

WABB/BIK
FRANS KAISIEPO

JEPPesen
13 JAN 17 **10-2**

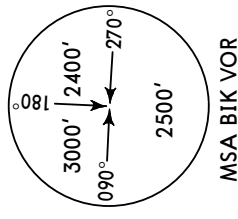
BIAK, INDONESIA

STAR

*ATIS
126.5

Apt Elev
46'

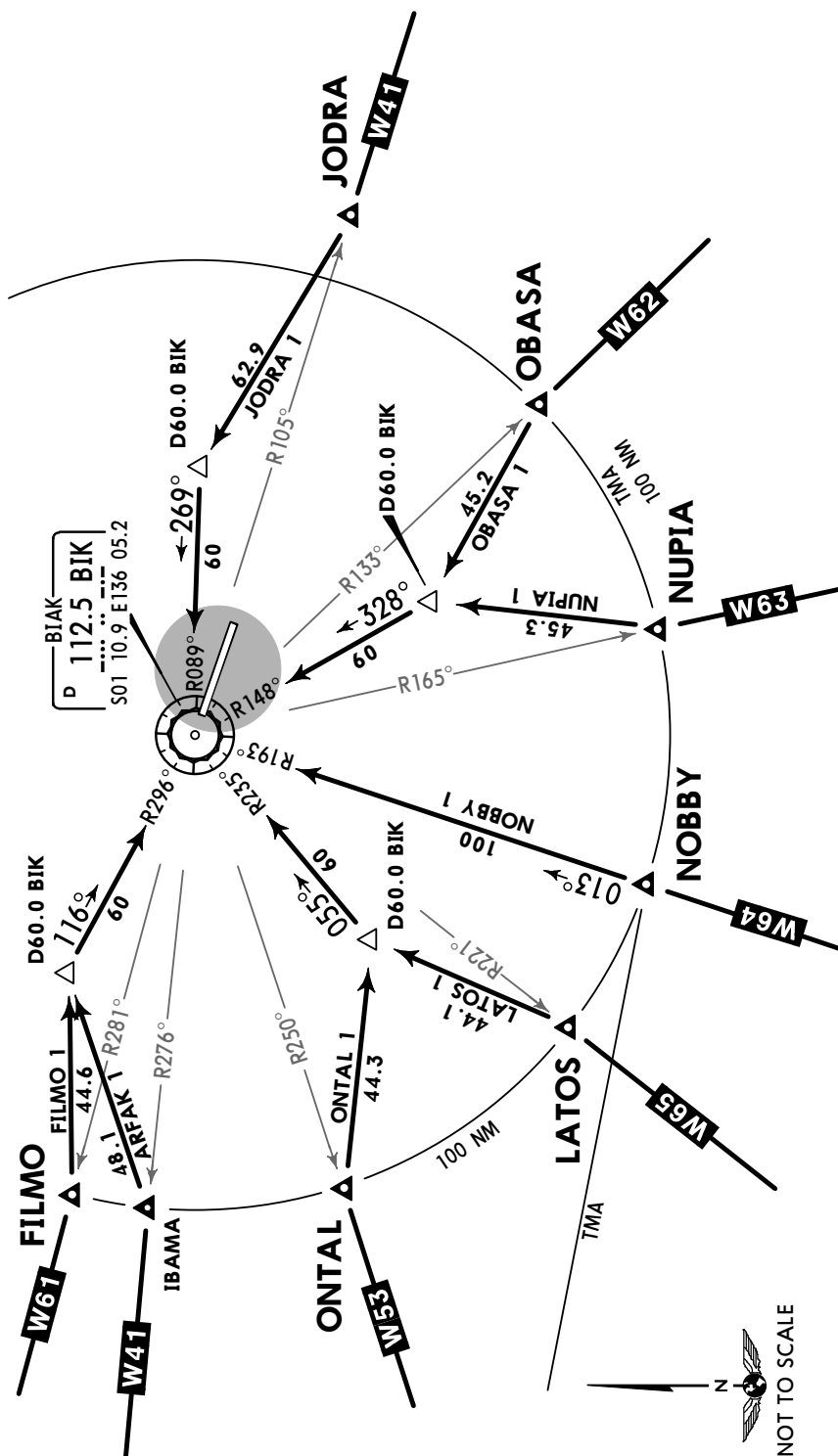
Alt set: hPa Trans Level: FL180 Trans alt: 18000'



MSA BIK VOR

ARFAK 1 [ARFAK1], FILMO 1 [FILMO1]
JODRA 1 [JODRA1], LATOS 1 [LATOS1]
NOBBY 1 [NOBBY1], NUPIA 1 [NUPIA1]
OBASA 1 [OBASA1], ONTAL 1 [ONTAL1]

ARRIVALS



ROUTING

STAR	ROUTING
ARFAK 1	Arriving aircraft from W-41 (eastbound) over IBAMA turn LEFT to intercept BIK R-296 at D60.0 BIK then proceed to BIK VOR.
FILMO 1	Arriving aircraft from W-61 (eastbound) over FILMO turn LEFT to intercept BIK R-296 at D60.0 BIK then proceed to BIK VOR.
JODRA 1	Arriving aircraft from W-41 (westbound) over JODRA turn RIGHT to intercept BIK R-089 at D60.0 BIK then proceed to BIK VOR.
LATOS 1	Arriving aircraft from W-65 over LATOS turn LEFT to intercept BIK R-235 at D60.0 BIK then proceed to BIK VOR.
NOBBY 1	Arriving aircraft from W-64 over NOBBY intercept and MAINTAIN BIK R-193 proceed to BIK VOR.
NUPIA 1	Arriving aircraft from W-63 over NUPIA turn RIGHT to intercept BIK R-148 at D60.0 BIK then proceed to BIK VOR.
OBASA 1	Arriving aircraft from W-62 over OBASA turn LEFT to intercept BIK R-148 at D60.0 BIK then proceed to BIK VOR.
ONTAL 1	Arriving aircraft from W-53 over ONTAL turn RIGHT to intercept BIK R-235 at D60.0 BIK then proceed to BIK VOR.

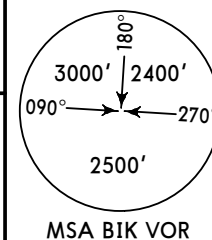
WABB/BIK
FRANS KAISIEPO

JEPPESEN
 13 JAN 17 **10-3**

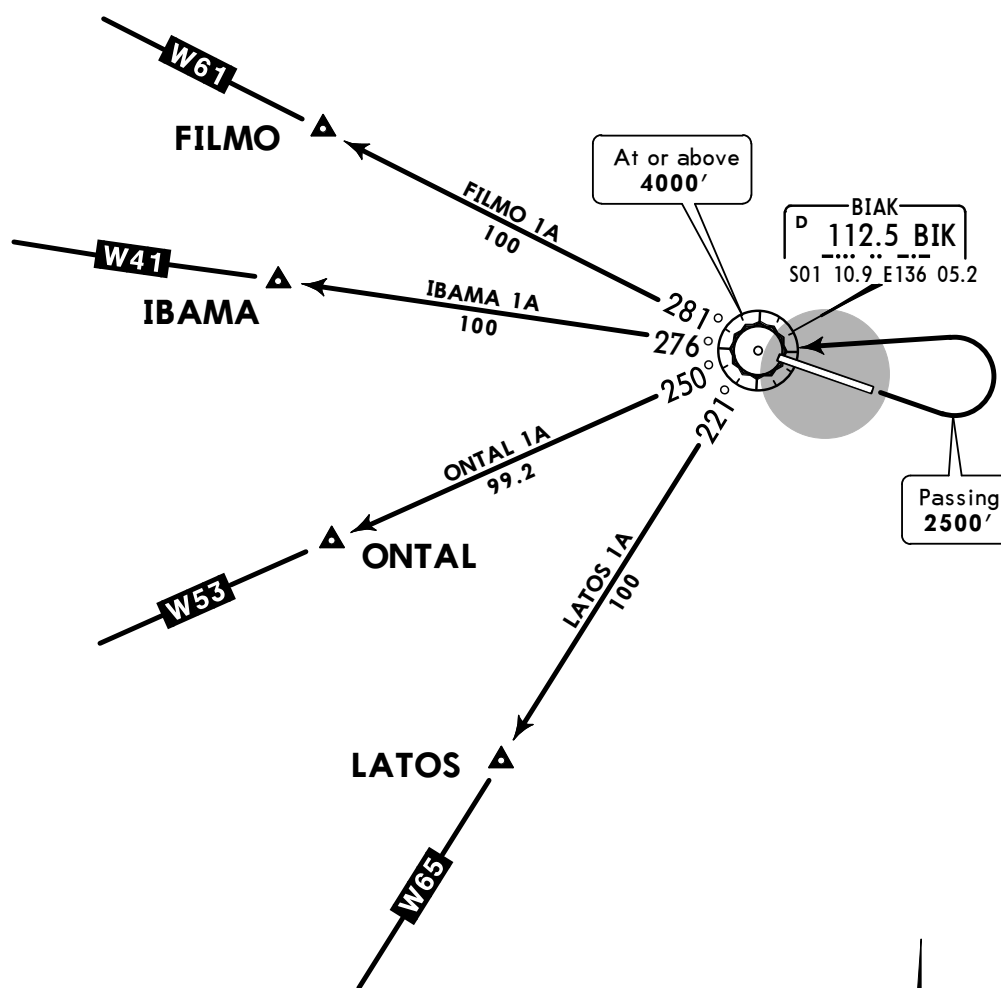
BIAK, INDONESIA
SID

Apt Elev
 46'

Trans Level: FL180 Trans alt: 18000'



**FILMO 1A [FILM1A], IBAMA 1A [IBAM1A]
 LATOS 1A [LATO1A], ONTAL 1A [ONTA1A]
 DEPARTURES
 (RWY 11)**



INITIAL CLIMB

MAINTAIN runway heading until passing 2500' then turn LEFT, proceed to BIK VOR at or above 4000'.

SID	ROUTING
FILMO 1A	At BIK VOR, intercept BIK R-281 to FILMO, join W-61.
IBAMA 1A	At BIK VOR, intercept BIK R-276 to IBAMA, join W-41.
LATOS 1A	At BIK VOR, intercept BIK R-221 to LATOS, join W-65.
ONTAL 1A	At BIK VOR, intercept BIK R-250 to ONTAL, join W-53.

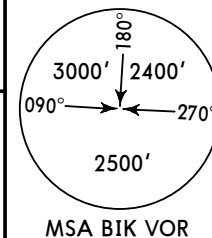
WABB/BIK
FRANS KAISIEPO

JEPPESEN
 13 JAN 17 **(10-3A)**

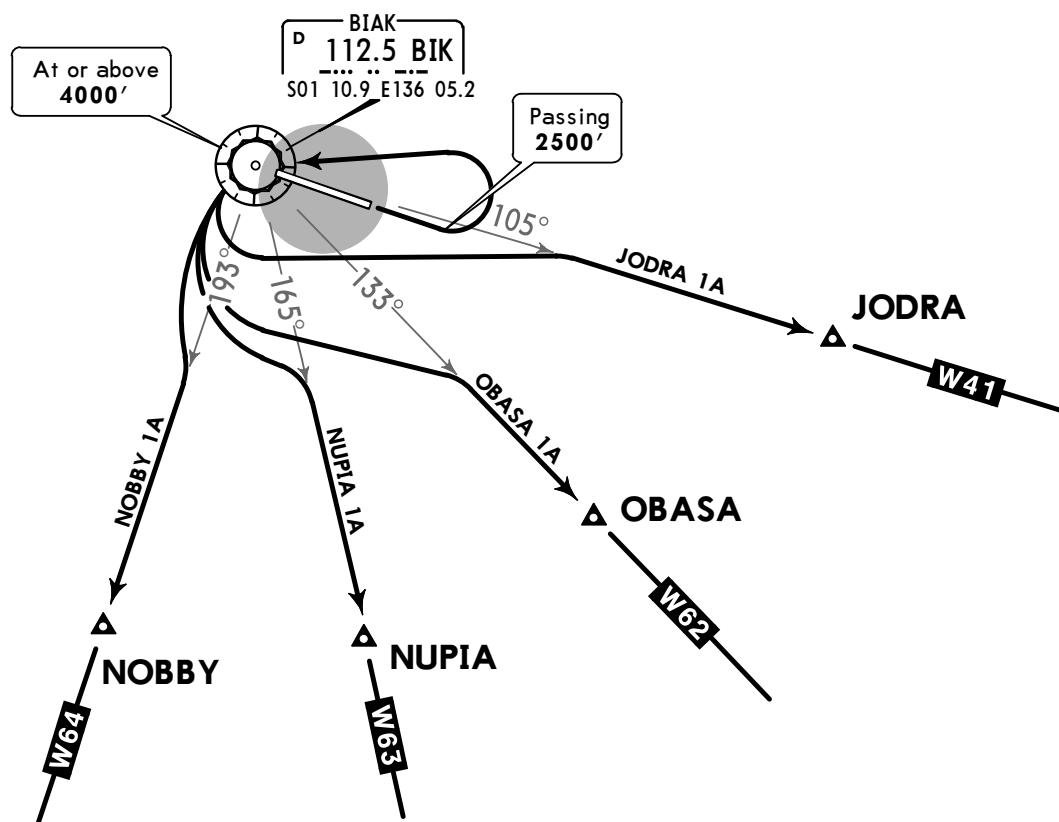
BIAK, INDONESIA
SID

Apt Elev
 46'

Trans Level: FL180 Trans alt: 18000'



**JODRA 1A [JODR1A], NOBBY 1A [NOBB1A]
 NUPIA 1A [NUPI1A], OBASA 1A [OBAS1A]
 DEPARTURES
 (RWY 11)**



INITIAL CLIMB

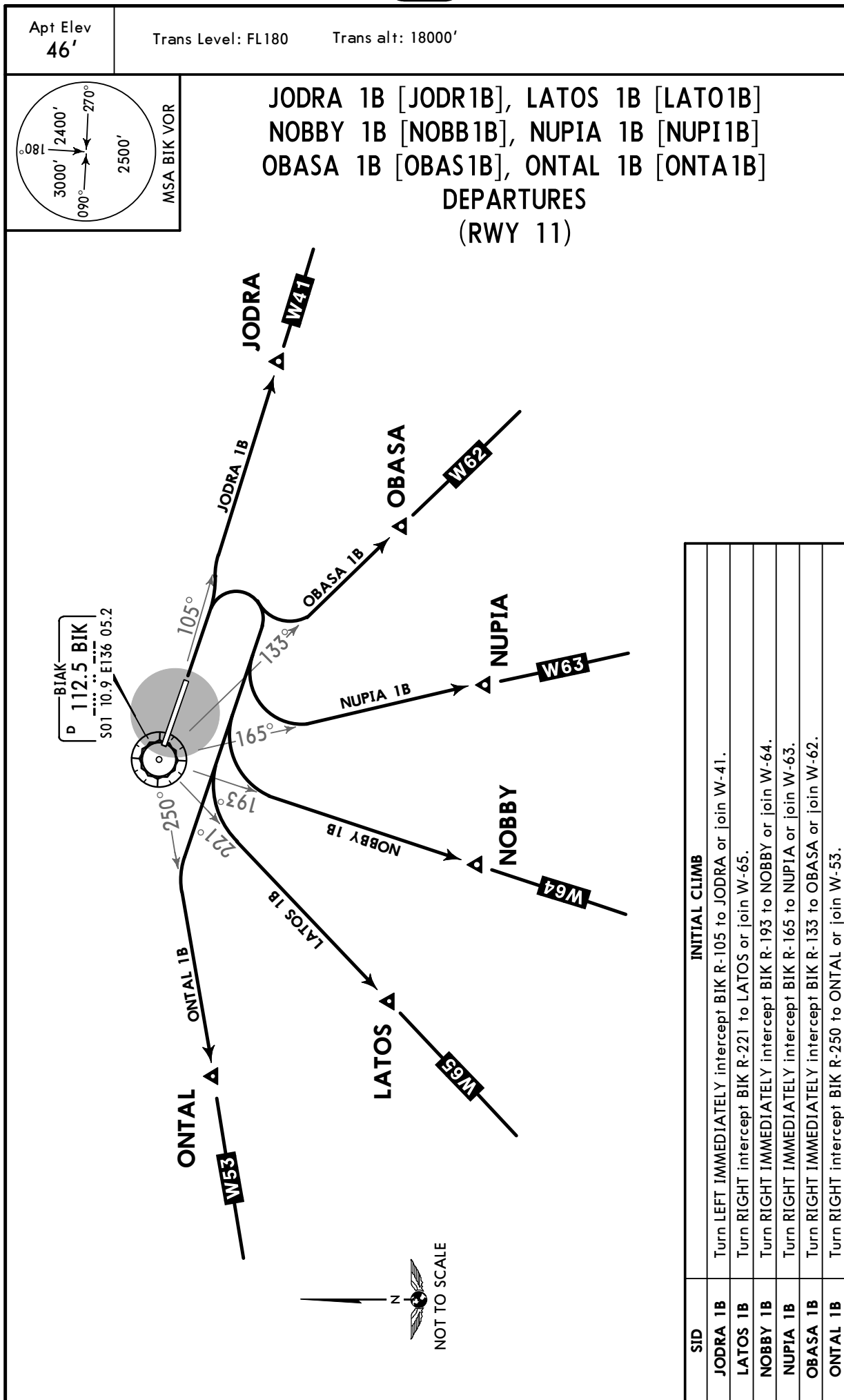
MAINTAIN runway heading until passing 2500' then turn LEFT, proceed to BIK VOR at or above 4000'.

SID	ROUTING
JODRA 1A	At BIK VOR, intercept BIK R-105 to JODRA, join W-41.
NOBBY 1A	At BIK VOR, intercept BIK R-193 to NOBBY, join W-64.
NUPIA 1A	At BIK VOR, intercept BIK R-165 to NUPIA, join W-63.
OBASA 1A	At BIK VOR, intercept BIK R-133 to OBASA, join W-62.

WABB/BIK
FRANS KAISIEPO

JEPPesen
 13 JAN 17 **10-3B**

BIAK, INDONESIA
SID



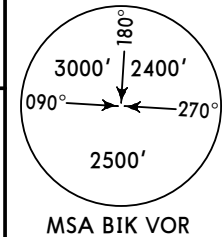
WABB/BIK
FRANS KAISIEPO

JEPPESEN
 13 JAN 17 **(10-3C)**

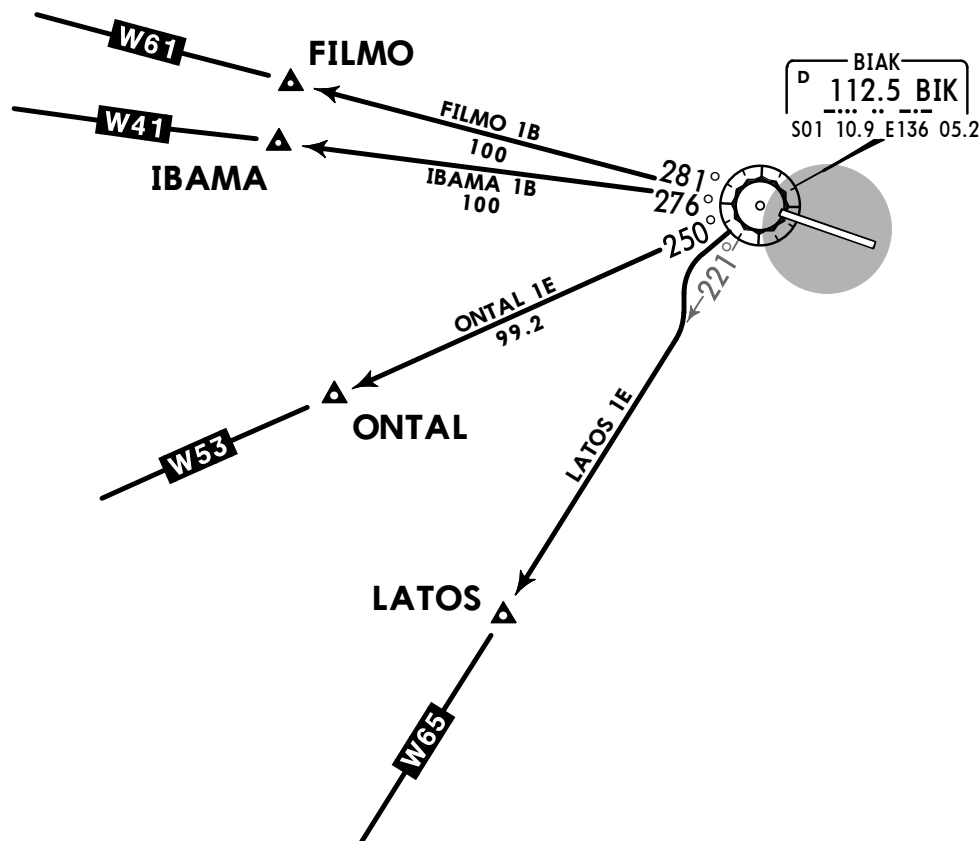
BIAK, INDONESIA
SID

Apt Elev
 46'

Trans Level: FL180 Trans alt: 18000'



**FILMO 1B [FILM1B], IBAMA 1B [IBAM1B]
 LATOS 1E [LATO1E], ONTAL 1E [ONTA1E]
 DEPARTURES
 (RWY 29)**



INITIAL CLIMB

After passing BIK VOR turn LEFT IMMEDIATELY.

SID	ROUTING
FILMO 1B	Intercept BIK R-281 to FILMO or join W-61.
IBAMA 1B	Intercept BIK R-276 to IBAMA or join W-41 westbound.
LATOS 1E	Intercept BIK R-221 to LATOS or join W-65.
ONTAL 1E	Intercept BIK R-250 to ONTAL or join W-53.

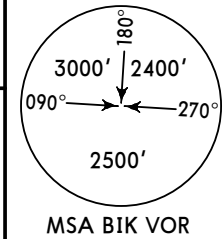
WABB/BIK
FRANS KAISIEPO

JEPPESEN
 13 JAN 17 (10-3D)

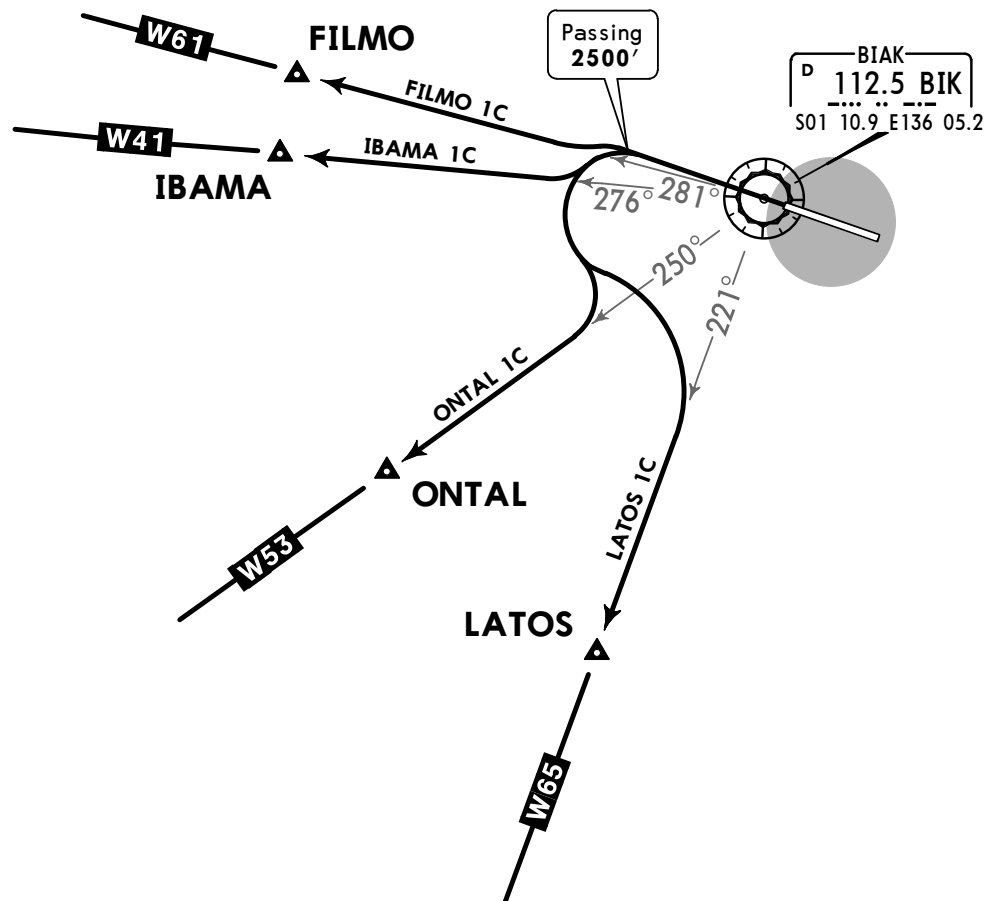
BIAK, INDONESIA
SID

Apt Elev
 46'

Trans Level: FL180 Trans alt: 18000'



**FILMO 1C [FILM1C], IBAMA 1C [IBAM1C]
 LATOS 1C [LATO1C], ONTAL 1C [ONTA1C]
 DEPARTURES
 (RWY 29)**



INITIAL CLIMB

MAINTAIN runway heading until passing 2500' then turn LEFT.

SID	ROUTING
FILMO 1C	Intercept BIK R-281 to FILMO or join W-61.
IBAMA 1C	Intercept BIK R-276 to IBAMA or join W-41 westbound.
LATOS 1C	Intercept BIK R-221 to LATOS or join W-65.
ONTAL 1C	Intercept BIK R-250 to ONTAL or join W-53.

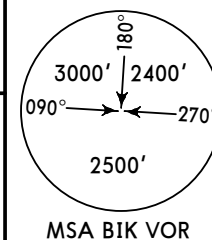
WABB/BIK
FRANS KAISIEPO

JEPPESEN
 13 JAN 17 (10-3E)

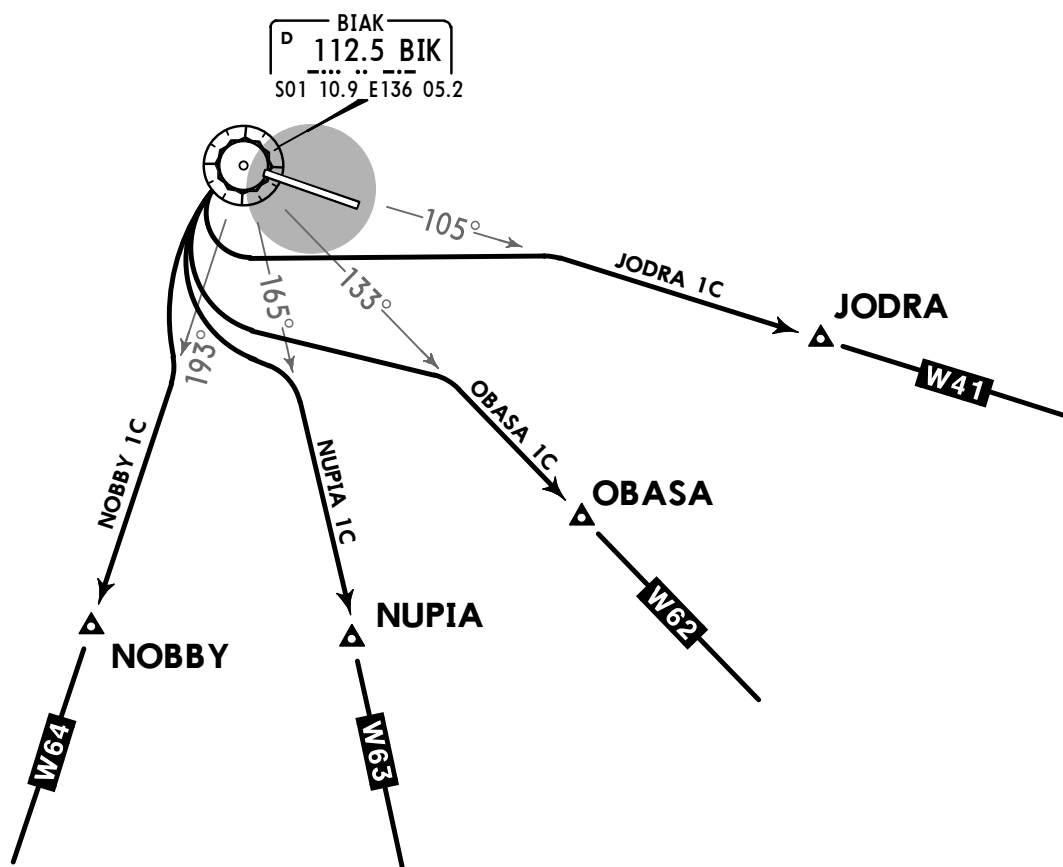
BIAK, INDONESIA
SID

Apt Elev
 46'

Trans Level: FL180 Trans alt: 18000'



**JODRA 1C [JODR1C], NOBBY 1C [NOBB1C]
 NUPIA 1C [NUPI1C], OBASA 1C [OBAS1C]
 DEPARTURES
 (RWY 29)**



INITIAL CLIMB

After passing BIK VOR turn LEFT IMMEDIATELY.

SID	ROUTING
JODRA 1C	Intercept BIK R-105 to JODRA or join W-41 eastbound.
NOBBY 1C	Intercept BIK R-193 to NOBBY or join W-64.
NUPIA 1C	Intercept BIK R-165 to NUPIA or join W-63.
OBASA 1C	Intercept BIK R-133 to OBASA or join W-62.

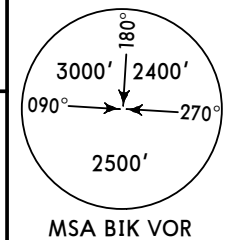
WABB/BIK
FRANS KAISIEPO

JEPPESEN
 13 JAN 17 (10-3F)

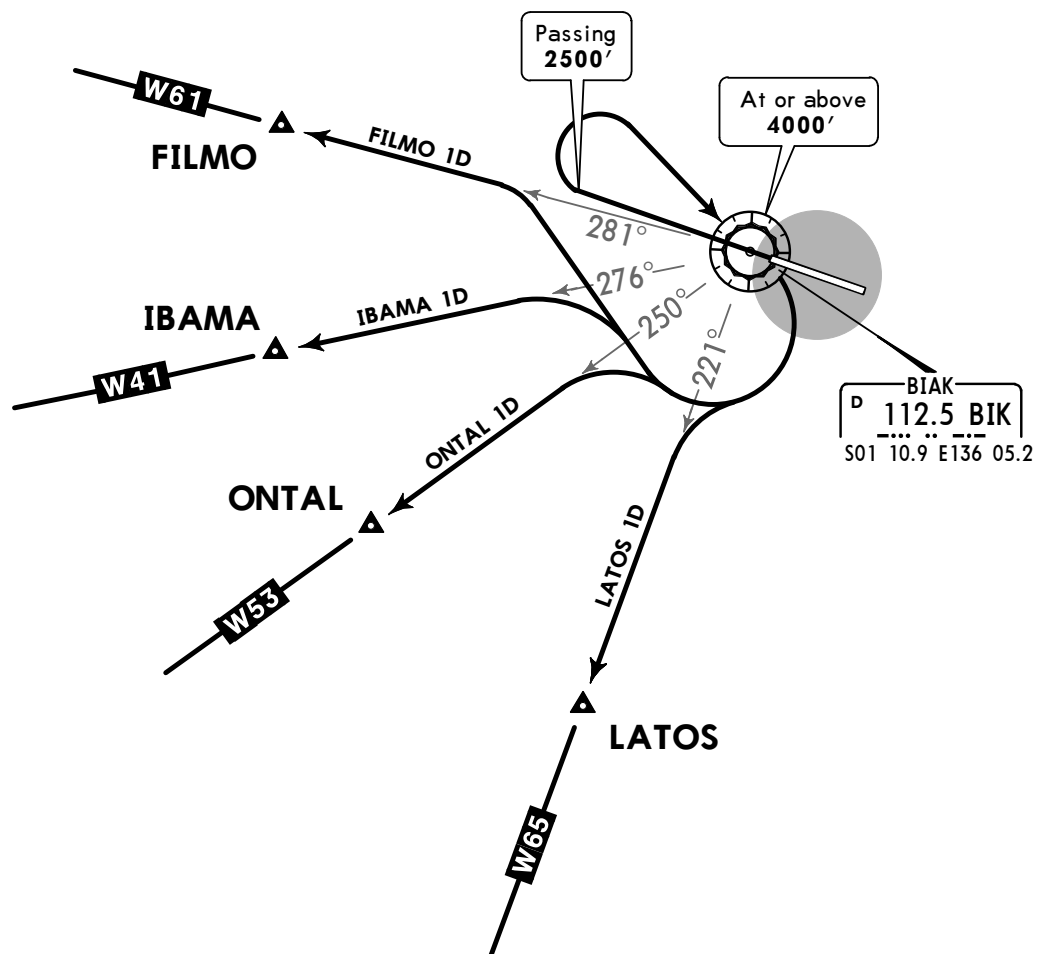
BIAK, INDONESIA
SID

Apt Elev
 46'

Trans Level: FL180 Trans alt: 18000'



**FILMO 1D [FILM1D], IBAMA 1D [IBAM1D]
 LATOS 1D [LATO1D], ONTAL 1D [ONTA1D]
 DEPARTURES
 (RWY 29)**



INITIAL CLIMB

MAINTAIN runway heading until passing 2500' turn RIGHT, proceed to BIK VOR at or above 4000'.

