
**WMSA AD 2.24 CHARTS RELATED TO SUBANG
SULTAN ABDUL AZIZ SHAH AIRPORT**

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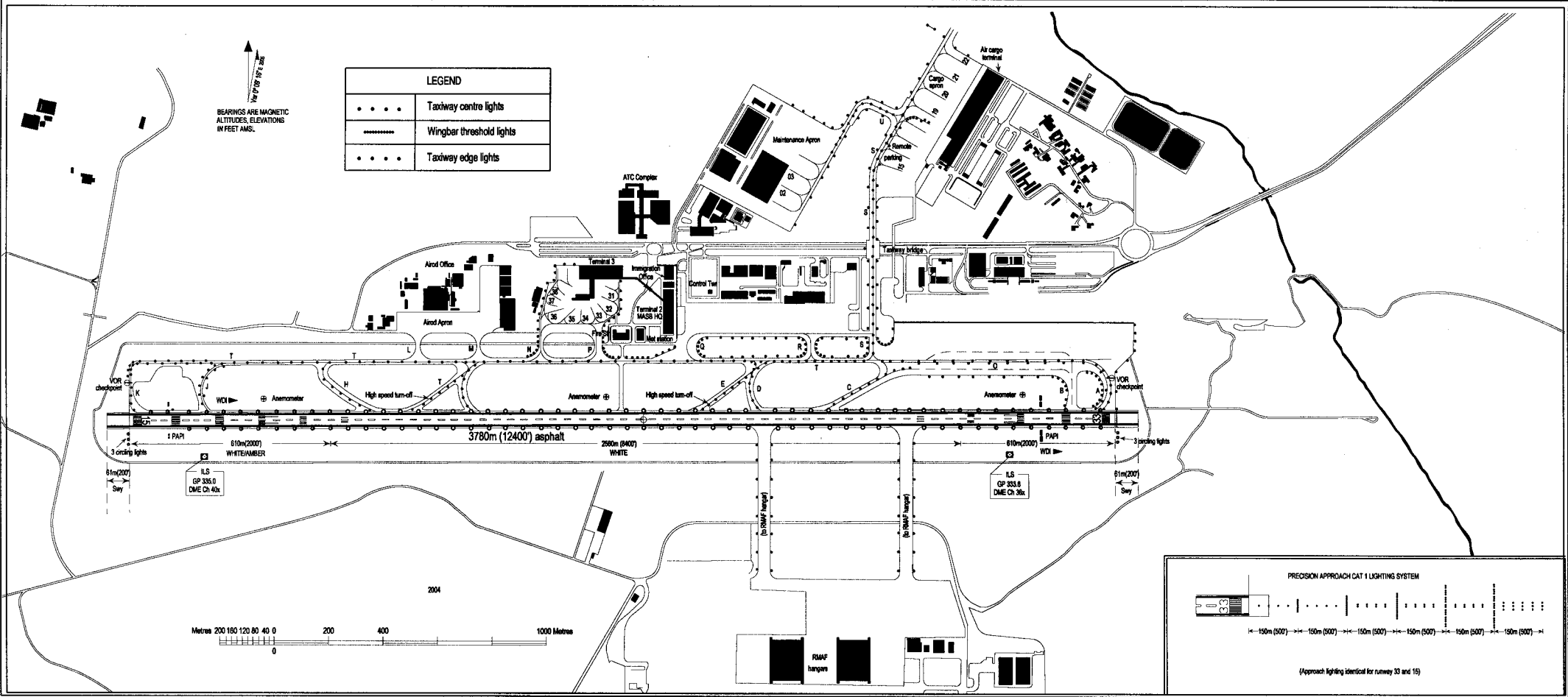
AERODROME CHART - ICAO

ARP : 03 07 52N
101 32 53 E

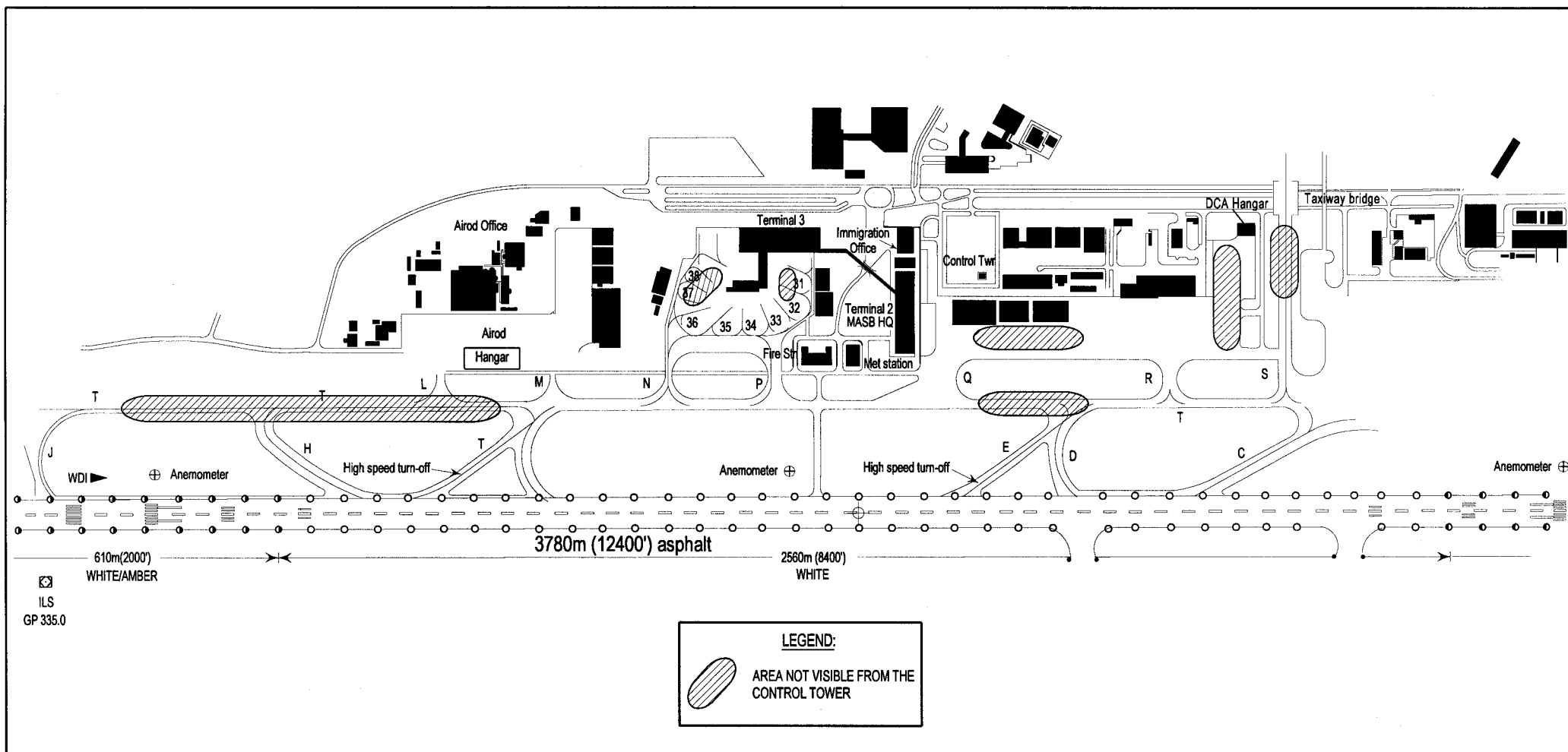
AERODROME ELEV 27m

ATIS : 127.6
APP : 125.1
SMC : 121.9
TWR : 118.2

SULTAN ABDUL AZIZ SHAH AIRPORT
PENINSULAR MALAYSIA



MOVEMENT AREAS NOT VISIBLE FROM AIR TRAFFIC CONTROL TOWER

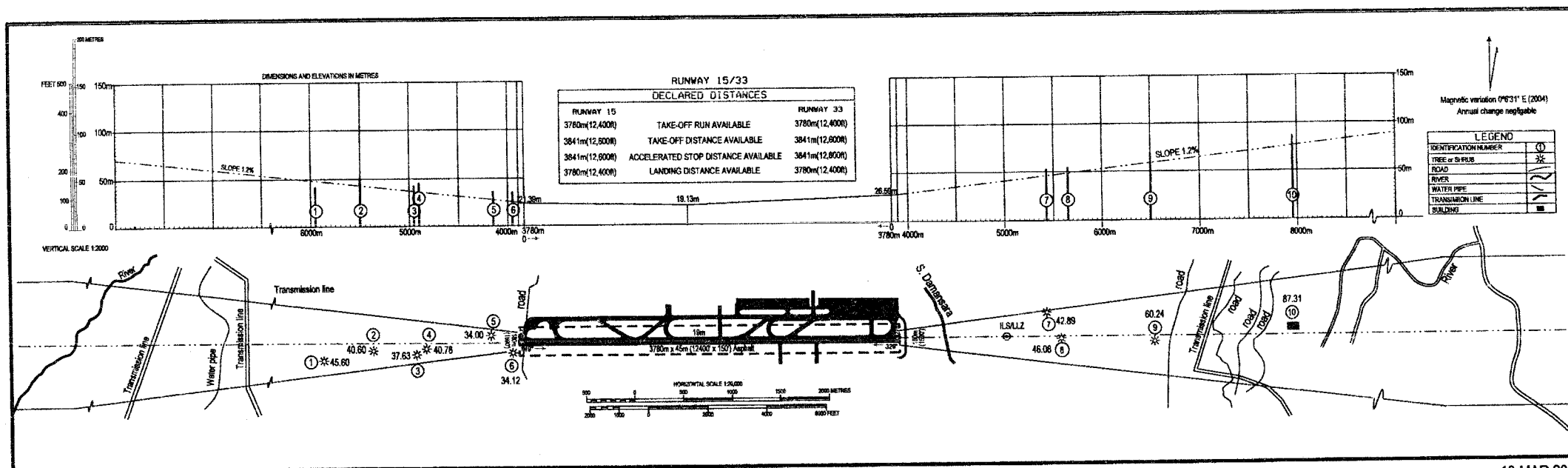


AIRCRAFT PARKING / DOCKING - STAND POSITION

AIRCRAFT STAND NUMBER	GEO POSITION (WGS 84)		TYPE OF AIRCRAFT
	LAT(N)	LONG(E)	
15	030729.34	1013342.82	B747 And Below
16	030729.34	1013342.82	B747 And Below
17	030729.34	1013342.82	B747 And Below
18	030729.34	1013342.82	B747 And Below
19	030735.33	1013348.82	B747 And Below
20	030735.33	1013348.82	B747 And Below
21	030735.33	1013354.82	B747 And Below
31	030759.33	1013412.82	BE20 And Below
32	030759.33	1013406.82	B737 And Below
33	030759.33	1013406.82	B737 And Below
34	030759.33	1013406.82	B737 And Below
35	030759.33	1013406.82	A330 And Below
36	030805.33	1013406.82	A330 And below
37	030805.33	1013406.82	B737 And Below
38	030805.33	1013406.82	B737 And Below

