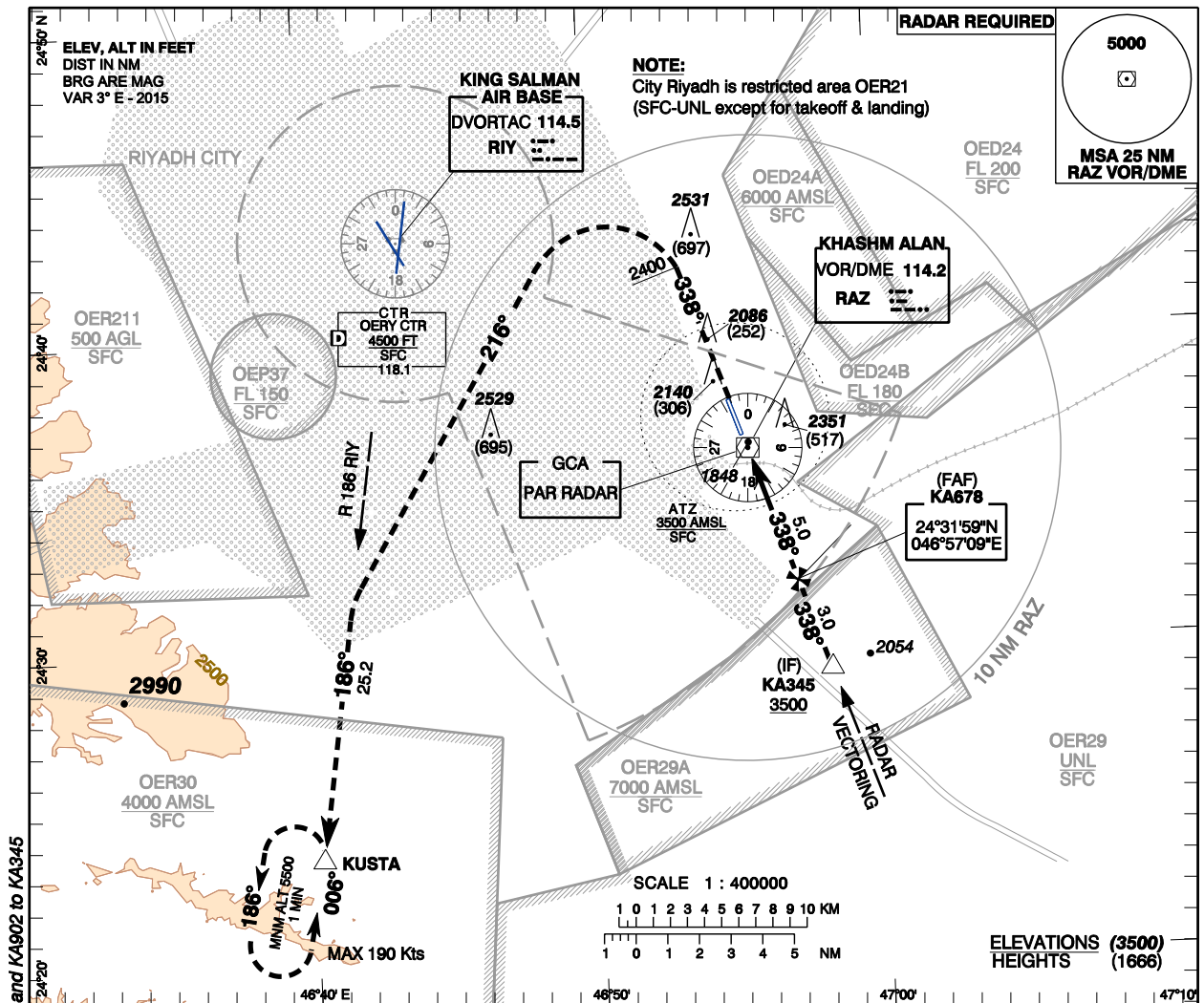
**INSTRUMENT
APPROACH
CHART - ICAO**

**AERODROME ELEV 1848 ft
HEIGHTS RELATED TO
THR RWY 34 - ELEV 1834 ft**

Riyadh APP:	120.0	126.0
TWR:	122.875	249.825
GND:	123.075	249.525
GCA:	123.175	249.300

RIYADH/Khashm Alan (OEKA)

PAR RWY 34



CHANGE: Rename KA4007 to KA678 and KA902 to KA345

**TRANSITION ALT 13000
TRANSITION LEVEL FL150**

MISSED APPROACH

Climb straight ahead to 2400 FT and continue as prescribed by ATC.

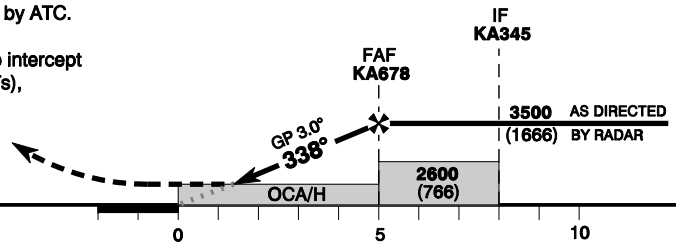
RADIO COMMUNICATION FAILURE

Climb straight ahead to 2400 FT, turn left on heading 216° to intercept RDL 186 RIY direct to KUSTA at 5500 FT (MAX IAS 190 KTs), holding or continue as prescribed by ATC.

RDH 50

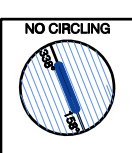
THR ELEV 1834

NM to/from THR RWY 34



Amdt: Original, 11 OCT 18

Straight-in Approach	ACFT CAT	A				B				C				D			
		OCA(H)				RVR(m)				OCA(H)				VIS(m)			
PAR	OCA(H)	2101(266)															
	RVR(m)	600															
Circling	OCA(H)	N/A															
	VIS(m)	N/A															



- CIRCLING NOT AUTHORIZED
- RVR RELATED TO DA(H) = OCA(H)

GND SPEED	Knots	70	90	110	130	150	170	190	Rate of Descent	ft/min	370	480	590	690	800	900	1010
ALT (HGT) 5.24° APCH																	
3500(1666) 3182(1348) 2864(1030) 2546(712) 2228(394)																	

ICAO PANS OPS

RIYADH/Khashm Alan (OEKA)

PAR RWY 34

AERONAUTICAL DATA TABULATION

PAR Approach to RWY 34 from RADAR		
FIX/POINT	Coordinates	
KA345 (IF) - RDL 158	24°29'08.5"N	046°58'14.2"E
KA678 (FAF) - RDL 158	24°31'58.8"N	046°57'08.8"E
KUSTA (MAHF) - RDL 186/19.9 DME RIY	24°23'27.7"N	046°40'15.2"E
RADAR PAR	24°37'20.6"N	046°55'08.5"E
RIY DVORTAC	24°43'10.3"N	046°43'27.0"E
RAZ VOR/DME	24°36'15.5"N	046°55'29.6"E
THR RWY 34	24°36'42.60"N	046°55'19.07"E

CHANGE : Rename KA001 to KA678 and KA902 to KA345

Amdt: Original 11 OCT 18

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