SID	ROUTING
FILMO 1D	At BIK VOR, intercept BIK R-281 to FILMO or join W-61.
IBAMA 1D	At BIK VOR, intercept BIK R-276 to IBAMA or join W-41 westbound.
LATOS 1D	At BIK VOR, intercept BIK R-221 to LATOS or join W-65.
ONTAL 1D	At BIK VOR, intercept BIK R-250 to ONTAL or join W-53.

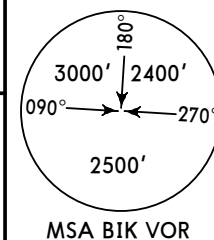
WABB/BIK
FRANS KAISIEPO

JEPPESEN
 13 JAN 17 **(10-3G)**

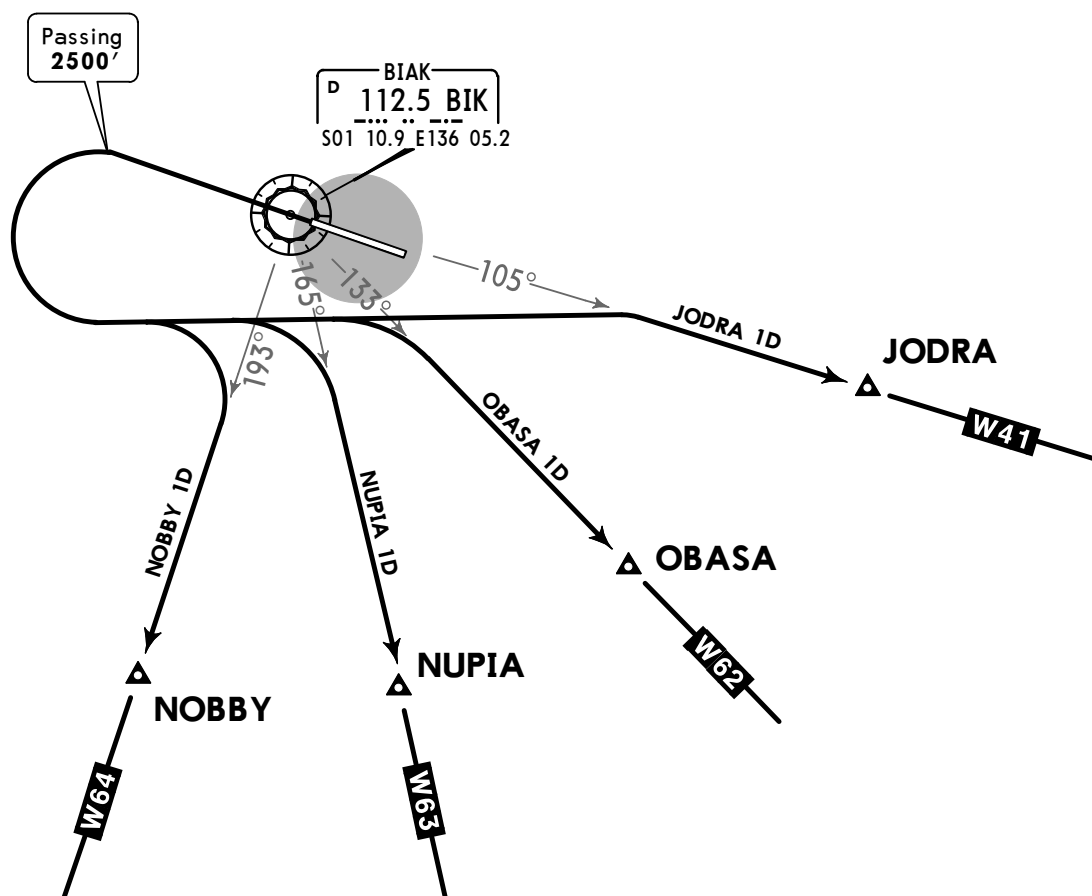
BIAK, INDONESIA
SID

Apt Elev
 46'

Trans Level: FL180 Trans alt: 18000'



**JODRA 1D [JODR1D], NOBBY 1D [NOBB1D]
 NUPIA 1D [NUPI1D], OBASA 1D [OBAS1D]
 DEPARTURES
 (RWY 29)**



INITIAL CLIMB

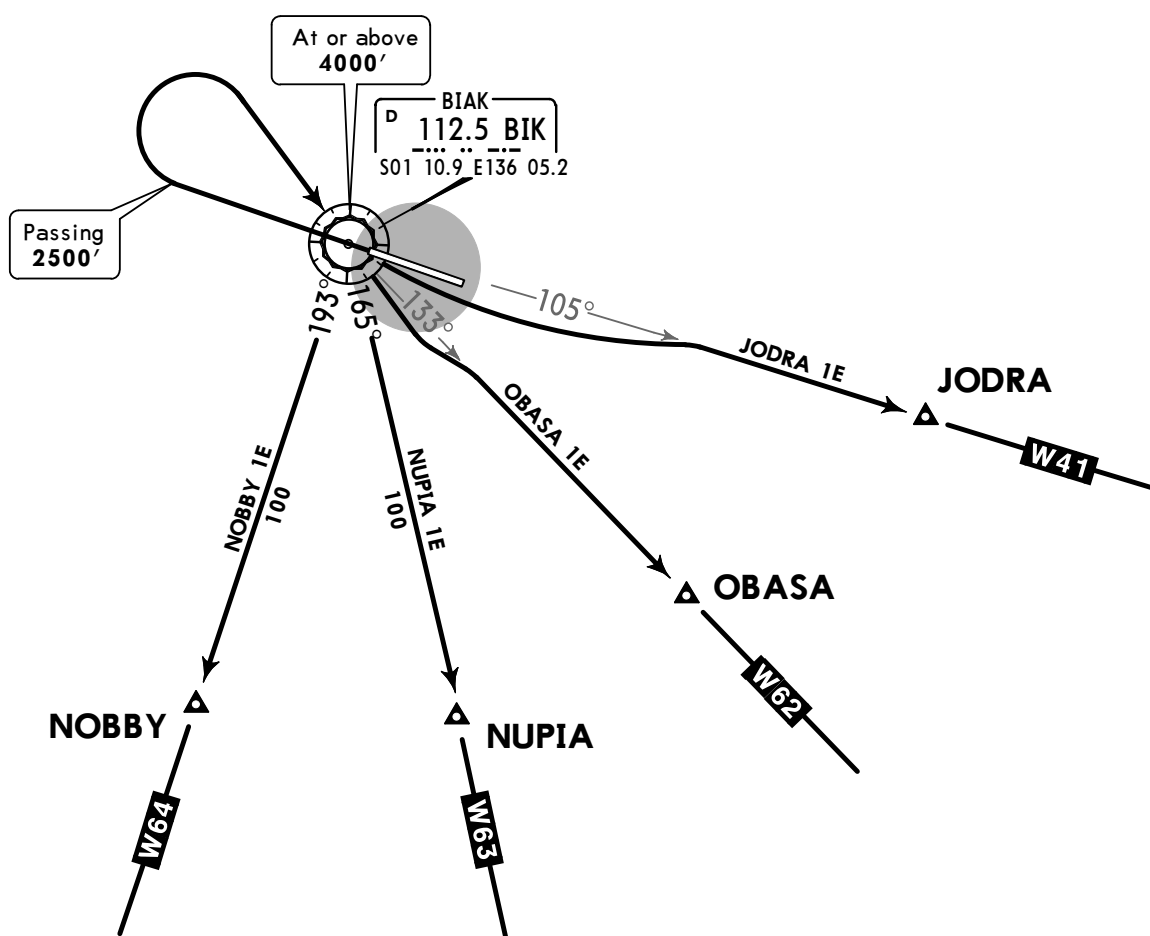
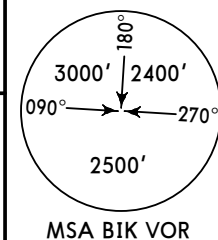
MAINTAIN runway heading until passing 2500' then turn LEFT.

SID	ROUTING
JODRA 1D	Intercept BIK R-105 to JODRA or join W-41.
NOBBY 1D	Intercept BIK R-193 to NOBBY or join W-64.
NUPIA 1D	Intercept BIK R-165 to NUPIA or join W-63.
OBASA 1D	Intercept BIK R-133 to OBASA or join W-62.

WABB/BIK
FRANS KAISIEPO**JEPPESEN**
13 JAN 17 **(10-3H)****BIAK, INDONESIA****SID**Apt Elev
46'

Trans Level: FL180

Trans alt: 18000'

**JODRA 1E [JODR1E], NOBBY 1E [NOBB1E]
NUPIA 1E [NUPI1E], OBASA 1E [OBAS1E]
DEPARTURES
(RWY 29)****INITIAL CLIMB**

MAINTAIN runway heading until passing 2500' turn RIGHT, proceed to BIK VOR at or above 4000'.

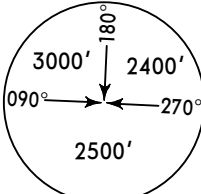
SID	ROUTING
JODRA 1E	At BIK VOR, intercept BIK R-105 to JODRA or join W-41 eastbound.
NOBBY 1E	At BIK VOR, intercept BIK R-193 to NOBBY or join W-64.
NUPIA 1E	At BIK VOR, intercept BIK R-165 to NUPIA or join W-63.
OBASA 1E	At BIK VOR, intercept BIK R-133 to OBASA or join W-62.

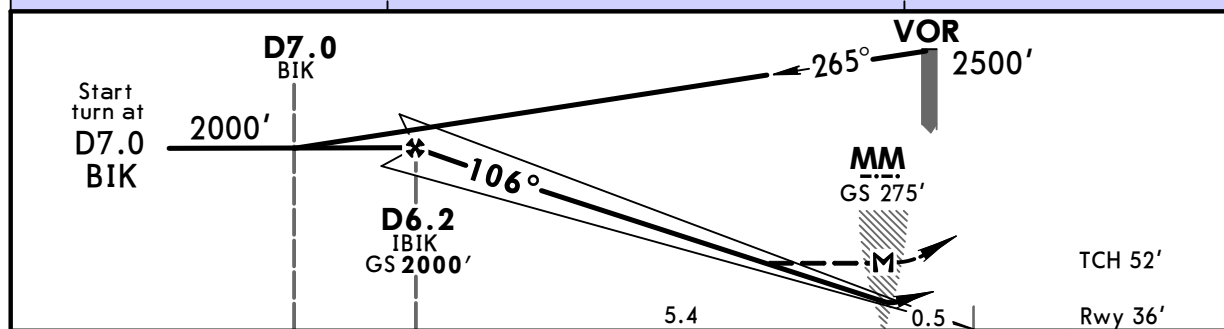
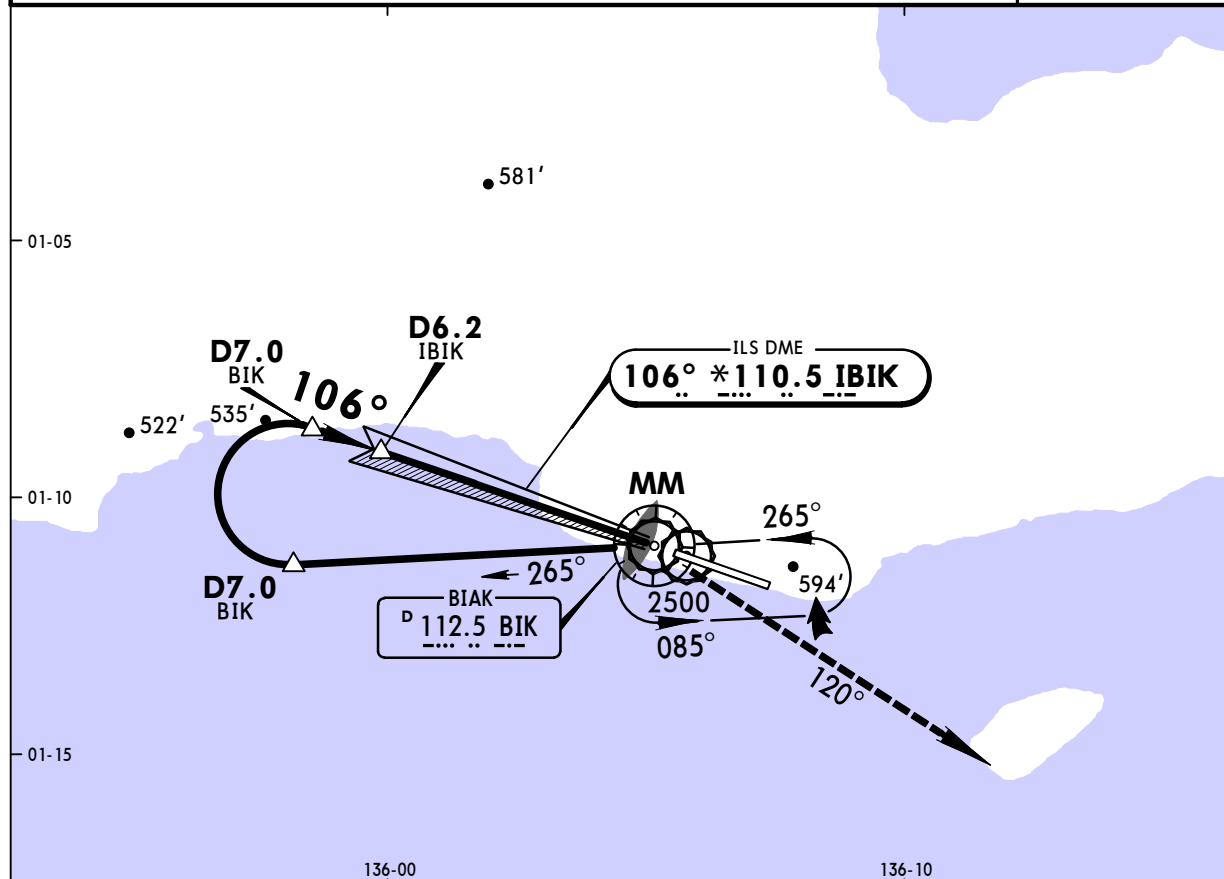
WABB/BIK
FRANS KAISIEPO

JEPPESSEN
13 JAN 17 **(11-1)**

BIAK, INDONESIA
ILS Rwy 11

BRIEFING STRIP

*ATIS		*BIAK Approach (R)		*FRANS Tower	
126.5		121.2		121.2	
LOC IBIK *110.5	Final Apch Crs 106°	GS D6.2 IBIK 2000'(1964')	ILS DA(H) 275'(239')	Apt Elev 46' Rwy 36'	
MISSED APCH: Climb on 120° to 2500' and contact ATC for further instructions.					
Alt Set: hPa	Rwy Elev: 1 hPa	Trans level: FL 180	Trans alt: 18000'	MSA BIK VOR	



Gnd speed-Kts	70	90	100	120	140	160	
GS 3.00°	372	478	531	637	743	849	
MAP at MM or D6.2 IBIK to MAP 5.4	4:38	3:36	3:14	2:42	2:19	2:02	

STRAIGHT-IN LANDING RWY 11					CIRCLE-TO-LAND	
ILS			LOC (GS out)		MDA(H) _____	
DA(H) 275' (239')			MDA(H) 640' (604')			
FULL		ALS out	ALS out		Max Kts	1050' (1004') -4900m
A	1300m		3400m		100	
B					135	
C					180	
D					205	
1050' (1004') -5000m						

PANS OPS

WABB/BIK

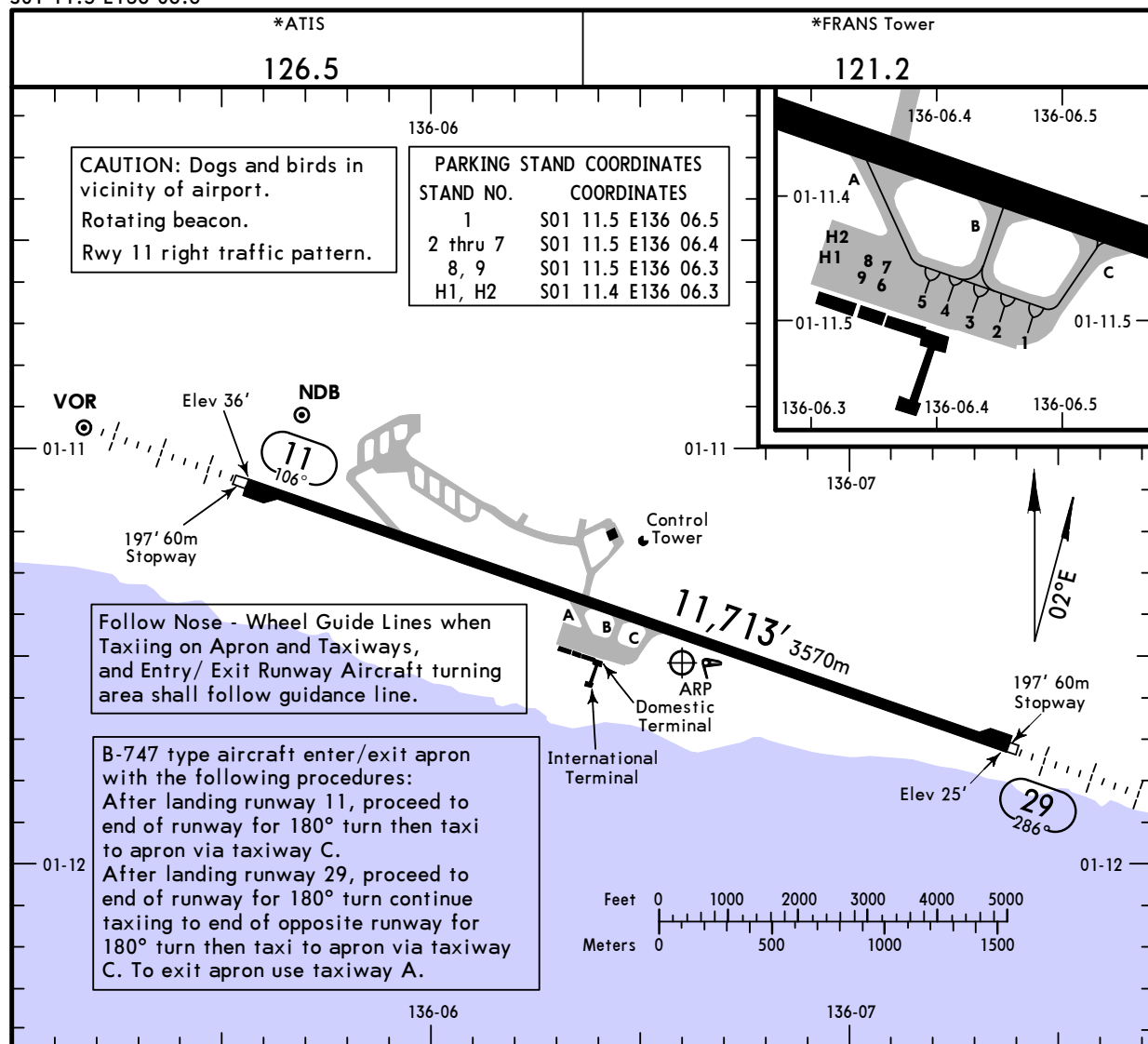
Apt Elev **46'**
S01 11.5 E136 06.6

JEPPesen

13 JAN 17 **(11-1)**

BIAK, INDONESIA

FRANS KAISIEPO



ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS		TAKE-OFF	WIDTH
		Threshold	Landing Beyond		
11	RL ALS PAPI-L				148'
29					45m

TAKE-OFF

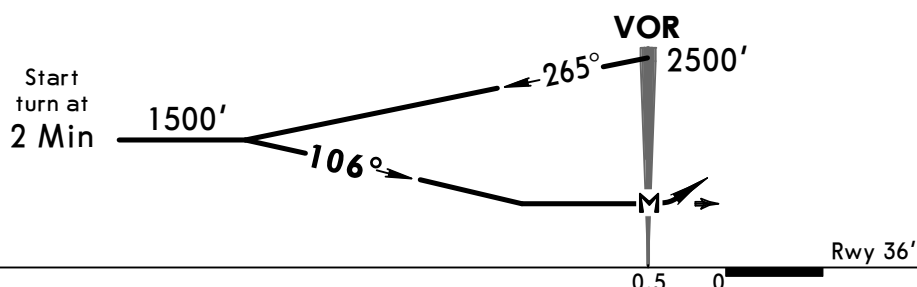
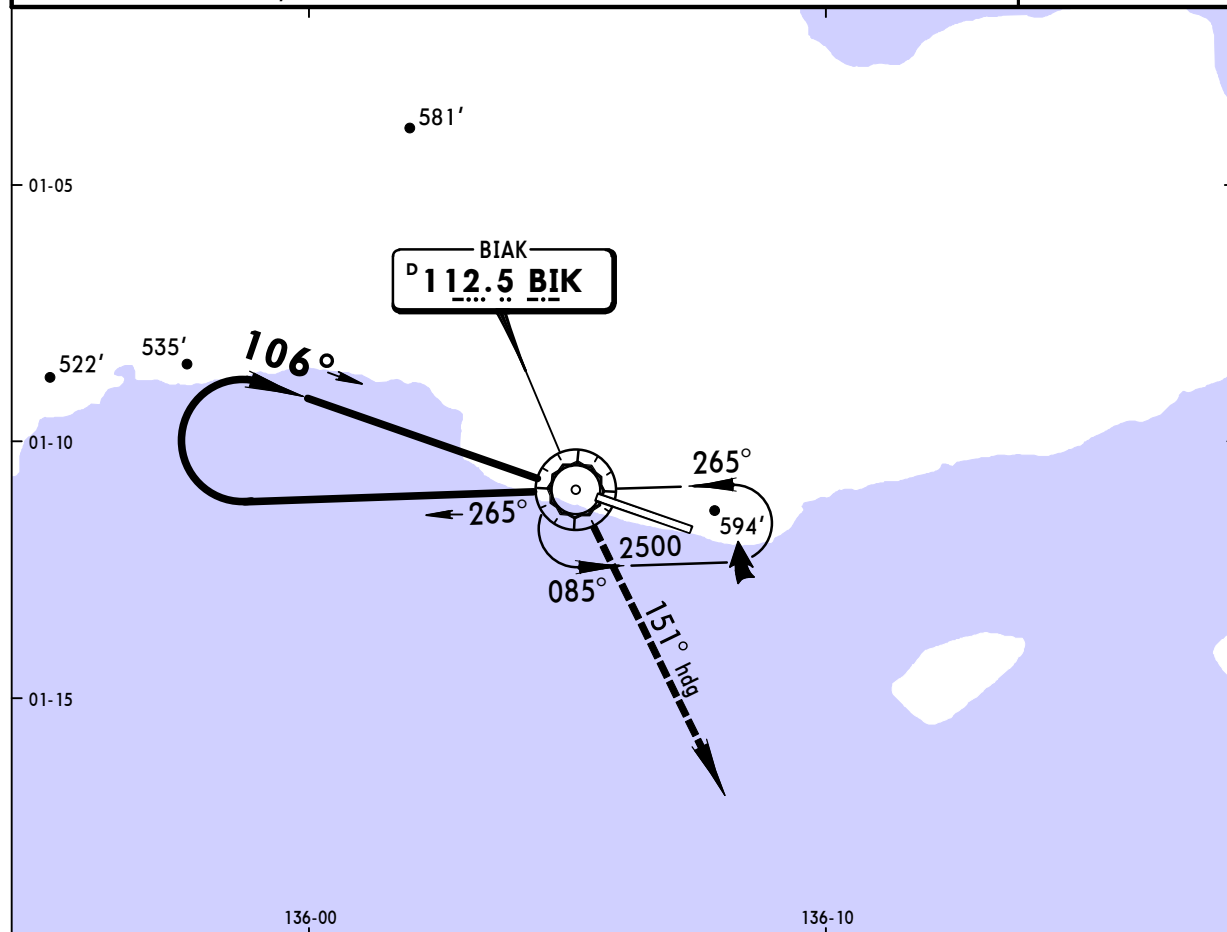
AIR CARRIER (JAA)			AIR CARRIER (FAR 121)	
LVP must be in force All Rwy's RCLM (Day only) or RL		All Rwy's RCLM (Day only) or RL	All Rwy's Adequate Vis Ref	
A			2 Eng	
B	250m			
C		400m	3 & 4 Eng	400m
D	300m			

WABB/BIK
FRANS KAISIEPO

JEPPESEN
13 JAN 17 (13-1)

BIAK, INDONESIA
VOR Rwy 11

BRIEFING STRIP™	*ATIS		*BIAK Approach (R)		*FRANS Tower	
	126.5		121.2		121.2	
	VOR BIK 112.5	Final Apch Crs 106°	No FAF	MDA(H) 880' (844')	Apt Elev 46'	
	MISSED APCH: Turn RIGHT heading 151° climbing to 2500' and contact ATC for further instructions.					
	Alt Set: hPa	Rwy Elev: 1 hPa	Trans level: FL 180	Trans alt: 18000'	MSA BIK VOR	



Gnd speed-Kts	70	90	100	120	140	160	<div><div>ALS</div><div>PAPI</div></div>	<div><div>2500'</div><div>RT</div></div>	<div><div>151°</div><div>hdg</div></div>
Rate of descent on final (feet/min)	341	438	487	584	682	779			
MAP at VOR									

STRAIGHT-IN LANDING RWY 11			CIRCLE-TO-LAND	
MDA(H) 880' (844')				
		ALS out	Max Kts	MDA(H)
A	4800m		100	1050' (1004') -4900m
B			135	
C			180	
D			205	1050' (1004') -5000m

CHANGES: Missed approach text, minimums.

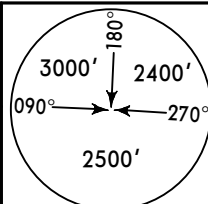
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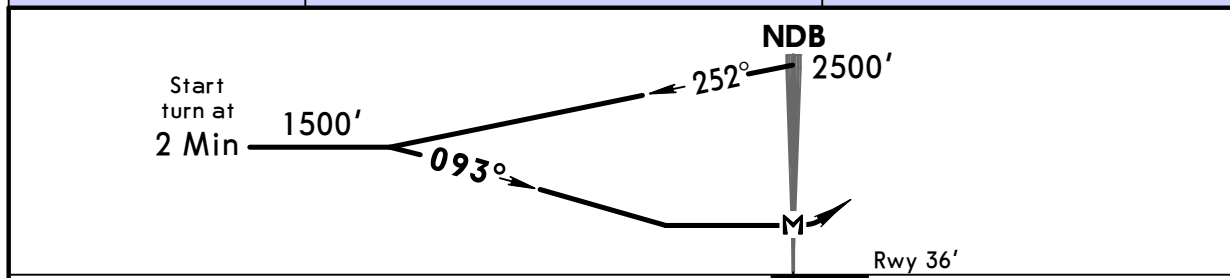
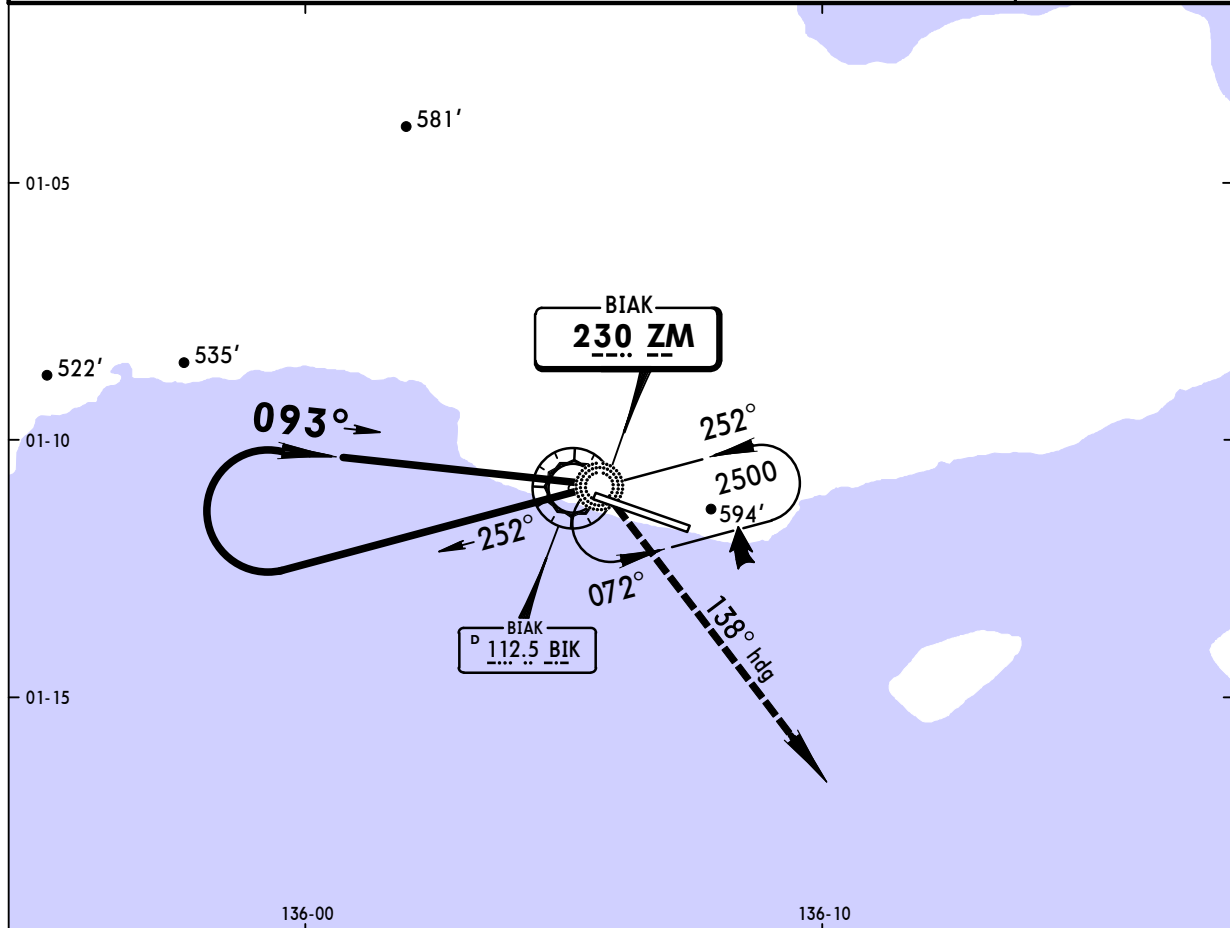
WABB/BIK
FRANS KAISIEPO

JEPPesen
13 JAN 17 **(16-1)**

BIAK, INDONESIA
NDB Rwy 11

BRIEFING STRIP

*ATIS 126.5		*BIAK Approach (R) 121.2		*FRANS Tower 121.2	
NDB ZM 230	Final Apch Crs 093°	No FAF	MDA(H) 890' (854')	Apt Elev 46' Rwy 36'	
MISSED APCH: Turn RIGHT heading 138° climbing to 2500' and contact ATC for further instructions.					
Alt Set: hPa	Rwy Elev: 1 hPa	Trans level: FL 180	Trans alt: 18000'	MSA ZM NDB	