AERODROME OBSTRUCTION CHART - ICAO TYPE A (OPERATING LIMITATIONS)

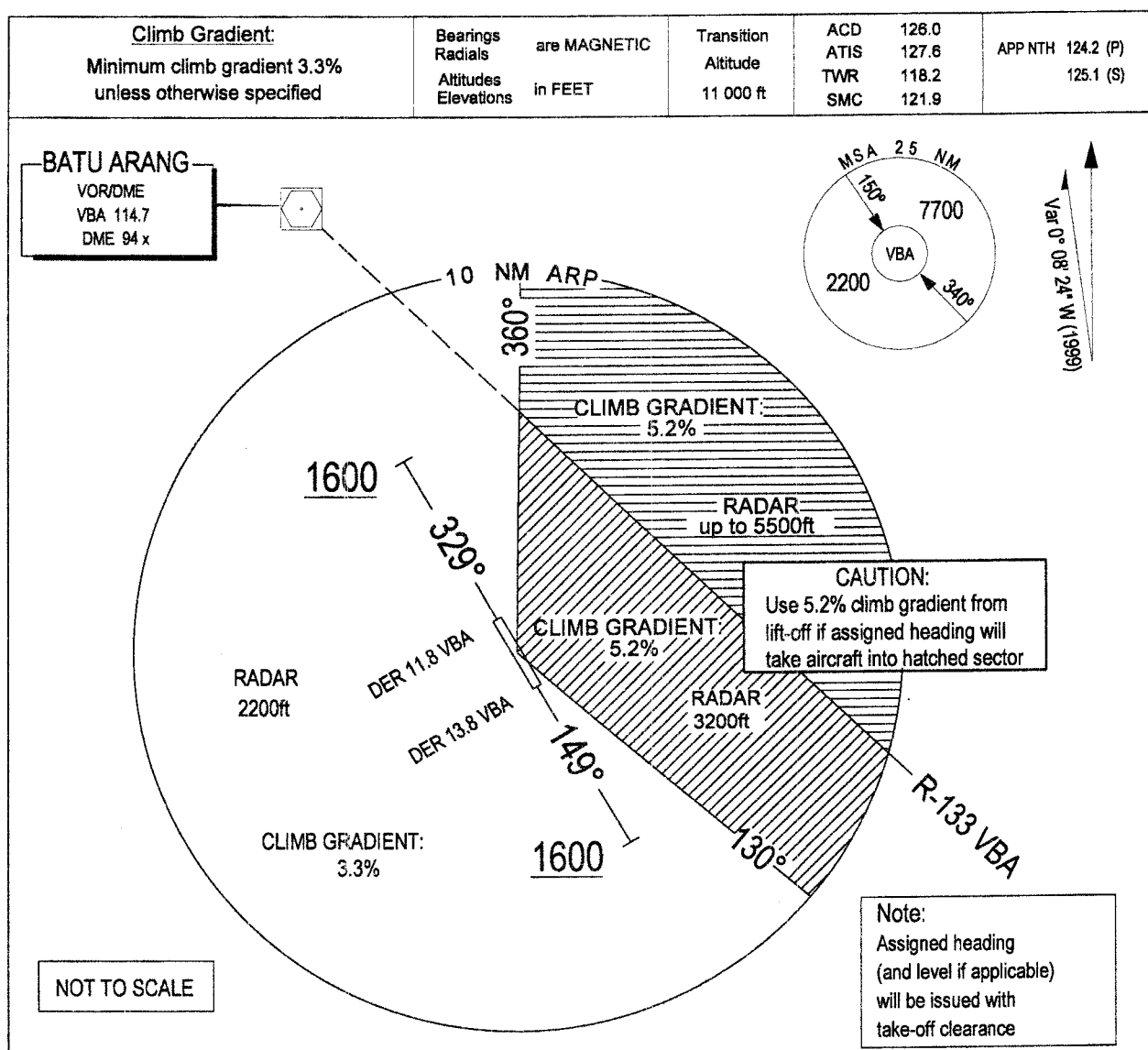
SULTAN ABDUL AZIZ SHAH/SUBANG
PENINSULAR MALAYSIA



DEPARTMENT OF CIVIL AVIATION MALAYSIA

18 MAR 2004
AIP AMDT 1/2004

STANDARD RADAR DEPARTURES



STANDARD RADAR DEPARTURES SUBANG RADAR ONE DEPARTURE

RWY 33

- Track 329° until beyond DER (11.8 DME VBA)
 - At 1600ft turn to assigned heading
 - Contact Approach airborne
- Advise: direction of turn & assigned heading
 level passing to nearest 100ft
 assigned level

RWY 15

- Track 149° until beyond DER (13.8 DME VBA)
 - At 1600ft turn to assigned heading
 - Contact Approach airborne
- Advise: direction of turn & assigned heading
 level passing to nearest 100ft
 assigned level

Rate of Climb in ft/min

Ground Speed (kts)	120	130	140	150	160	170	180	190	200	220	240	260	280	300
Gradient	3.3%	401	434	468	502	535	569	602	635	669	736	803	869	1003
	5.2%	632	685	738	790	843	896	948	1001	1054	1159	1264	1370	1580

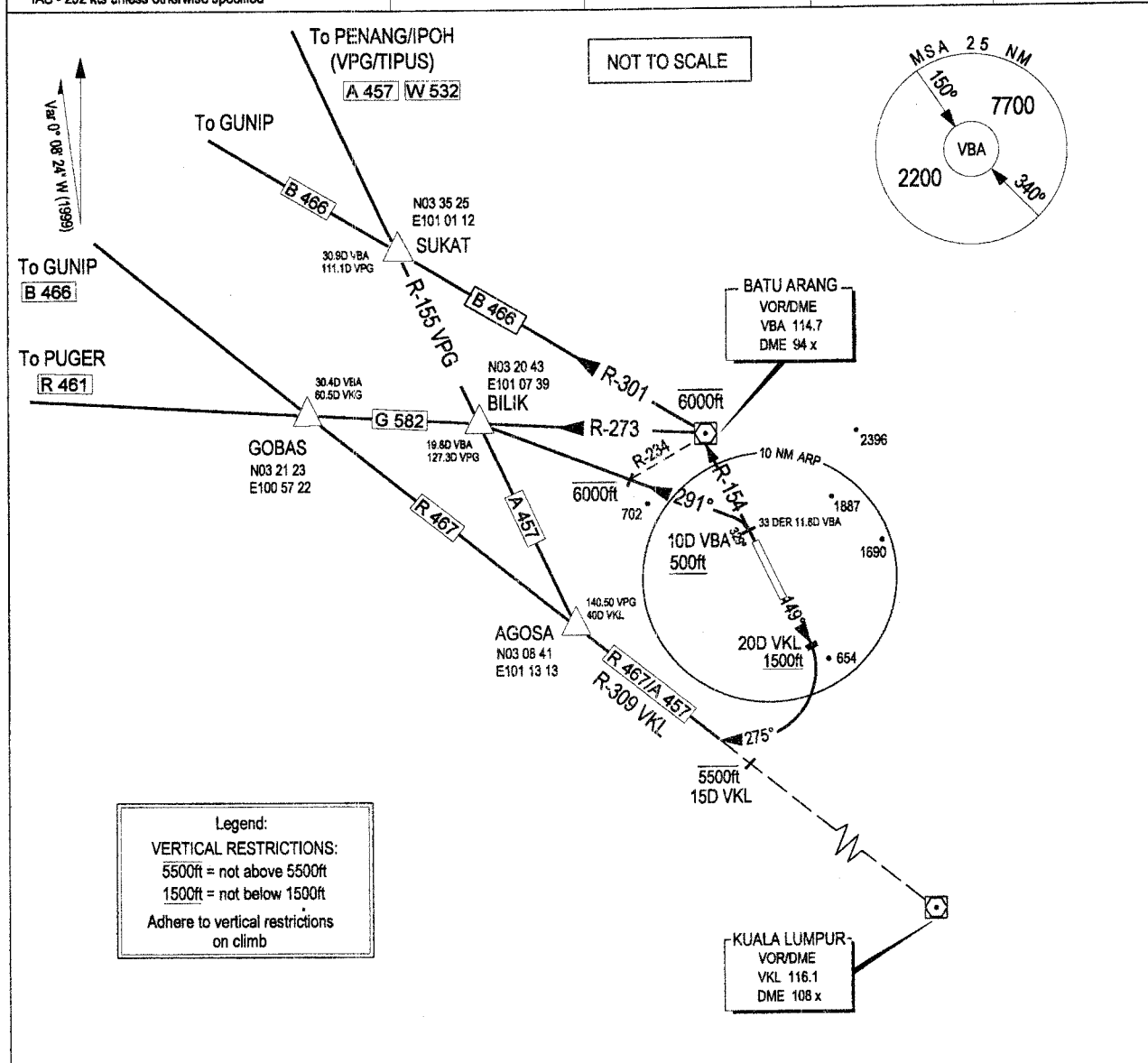
COMMUNICATIONS FAILURE:

Immediately squawk 7600
 Maintain assigned heading - climb to MSA or last assigned level if higher
 Maintain MSA or assigned level, as applicable, for 2 minutes
 Then climb to flight planned level and intercept flight planned track (as amended by ATC, if applicable)

STANDARD DEPARTURE CHART
INSTRUMENT (SID) - ICAO

SUBANG / SULTAN ABDUL AZIZ SHAH
DEPARTURES NORTH

Design criteria: Procedures design gradient (PDG) minimum 3.3% - unless otherwise specified Bank angle - 15° achieved IAS - 292 kts unless otherwise specified	Bearings Radials are MAGNETIC Altitudes Elevations in FEET	Transition Altitude 11000 ft	ATIS 127.6 TWR 118.2 SMC 121.9	APP NTH 124.2 (P) 125.1 (S)
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SUKAT DEPARTURE
BILIK ALPHA DEPARTURE
BILIK BRAVO DEPARTURE

RWY 33

- * Track 329° until beyond DER

For SUKAT and BILIK ALPHA

- * Intercept R-154 inbound to VBA VOR
- * Maintain 6000ft until VBA VOR
- * At VBA VOR turn left to intercept cleared track :
R-301 outbound from VBA VOR to SUKAT
R-273 outbound from VBA VOR to BILIK

For BILIK BRAVO

- * PDG 3.9% to 7000ft - Traffic/CTA
- * At 10 DME VBA not below 500ft turn left
- * Track 291° to BILIK
- * Maintain 6000ft until crossing R-234 VBA VOR