Gnd speed-Kts	70	90	100	120	140	160		ALS	2500'	138°
Rate of descent on final (feet/min)	341	438	487	584	682	779		PAPI	RT	hdg
MAP at NDB										

STRAIGHT-IN LANDING RWY11				CIRCLE-TO-LAND	
MDA(H) 890' (854')				MDA(H) _____	
_____		ALS out		Max Kts	_____
A	4900m			100	1050' (1004') -4900m
B				135	
C				180	
D				205	1050' (1004') -5000m

PANS OPS

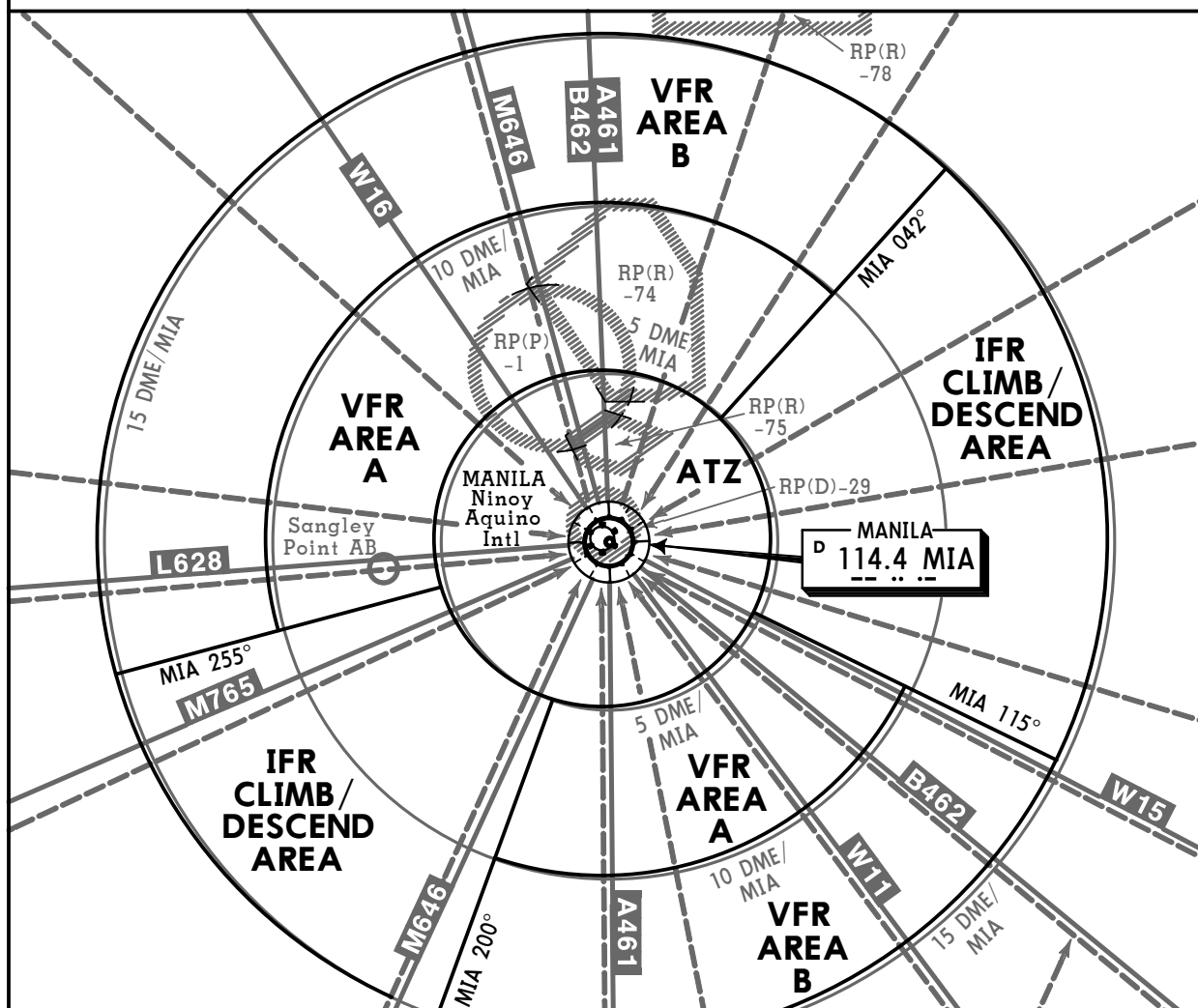
JEPPESEN

30 JAN 15

(10-1B)

MANILA, PHILIPPINES
MANILA VFR AREAS AND
IFR CLIMB/DESCEND AREAS

(FOR ORIENTATION USE ONLY)

MANILA TRAFFIC CONTROL PROCEDURES**COMMUNICATIONS**VFR AREAS **Manila Twr** 118.1 118.4 IFR CLIMB/DESCEND AREAS **Manila App** 119.7 127.7**SECTOR ALTITUDES**

IFR CLIMB/DESCEND AREA	VFR AREA A	VFR AREA B	ATZ
UNL	1500	2500	1999
GND	GND	GND	GND

FLIGHT PROCEDURES**SPEED RESTRICTIONS WITHIN MANILA TMA (FOR ARRIVING AIRCRAFT)**

Mandatory IAS unless otherwise authorized by ATC.

Entering TMA: 250 KTS. At 20NM Ninoy Aquino Intl Apt: 210 KTS. At 10NM Ninoy Aquino Intl Apt: 180 KTS. At 5NM Ninoy Aquino Intl Apt: 150 KTS.

VFR OPERATIONS:

1. Be equipped with 118.1 MHz transceivers and any of the following approach frequencies: 119.7 MHz, 121.1 MHz, and 125.1 MHz.
2. Prior to entering the designated VFR areas, contact Manila Tower on 118.1.
3. Adhere to the established MIA VFR arrival/departure routings.
4. Maintain the required altitude of 2500FT or below within 15NM from the APT. Cruise/climb to higher altitude shall be on a prior approval from Manila Approach.
5. When intending to transit the IFR climb/descend areas, contact Manila Approach on 119.7 MHz, 121.1 MHz, 125.1 MHz for the necessary clearance.
6. When requesting radar vector within 15NM radius maintain 2500FT unless otherwise instructed by Manila Approach Control.

IFR OPERATIONS:

1. The radar traffic circuit shall not penetrate the aerodrome traffic zone.
2. IFR traffic radar vector to final approach of runways 06/24 shall maintain 3500FT prior to entering the IFR climb/descend area. Descent shall be made without violating the radar minimum altitude.
3. In the event of radar and/or radio communication failure, descent to 3000FT shall be effected only in the designated VFR areas-10 miles from the APT. Otherwise, follow the Lost Communication Procedures.
4. Arriving aircraft on radar vector to Manila shall not cancel IFR clearance within 20NM.

RPLL/MNL

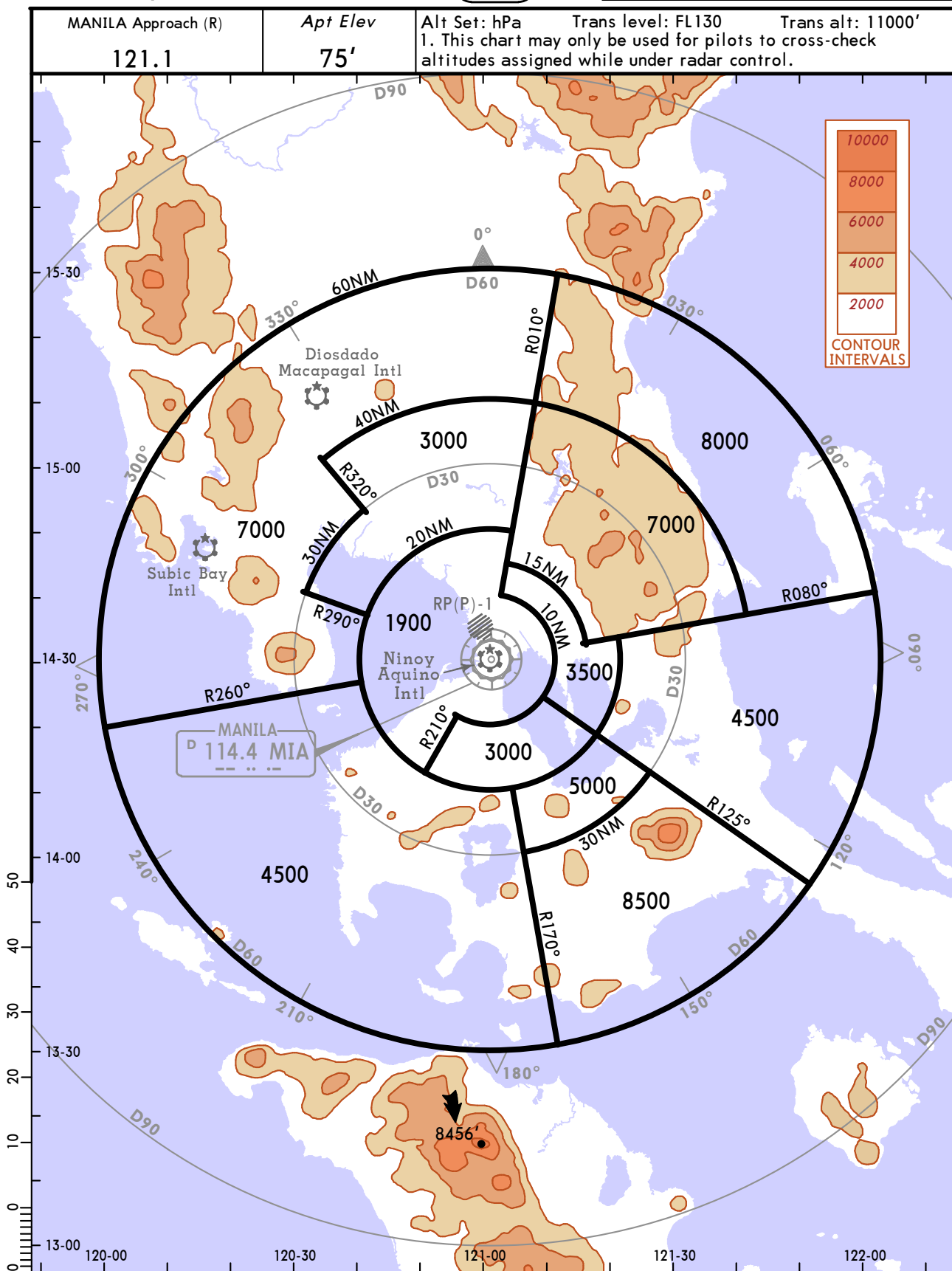
NINYO AQUINO INTL

24 OCT 14 (10-1R)

JEPPESEN

MANILA, PHILIPPINES

RADAR MINIMUM ALTITUDES



1. Minimum altitudes are calculated taking into account of minimum clearance above terrain/obstacles. Radar control service cannot be provided to aircraft below the applicable minimum. However, aircraft at designated altitude in relevant sector is not assured of radar contact.

2. LOSS OF COMMUNICATION

- a. SQUAWK 7600 immediately, and
- b. Follow established procedures.

RPLL/MNL
NINYO AQUINO INTL

JEPPESSEN

24 FEB 17

10-2

Eff 2 Mar

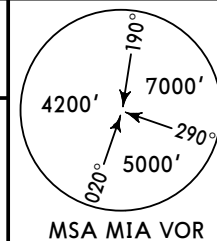
MANILA, PHILIPPINES

STAR

ATIS
126.4

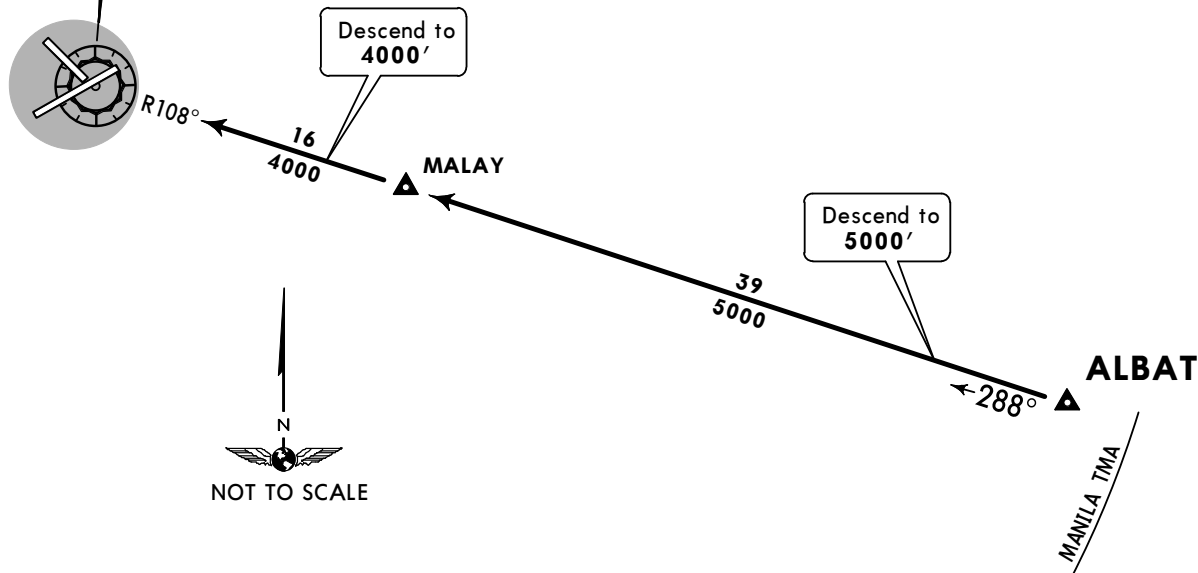
Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'



ALBAT 1 ARRIVAL (ALB1)
(RWYS 06, 24)

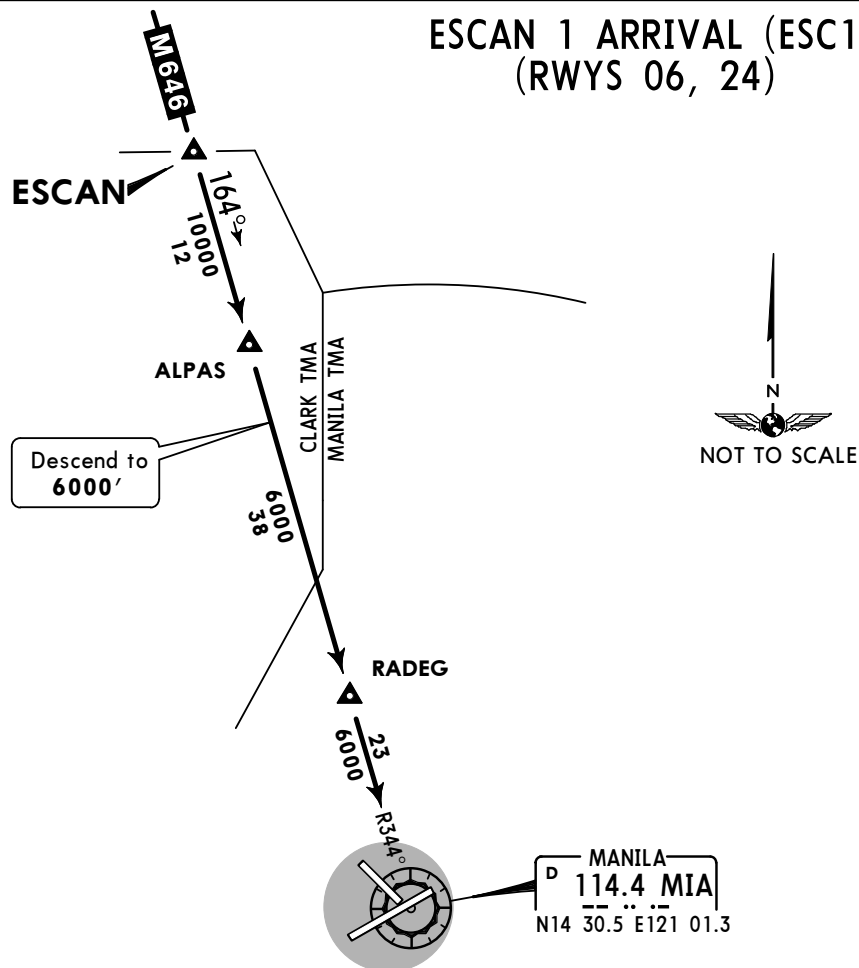
MANILA
D 114.4 MIA
N14 30.5 E121 01.3



ROUTING

At ALBAT, track in on MIA R-108 and descend to 5000'. At MALAY, descend to 4000'.

ESCAN 1 ARRIVAL (ESC1)
(RWYS 06, 24)



ROUTING

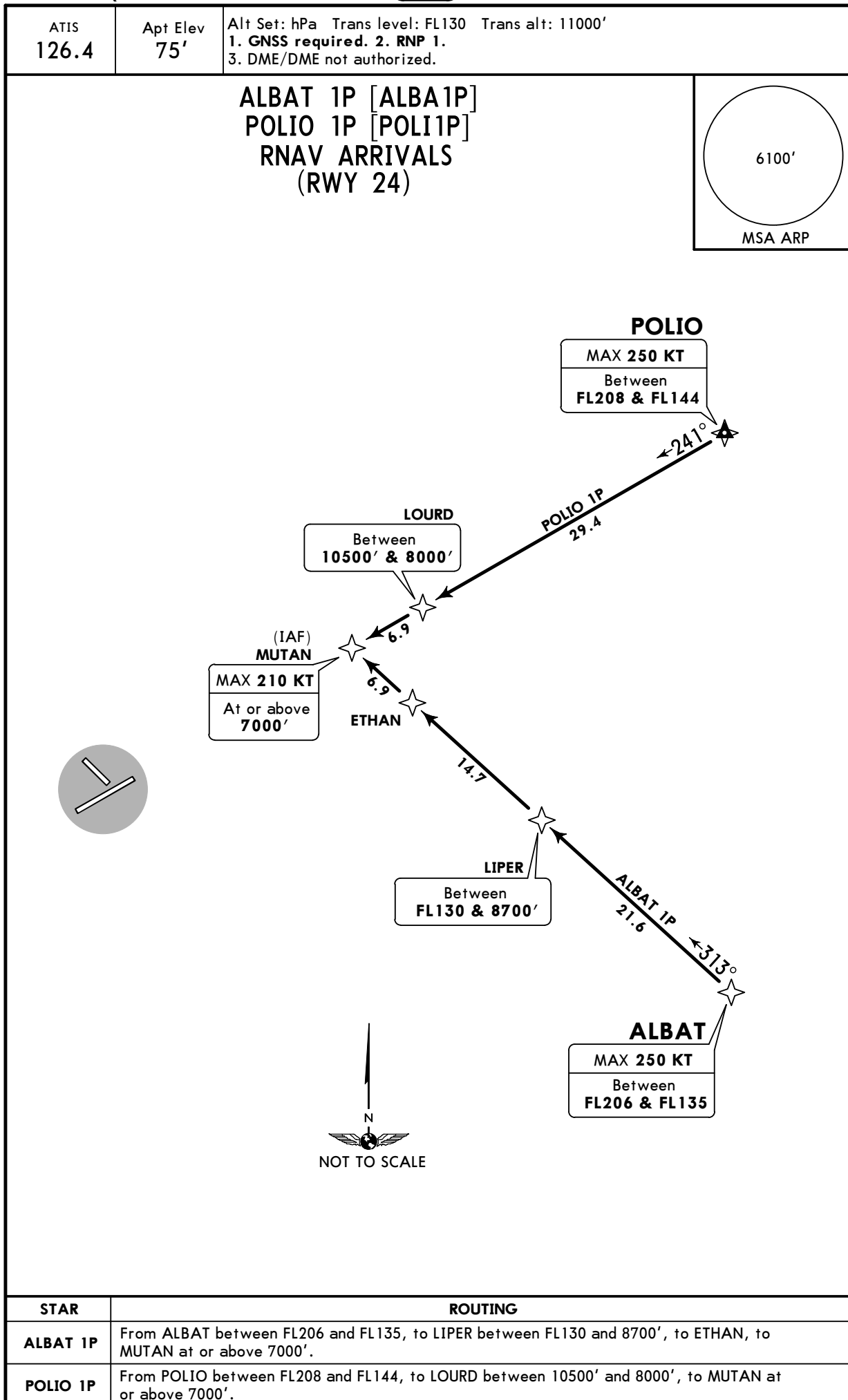
At ESCAN, track in on MIA R-344 to ALPAS. At ALPAS, descend to 6000' to MIA VOR via RADEG.

RPLL/MNL
NINOY AQUINO INTL

JEPPESEN
24 FEB 17 **(10-2A)** **Eff 2 Mar**

MANILA, PHILIPPINES

RNAV STAR



RPLL/MNL
NINYO AQUINO INTL

JEPPESEN

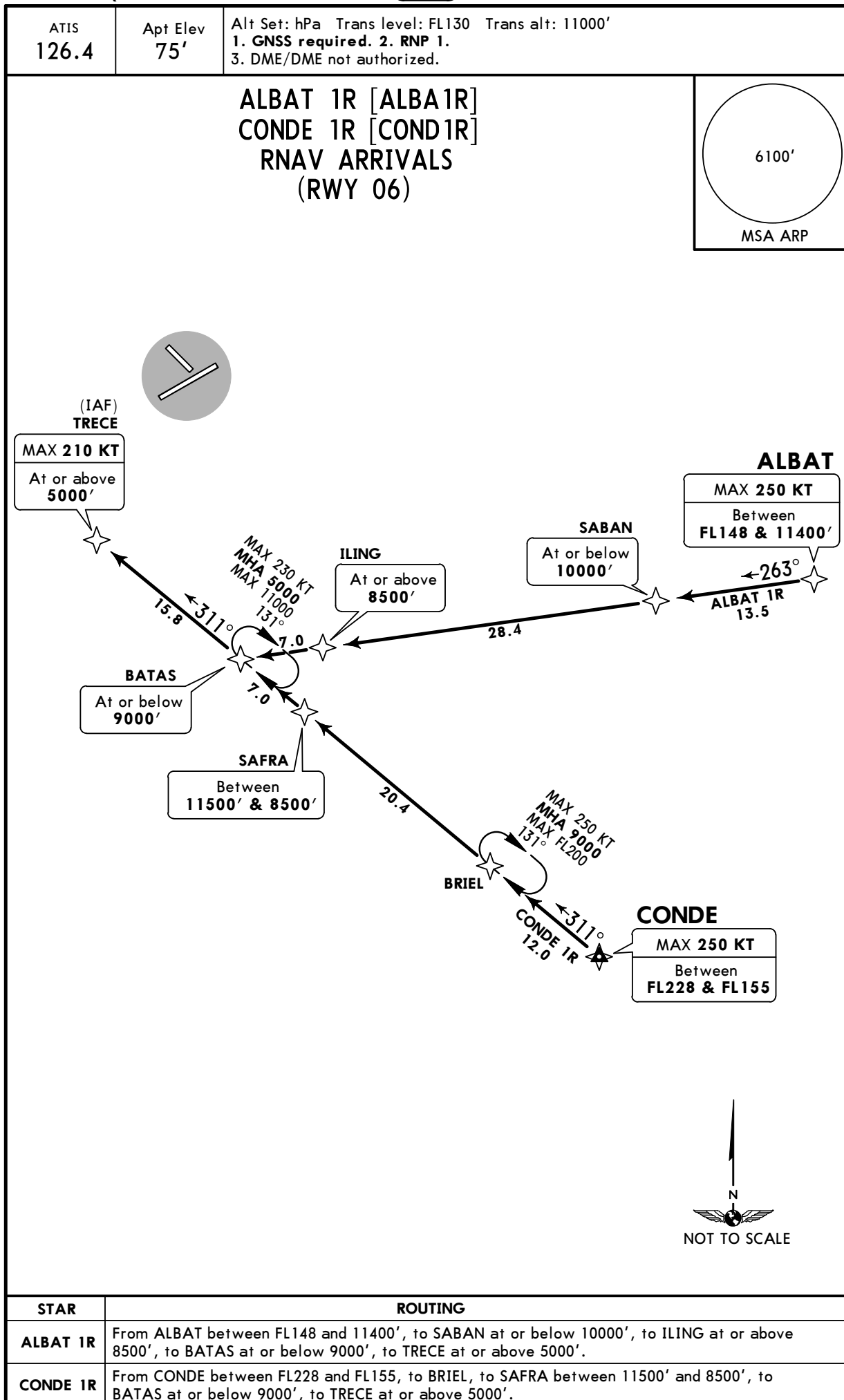
24 FEB 17

(10-2B)

Eff 2 Mar

MANILA, PHILIPPINES

RNAV STAR



RPLL/MNL
NINYO AQUINO INTL

JEPPESSEN

24 FEB 17

(10-2C)

Eff 2 Mar

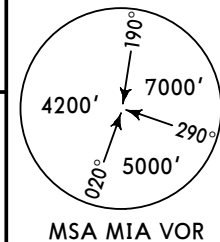
MANILA, PHILIPPINES

STAR

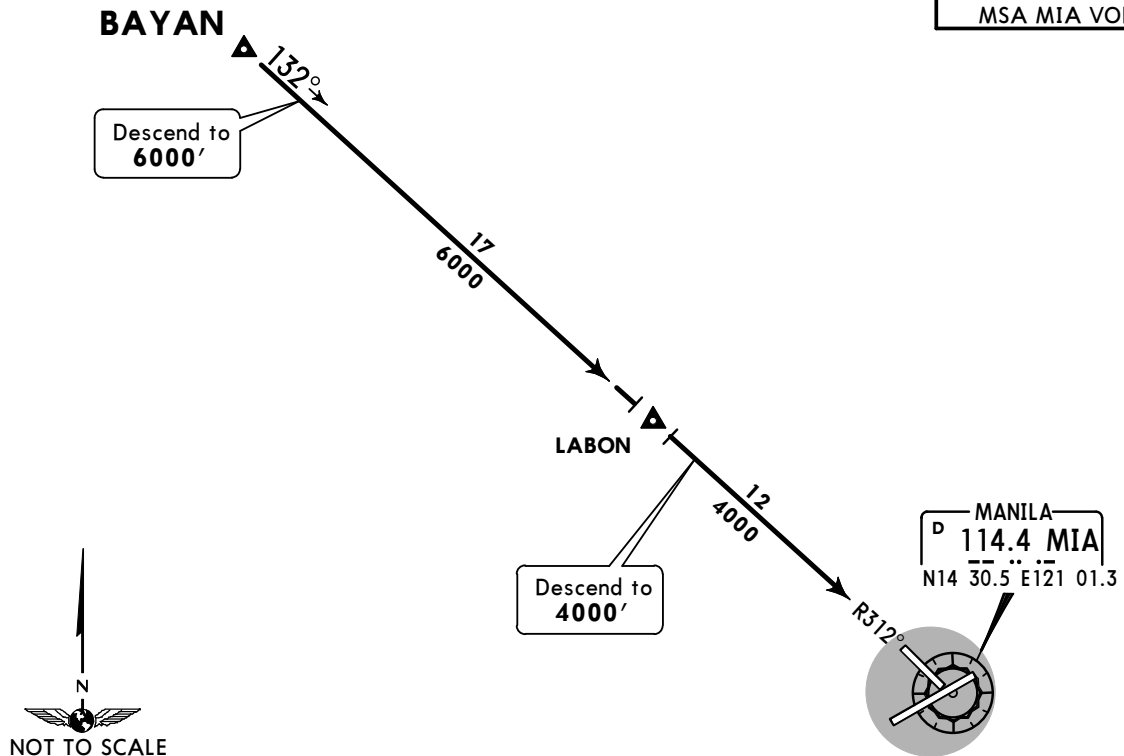
ATIS
126.4

Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'



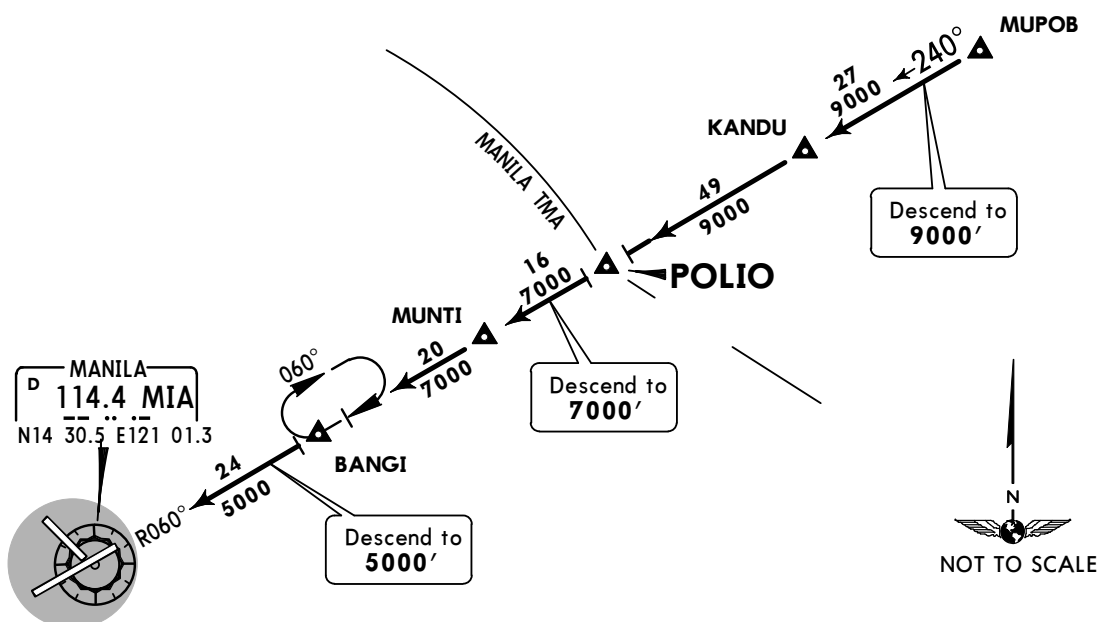
BAYAN 1A ARRIVAL (BYN1A)
(RWYS 06, 24)



ROUTING

At BAYAN, track in on MIA R-312 and descend to 6000'. At LABON, descend to 4000'.

POLIO 1 ARRIVAL (PLO1)
(RWYS 06, 24)



ROUTING

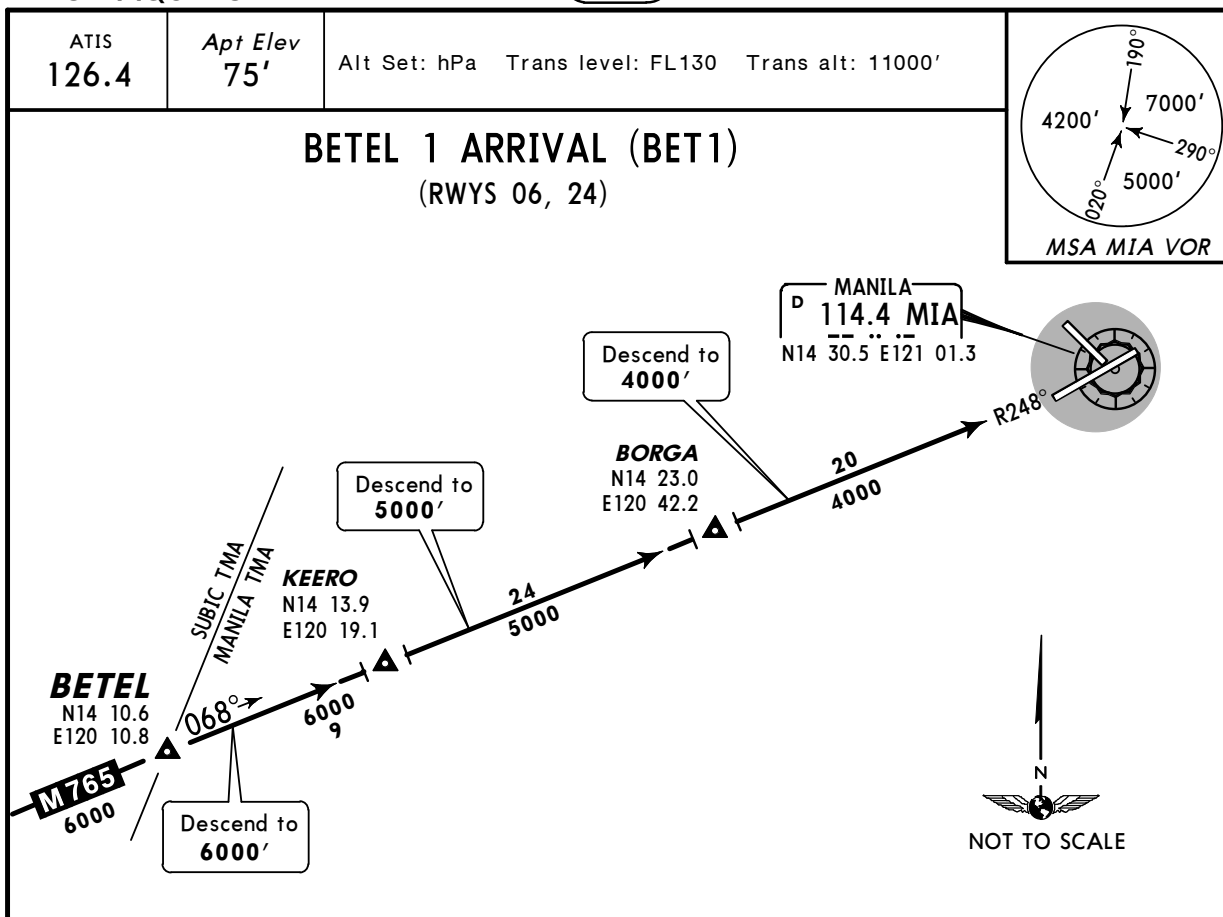
At MUPOB, track in on MIA R-060 to POLIO and descend to 9000'. At POLIO, proceed to BANGI via MUNTI and descend to 7000'. At BANGI, descend to 5000'.

RPLL/MNL
NINYO AQUINO INTL

JEPPesen
24 OCT 14 **(10-2D)**

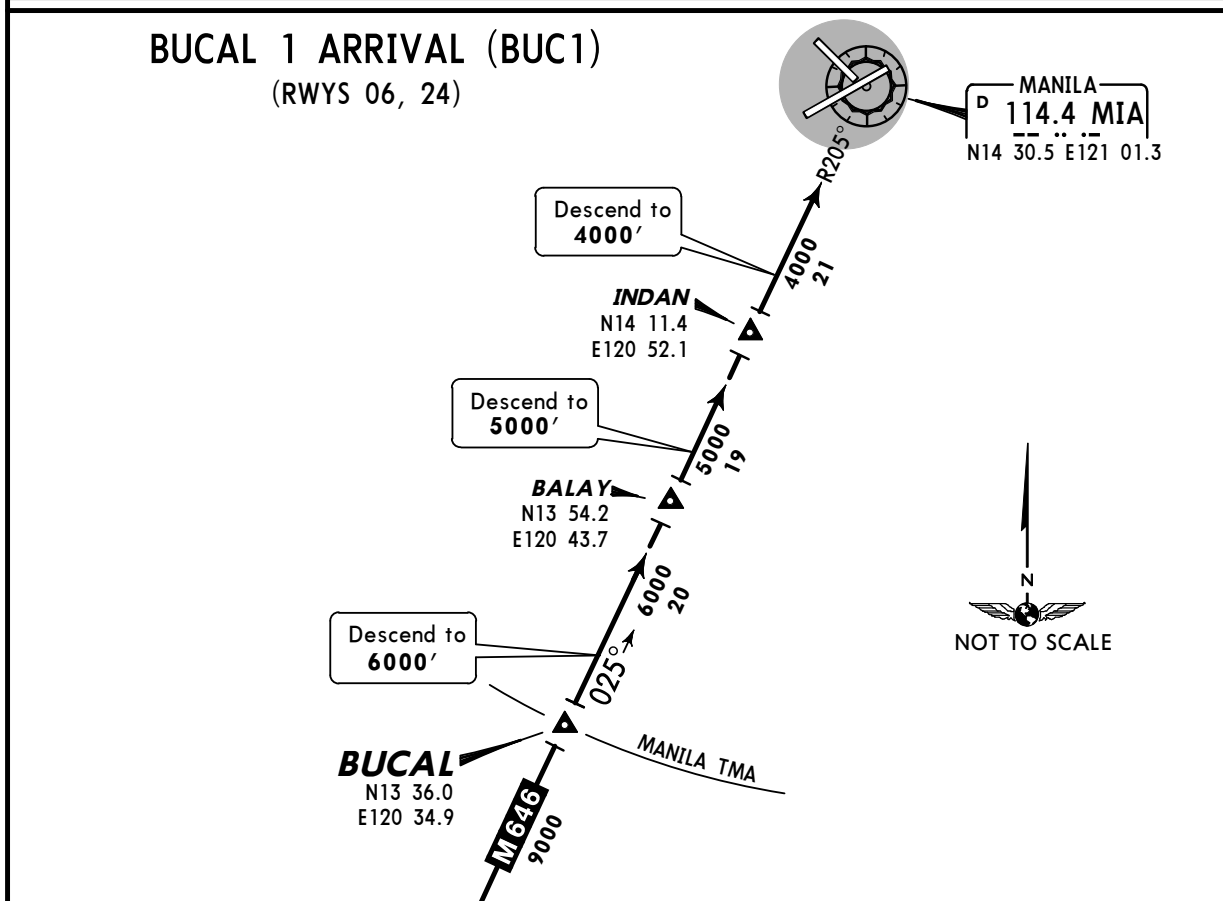
MANILA, PHILIPPINES

STAR



ROUTING

At BETEL, track in on MIA R-248 and descend to 6000'. At KEERO, descend to 5000'.
At BORG, descend to 4000'.



ROUTING

At BUCAL, track in on MIA R-205 and descend to 6000'. At BALAY, descend to 5000'.
At INDAN, descend to 4000'.

RPLL/MNL
NINYO AQUINO INTL

JEPPESSEN
24 OCT 14 **(10-2E)**

MANILA, PHILIPPINES

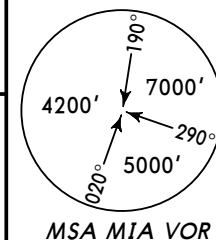
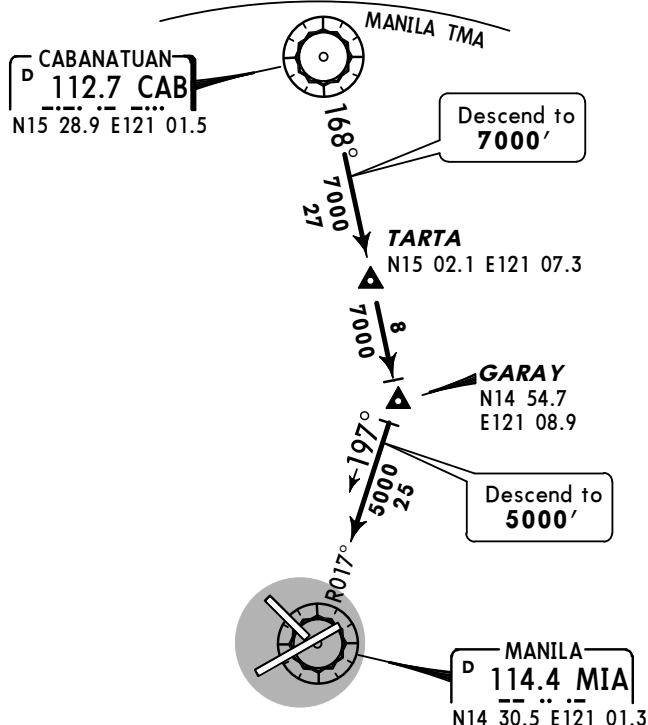
STAR

ATIS
126.4

Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'

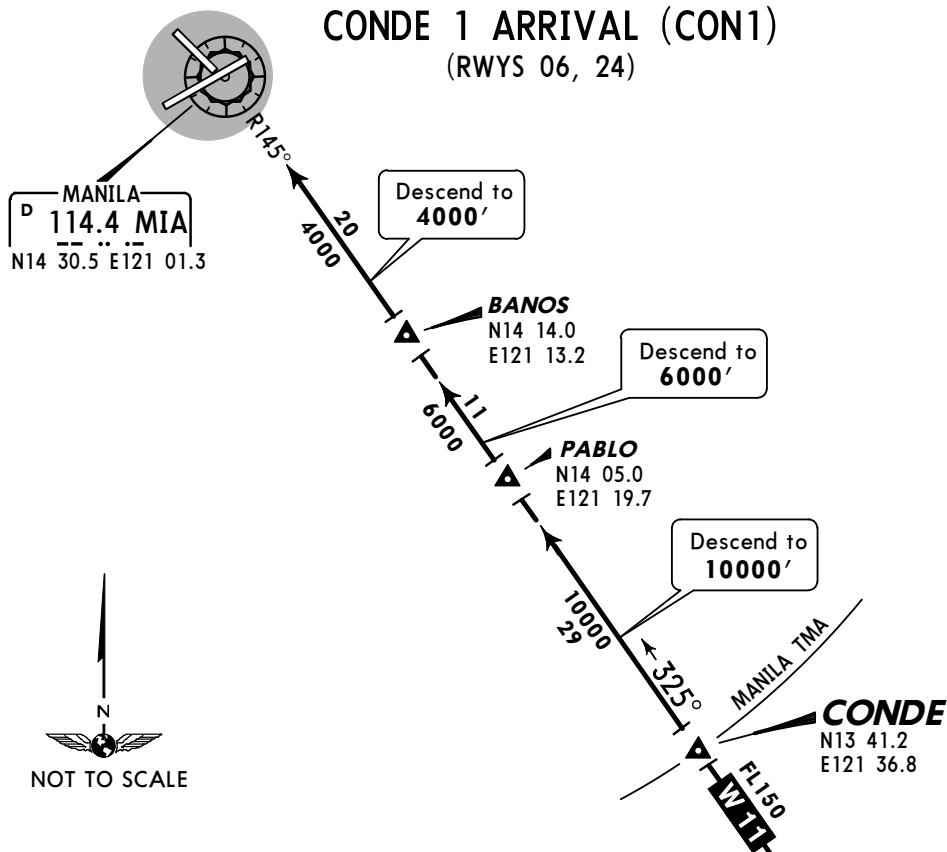
CABANATUAN 1 ARRIVAL (CAB1)
(RWYS 06, 24)



ROUTING

At CAB, track out on CAB R-168 and descend to 7000' to GARAY via TARTA. At GARAY, track in on MIA R-017 and descend to 5000'.

CONDE 1 ARRIVAL (CON1)
(RWYS 06, 24)



ROUTING

At CONDE, track in on MIA R-145 and descend to 10000'. At PABLO, descend to 6000'. At BANOS, descend to 4000'.

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NINOY AQUINO INTL

JEPPESEN
24 FEB 17 (10-2F) Eff 2 Mar

MANILA, PHILIPPINES

RNAV STAR

ATIS
126.4

Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'

1. GNSS required. 2. RNP 1.

3. DME/DME not authorized.

**CIA 1P [CIA1P], LBG 1P [LBG1P]
RNAV ARRIVALS
(RWY 24)**

6100'

MSA ARP

CLARK
D 113.1 CIA
N15 11.2 E120 33.6

MAX 250 KT
Between
FL187 & FL130

SIDRO

Between
FL130 & 9400'

(IAF)
BUZAL

MAX 210 KT
At or above 7000'

ALIZA

At or above
10000'

LUCAN

At or above
FL156

HYDRA

1P

(

0

•

D

1

I N

MAX 250

t or ab.

EI 273

FL273

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--	--

From

From

From

NAV STA

NOT TO SCALE

STAR

ROUTING

CIA 1P	From CIA VOR to SIDRO, to BUZAL.
---------------	----------------------------------

LBG 1P	From LBG VOR to HYDRA, to LUCAN, to ALIZA, to BUZAL.
---------------	--

CHANGES: RNAV STARs renamed and revised.

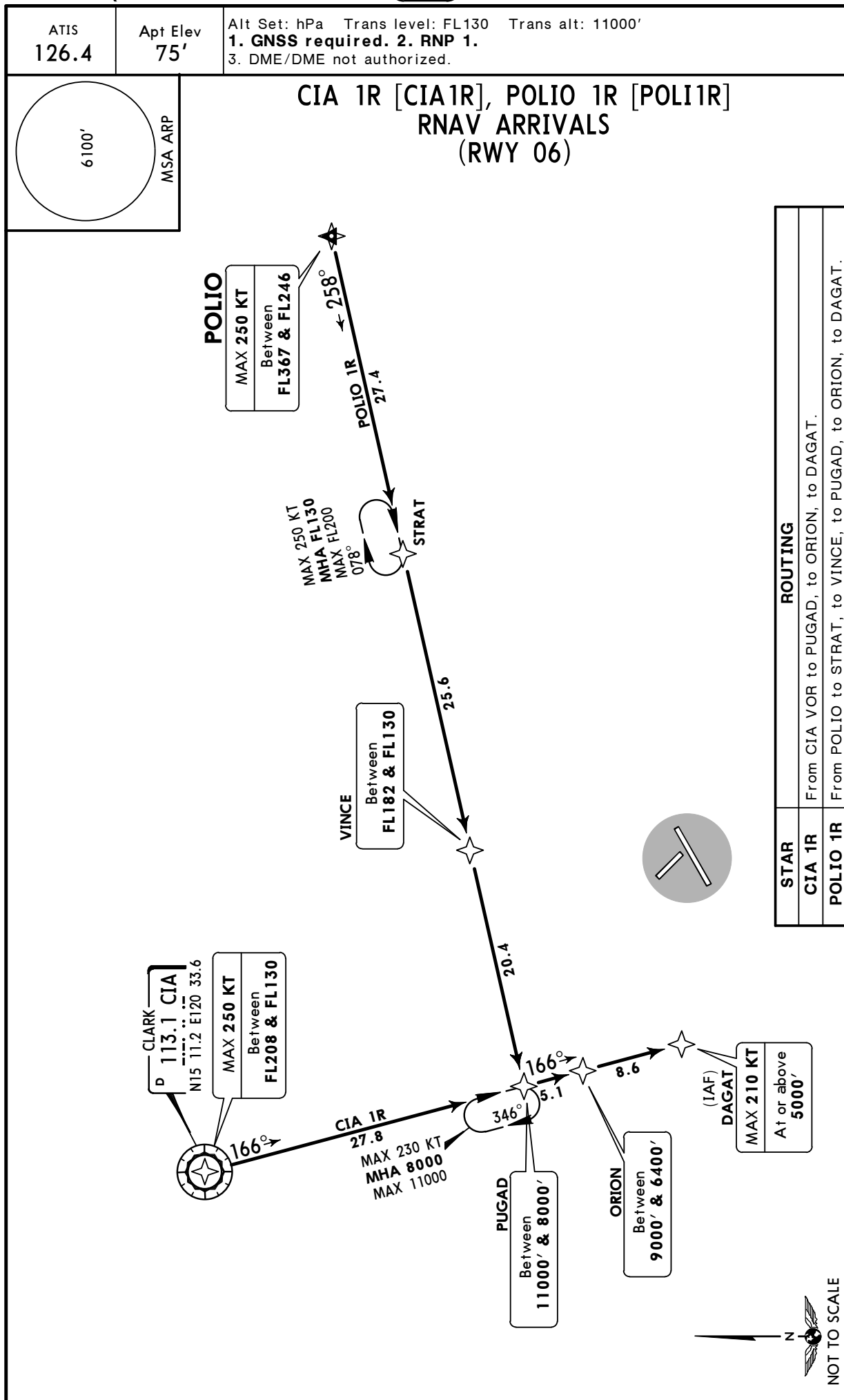
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NINYO AQUINO INTL

JEPPESEN
24 FEB 17 **10-2G** Eff 2 Mar

MANILA, PHILIPPINES

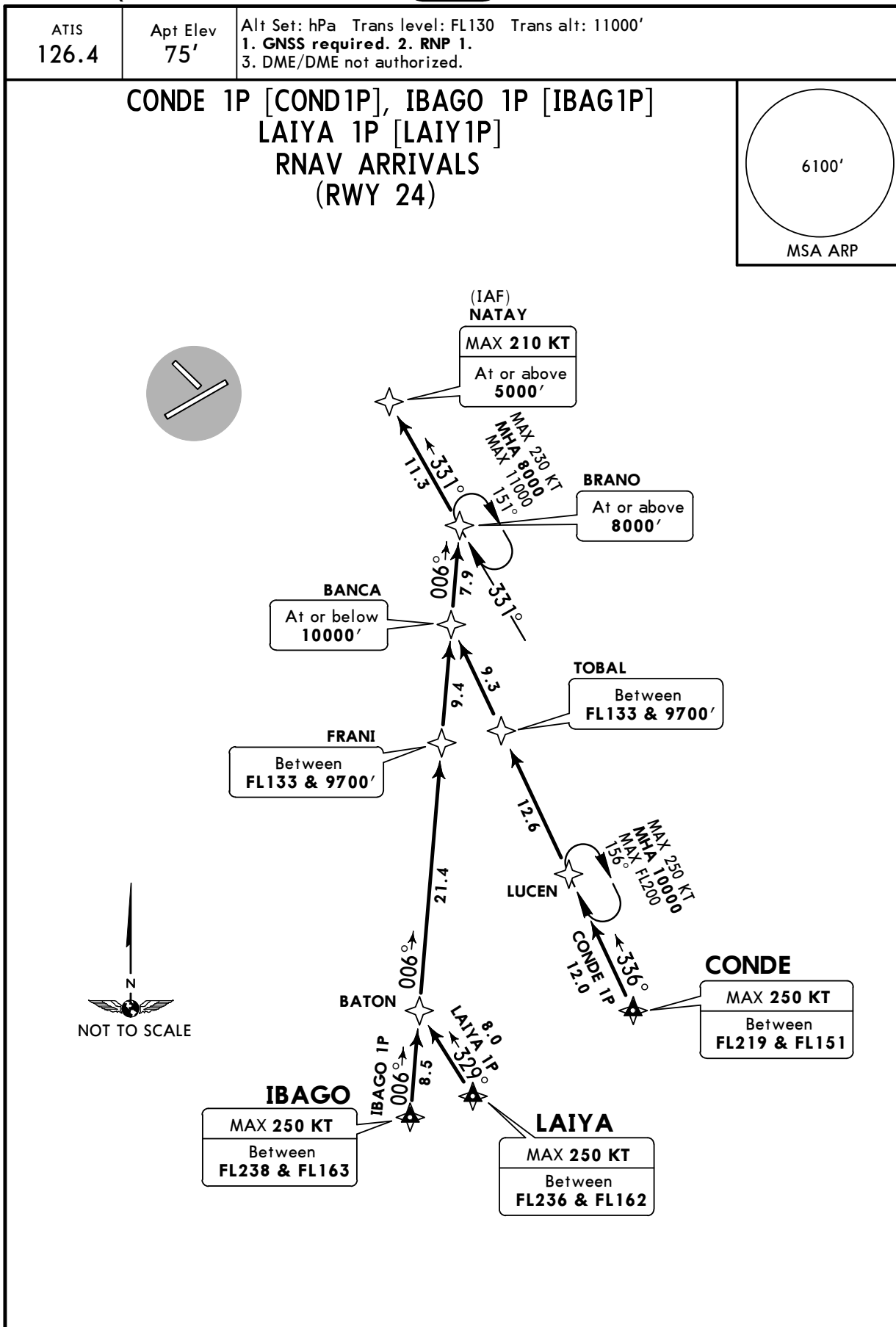
RNAV STAR



RPLL/MNL
NINOY AQUINO INTL

JEPPESSEN
24 FEB 17 **10-2G1** **Eff 2 Mar**

MANILA, PHILIPPINES
RNAV STAR



STAR	ROUTING
CONDE 1P	From CONDE between FL219 and FL151, to LUCEN, to TOBAL between FL133 and 9700', to BANCA at or below 10000', to BRANO at or above 8000', to NATAY at or above 5000'.
IBAGO 1P	From IBAGO between FL238 and FL163, to BATON, to FRANI between FL133 and 9700', to BANCA at or below 10000', to BRANO at or above 8000', to NATAY at or above 5000'.
LAIYA 1P	From LAIYA between FL236 and FL162, to BATON, to FRANI between FL133 and 9700', to BANCA at or below 10000', to BRANO at or above 8000', to NATAY at or above 5000'.

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NINYO AQUINO INTL

JEPPesen

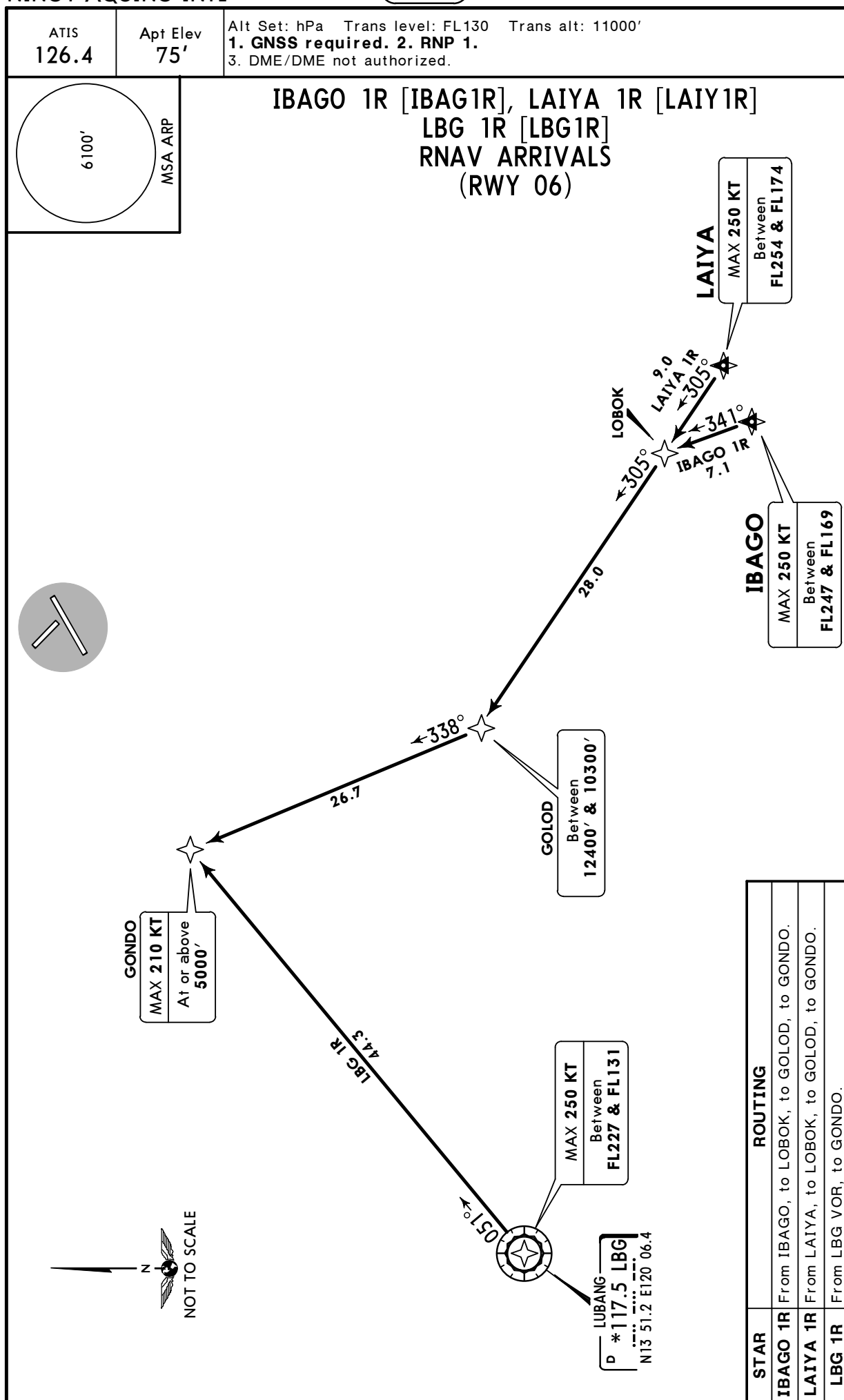
24 FEB 17

10-2G2

Eff 2 Mar

MANILA, PHILIPPINES

RNAV STAR



RPLL/MNL
NINYO AQUINO INTL

JEPPESEN
24 FEB 17 **(10-2H)** Eff 2 Mar

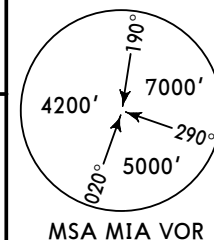
MANILA, PHILIPPINES

STAR

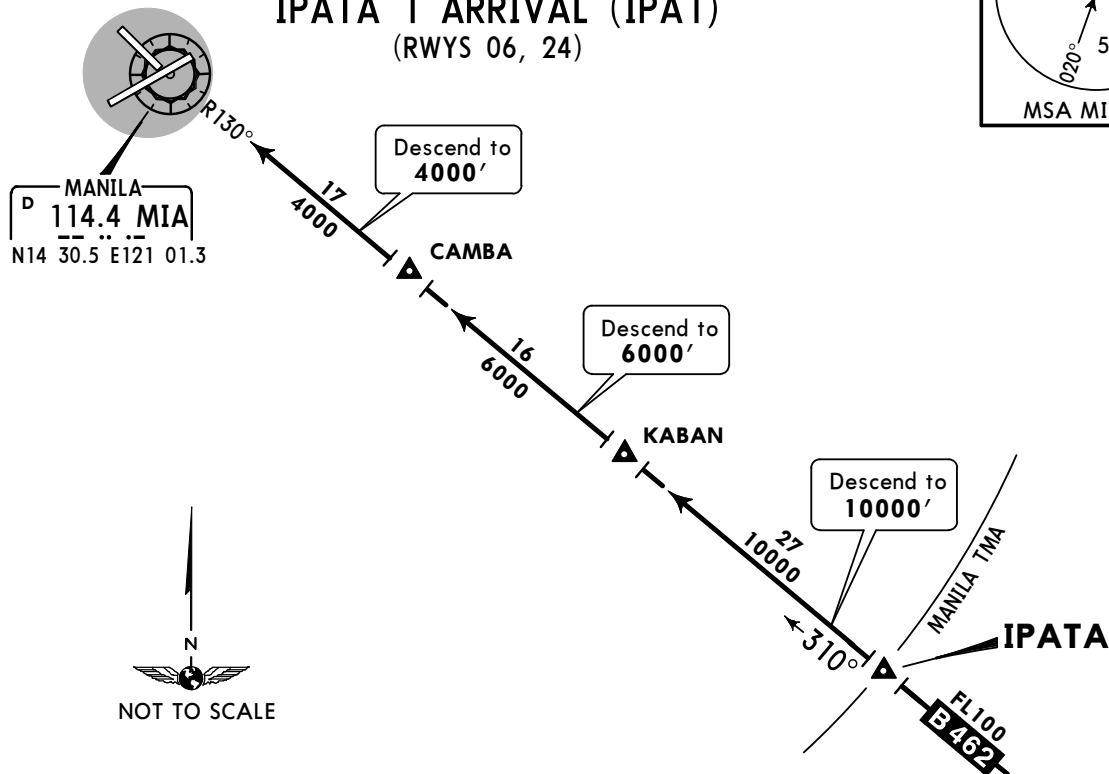
ATIS
126.4

Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'



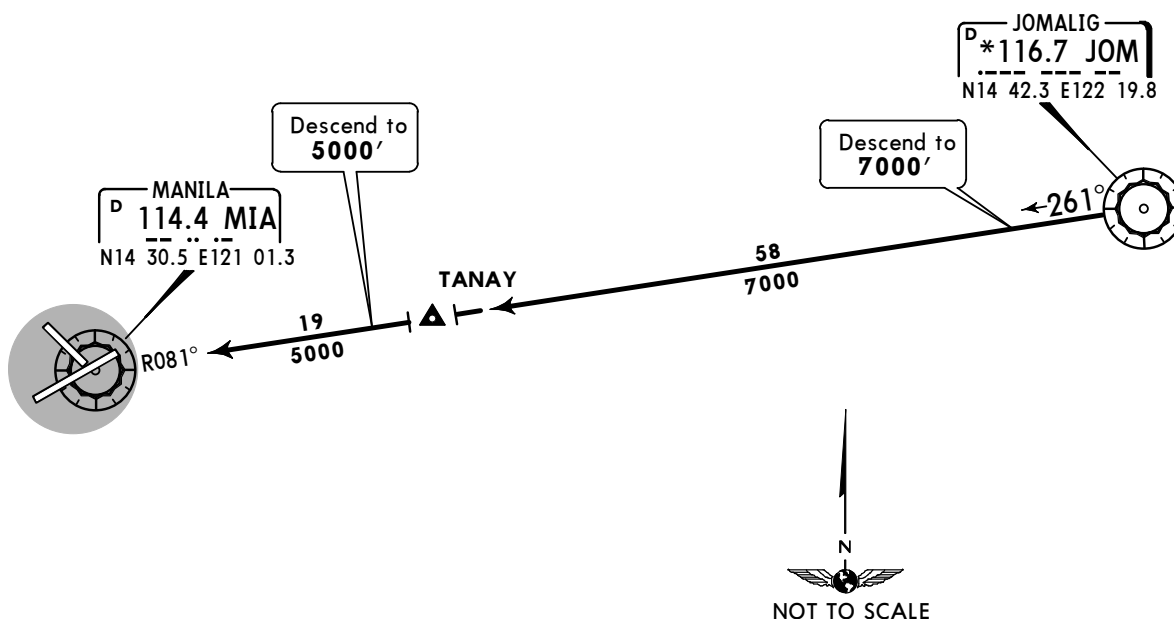
IPATA 1 ARRIVAL (IPA1) (RWYS 06, 24)



ROUTING

At IPATA, track in on MIA R-130 and descend to 10000'. At KABAN, descend to 6000'. At CAMBA, descend to 4000'.

JOMALIG 1 ARRIVAL (JOM1) (RWYS 06, 24)



ROUTING

At JOM, track in on MIA R-081 and descend to 7000'. At TANAY, descend to 5000'.