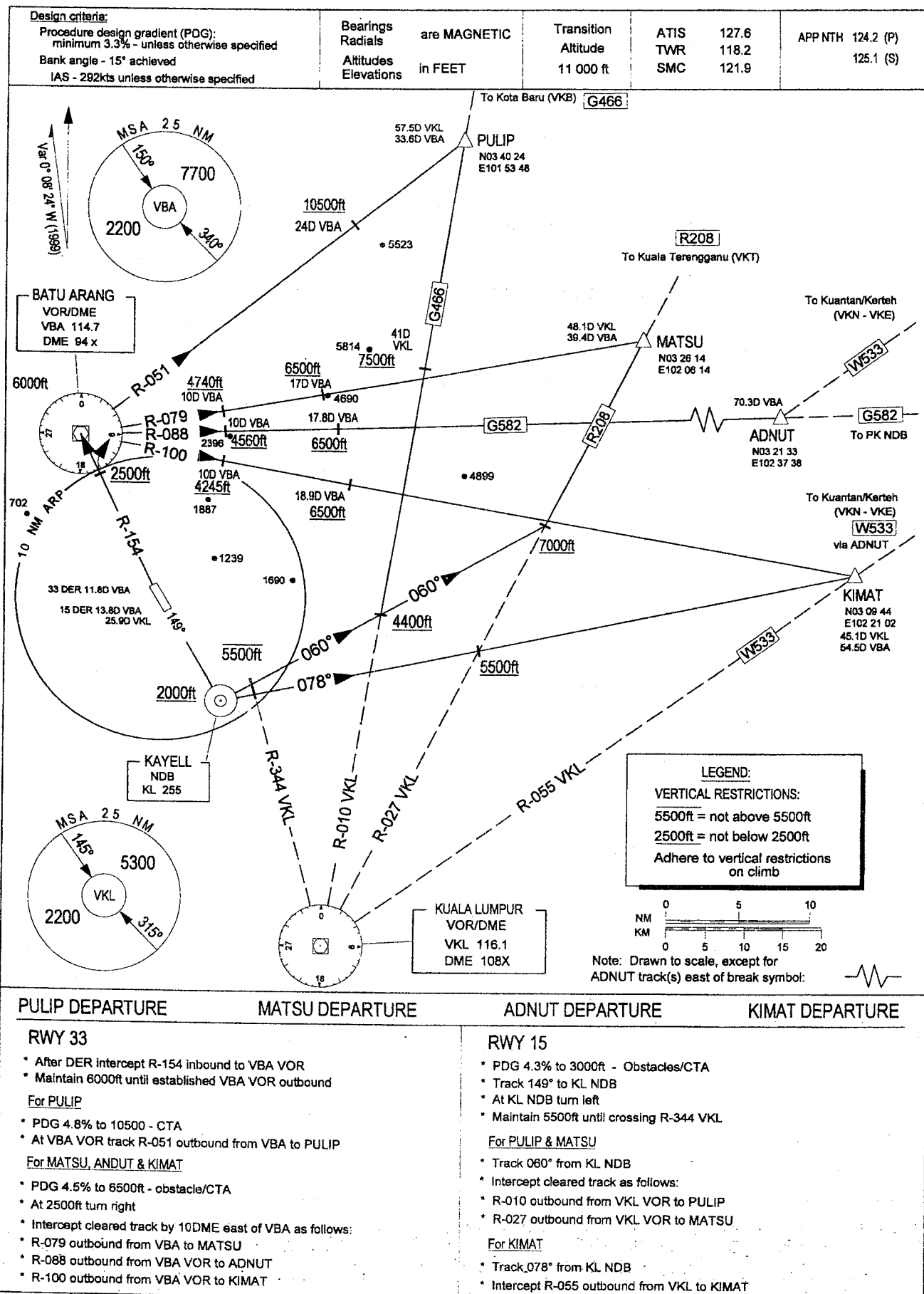
AGOSA DEPARTURE

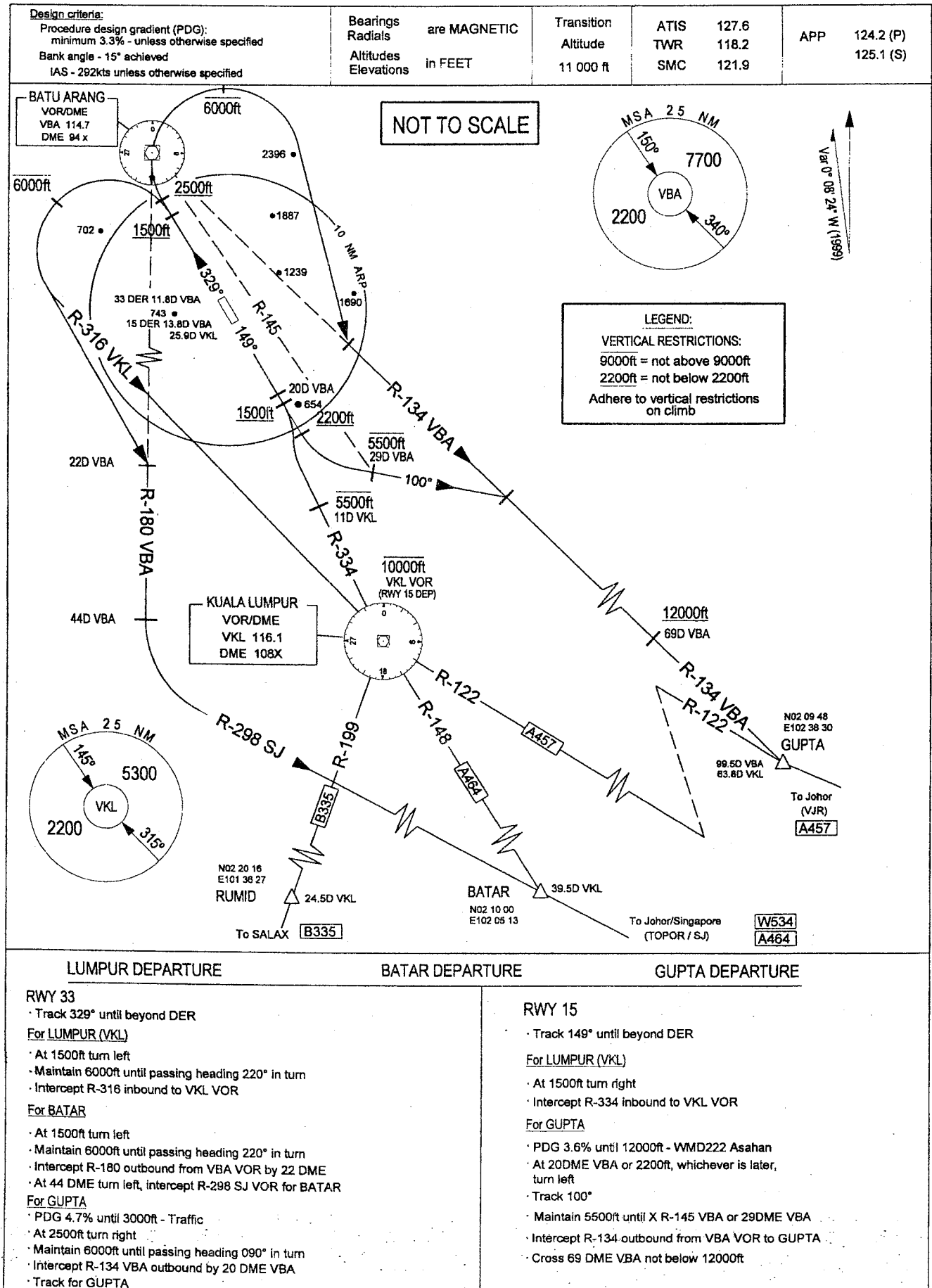
RWY 15

- * Track 149°
- * At 20 DME VKL or 1500ft, whichever is later, turn right
- * Track 275°
- * Intercept R-309 outbound from VKL VOR to AGOSA
- * Maintain 5500ft until established
on R-309 beyond 15 DME VKL

STANDARD DEPARTURE CHART INSTRUMENT (SID) - ICAO

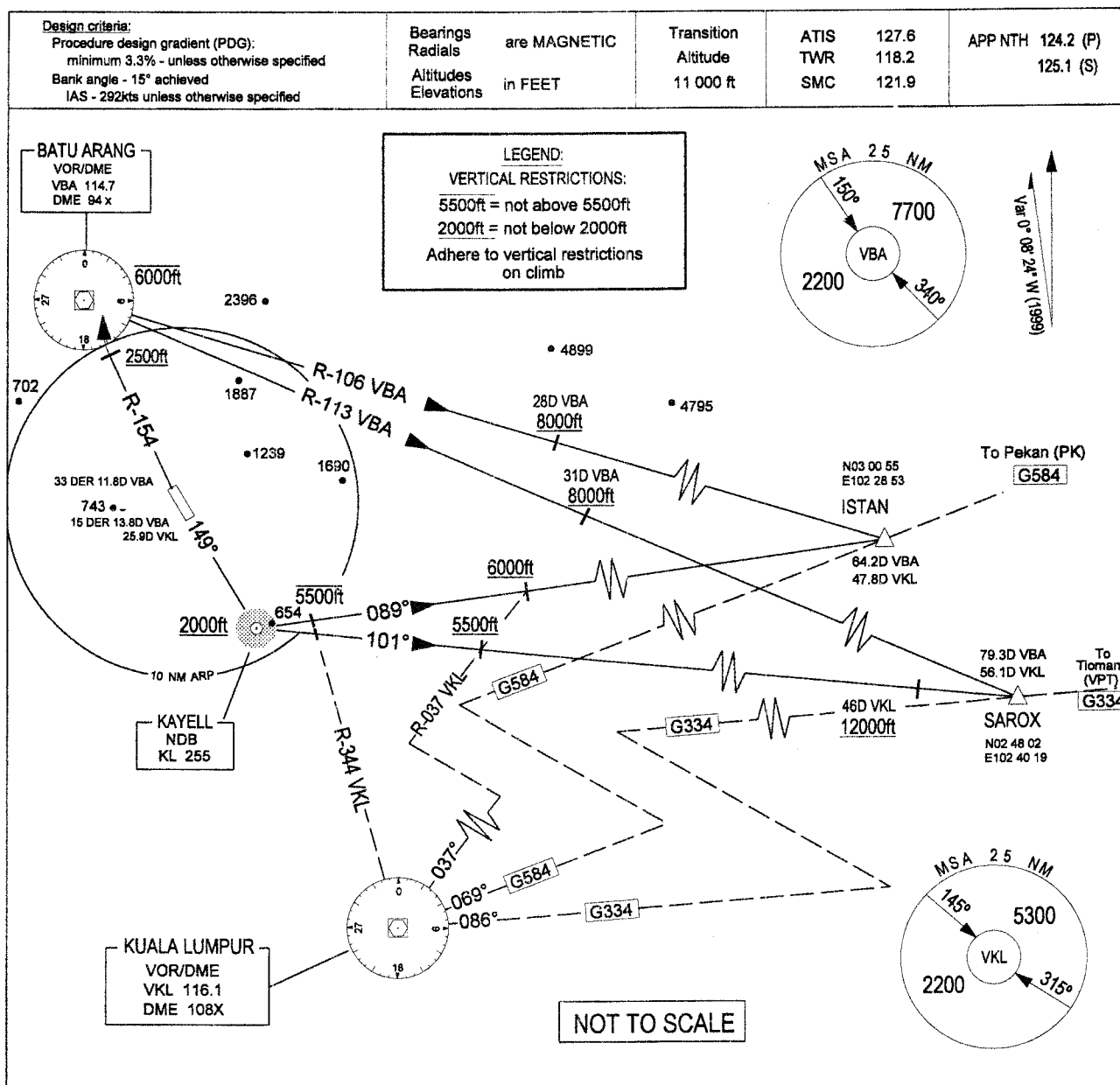
SUBANG / SULTAN ABDUL AZIZ SHAH DEPARTURES NORTH EAST



STANDARD DEPARTURE CHART
INSTRUMENT (SID) - ICAOSUBANG / SULTAN ABDUL AZIZ SHAH
DEPARTURES SOUTH

STANDARD DEPARTURE CHART INSTRUMENT (SID) - ICAO

SUBANG / SULTAN ABDUL AZIZ SHAH DEPARTURES SOUTH EAST



ISTAN DEPARTURE

RWY 33

- PDG 4.5% to 5000ft - Obstacles/Traffic
- After DER intercept R-154 inbound to VBA VOR
- At 2500ft turn right
- Maintain 6000ft until established on VBA VOR track outbound

For ISTAN

- Intercept R-106 outbound from VBA VOR to ISTAN

For SAROX

- Intercept R-113 outbound from VBA VOR to SAROX

SAROX DEPARTURE

RWY 15

- PDG 4.3% to 3000ft - Traffic
- After DER track 149° to KL NDB
- At KL NDB turn left
- Maintain 5500ft until crossing R-344 VKL VOR

For ISTAN

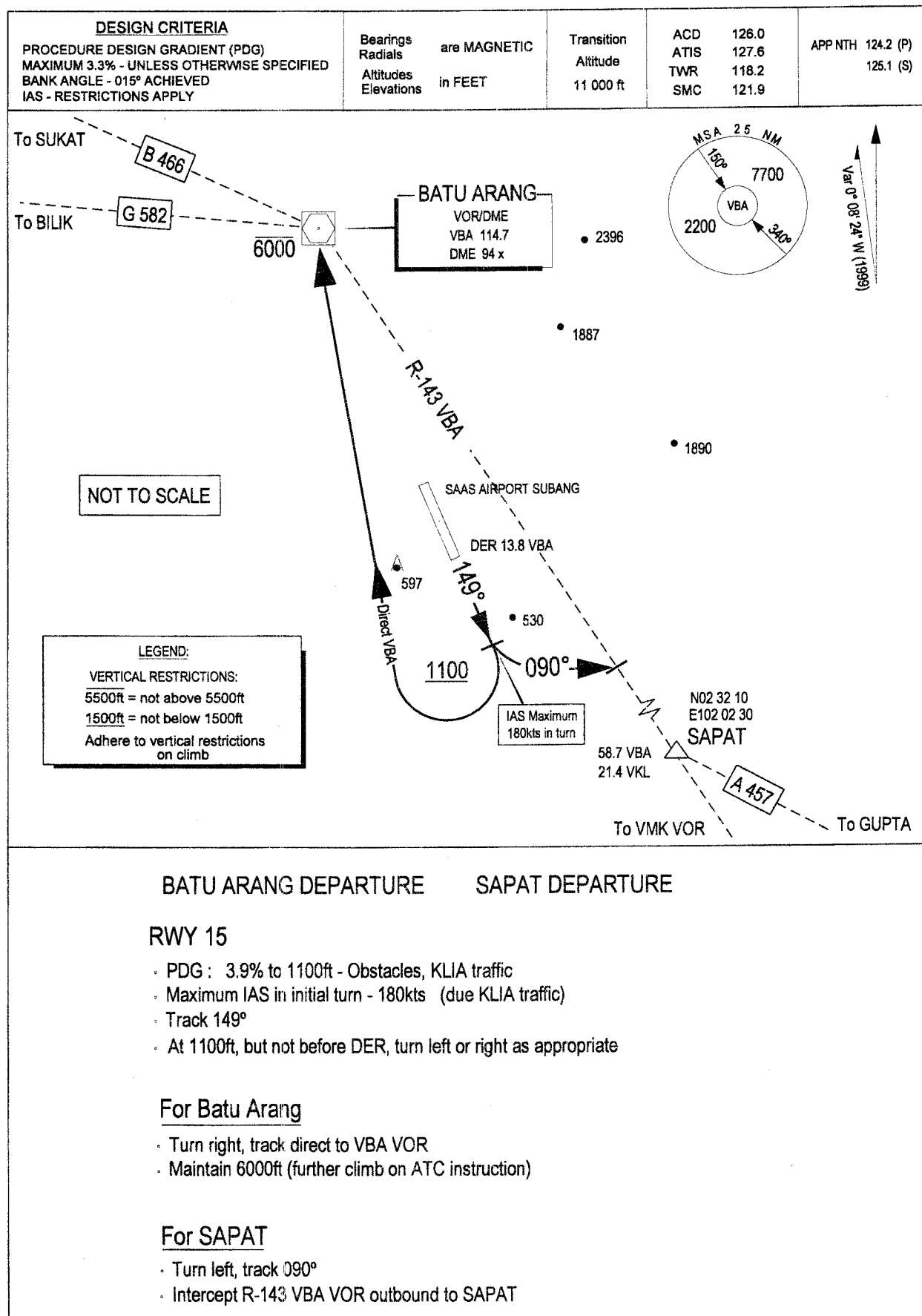
- Track 089° from KL NDB to ISTAN

For SAROX

- Track 101° from KL NDB to SAROX

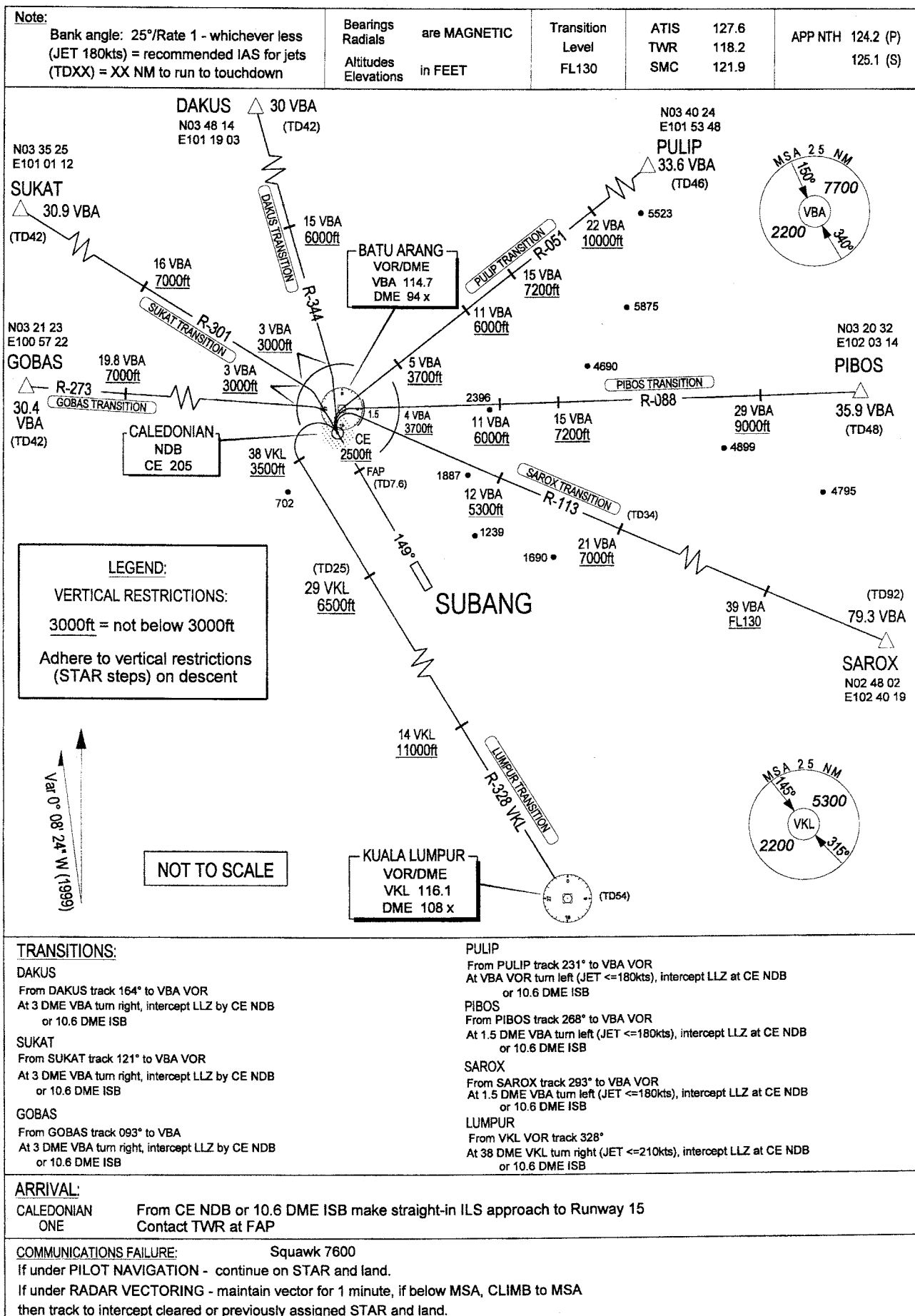
STANDARD DEPARTURE CHART
INSTRUMENT (SID) - ICAO