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NINYO AQUINO INTL

JEPPESEN
24 FEB 17 **(10-2J)** Eff 2 Mar

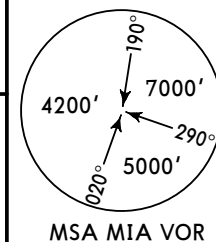
MANILA, PHILIPPINES

STAR

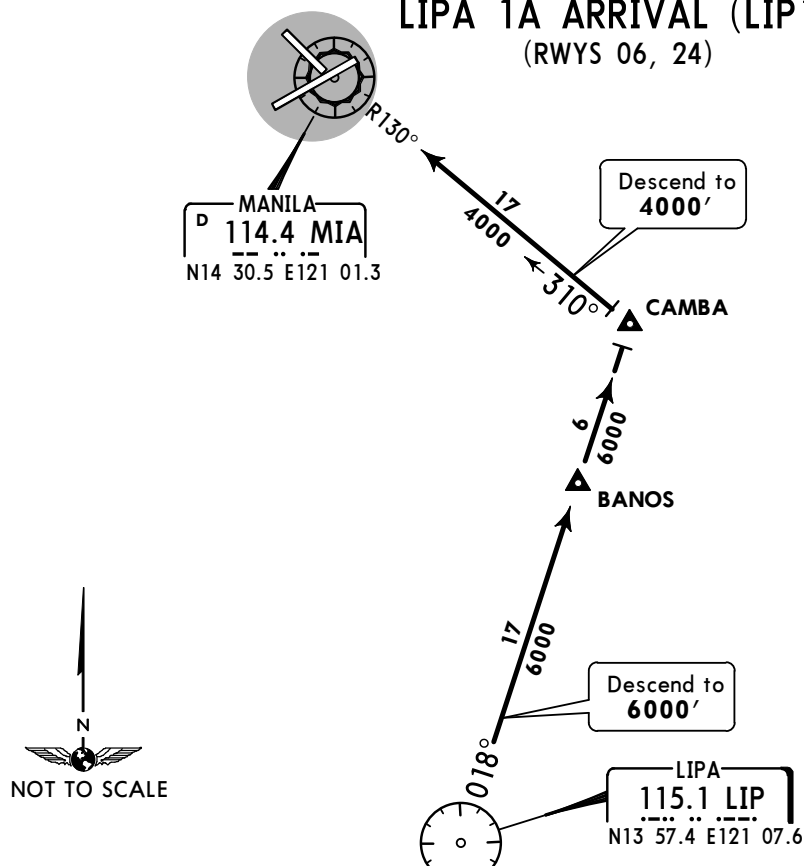
ATIS
126.4

Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'



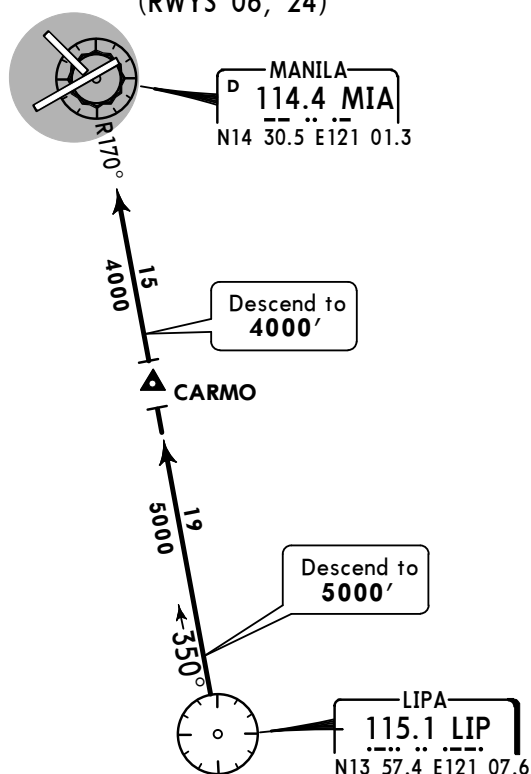
LIPA 1A ARRIVAL (LIP1A)
(RWYS 06, 24)



ROUTING

At LIP, track out on LIP R-018 and descend to 6000' to CAMBA via BANOS. At CAMBA, track in on MIA R-130 and descend to 4000'.

LIPA 1B ARRIVAL (LIP1B)
(RWYS 06, 24)



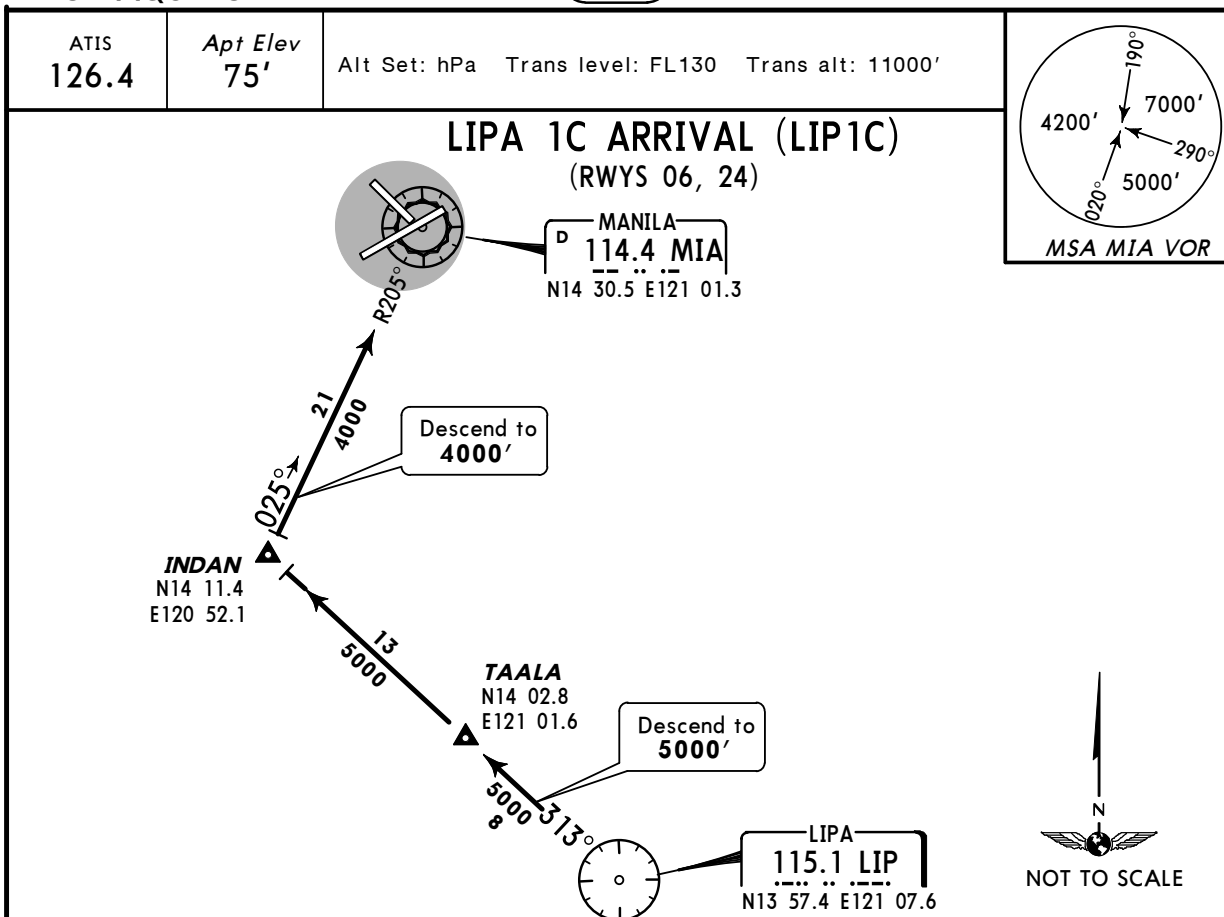
ROUTING

At LIP, track in on MIA R-170 and descend to 5000' to CARMO. At CARMO, descend to 4000'.

RPLL/MNL
NINYO AQUINO INTL

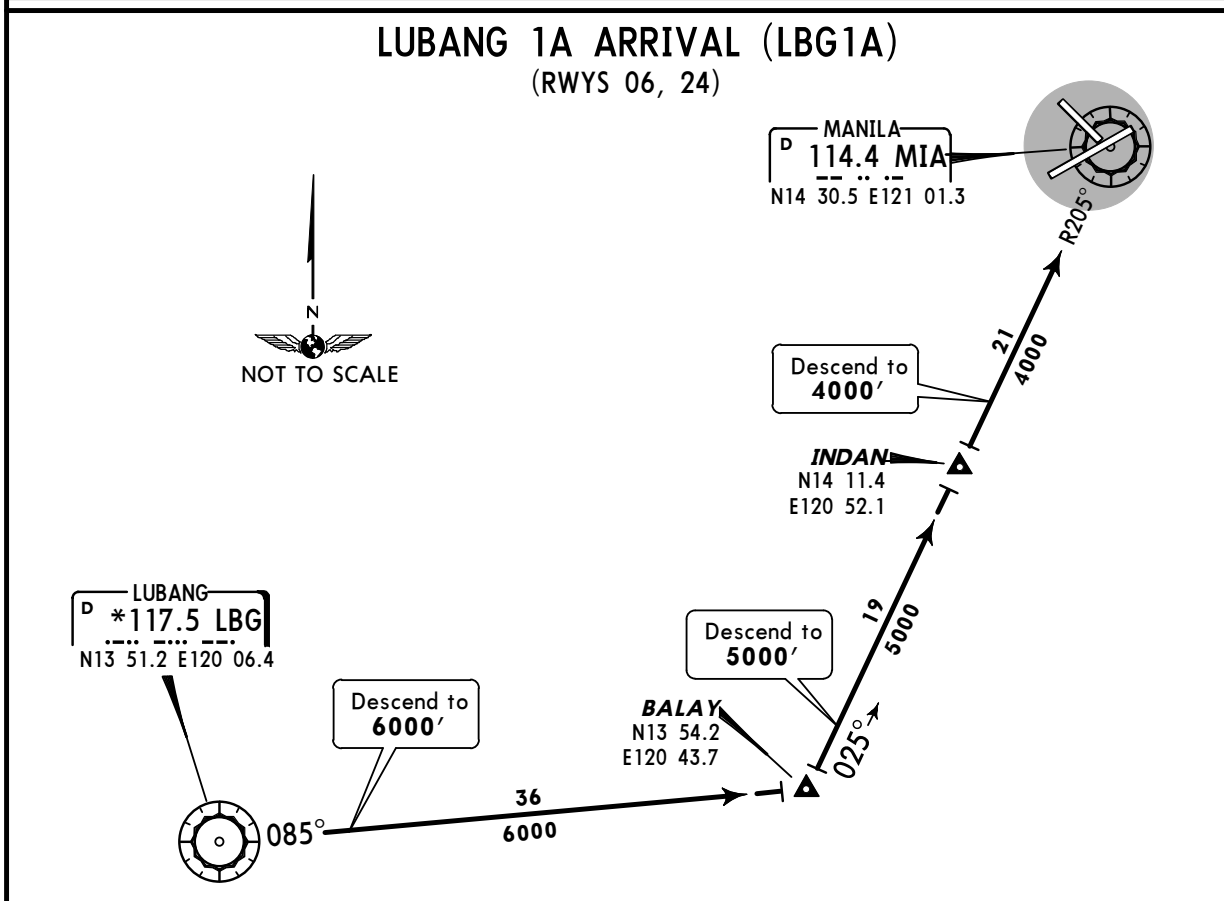
JEPPESEN
24 OCT 14 **(10-2K)**

MANILA, PHILIPPINES
STAR



ROUTING

At LIP, track out on LIP R-313 and descend to 5000' to INDAN via TAALA. At INDAN, track in on MIA R-205 and descend to 4000'.



ROUTING

At LBG, track out on LBG R-085 and descend to 6000' to BALAY. At BALAY, track in on MIA R-205 and descend to 5000'. At INDAN, descend to 4000'.

RPLL/MNL
NINYO AQUINO INTL

JEPPESSEN
24 OCT 14 **(10-2L)**

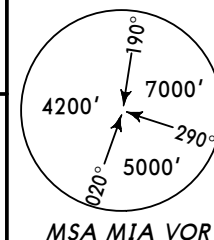
MANILA, PHILIPPINES

STAR

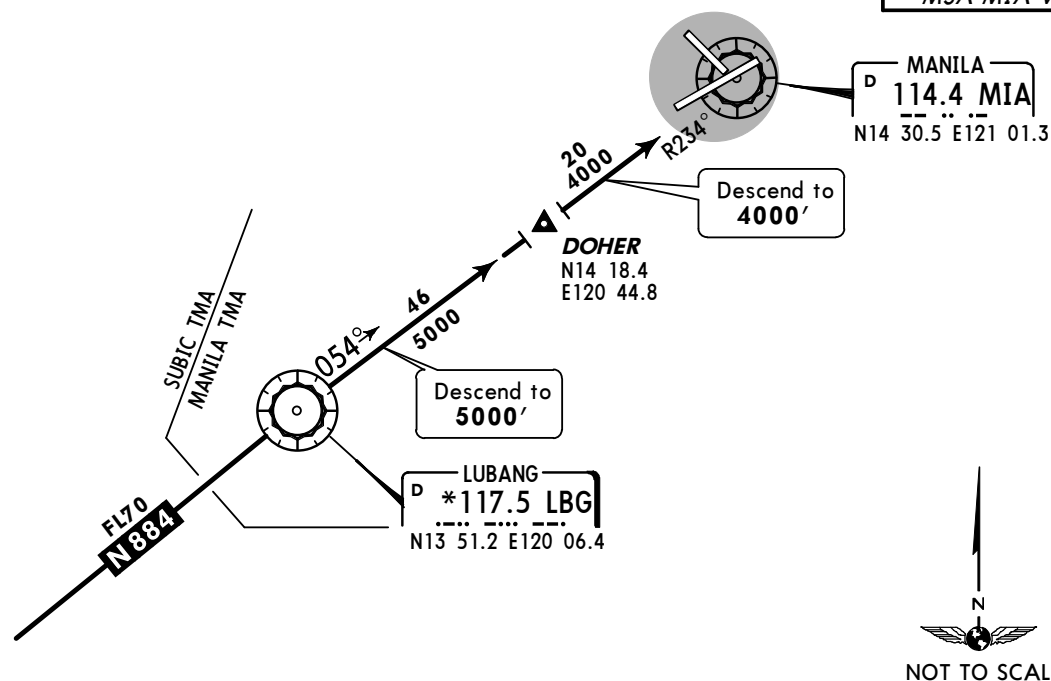
ATIS
126.4

Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'



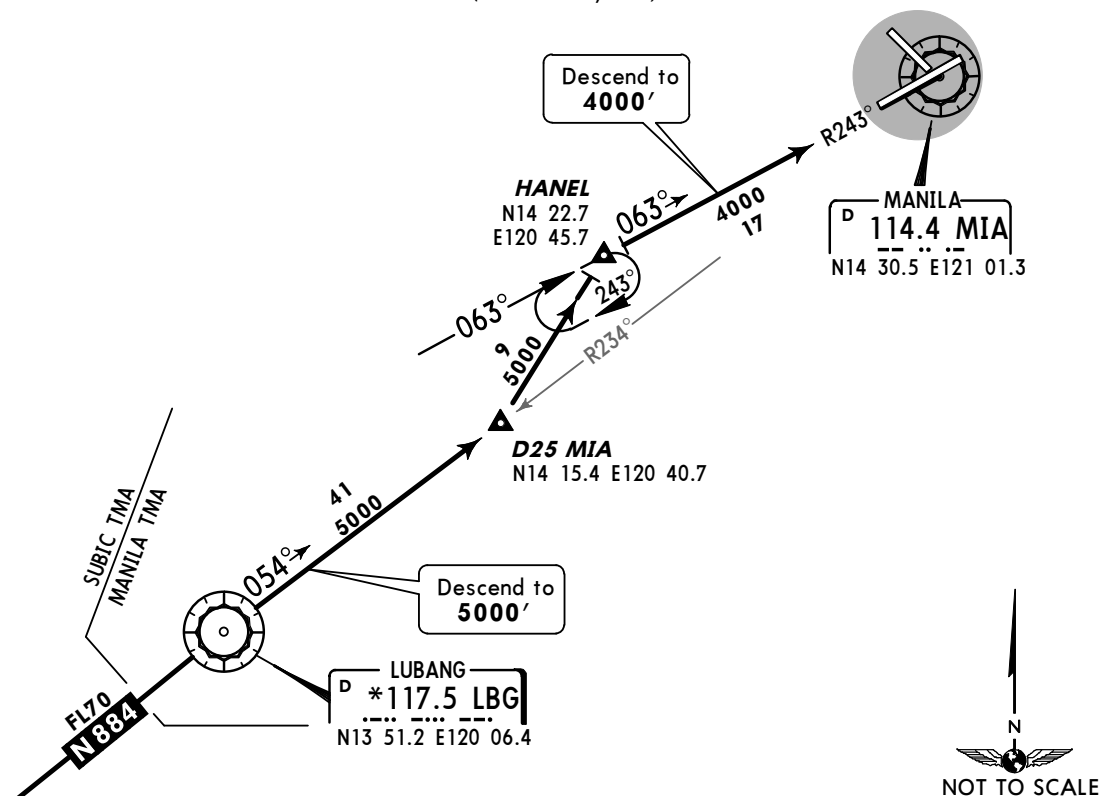
LUBANG 1B ARRIVAL (LBG1B)
(RWYS 06, 24)



ROUTING

At LBG, track in on MIA R-234 and descend to 5000'. At DOHER, descend to 4000'.

LUBANG 1C ARRIVAL (LBG1C)
(RWYS 06, 24)



ROUTING

At LBG track in on MIA R-234 and descend to 5000'. At D25 MIA, proceed to HANEL and track in on MIA R-243. At HANEL, descend to 4000'.

RPLL/MNL
NINYO AQUINO INTL

JEPPESEN

24 FEB 17

(10-2M)

Eff 2 Mar

MANILA, PHILIPPINES

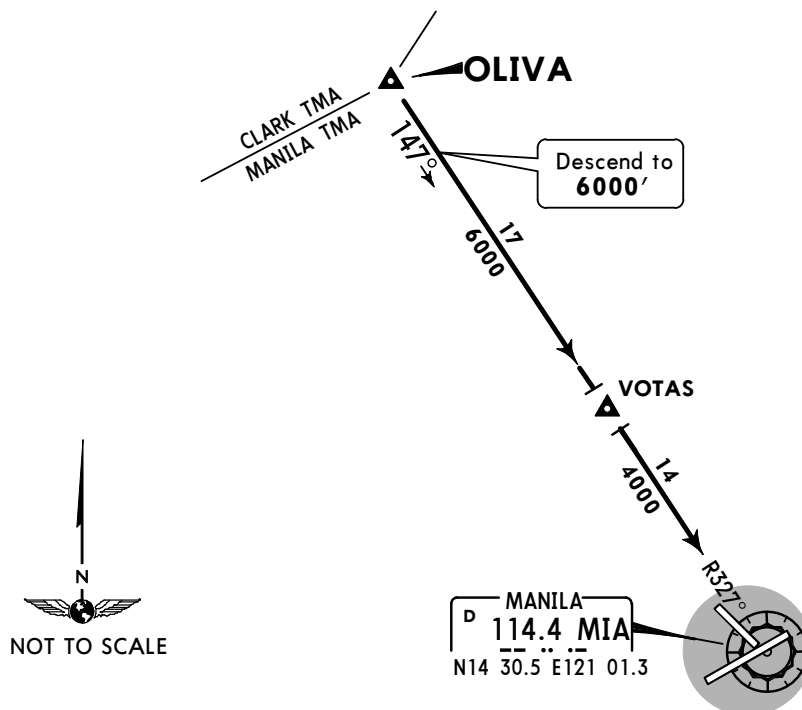
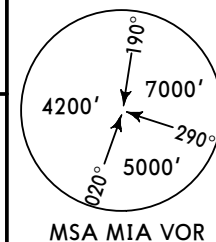
STAR

ATIS
126.4

Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'

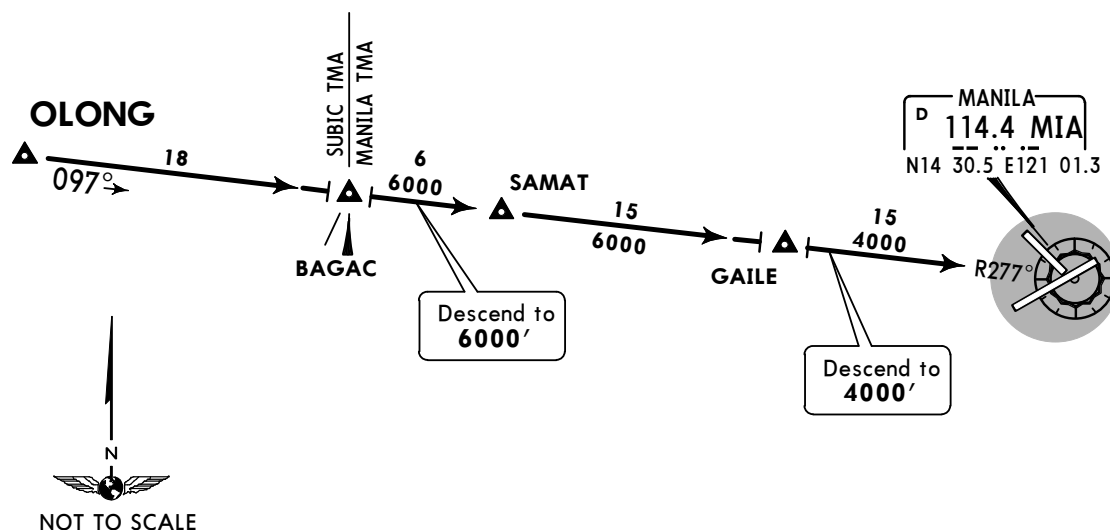
OLIVA 1A ARRIVAL (OLI1A)
(RWYS 06, 24)



ROUTING

At OLIVA, track in on MIA R-327 and descend to 6000' to MIA via VOTAS.

OLONG 1 ARRIVAL (OLO1)
(RWYS 06, 24)



ROUTING

At BAGAC, track in on MIA R-277 and descend to 6000' to GAILE via SAMAT. At GAILE, descend to 4000'.

RPLL/MNL
NINYO AQUINO INTL

JEPPESSEN
24 FEB 17 **(10-2N)** **Eff 2 Mar**

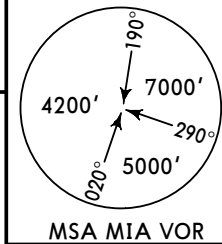
MANILA, PHILIPPINES

STAR

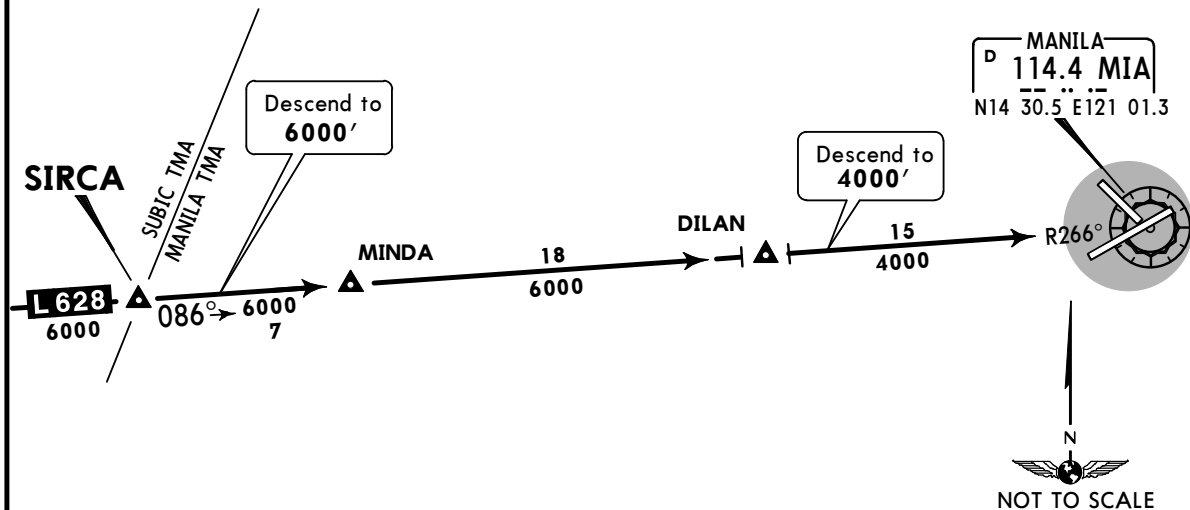
ATIS
126.4

Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'



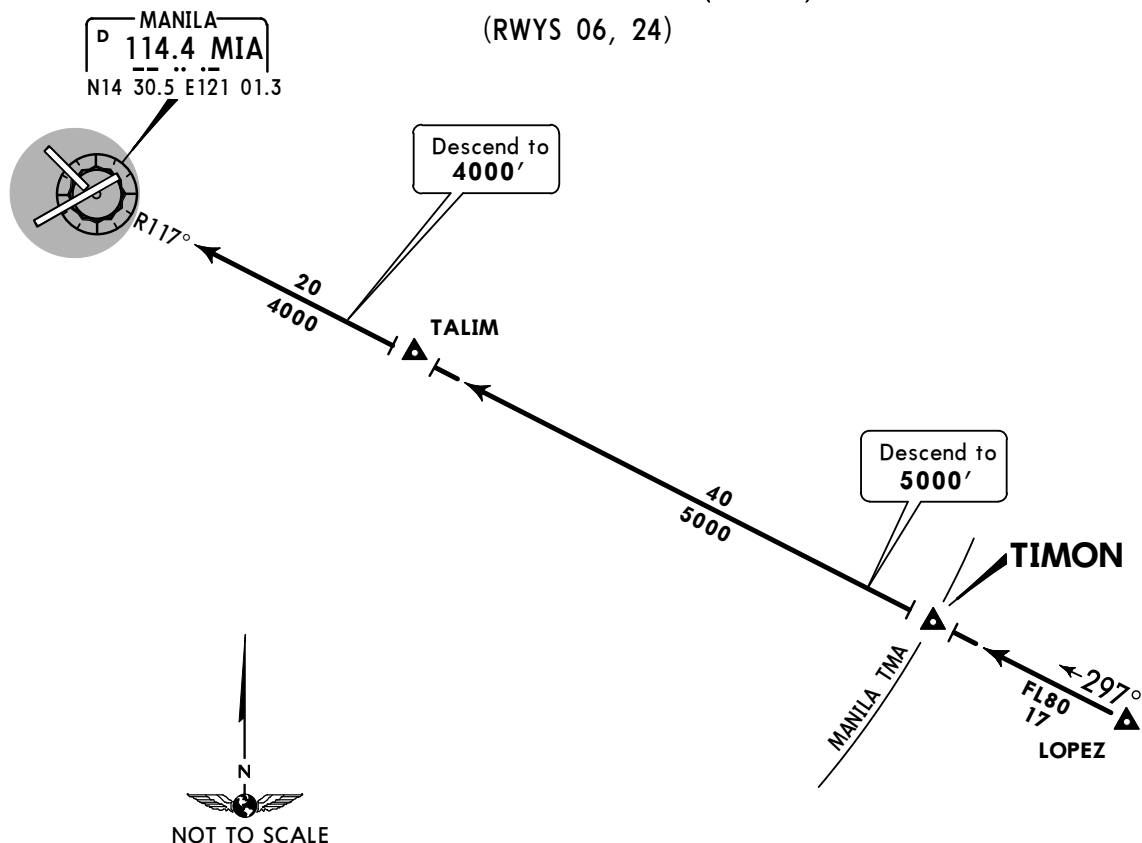
SIRCA 1 ARRIVAL (SIR1)
(RWYS 06, 24)



ROUTING

At SIRCA, track in on MIA R-266 and descend to 6000' to DILAN via MINDA. At DILAN, descend to 4000'.

TIMON 1 ARRIVAL (TIM1)
(RWYS 06, 24)



ROUTING

At TIMON, track in on MIA R-117 and descend to 5000'. At TALIM, descend to 4000'.

RPLL/MNL
NINOY AQUINO INTL

JEPPESEN
24 FEB 17 **10-2P** **Eff 2 Mar**

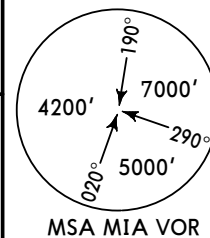
MANILA, PHILIPPINES

STAR

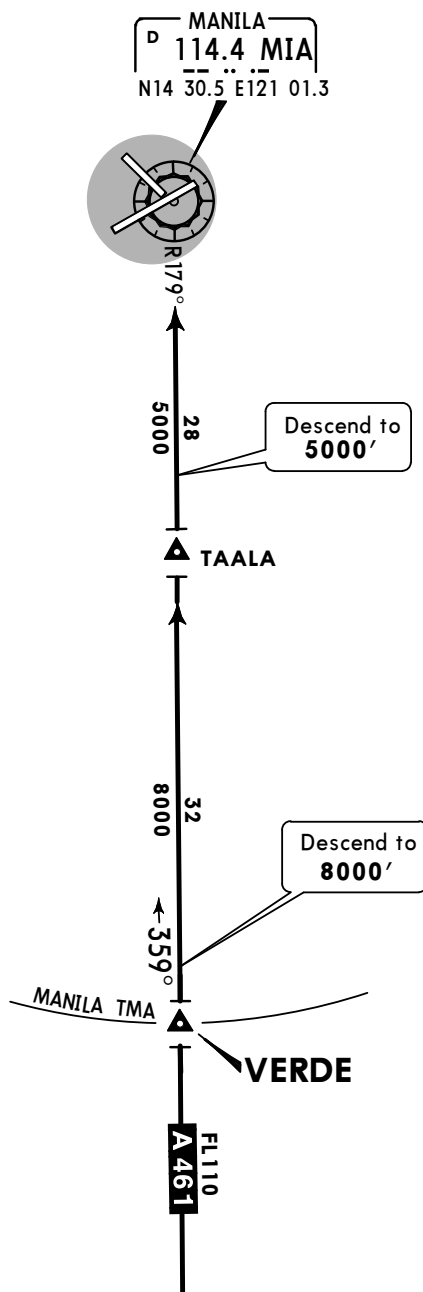
ATIS
126.4

Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'



VERDE 1 ARRIVAL (VER1)
(RWYS 06, 24)



ROUTING

At VERDE, track in on MIA R-179 and descend to 8000'. At TAALA, descend to 5000'.

RPLL/MNL
NINYO AQUINO INTL

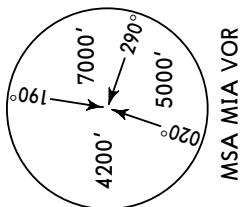
JEPPESSEN
24 FEB 17 **10-3** **Eff 2 Mar**

MANILA, PHILIPPINES

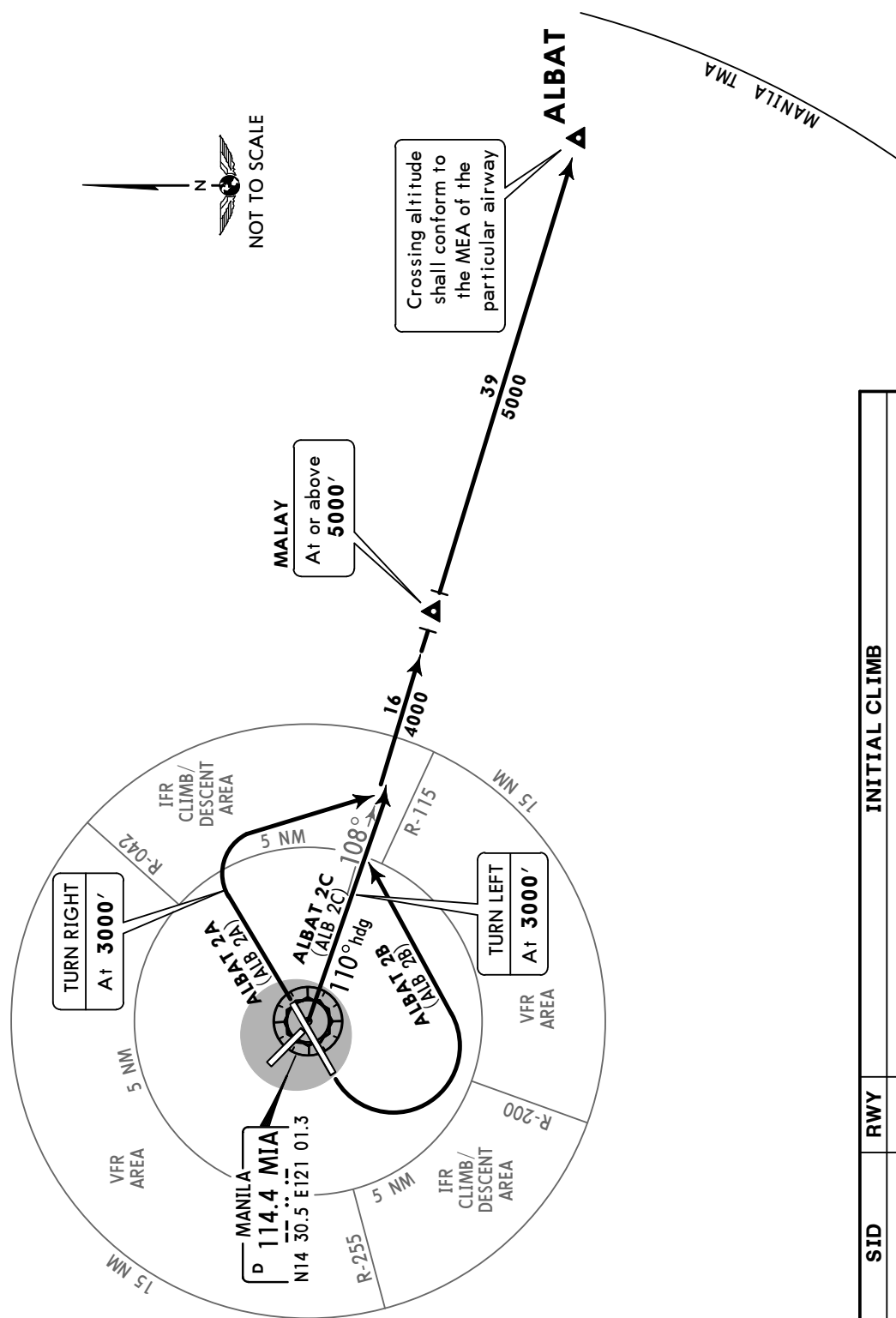
SID

Apt Elev
75'

- Trans level: FL130 Trans alt: 11000'
1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
 2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
 3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
 4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.