SUBANG / SULTAN ABDUL AZIZ SHAH
DEPARTURES RWY 15



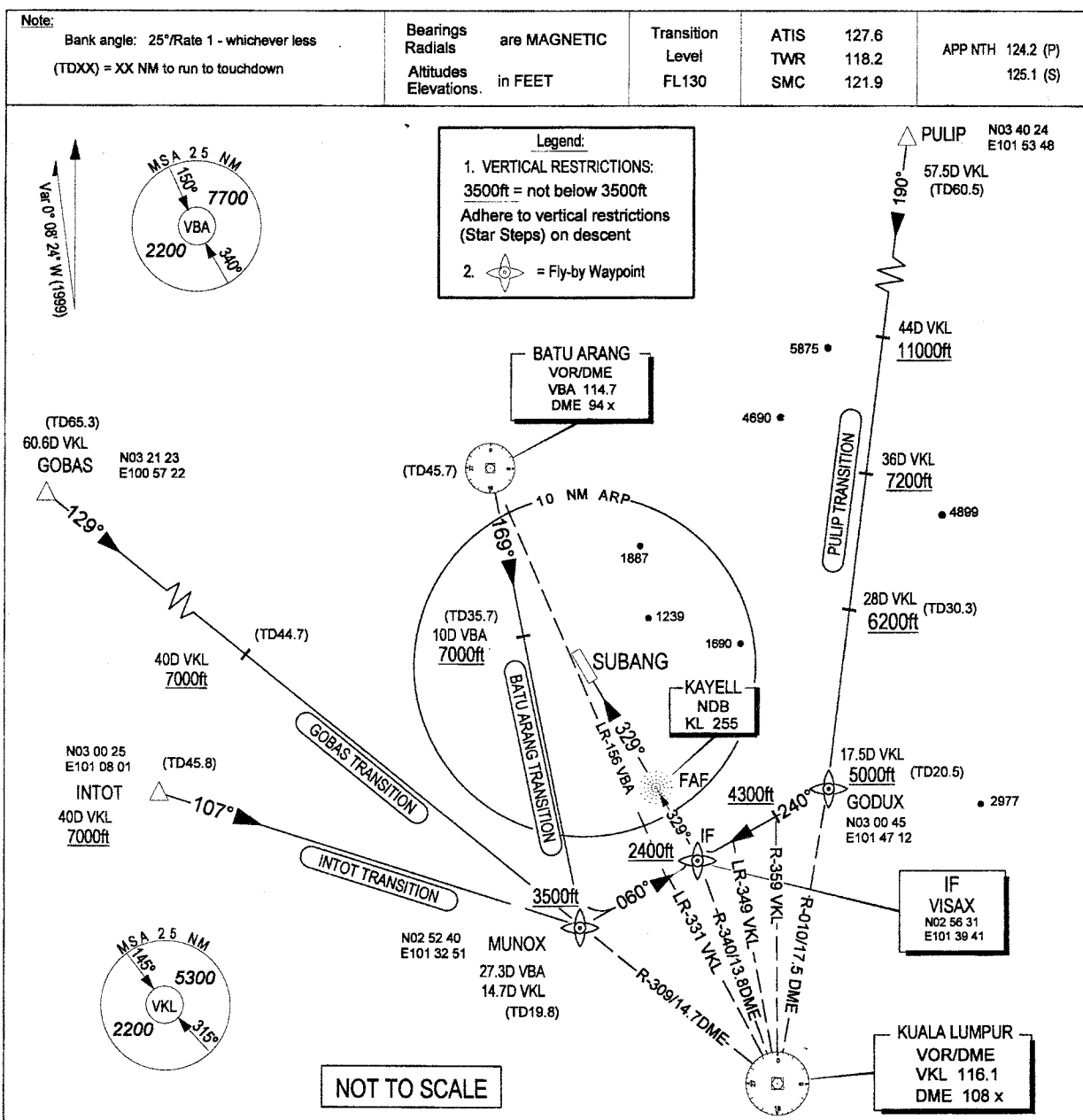
STANDARD ARRIVAL CHART INSTRUMENT (STAR) - ICAO

SUBANG / SULTAN ABDUL AZIZ SHAH CALEDONIAN ONE ARRIVAL



STANDARD ARRIVAL CHART INSTRUMENT (STAR) - ICAO

SUBANG / SULTAN ABDUL AZIZ SHAH KAYELL ONE ARRIVAL (1 of 3)



TRANSITIONS:

PULIP

Track 190° to GODUX
At GODUX turn right, track 240° to VISAX
RNAV - at VISAX turn right, intercept localizer
NON-RNAV - crossing LR-349 VKL turn right, intercept localizer

GOBAS

Track 129° to MUNOX
At MUNOX turn left, track 060° to VISAX
RNAV - at VISAX turn left, intercept localizer
NON-RNAV - crossing LR-331 VKL turn left, intercept localizer

BATU ARANG

Track 169° to MUNOX
At MUNOX turn left, track 060° to VISAX
RNAV - at VISAX turn left, intercept localizer
NON-RNAV - crossing LR-156 VBA turn left, intercept localizer

INTOT (RNAV only)

Track 107° to MUNOX
At MUNOX turn left, track 060° to VISAX
At VISAX turn left, intercept localizer

ARRIVAL:

KAYELL
ONE

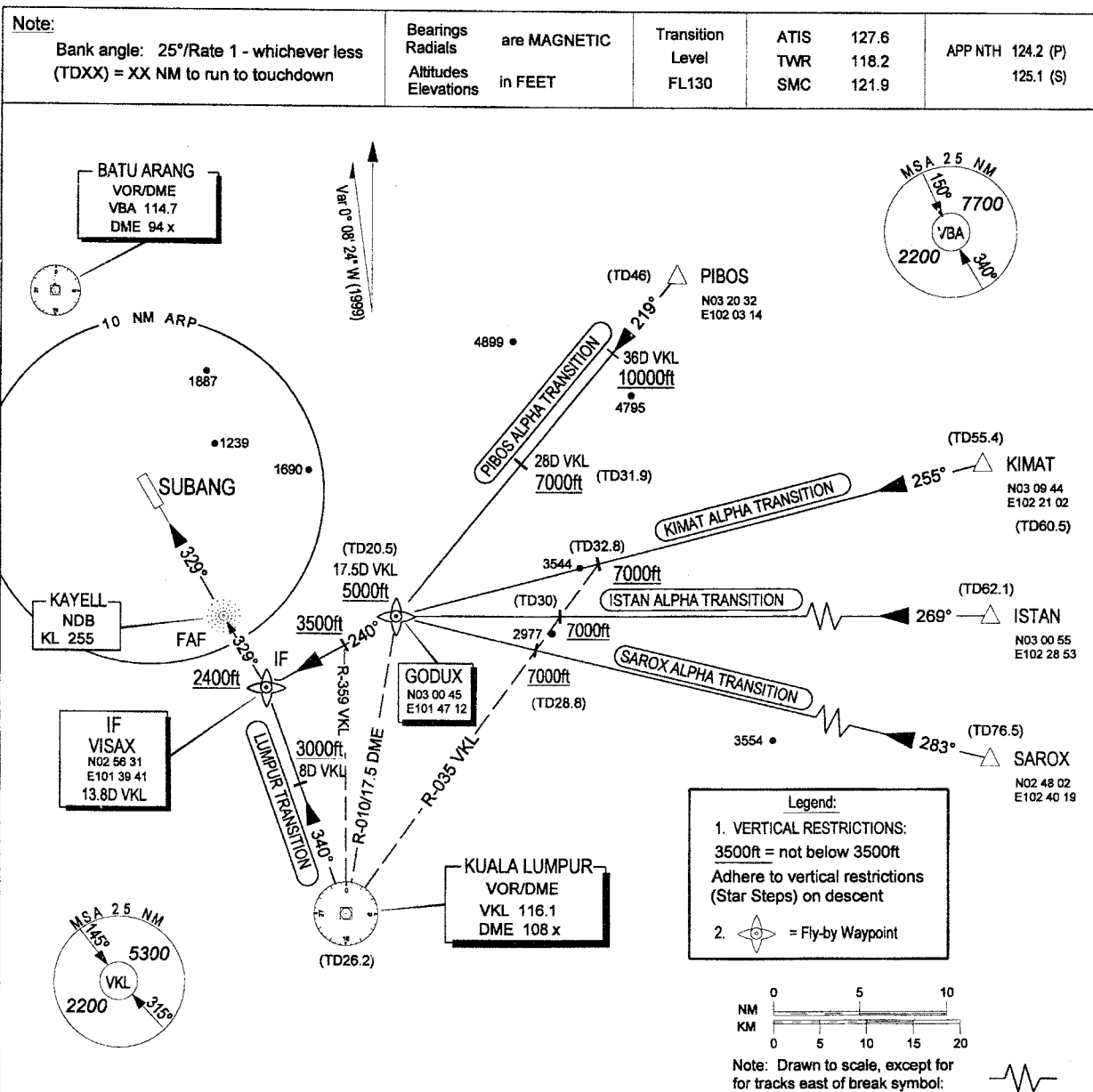
Make straight-in ILS approach to Runway 33
Contact TWR at FAF or KAYELL

COMMUNICATIONS FAILURE:

Squawk 7600

If under PILOT NAVIGATION - continue on STAR and land.

If under RADAR VECTORING - maintain vector for 1 minute, if below MSA, CLIMB to MSA then track to intercept cleared or previously assigned STAR and land.

STANDARD ARRIVAL CHART
INSTRUMENT (STAR) - ICAOSUBANG / SULTAN ABDUL AZIZ SHAH
KAYELL ONE ARRIVAL
(2 of 3)

TRANSITIONS:

PIBOS ALPHA (RNAV only)

Track 219° to GODUX
At GODUX turn right, track 240° to VISAX
At VISAX turn right, intercept localizer

KIMAT ALPHA (RNAV only)

Track 255° to GODUX
At GODUX turn left, track 240° to VISAX
At VISAX turn right, intercept localizer

ISTAN ALPHA (RNAV only)

Track 269° to GODUX
At GODUX turn left, track 240° to VISAX
At VISAX turn right, intercept localizer

SAROX ALPHA (RNAV only)

Track 283° to GODUX
At GODUX turn left, track 240° to VISAX
At VISAX turn right, intercept localizer

LUMPUK

From VKL VOR track 340°
Intercept localizer at VISAX

ARRIVAL:

KAYELL
ONE

Make straight-in ILS approach to Runway 33
Contact TWR at FAF or KAYELL

COMMUNICATIONS FAILURE:

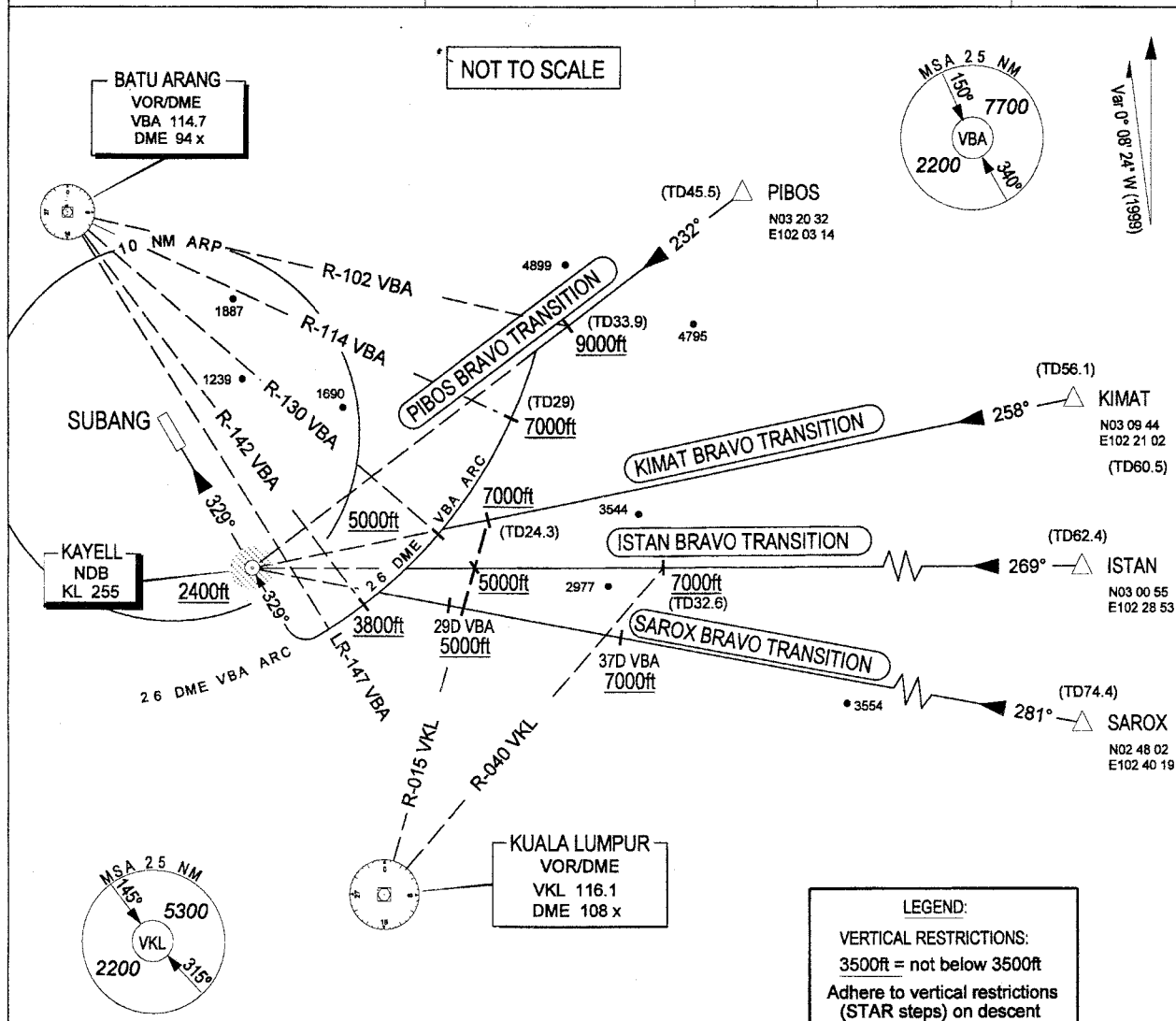
Squawk 7600

If under PILOT NAVIGATION - continue on STAR and land.

If under RADAR VECTORED - maintain vector for 1 minute, if below MSA, CLIMB to MSA
then track to intercept cleared or previously assigned STAR and land.

STANDARD ARRIVAL CHART
INSTRUMENT (STAR) - ICAOSUBANG / SULTAN ABDUL AZIZ SHAH
KAYELL ONE ARRIVAL
(3 of 3)

Note: Bank angle: 25°/Rate 1 - whichever less (TDXX) = XX NM to run to touchdown	Bearings Radials are MAGNETIC Altitudes Elevations in FEET	Transition Level FL130	ATIS 127.6	APP NTH 124.2 (P) 125.1 (S)
			TWR 118.2	
			SMC 121.9	

**TRANSITIONS:**

PIBOS BRAVO
Track 232° to KL NDB
Intercept 26 DME VBA arc
Crossing LR-147 VBA turn right, intercept localizer
(Vertical Restrictions at 9000ft, 7000ft, 5000ft, 3800ft)

KIMAT BRAVO
Track 258° to KL NDB
Intercept 26 DME VBA arc
Crossing LR-147 VBA turn right, intercept localizer
(Vertical Restrictions at 7000ft, 5000ft, 3800ft)

ISTAN BRAVO
Track 269° to KL NDB
Intercept 26 DME VBA arc
Crossing LR-147 VBA turn right, intercept localizer
(Vertical Restrictions at 7000ft, 5000ft, 3800ft)

SAROX BRAVO
Track 281° to KL NDB
Intercept 26 DME VBA arc
Crossing LR-147 VBA turn right, intercept localizer
(Vertical Restrictions at 7000ft, 5000ft, 3800ft)

ARRIVAL:

KAYELL ONE Make straight-in ILS approach to Runway 33
Contact TWR at FAF or KAYELL

COMMUNICATIONS FAILURE:

Squawk 7600

If under PILOT NAVIGATION - continue on STAR and land.

If under RADAR VECTORING - maintain vector for 1 minute, if below MSA, CLIMB to MSA, then track to intercept cleared or previously assigned STAR and land.

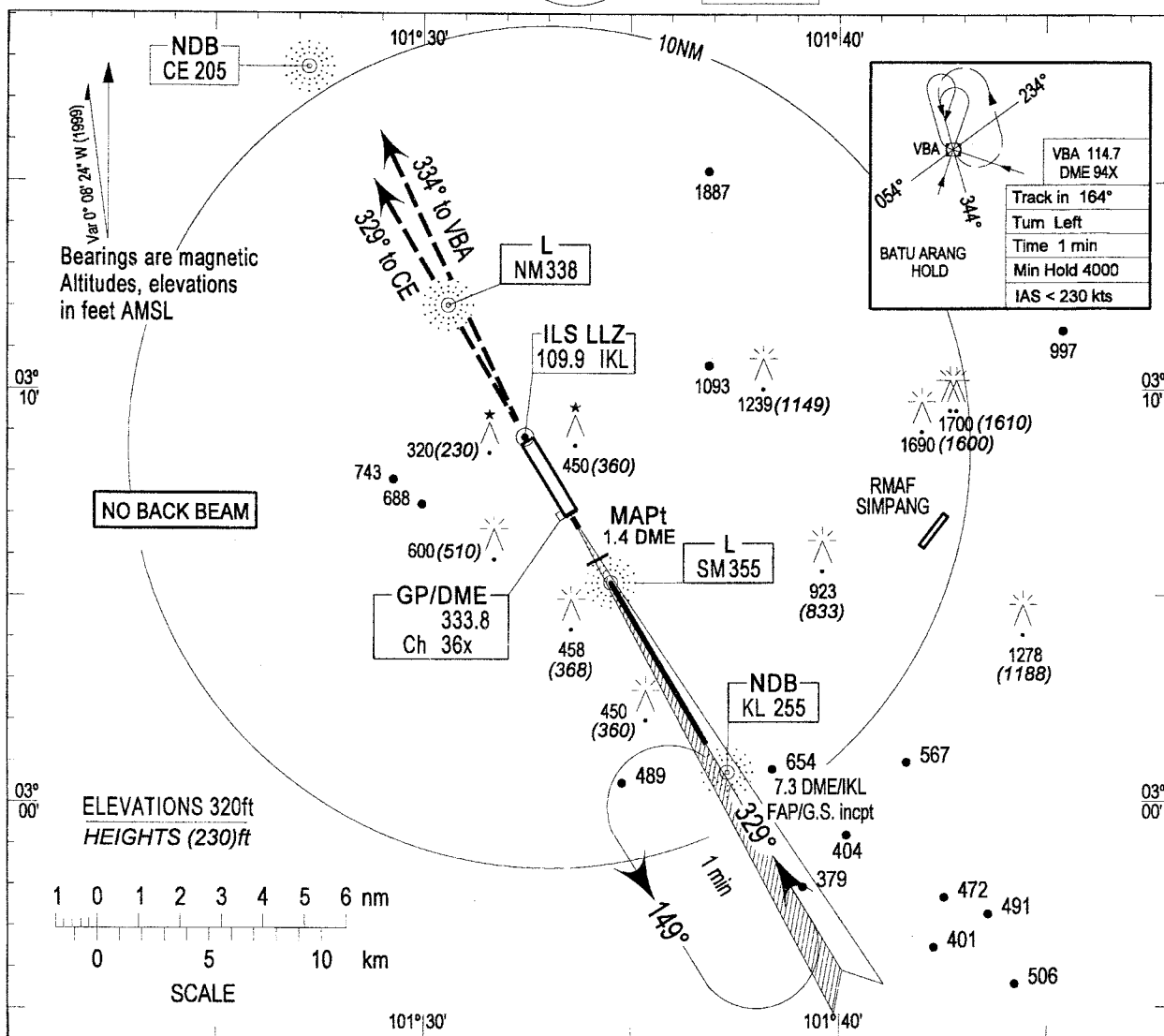
INSTRUMENT APPROACH CHART - ICAO

AD ELEV 90ft
HEIGHTS RELATED TO
THR RWY 33 - ELEV 90ft
ILS REF DATUM - 56ft

SUBANG/SULTAN ABDUL AZIZ SHAH
PENINSULAR MALAYSIA

ILS
RWY 33

ATIS 127.6
APP 125.1
SMC 121.9
TWR 118.2



MISSED APPROACH

Climb on 329° to CE NDB
hold 3300 (2310) or 334°
to VBA VOR hold 4000
(3910) or as directed
by ATC

329° to CE
334° to VBA

MAPt 1.4 DME

313 (233)

757 (667)

1045 (955)

1682 (1592)

1394 (1304)

7.3 DME/IKL

2400 (2310)

3° GS

5.4% (non precision)

7.3 DME/IKL

USE QNH

TRANSITION LEVEL: FL 130
TRANSITION ALT: 11000ft

USE QNH

ELEV 90ft

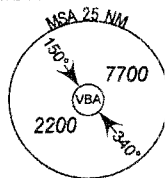
THR RWY 33

NM FROM DME ICL

OCA (OCH)						
Category of Aircraft	A		B		C	D
Cat 1 - Pressure Alt.	275(185)		290(200)		295(205)	300(210)
LLZ DME	450(360) / 1.4DME					
LLZ only	550(460)					
Circling	950(860)			1700(1610)		
Time to Threshold Runway 33 from FAP distance 7.1 nautical miles						
Ground Speed (knots)	70	90	120	150	180	210
Minutes:Seconds	5:59	4:40	3:30	2:48	2:20	2:00
5.4% descent (ft/min)	390	503	670	838	1005	1173

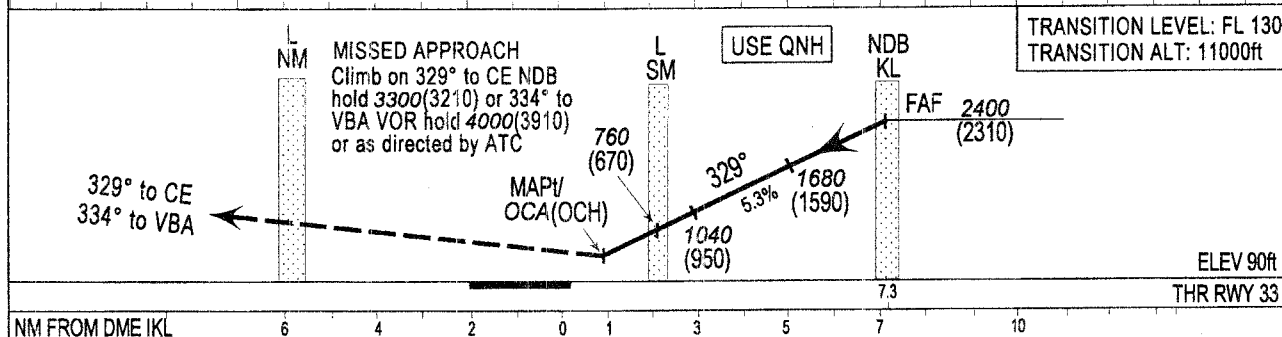
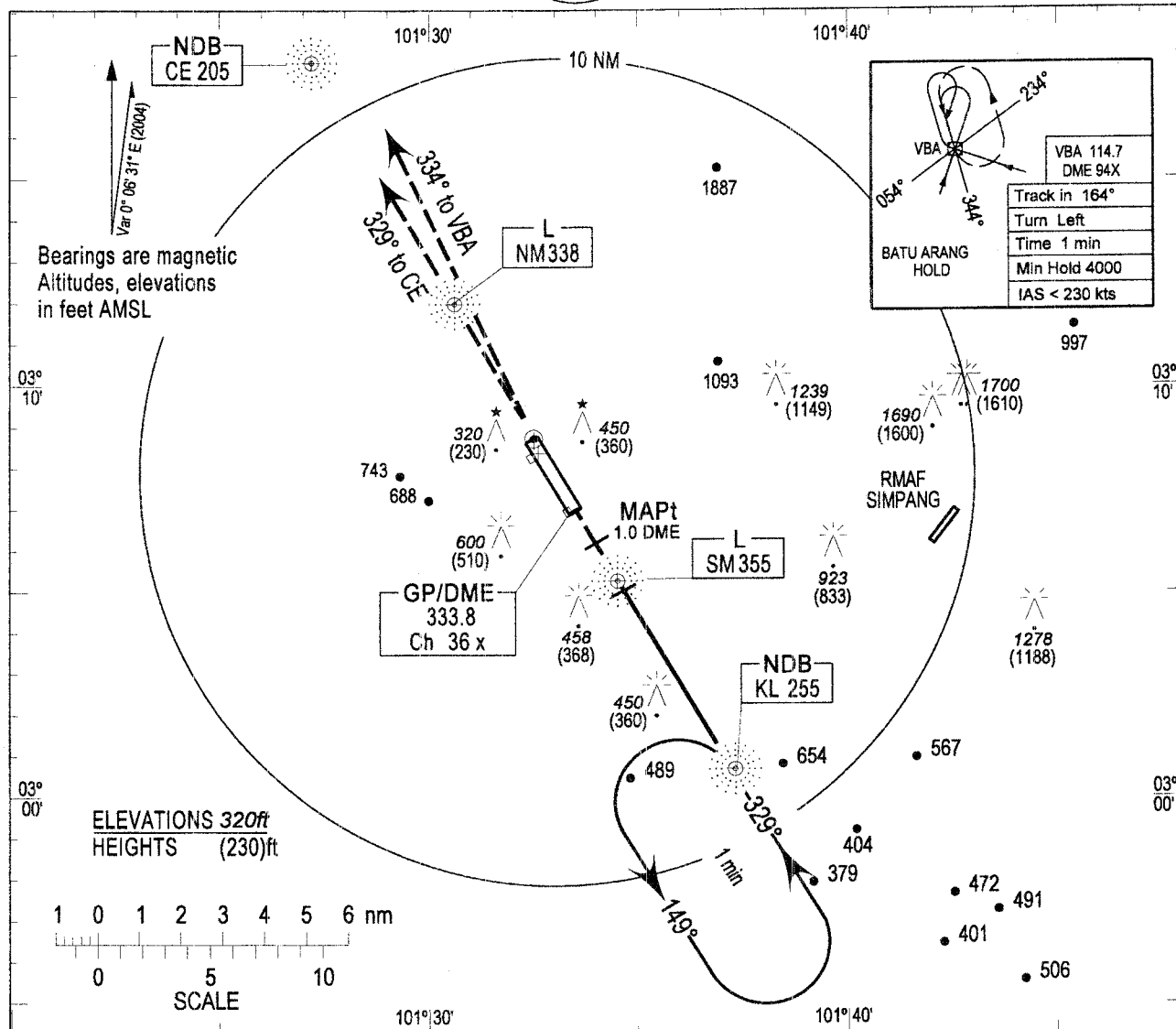
INSTRUMENT APPROACH CHART - ICAO

AD ELEV 90ft
HEIGHTS RELATED TO
THR RWY 33 - ELEV 90ft



SUBANG/SULTAN ABDUL AZIZ SHAH
PENINSULAR MALAYSIA
NDB/DME (NDB/LOCATOR)
RWY 33

ATIS 127.6
APP 125.1
SMC 121.9
TWR 118.2



OCA (OCH)						
Category of Aircraft	A	B	C	D		
NDB/DME	500(410) / 1.0 DME					
NDB/Locator only	600(510)					
Circling	950(860)			1700(1610)		
Time to Threshold Runway from FAF distance 7.2 nautical miles						
Ground Speed (knots)	70	90	120	150	180	210
Minutes:Seconds	6:00	4:51	3:39	2:55	2:26	2:05
5.3% descent (ft/min)	386	483	644	805	966	1127

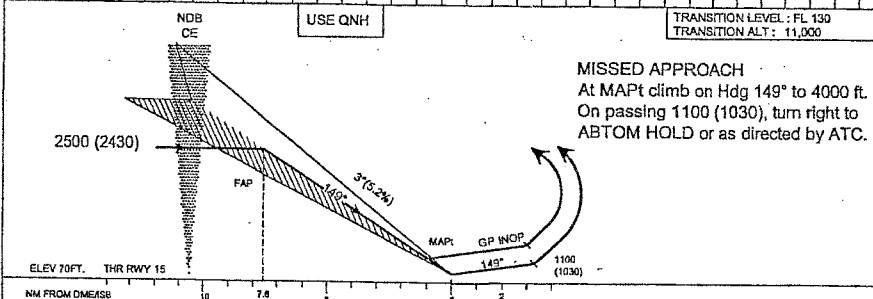
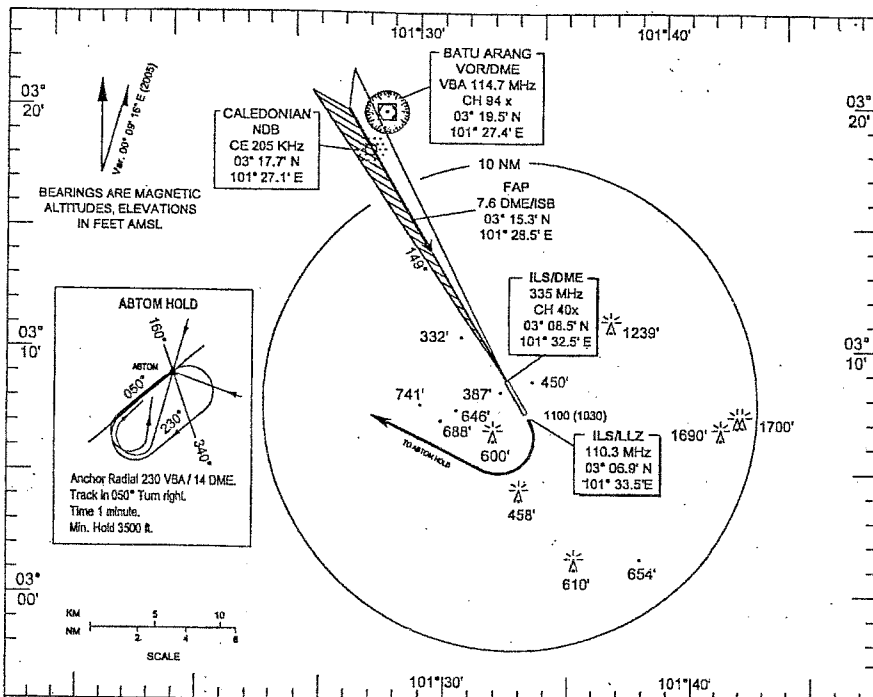
**INSTRUMENT
APPROACH
CHART - ICAO**

AD. ELEV. 90 FT
HEIGHT RELATED TO
THR RWY 15 ELEV 70 FT
ILS REF DATUM 52 FT



TWR - 118.2
SMC - 121.9
ATIS - 127.6
APP - 125.1

**SUBANG /
SULTAN ABDUL AZIZ SHAH
ILS
RWY 15**



OCA (H) FT.					
Aircraft Category	A	B	C	D	
ILS / DME	Cat 1	270 (200)	276 (206)	284 (214)	295 (225)
LLZ / DME	GP In Op	500 (430) / 1.35 DME			
Circling		800 (730)	1050 (980)	1240 (1170)	1700 (1630)

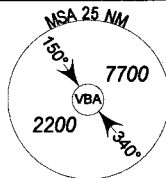
TIME TO THR RWY 15 FROM FAP DIST. 7.6NM			
Ground Speed	70	90	120
Min : Sec	6:31	5:04	3:46
3° Desc. (ft/min)	370	480	840

ALTITUDE VS DME DISTANCE TO THR RWY 15							
DME Distance	7.6	6	5	4	3	2	1.35
Altitude (3°)	2500	2090	1670	1345	1030	710	500

Ground Speed	150	180	210
Min : Sec	3:02	2:32	2:10
3° Desc. (ft/min)	800	1000	1120