**ALBAT 2A (ALB 2A), ALBAT 2B (ALB 2B),
ALBAT 2C (ALB 2C) DEPARTURES**
(RWYS 06, 13, 24)



SID	RWY	INITIAL CLIMB
ALBAT 2A	06	Straight-out departure to 3000', then RIGHT climbing turn.
ALBAT 2B	24	LEFT turn within 5 NM.
ALBAT 2C	13	Turn LEFT heading 110° to 3000', then LEFT climbing turn.
ROUTING		
Intercept and track-out on MIA R-108 to MALAY. Continue climb to ALBAT.		

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NINYO AQUINO INTL

JEPPesen

24 FEB 17

(10-3A)

Eff 2 Mar

MANILA, PHILIPPINES

RNAV SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. GNSS required. 2. RNP 1.

3. DME/DME not authorized. 4. ALPAS 4V and CAB 4V authorized only when RWYS 13/24 are in use.

**ALPAS 2P [ALPA2P], ALPAS 4V [ALPA4V]
CAB 2P [CAB2P], CAB 4V [CAB4V]
RNAV DEPARTURES**

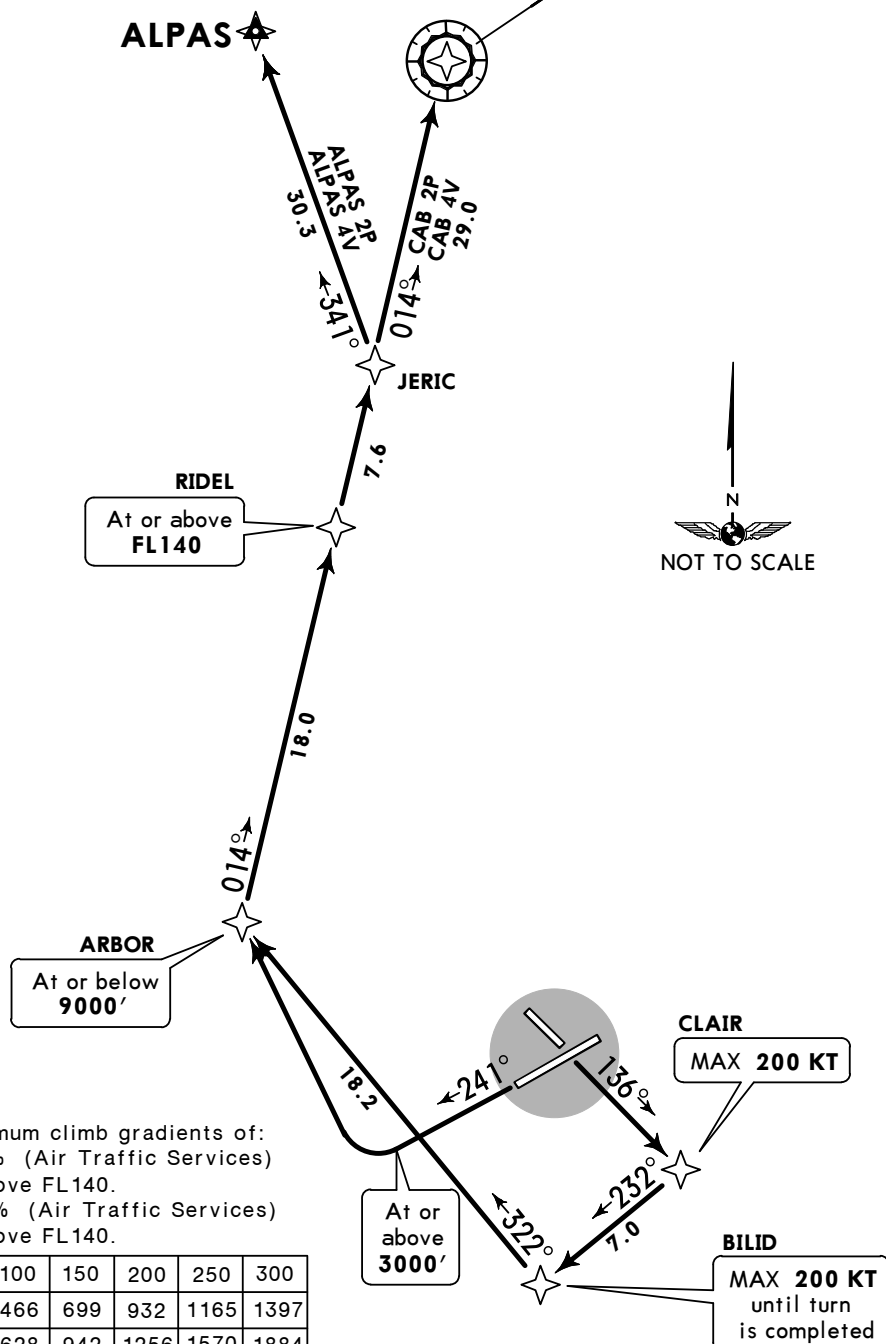
(RWY 13, 24)

RWY 13: CAT A, B & C

CABANATUAN
112.7 CAB
N15 28.9 E121 01.5

6100'

MSA ARP



SID	RWY	INITIAL CLIMB
ALPAS 2P	24	Climb on track 241° to at or above 3000', turn RIGHT direct to ARBOR, then to RIDEL, to JERIC and ALPAS.
ALPAS 4V	13	Climb on track 136° to CLAIR, then to BILID, to ARBOR, to RIDEL, to JERIC and ALPAS.
CAB 2P	24	Climb on track 241° to at or above 3000', turn RIGHT direct to ARBOR, then to RIDEL, to JERIC and CAB.
CAB 4V	13	Climb on track 136° to CLAIR, then to BILID, to ARBOR, to RIDEL, to JERIC and CAB.

RPLL/MNL
NINYO AQUINO INTL

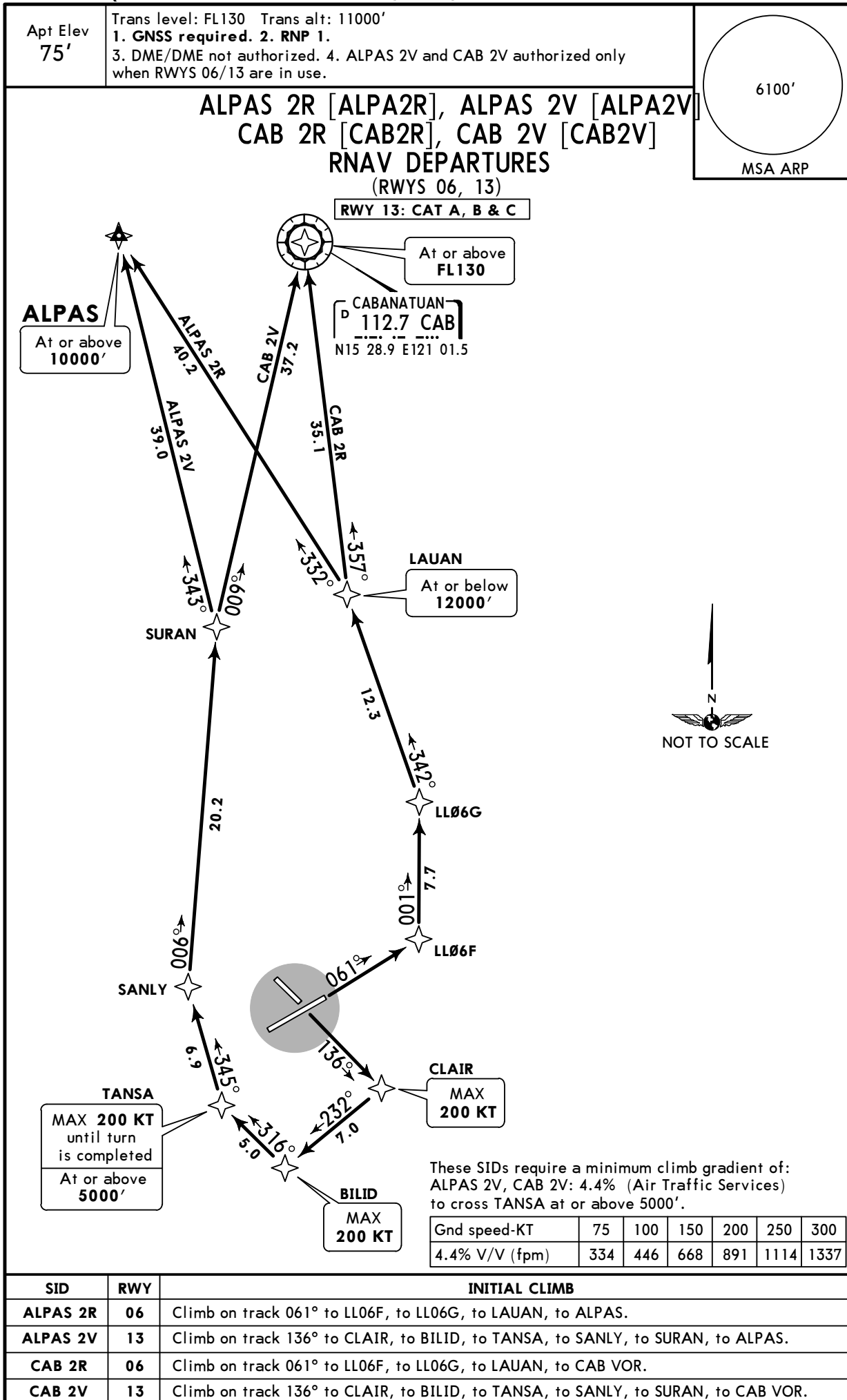
24 FEB 17

10-3A1

Eff 2 Mar

MANILA, PHILIPPINES

RNAV SID



RPLL/MNL
NINYO AQUINO INTL

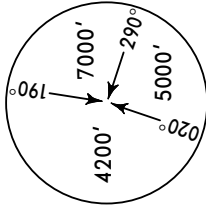
JEPPESSEN
24 FEB 17 **(10-3A2)** **Eff 2 Mar**

MANILA, PHILIPPINES

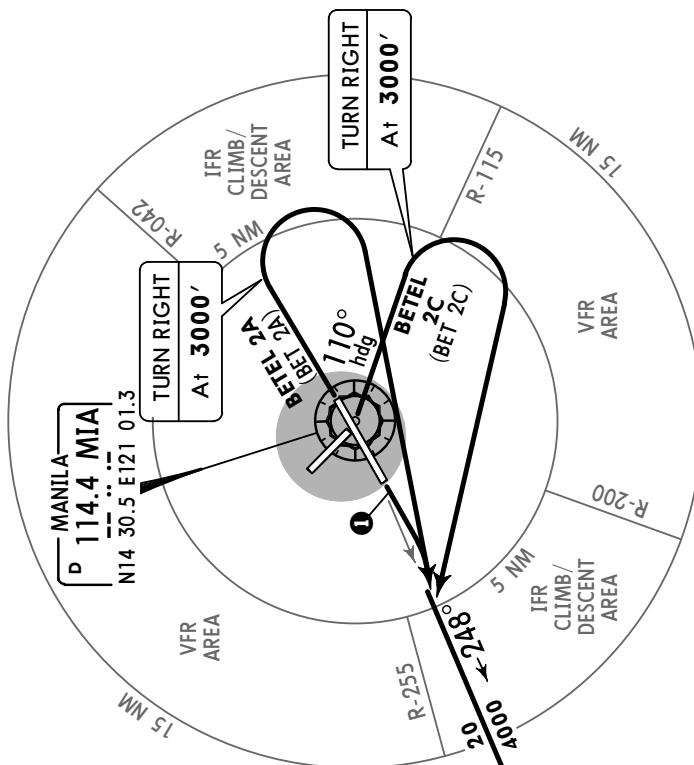
SID

Apt Elev
75'

- Trans level: FL130 Trans alt: 11000'
1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
 2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
 3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
 4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.



**BETEL 2A (BET 2A), BETEL 2B (BET 2B),
BETEL 2C (BET 2C) DEPARTURES**
(RWYS 06, 13, 24)



BETEL 2B (BET 2B)

BORGA
At or above
5000'

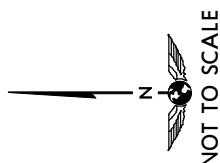
KEERO
At or above
6000'

BETEL

SID	RWY	INITIAL CLIMB
BETEL 2A	06	Straight-out departure to 3000', then RIGHT climbing turn.
BETEL 2B	24	RIGHT turn within 5 NM.
BETEL 2C	13	Turn LEFT heading 110° to 3000', then RIGHT climbing turn.

ROUTING

Intercept and track-out on MIA R-248 to BORGA. Continue climb to BETEL via KEERO.



RPLL/MNL
NINYO AQUINO INTL

24 FEB 17

JEPPESEN

10-3A3

Eff 2 Mar

MANILA, PHILIPPINES

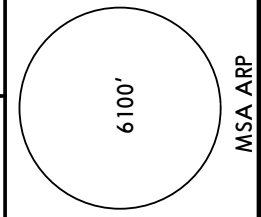
RNAV SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

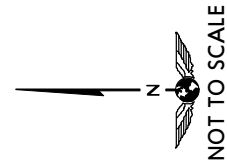
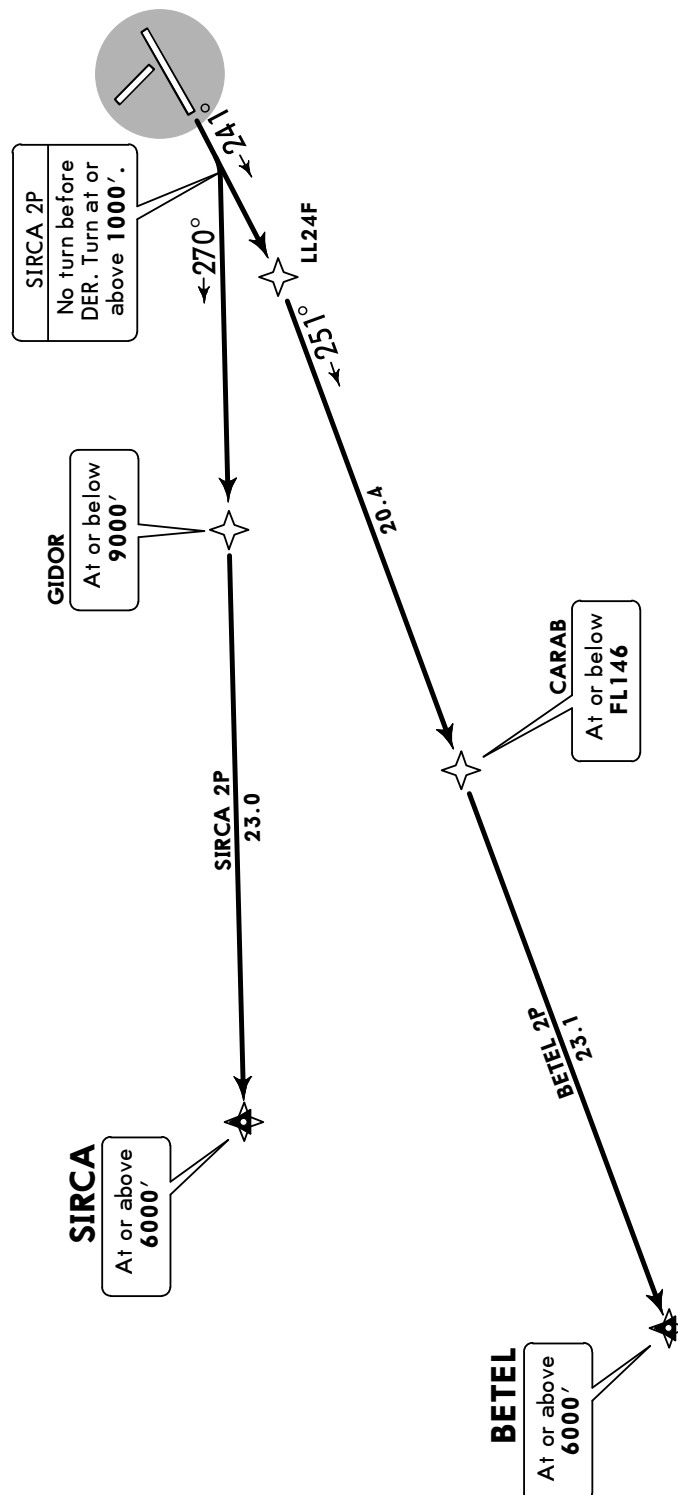
1. GNSS required. 2. RNP 1.

3. DME/DME not authorized.



BETEL 2P [BETE2P], SIRCA 2P [SIRC2P]
RNAV DEPARTURES
(RWY 24)

SID	INITIAL CLIMB
BETEL 2P	Climb on track 241° to LL24F, then to CARAB and BETEL.
SIRCA 2P	Climb on track 241° to at or above 1000', turn RIGHT direct to GIDOR, then to SIRCA.

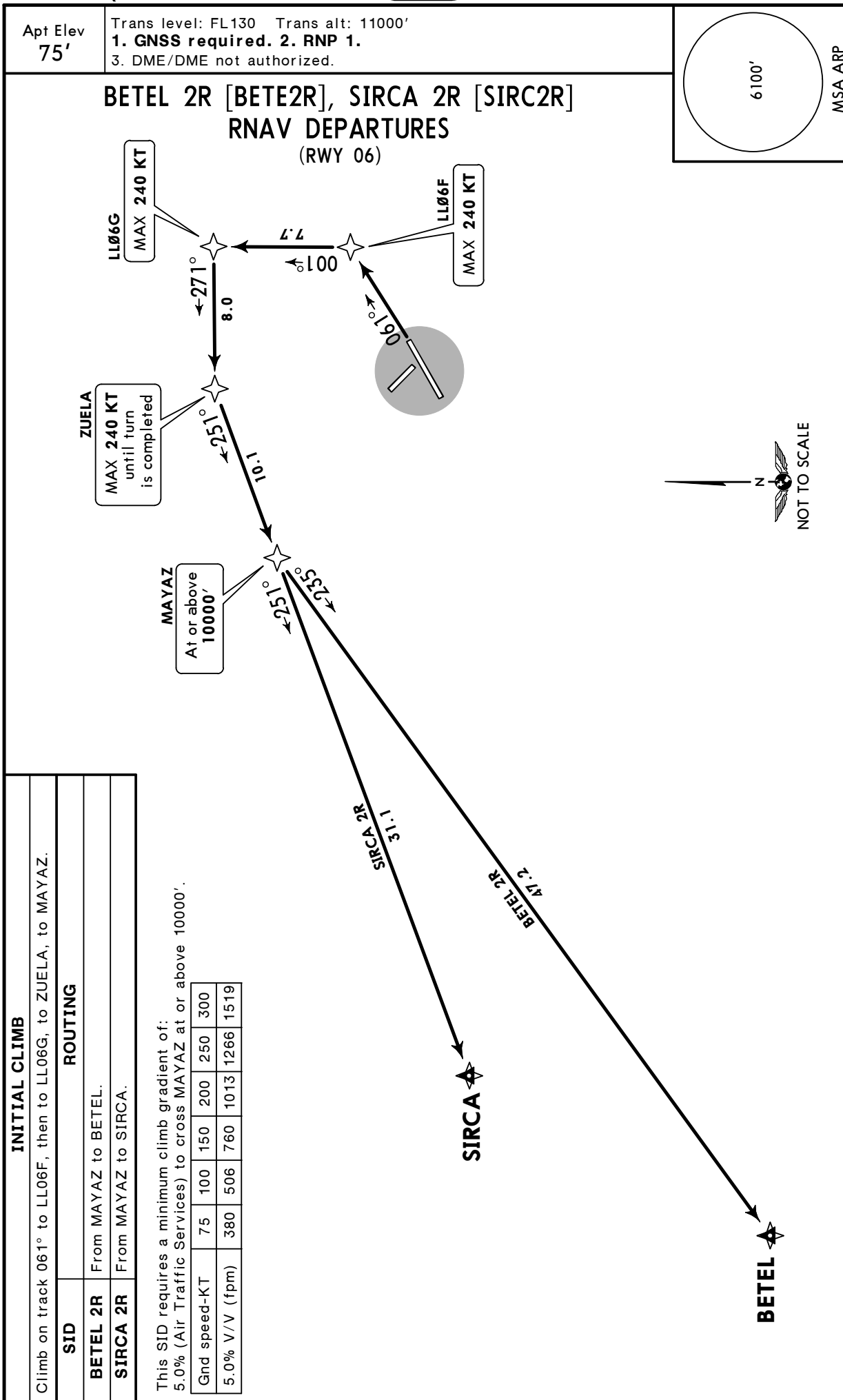


LOST COMMS
LOST COMMS
LOST COMMS
LOST COMMS
LOST
Squawk Mode A code 7600 and follow established procedures.

RPLL/MNL
NINYO AQUINO INTL

JEPPESEN
 24 FEB 17 **(10-3A4)** **Eff 2 Mar**

MANILA, PHILIPPINES
RNAV SID



RPLL/MNL
NINYO AQUINO INTL

JEPPESSEN
24 FEB 17 **(10-3B)** **Eff 2 Mar**

MANILA, PHILIPPINES

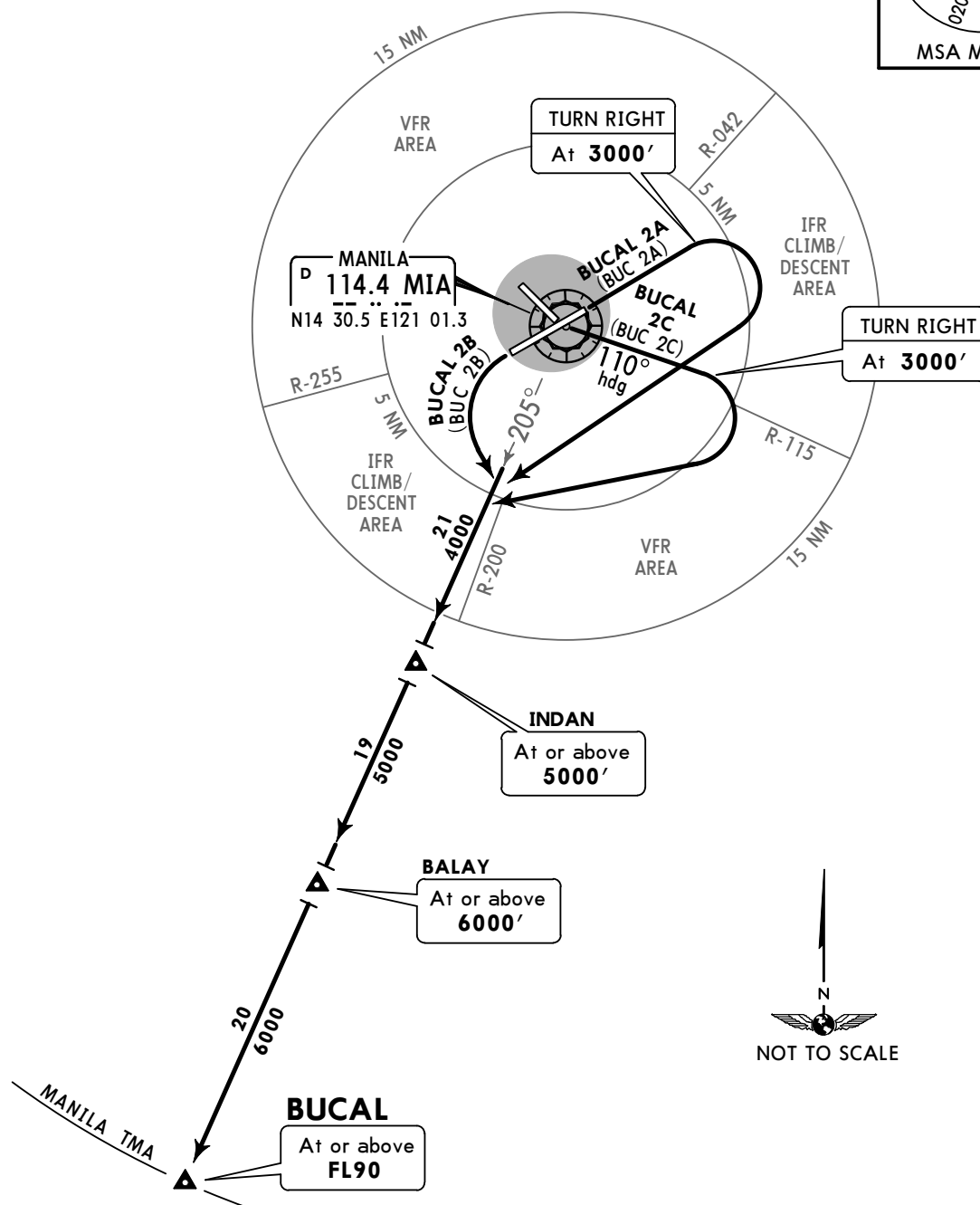
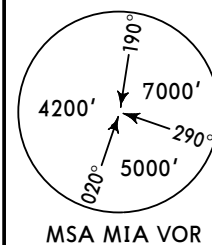
SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.

**BUCAL 2A (BUC 2A), BUCAL 2B (BUC 2B),
BUCAL 2C (BUC 2C) DEPARTURES**
(RWYS 06, 13, 24)



SID	RWY	INITIAL CLIMB
BUCAL 2A	06	Straight-out departure to 3000', then RIGHT climbing turn.
BUCAL 2B	24	LEFT turn within 5 NM.
BUCAL 2C	13	Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING		
Intercept and track-out on MIA R-205 to INDAN. Continue climb to BUCAL via BALAY.		

RPLL/MNL
NINYO AQUINO INTL

JEPPESEN

24 FEB 17

(10-3C)

Eff 2 Mar

MANILA, PHILIPPINES

RNAV SID

Apt Elev
75'

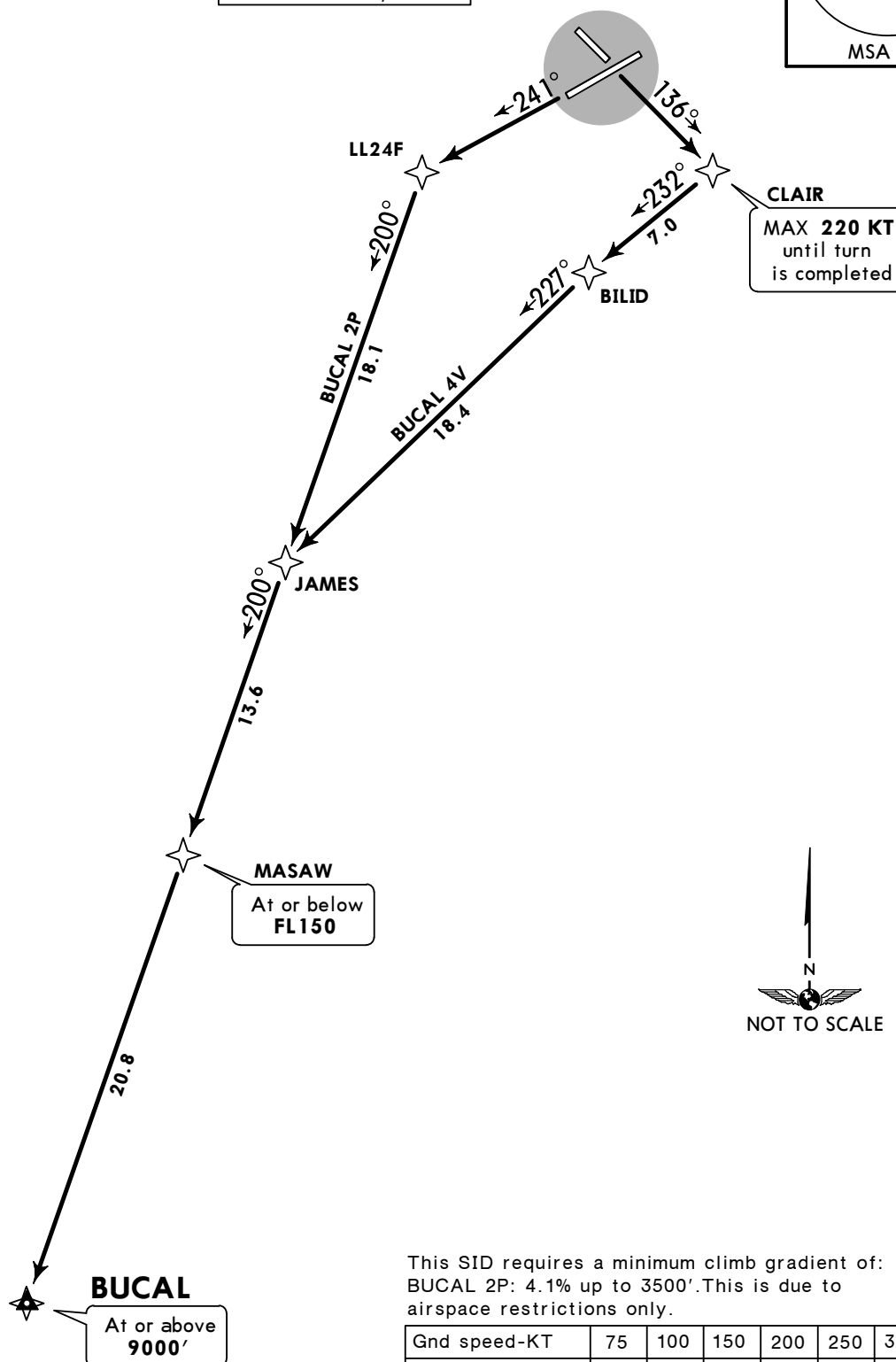
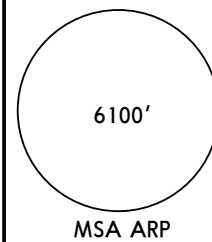
Trans level: FL130 Trans alt: 11000'

1. GNSS required. 2. RNP 1.

3. DME/DME not authorized. 4. BUCAL 4V is authorized only when RWYS 13/24 are in use.

BUCAL 2P [BUCA2P], BUCAL 4V [BUCA4V]
RNAV DEPARTURES
(RWYS 13, 24)

RWY 13: CAT A, B & C



This SID requires a minimum climb gradient of:
BUCAL 2P: 4.1% up to 3500'. This is due to
airspace restrictions only.

Gnd speed-KT	75	100	150	200	250	300
4.1% V/V (fpm)	311	415	623	830	1038	1246

SID	RWY	INITIAL CLIMB
BUCAL 2P	24	Climb on track 241° to LL24F, then to JAMES, to MASAW and to BUCAL.
BUCAL 4V	13	Climb on track 136° to CLAIR, to BILID, to JAMES, to MASAW and to BUCAL.