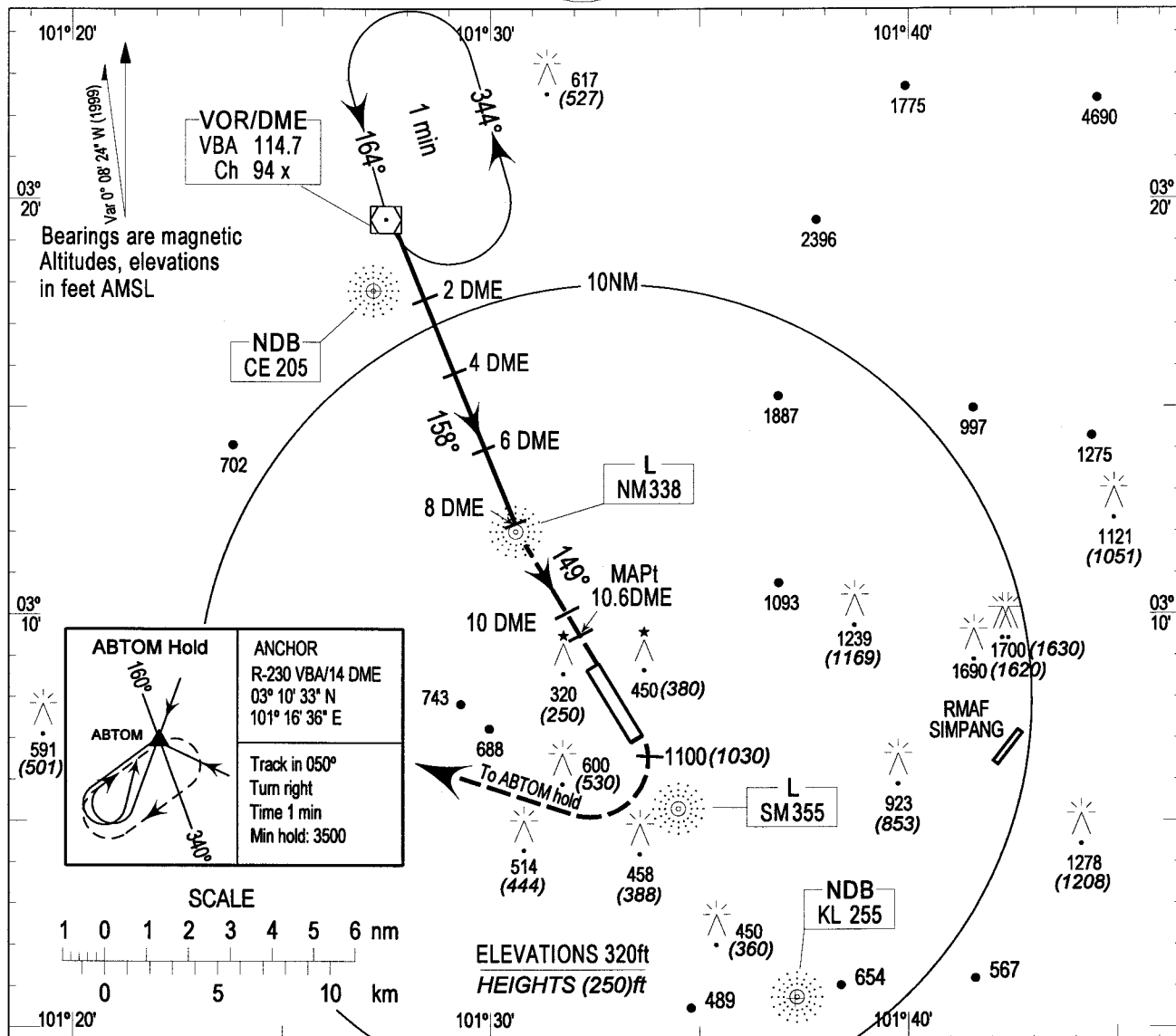
INSTRUMENT APPROACH CHART - ICAO

AD ELEV 90ft
HEIGHTS RELATED TO
THR RWY 15 - ELEV 70ft



SUBANG/SULTAN ABDULAZIZ SHAH
PENINSULAR MALAYSIA
**VOR/DME/LOCATOR,
VOR/LOCATOR**
RWY 15

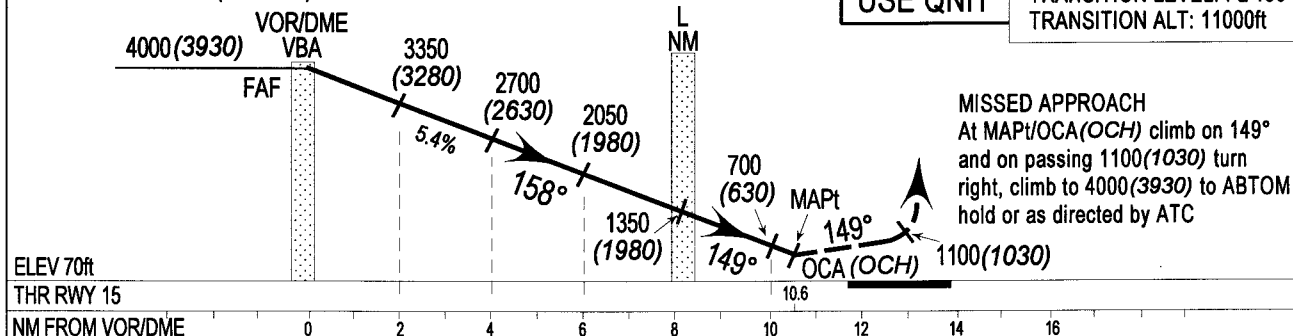
ATIS 127.6
APP 125.1
SMC 121.9
TWR 118.2



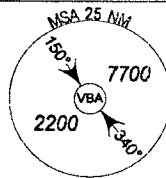
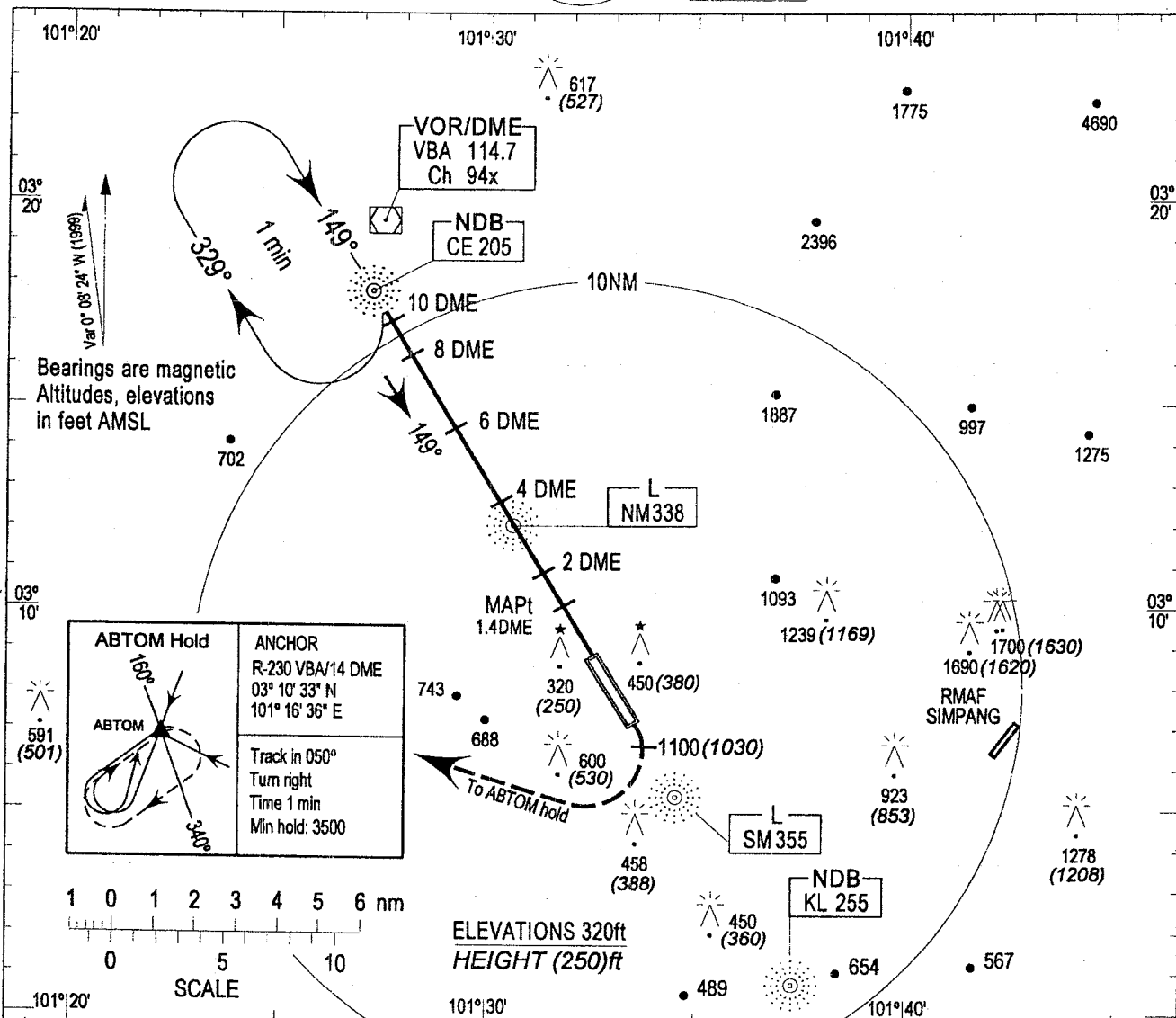
BASED ON IAS 230 KTS (STILL AIR)

USE QNH

TRANSITION LEVEL: FL 130
TRANSITION ALT: 11000ft



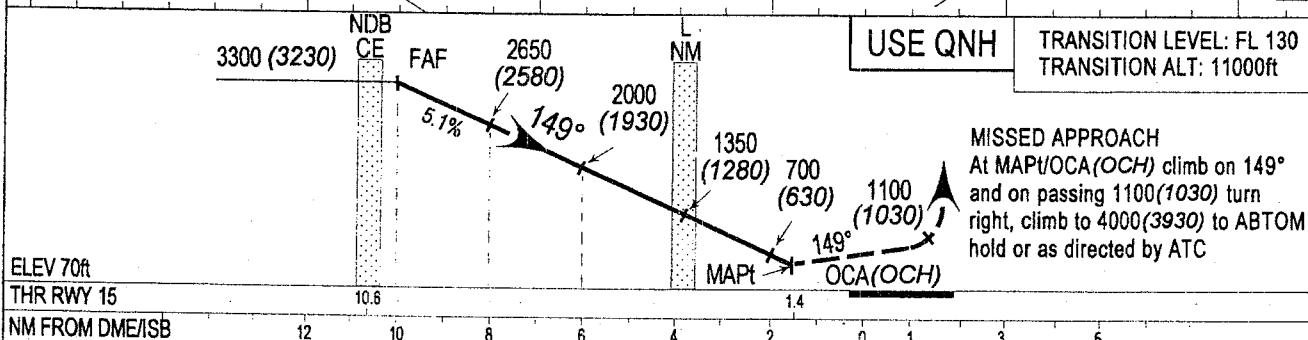
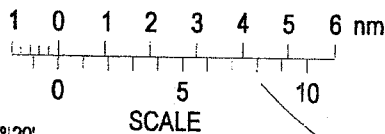
OCA(OCH)						
Category of Aircraft	A	B	C	D		
Straight - in Approach	500 (430) /10.6DME					
VOR/Locator only	600 (530)					
Circling	950 (860)			1700 (1610)		
Caution:	-					
Time to Threshold Runway 15 from FAF distance 12.0 nautical miles						
Ground Speed (knots)	70	90	120	150	180	210
Minutes:Seconds	10:0	8:00	6:00	4:48	4:00	3:25
5.4% descent (ft/min)	395	494	658	823	987	1155

INSTRUMENT
APPROACH
CHART - ICAOAD ELEV 90ft
HEIGHTS RELATED TO
THR RWY 15 - ELEV 70ftSUBANG/SULTAN ABDUL AZIZ SHAH
PENINSULAR MALAYSIA
NDB/DME, NDB/LOCATOR
RWY 15
 ATIS 127.6
 APP 125.1
 SMC 121.9
 TWR 118.2


ABTOM Hold

ANCHOR
R-230 VBA/14 DME
03° 10' 33" N
101° 16' 36" E

Track in 050°
Turn right
Time 1 min
Min hold: 3500



ELEV 70ft

THR RWY 15

NM FROM DME/ISB

OCA(OCH)						
Category of Aircraft	A		B		C	D
Straight-in	500 (430) /1.4DME					
NDB/Locator only	600 (530)					
Circling	950 (860)			1700 (1610)		
Caution:	-					
Time to Threshold Runway 15 from FAF distance 10.5 nautical miles						
Ground Speed (knots)	70	90	120	150	180	210
Minutes:Seconds	8:45	7:00	5:15	4:12	3:30	3:00
5.1% descent (ft/mins)	371	464	619	774	928	1083