RPLL/MNL
NINYO AQUINO INTL

24 FEB 17

JEPPesen
10-3C1

Eff 2 Mar

MANILA, PHILIPPINES

RNAV SID

Apt Elev
75'

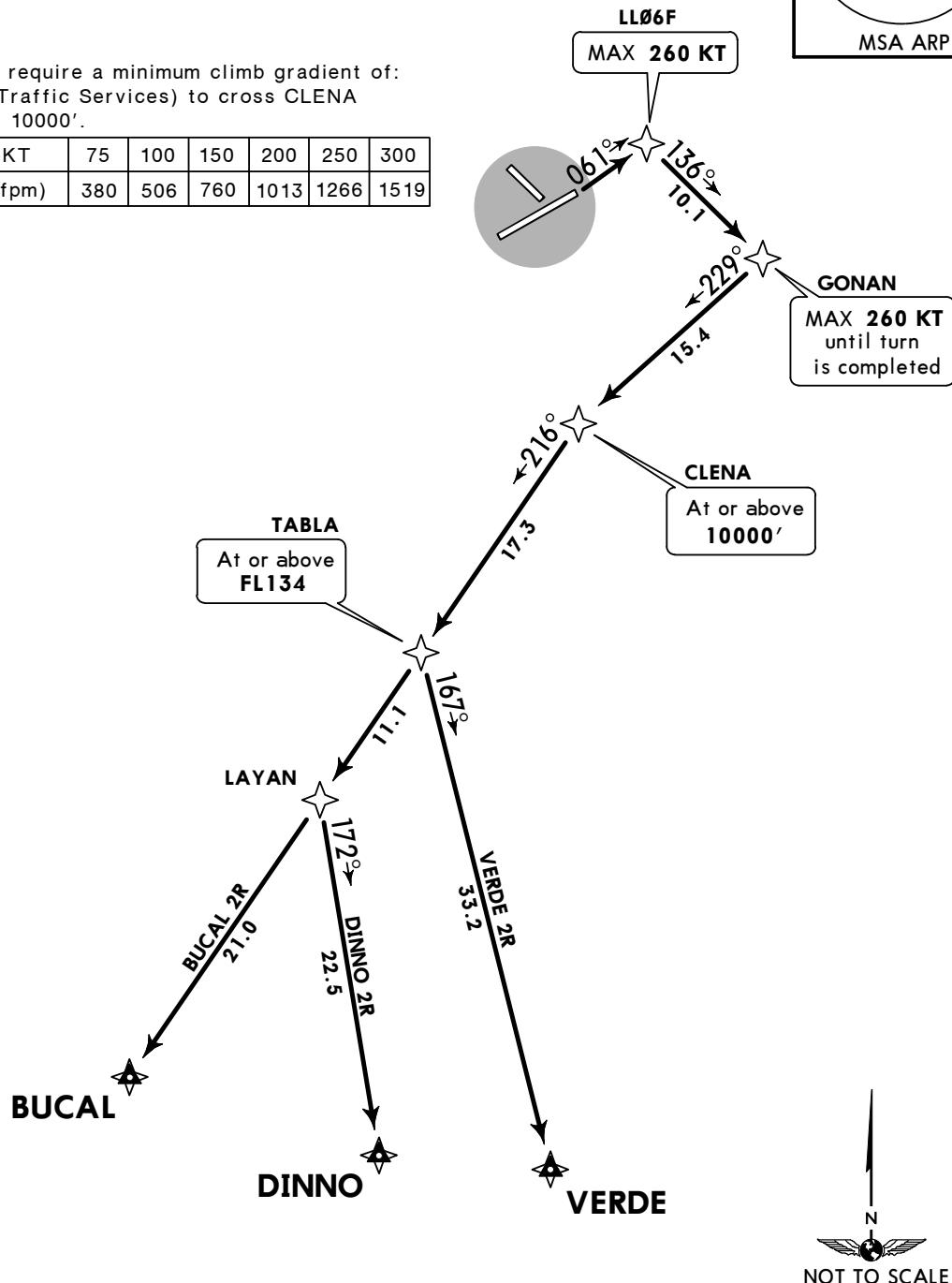
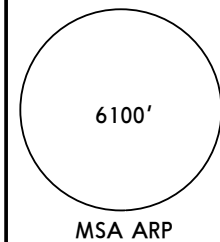
Trans level: FL130 Trans alt: 11000'

1. GNSS required. 2. RNP 1.
3. DME/DME not authorized.

**BUCAL 2R [BUCA2R], DINNO 2R [DINO2R]
VERDE 2R [VERD2R]
RNAV DEPARTURES
(RWY 06)**

These SIDs require a minimum climb gradient of:
5.0% (Air Traffic Services) to cross CLENA
at or above 10000'.

Gnd speed-KT	75	100	150	200	250	300
5.0% V/V (fpm)	380	506	760	1013	1266	1519



INITIAL CLIMB

Climb on track 061° to LL06F, then to GONAN, to CLENA at or above 10000', to TABLA at or above FL134.

SID	ROUTING
BUCAL 2R	From TABLA to LAYAN, to BUCAL.
DINNO 2R	From TABLA to LAYAN, to DINNO.
VERDE 2R	From TABLA to VERDE.

RPLL/MNL
NINYO AQUINO INTL

24 FEB 17

JEPPesen

10-3C2

Eff 2 Mar

MANILA, PHILIPPINES

RNAV SID

Apt Elev
75'

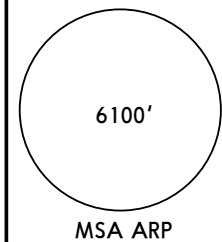
Trans level: FL130 Trans alt: 11000'

1. GNSS required. 2. RNP 1.

3. DME/DME not authorized. 4. These procedures shall only be used when Rwys 13/24 are in use.

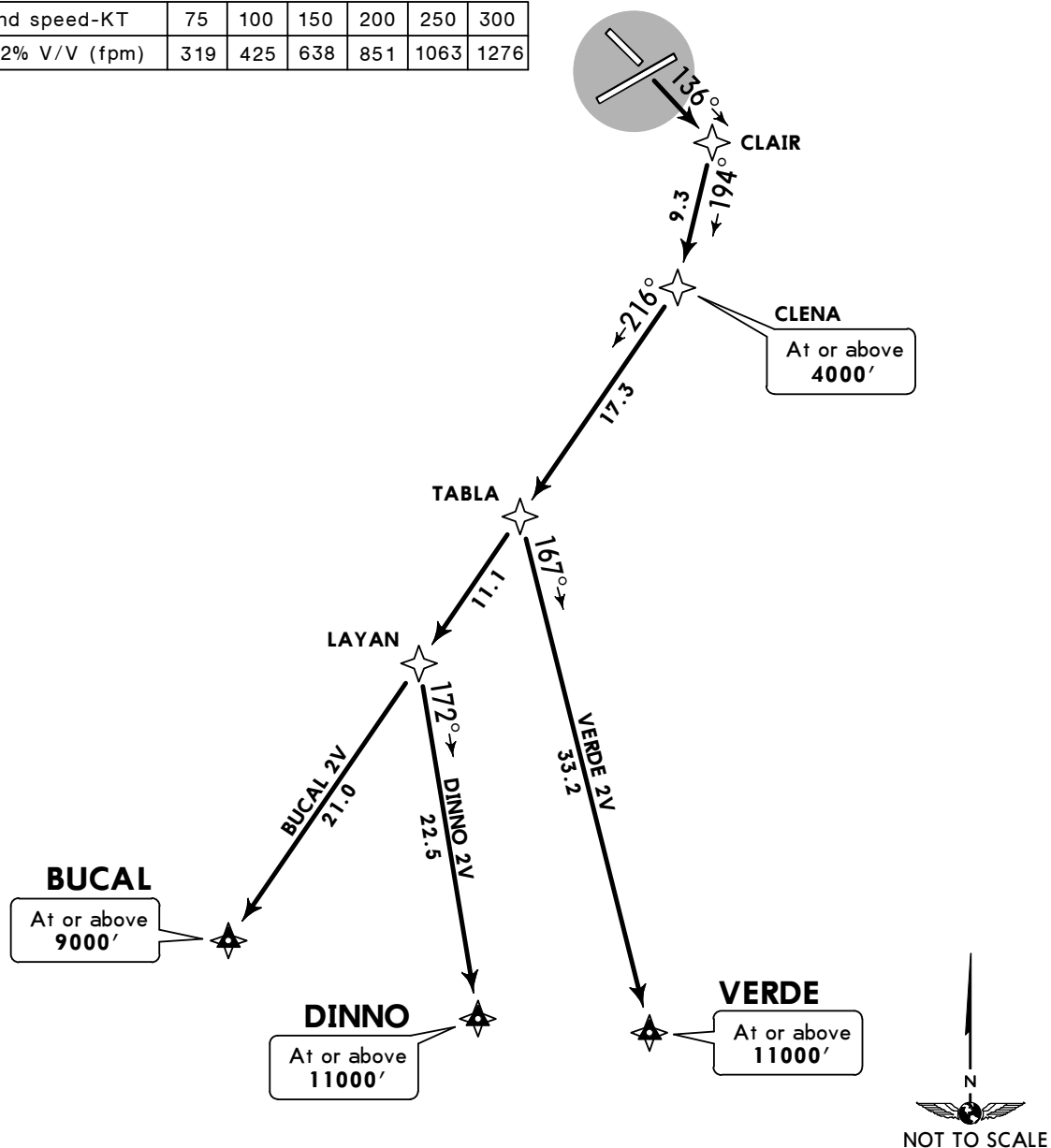
**BUCAL 2V [BUCA2V], DINNO 2V [DINO2V]
VERDE 2V [VERD2V]
RNAV DEPARTURES
(RWY 13)**

CAT A, B & C



These SIDs require a minimum climb gradient of 4.2% to cross CLENA at or above 4000'. This is due to airspace restrictions only.

Gnd speed-KT	75	100	150	200	250	300
4.2% V/V (fpm)	319	425	638	851	1063	1276



INITIAL CLIMB

Climb on track 136° to CLAIR, then to CLENA at or above 4000', to TABLA.

SID	ROUTING
BUCAL 2V	From TABLA, to LAYAN, to BUCAL at or above 9000'.
DINNO 2V	From TABLA, to LAYAN, to DINNO at or above 11000'.
VERDE 2V	From TABLA, to VERDE at or above 11000'.

RPLL/MNL
NINYO AQUINO INTL

JEPPesen
24 FEB 17 **10-3D** Eff 2 Mar

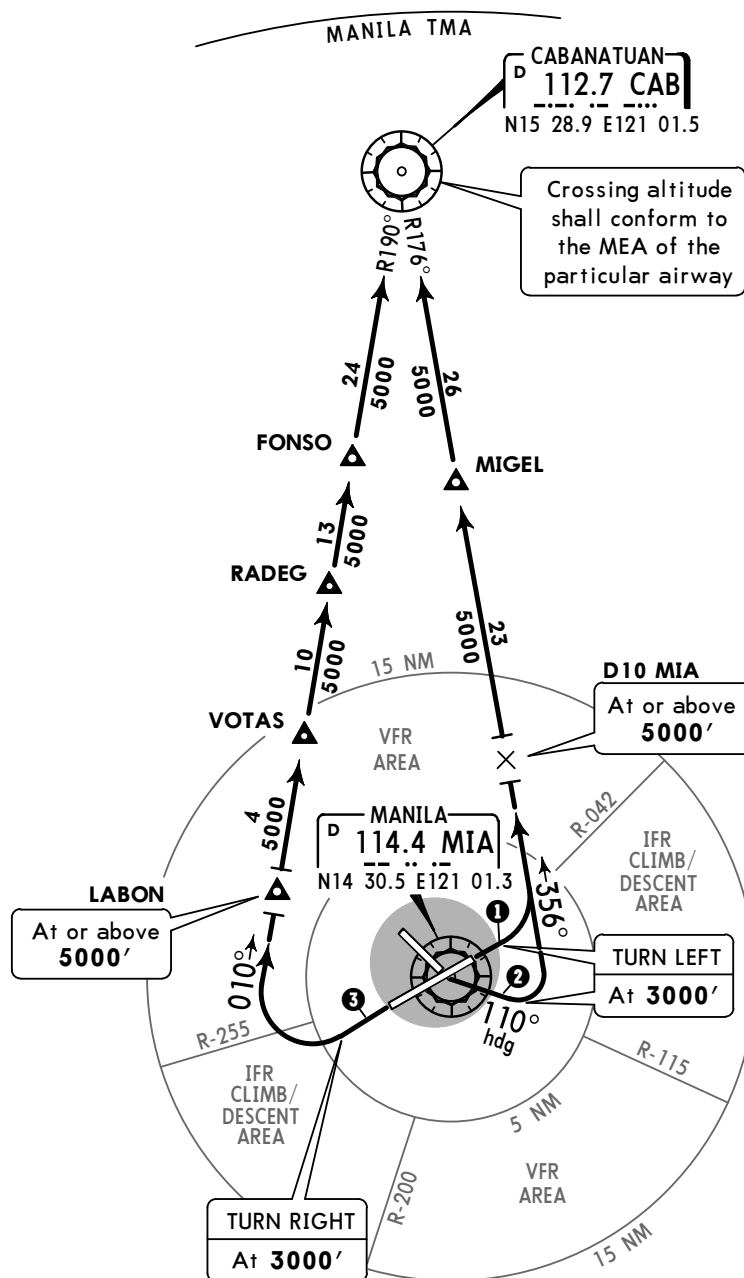
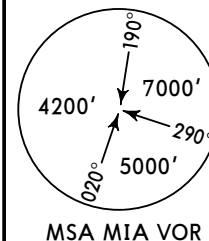
MANILA, PHILIPPINES

SID

Apt Elev
75'

- Trans level: FL130 Trans alt: 11000'
1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
 2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
 3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
 4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.

**CABANATUAN 1A (CAB 1A),
CABANATUAN 1B (CAB 1B),
CABANATUAN 1C (CAB 1C) DEPARTURES**
(RWYS 06, 13, 24)



1
CABANATUAN 1A
(CAB 1A)

2
CABANATUAN 1C
(CAB 1C)

3
CABANATUAN 1B
(CAB 1B)

SID	RWY	INITIAL CLIMB
CABANATUAN 1A	06	Straight-out departure to 3000', then LEFT climbing turn. Intercept and track-in on CAB R-176 to D10 MIA. Continue climb to CAB via MIGEL.
CABANATUAN 1B	24	Straight-out departure to 3000', then RIGHT climbing turn. Intercept and track-in on CAB R-190 to LABON. Continue climb to CAB via VOTAS, RADEG and FONSO.
CABANATUAN 1C	13	Turn LEFT heading 110° to 3000', then LEFT climbing turn. Intercept and track-in on CAB R-176 to D10 MIA. Continue climb to CAB via MIGEL.

RPLL/MNL
NINYO AQUINO INTL

JEPPESEN
24 FEB 17 **(10-3E)** Eff 2 Mar

MANILA, PHILIPPINES

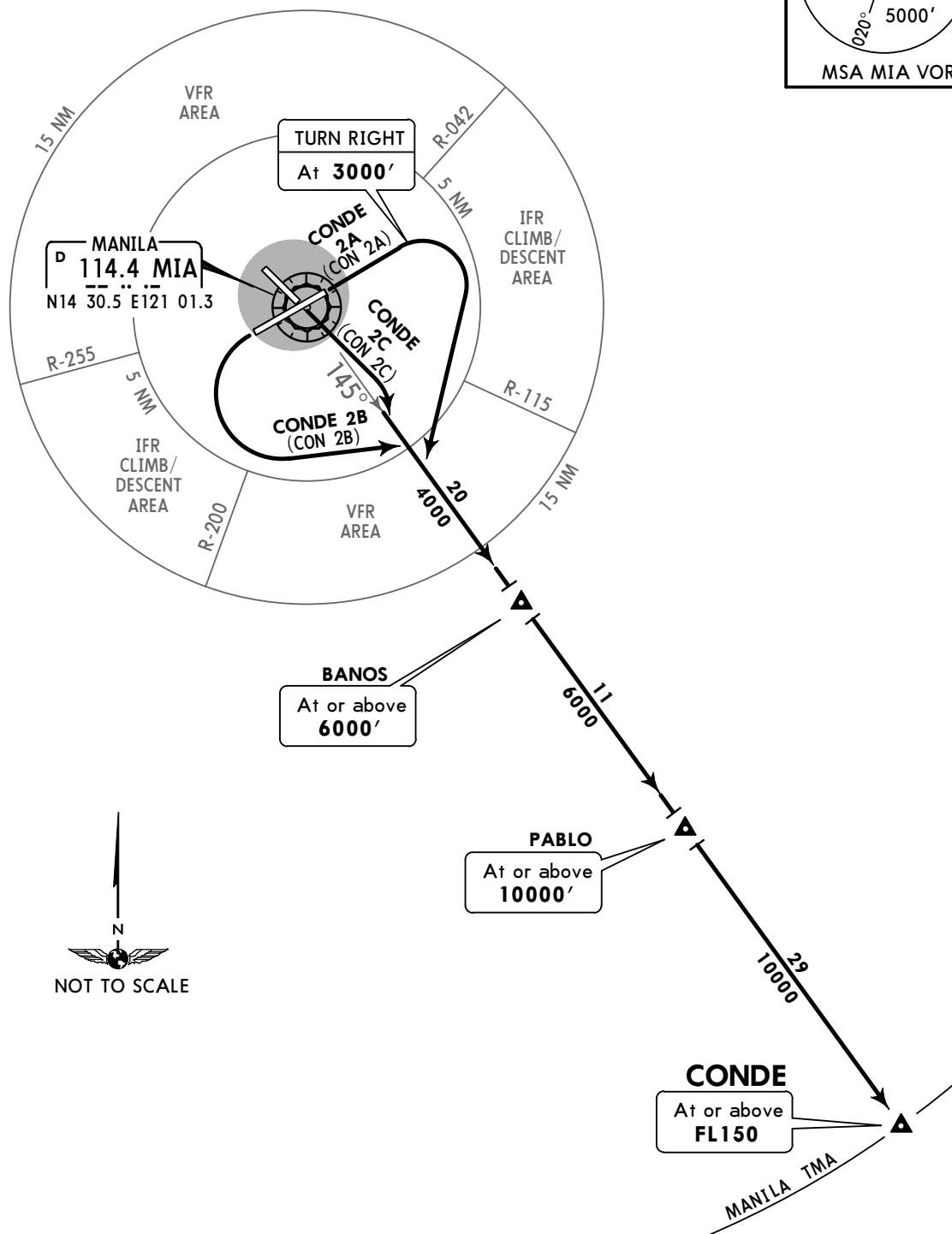
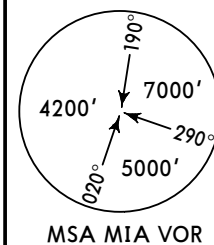
SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.

**CONDE 2A (CON 2A), CONDE 2B (CON 2B),
CONDE 2C (CON 2C) DEPARTURES**
(RWYS 06, 13, 24)



SID	RWY	INITIAL CLIMB
CONDE 2A	06	Straight-out departure to 3000', then RIGHT climbing turn.
CONDE 2B	24	LEFT turn within 5 NM.
CONDE 2C	13	RIGHT turn within 5 NM.
ROUTING		
Intercept and track-out on MIA R-145 to BANOS. Continue climb to CONDE via PABLO.		

RPLL/MNL
NINYO AQUINO INTL

24 FEB 17

10-3E1

Eff 2 Mar

MANILA, PHILIPPINES

RNAV SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

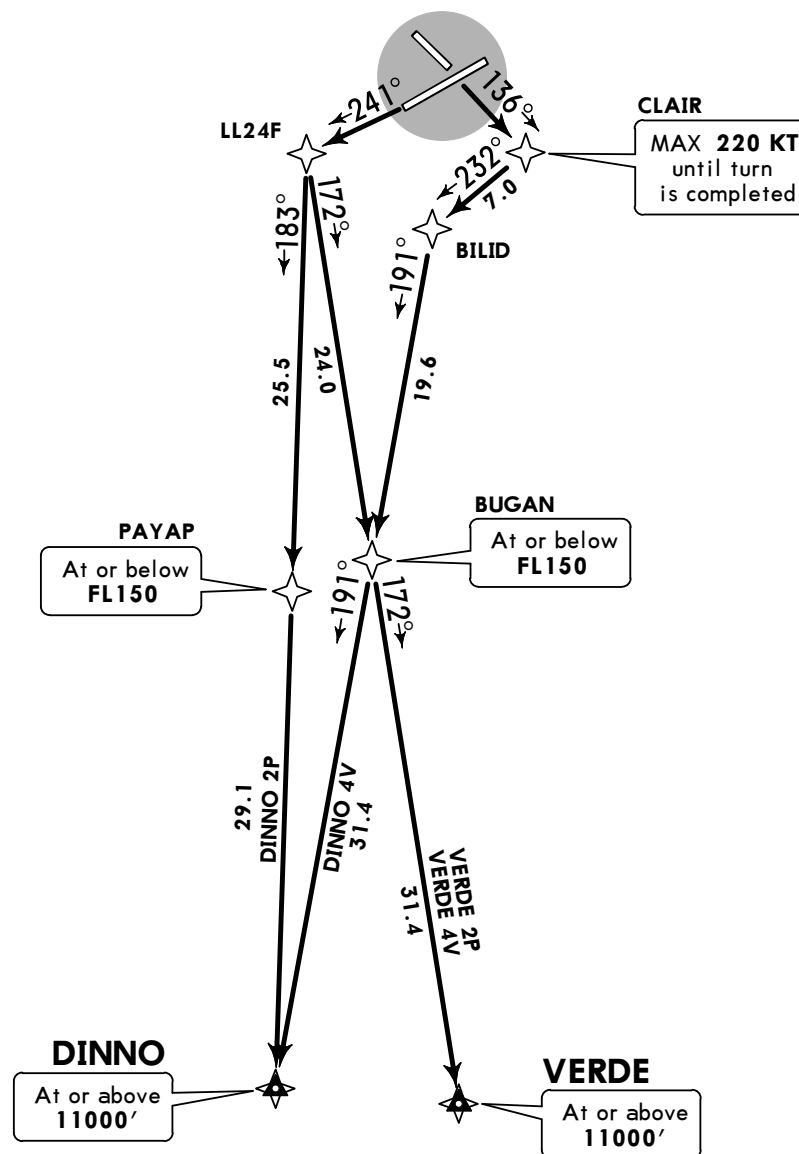
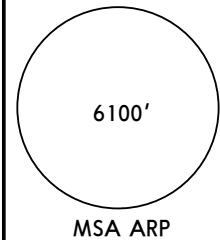
1. GNSS required. 2. RNP 1.

3. DME/DME not authorized. 4. DINNO 4V and VERDE 4V authorized only when RWYS 13/24 are in use.

**DINNO 2P [DINO2P], DINNO 4V [DINO4V]
VERDE 2P [VERD2P], VERDE 4V [VERD4V]
RNAV DEPARTURES**

(RWYS 13, 24)

RWY 13: CAT A, B & C



These SIDs require a minimum climb gradient of:
DINNO 2P, VERDE 2P: 3.9% up to 3500'. This is
due to airspace restrictions only.

Gnd speed-KT	75	100	150	200	250	300
3.9% V/V (fpm)	296	395	592	790	987	1185



SID	RWY	INITIAL CLIMB
DINNO 2P	24	Climb on track 241° to LL24F, then to PAYAP and to DINNO.
DINNO 4V	13	Climb on track 136° to CLAIR, then to BILID, to BUGAN and to DINNO.
VERDE 2P	24	Climb on track 241° to LL24F, then to BUGAN and to VERDE.
VERDE 4V	13	Climb on track 136° to CLAIR, then to BILID, to BUGAN and to VERDE.

RPLL/MNL
NINYO AQUINO INTL

JEPPESSEN
24 FEB 17 **(10-3E2)** **Eff 2 Mar**

MANILA, PHILIPPINES

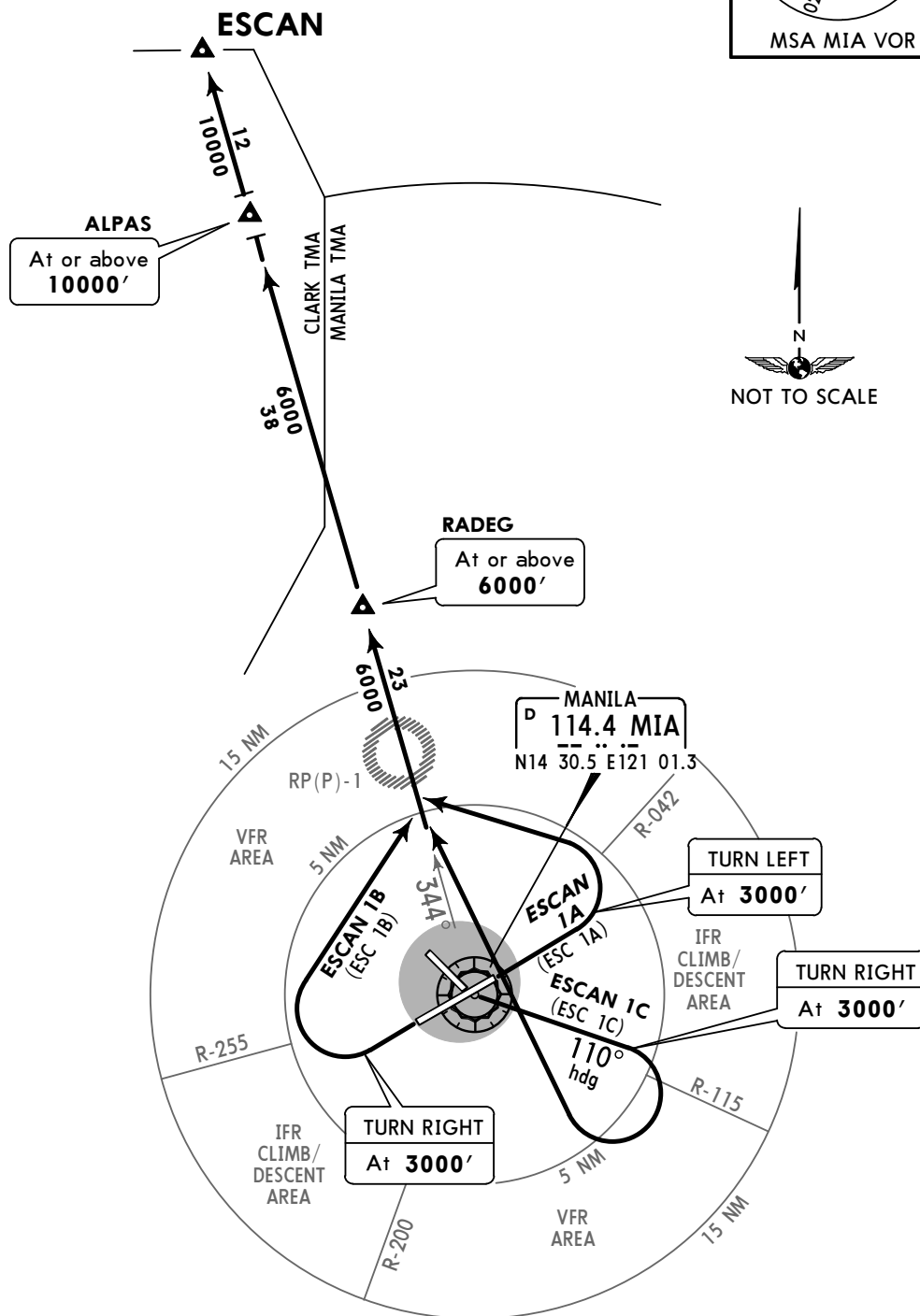
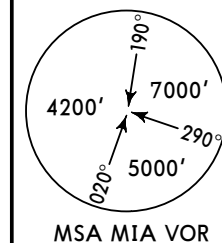
SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.

**ESCAN 1A (ESC 1A), ESCAN 1B (ESC 1B),
ESCAN 1C (ESC 1C) DEPARTURES**
(RWYS 06, 13, 24)



SID	RWY	INITIAL CLIMB
ESCAN 1A	06	Straight-out departure to 3000', then LEFT climbing turn avoiding RP(P)-1.
ESCAN 1B	24	Straight-out departure to 3000', then RIGHT climbing turn.
ESCAN 1C	13	Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING		
Intercept and track-out on MIA R-344 to RADEG. Continue climb to ESCAN via ALPAS.		

RPLL/MNL
NINOY AQUINO INTL

24 FEB 17



JEPPESEN

10-3E3

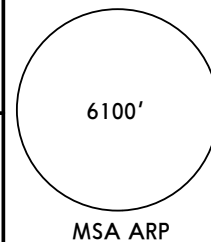
Eff 2 Mar

MANILA, PHILIPPINES

RNAV SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'
1. GNSS required. 2. RADAR required. 3. RNP 1.
4. DME/DME not authorized.



HARBO 1 DEPARTURE

[HARBO1]

(RWY 31)

CAT A, B & C

HARBO

At or above
1900'

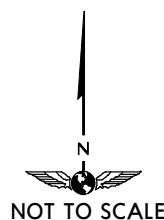


← 316°



This SID requires a minimum climb gradient of
7.4% up to 500'.

Gnd speed-KT	75	100	150	200	250	300
7.4% V/V (fpm)	562	749	1124	1499	1873	2248



INITIAL CLIMB

Climb on track 316° to HARBO at or above 1900'. Contact ATC for further instructions.

RPLL/MNL
NINYO AQUINO INTL

JEPPESEN
24 FEB 17 **10-3E4** Eff 2 Mar

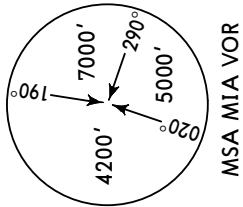
MANILA, PHILIPPINES

SID

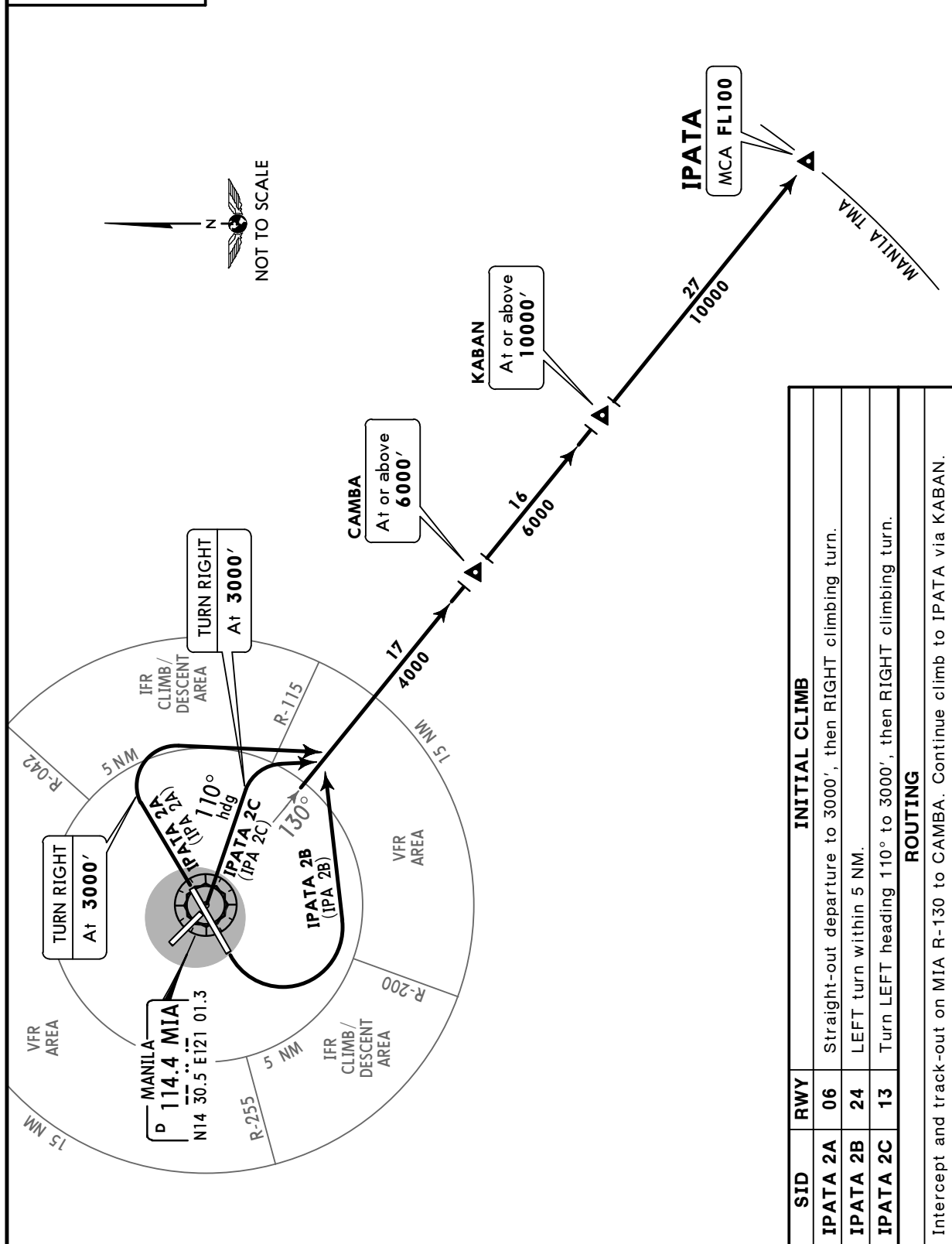
Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.



IPATA 2A (IPA 2A), IPATA 2B (IPA 2B), IPATA 2C (IPA 2C) DEPARTURES (RWYS 06, 13, 24)

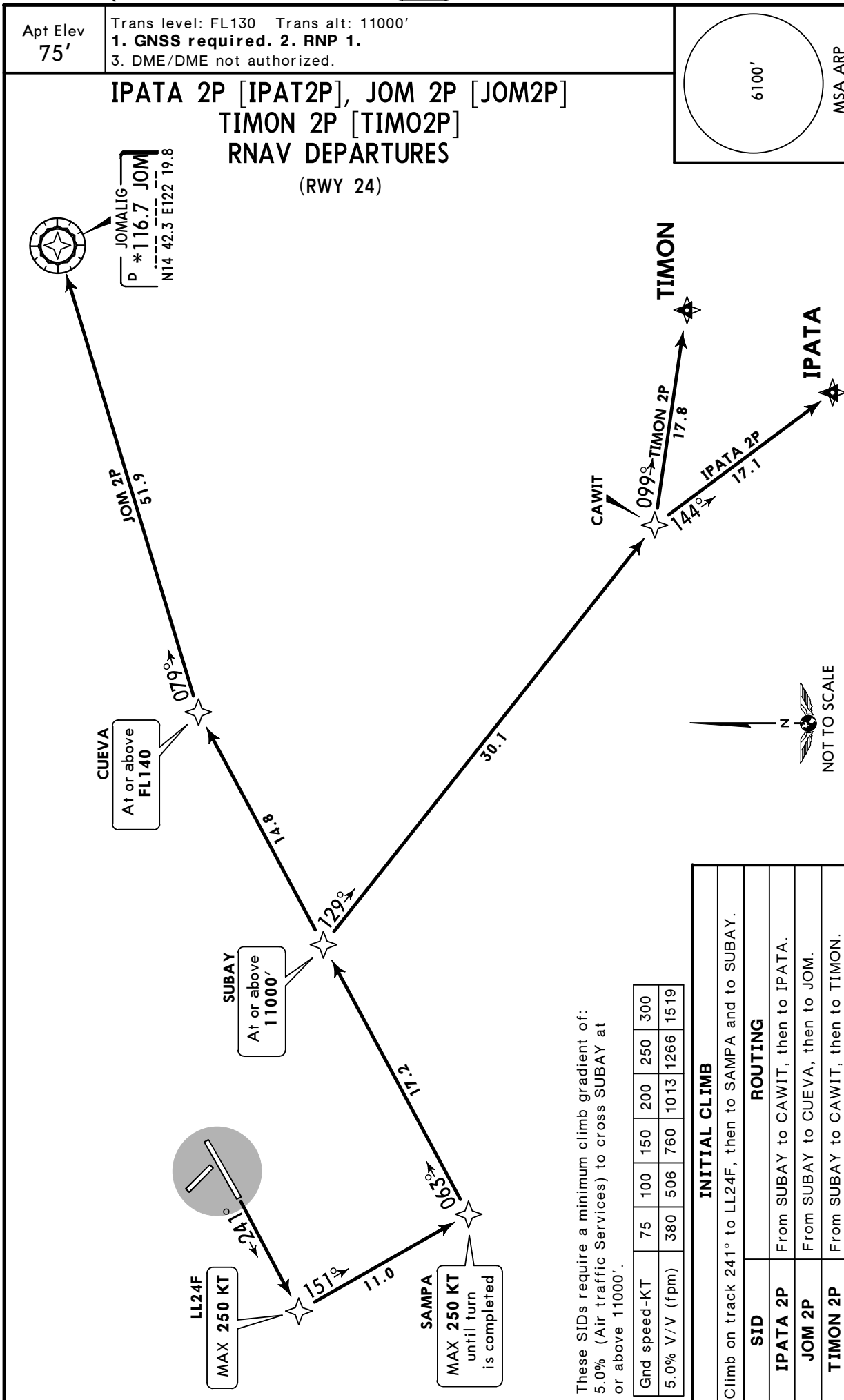


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NINYO AQUINO INTL

JEPPesen
 24 FEB 17 **10-3F** **Eff 2 Mar**

MANILA, PHILIPPINES

RNAV SID



RPLL/MNL
NINYO AQUINO INTL

24 FEB 17

10-3G

Eff 2 Mar

MANILA, PHILIPPINES

RNAV SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

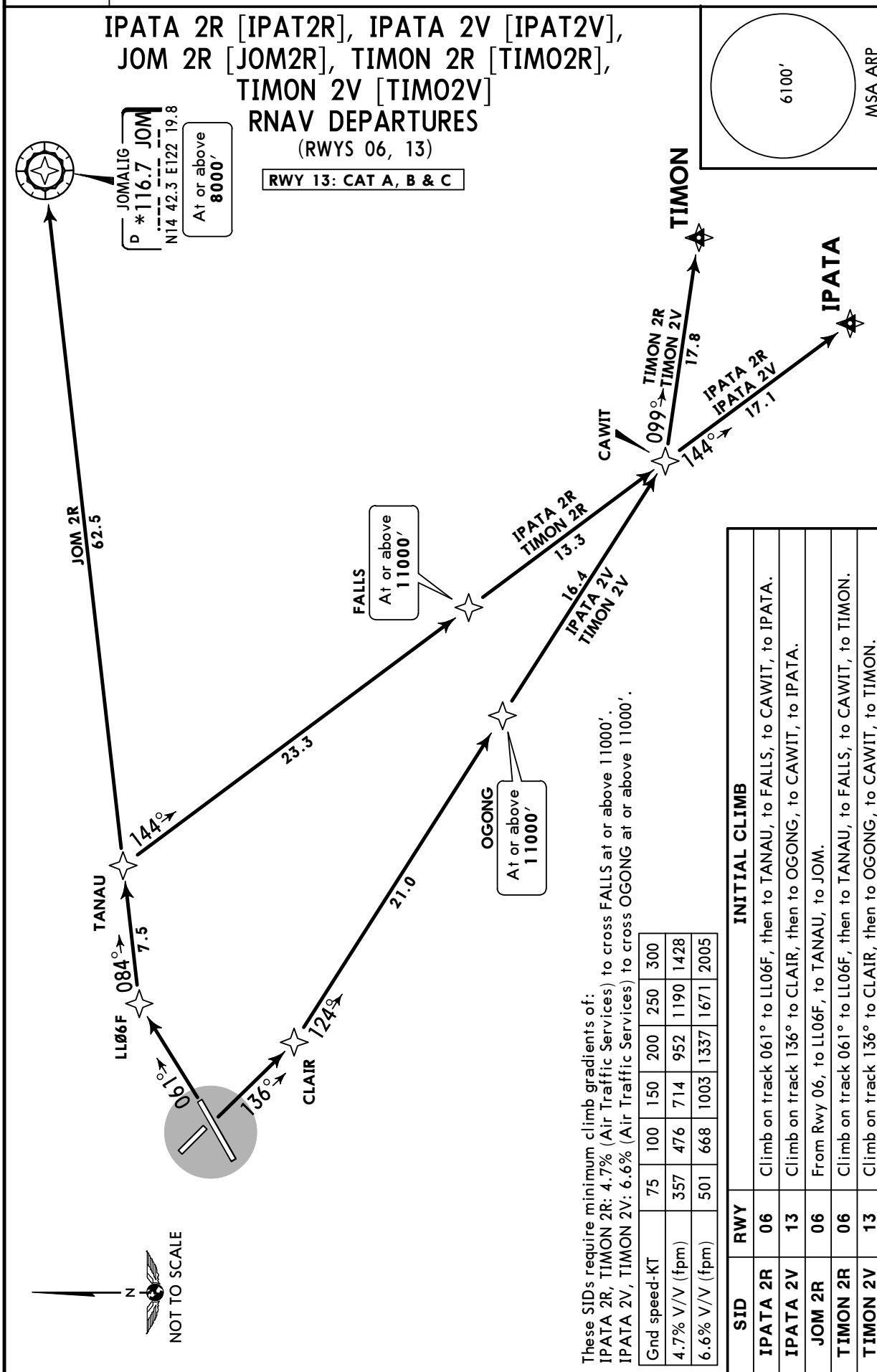
1. **GNSS required.** 2. **RNP 1.**

3. DME/DME not authorized. 4. IPATA 2V and TIMON 2V authorized only when RWYS 06/13 are in use.

**IPATA 2R [IPAT2R], IPATA 2V [IPAT2V],
JOM 2R [JOM2R], TIMON 2R [TIMO2R],
TIMON 2V [TIMO2V]
RNAV DEPARTURES**

(RWYS 06, 13)

RWY 13: CAT A, B & C



RPLL/MNL
NINYO AQUINO INTL

24 FEB 17

10-3G1

Eff 2 Mar

MANILA, PHILIPPINES

RNAV SID

Apt Elev
75'

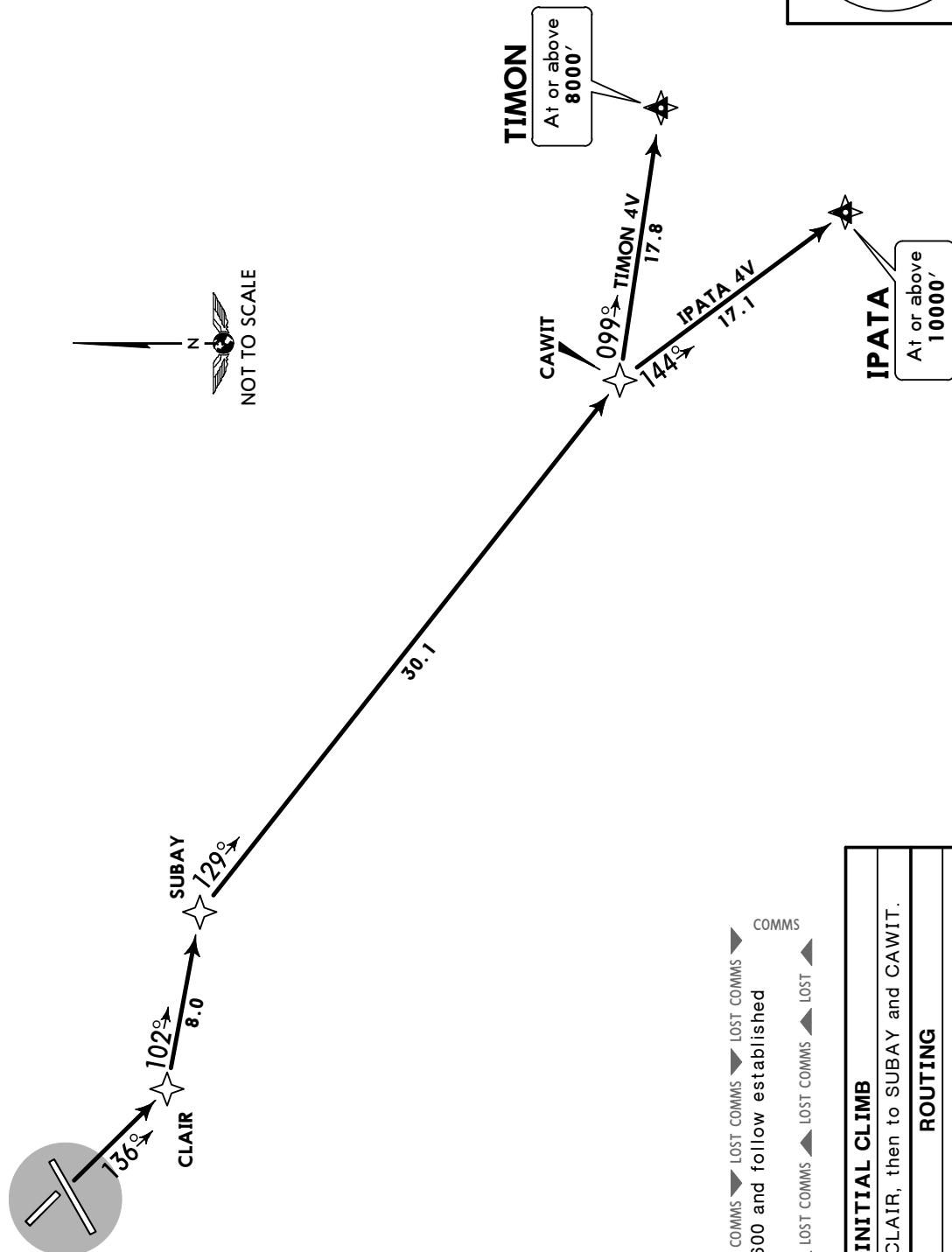
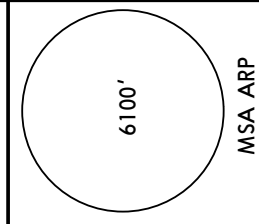
Trans level: FL130 Trans alt: 11000'

1. RNP 1 required. 2. GNSS required.

3. DME/DME not authorized. 4. This procedure is authorized only when RWYS 13/24 are in use.

IPATA 4V [IPAT4V], TIMON 4V [TIMO4V]
RNAV DEPARTURES
(RWY 13)

CAT A, B & C



COMMS ► LOST COMMS ► LOST COMMS ► LOST COMMS ► LOST COMMS
Squawk Mode A code 7600 and follow established procedures.
LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST

INITIAL CLIMB	
Climb on track 136° to CLAIR, then to SUBBAY and CAWIT.	
SID	ROUTING
IPATA 4V	From CAWIT to IPATA.
TIMON 4V	From CAWIT to TIMON.

RPLL/MNL
NINYO AQUINO INTL

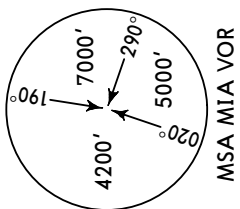
JEPPESEN
24 FEB 17 **(10-3G2)** **Eff 2 Mar**

MANILA, PHILIPPINES

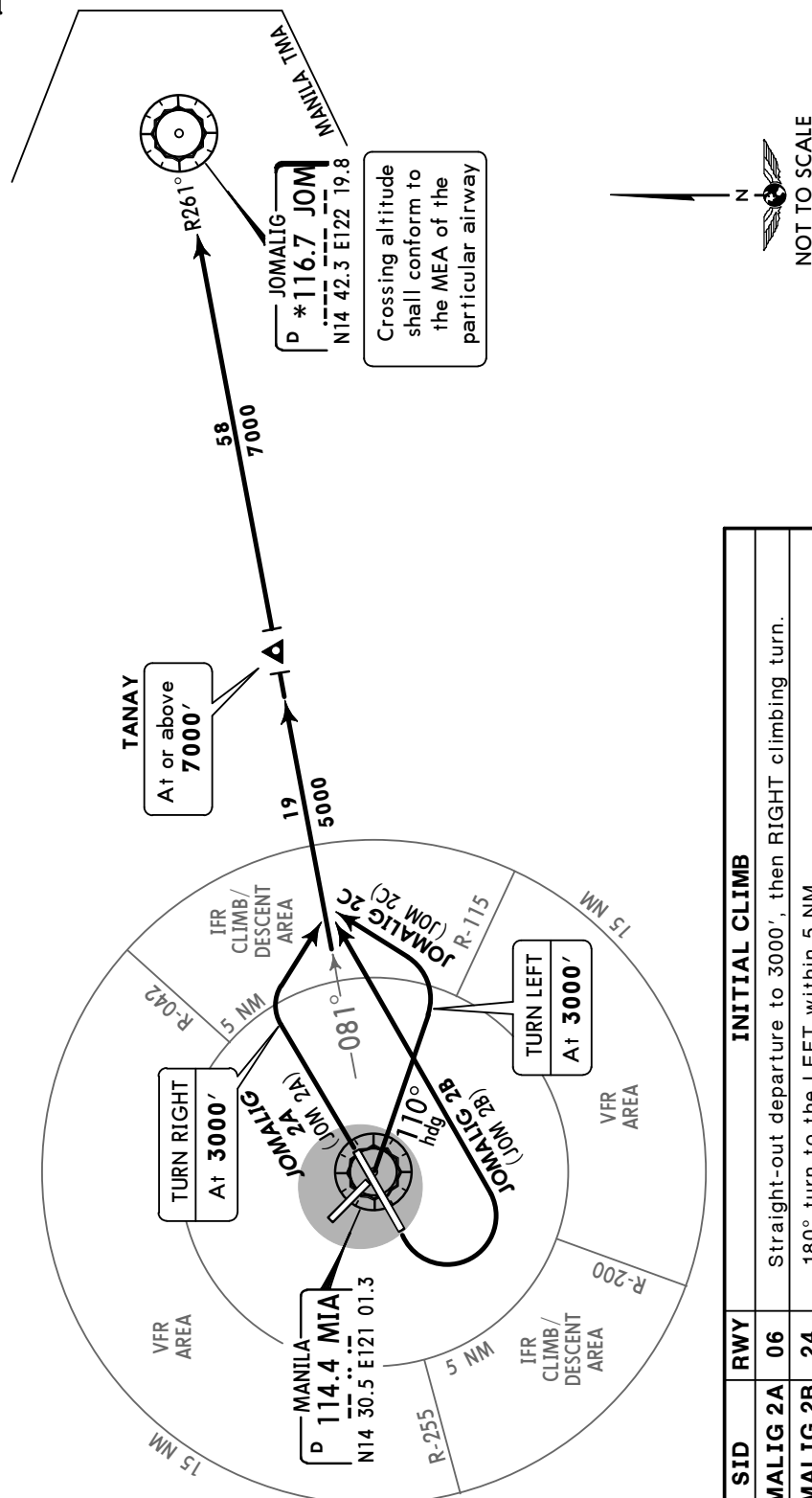
SID

Apt Elev
75'

- Trans level: FL130 Trans alt: 11000'
1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
 2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
 3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
 4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.



**JOMALIG 2A (JOM 2A), JOMALIG 2B (JOM 2B),
JOMALIG 2C (JOM 2C) DEPARTURES**
(RWYS 06, 13, 24)



SID	RWY	INITIAL CLIMB
JOMALIG 2A	06	Straight-out departure to 3000', then RIGHT climbing turn.
JOMALIG 2B	24	180° turn to the LEFT within 5 NM.
JOMALIG 2C	13	Turn LEFT heading 110° to 3000', then LEFT climbing turn.
ROUTING		
Intercept and track-out on MIA R-081 to TANAY. Continue climb to JOM.		

RPLL/MNL
NINYO AQUINO INTL

JEPPESSEN
24 OCT 14 **(10-3H)**

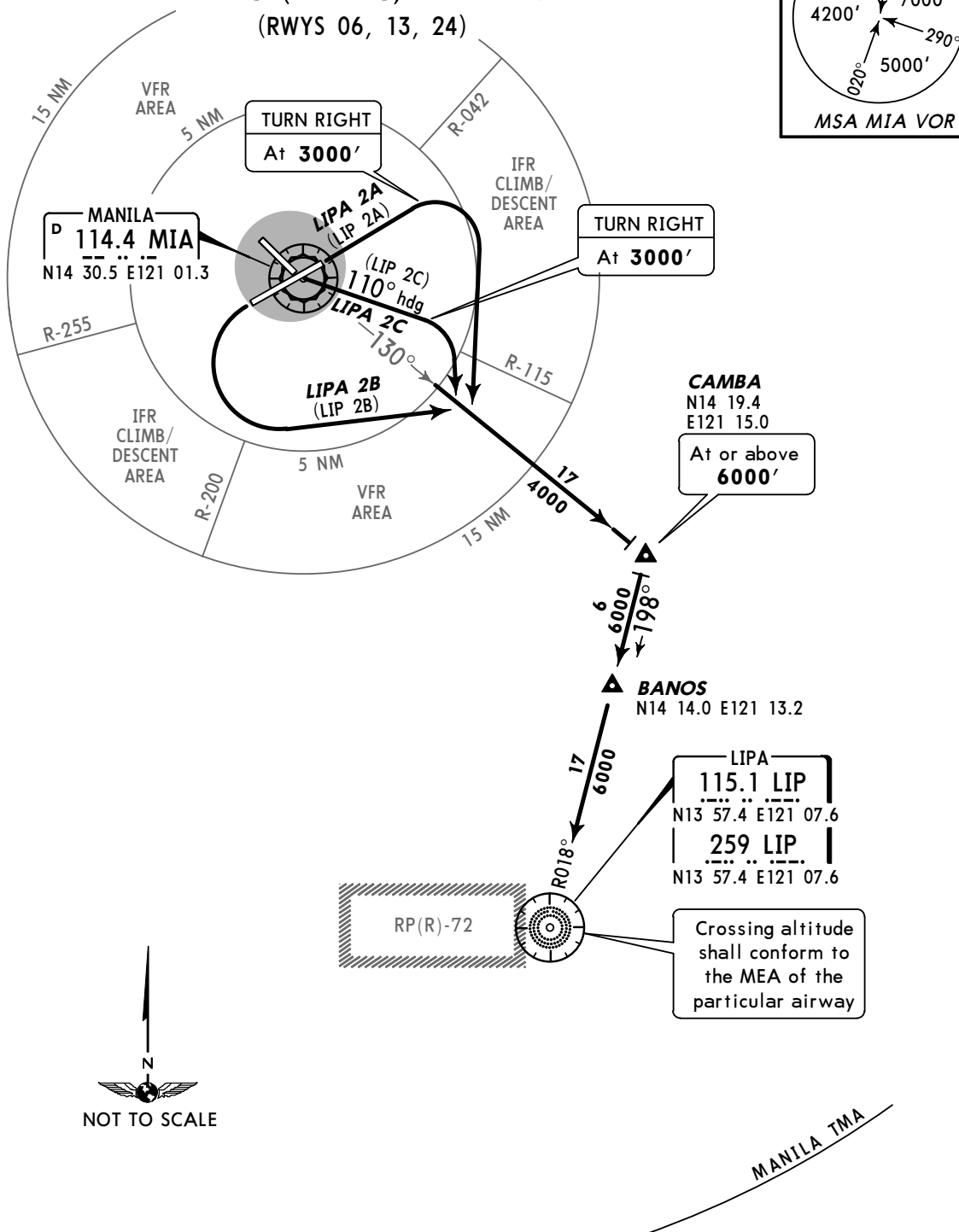
MANILA, PHILIPPINES
SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.

**LIPA 2A (LIP 2A), LIPA 2B (LIP 2B),
LIPA 2C (LIP 2C) DEPARTURES**
(RWYS 06, 13, 24)



SID	INITIAL CLIMB
LIPA 2A	Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.
LIPA 2B	Rwy 24: LEFT turn within 5 NM.
LIPA 2C	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING	
Intercept and track-out on MIA R-130 to CAMBA. At CAMBA, turn RIGHT to intercept and track-in on LIP R-018. Continue climb to LIP via BANOS. Crossing restriction at LIP may be increased by ATC subject to RP(R)-72 activities.	

RPLL/MNL
NINYO AQUINO INTLJEPPESEN
24 OCT 14 (10-3J)

MANILA, PHILIPPINES

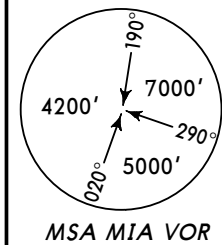
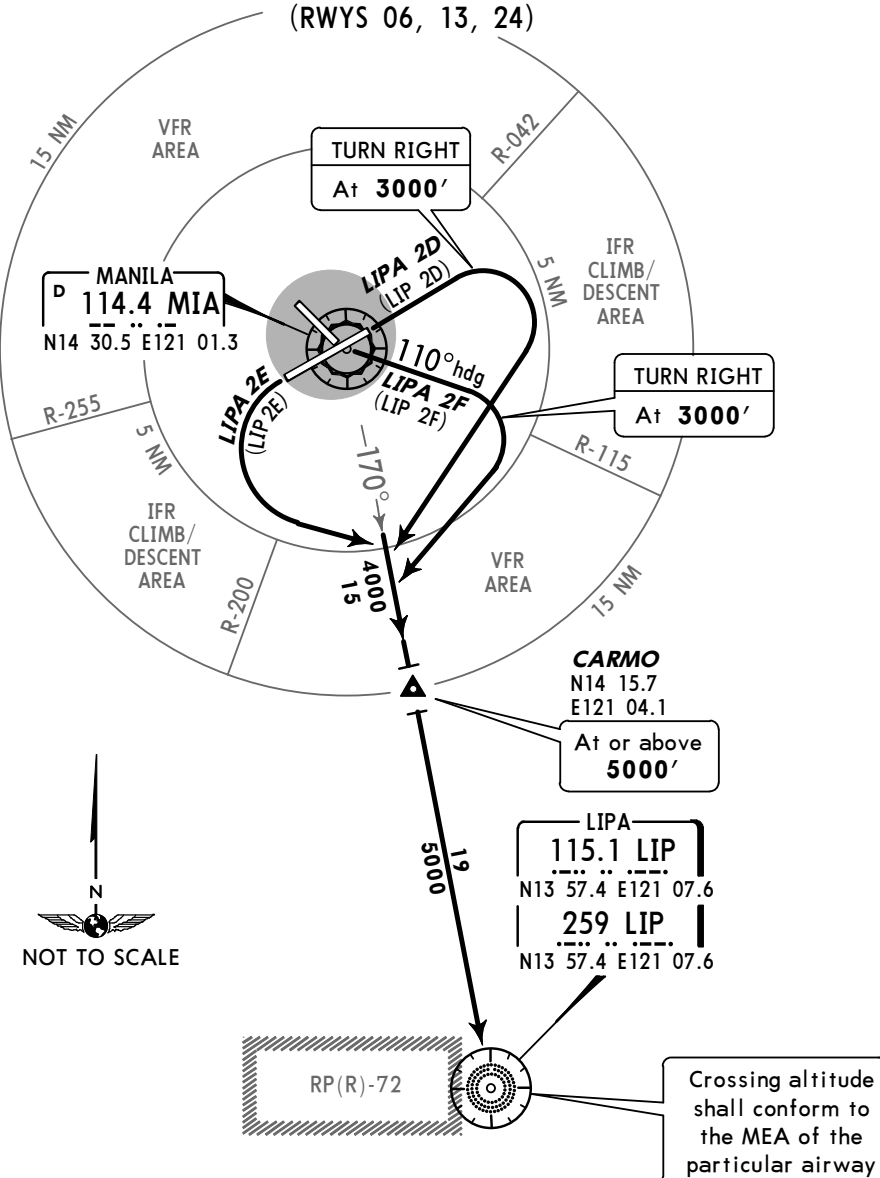
SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.

LIPA 2D (LIP 2D), LIPA 2E (LIP 2E), LIPA 2F (LIP 2F) DEPARTURES (RWYS 06, 13, 24)



SID	INITIAL CLIMB
LIPA 2D	Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.
LIPA 2E	Rwy 24: LEFT turn within 5 NM.
LIPA 2F	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING	
Intercept and track-out on MIA R-170 to CARMO. Continue climb to LIP. Crossing restriction at LIP may be increased by ATC subject to RP(R)-72 activities.	

RPLL/MNL
NINYO AQUINO INTLJEPPESEN
24 OCT 14 (10-3K)

MANILA, PHILIPPINES

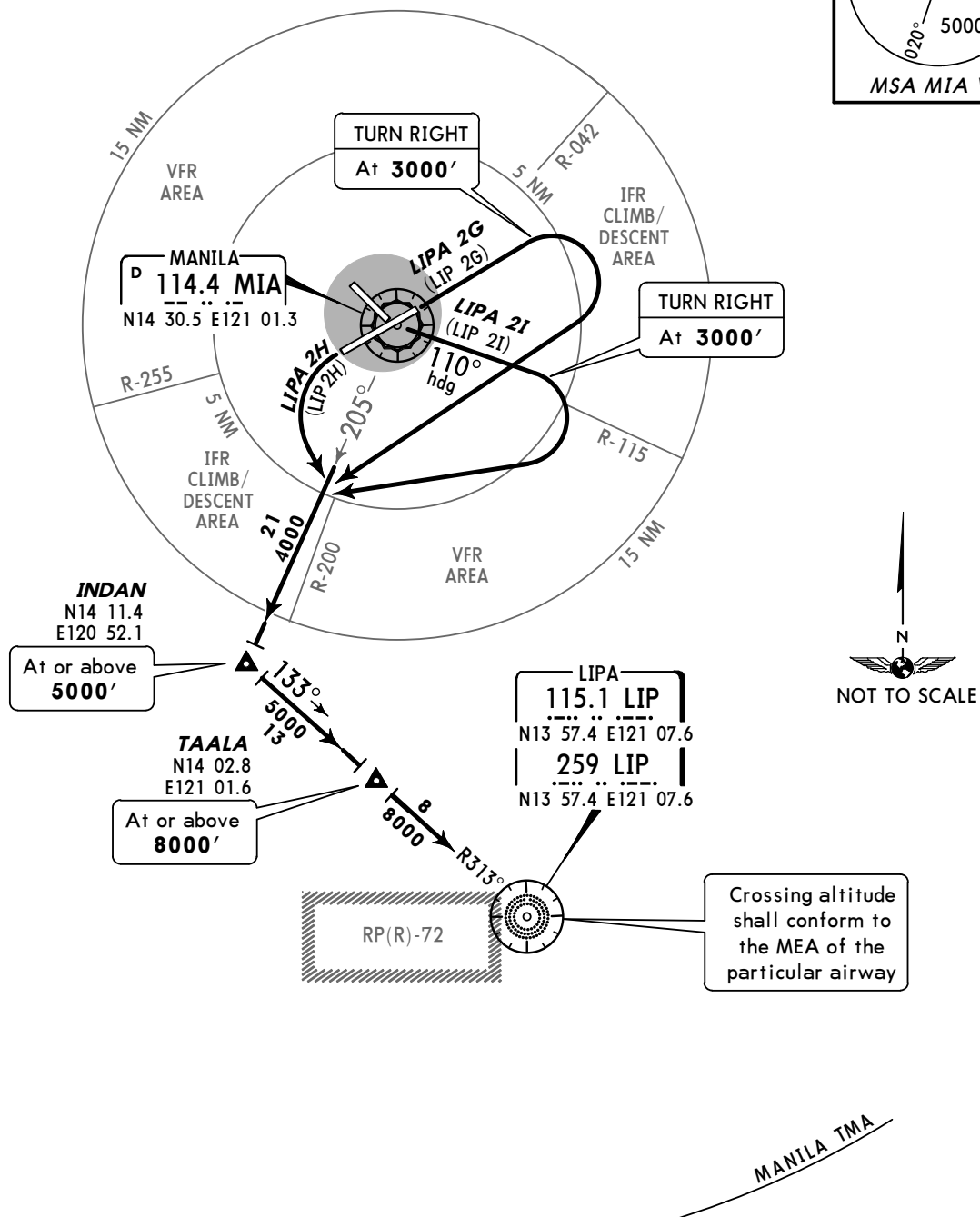
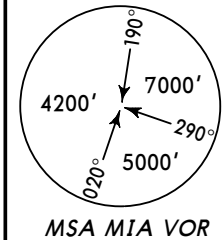
SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.

LIPA 2G (LIP 2G), LIPA 2H (LIP 2H), LIPA 2I (LIP 2I) DEPARTURES (RWYS 06, 13, 24)



SID	INITIAL CLIMB
LIPA 2G	Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.
LIPA 2H	Rwy 24: LEFT turn within 5 NM.
LIPA 2I	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING	
Intercept and track-out on MIA R-205 to INDAN. At INDAN, turn LEFT to intercept and track-in on LIP R-313 to TAALA. Continue climb to LIP. Crossing restriction at TAALA and LIP may be increased by ATC subject to RP(R)-72 activities.	

RPLL/MNL
NINOY AQUINO INTL



24 OCT 14 (10-3L)

MANILA, PHILIPPINES

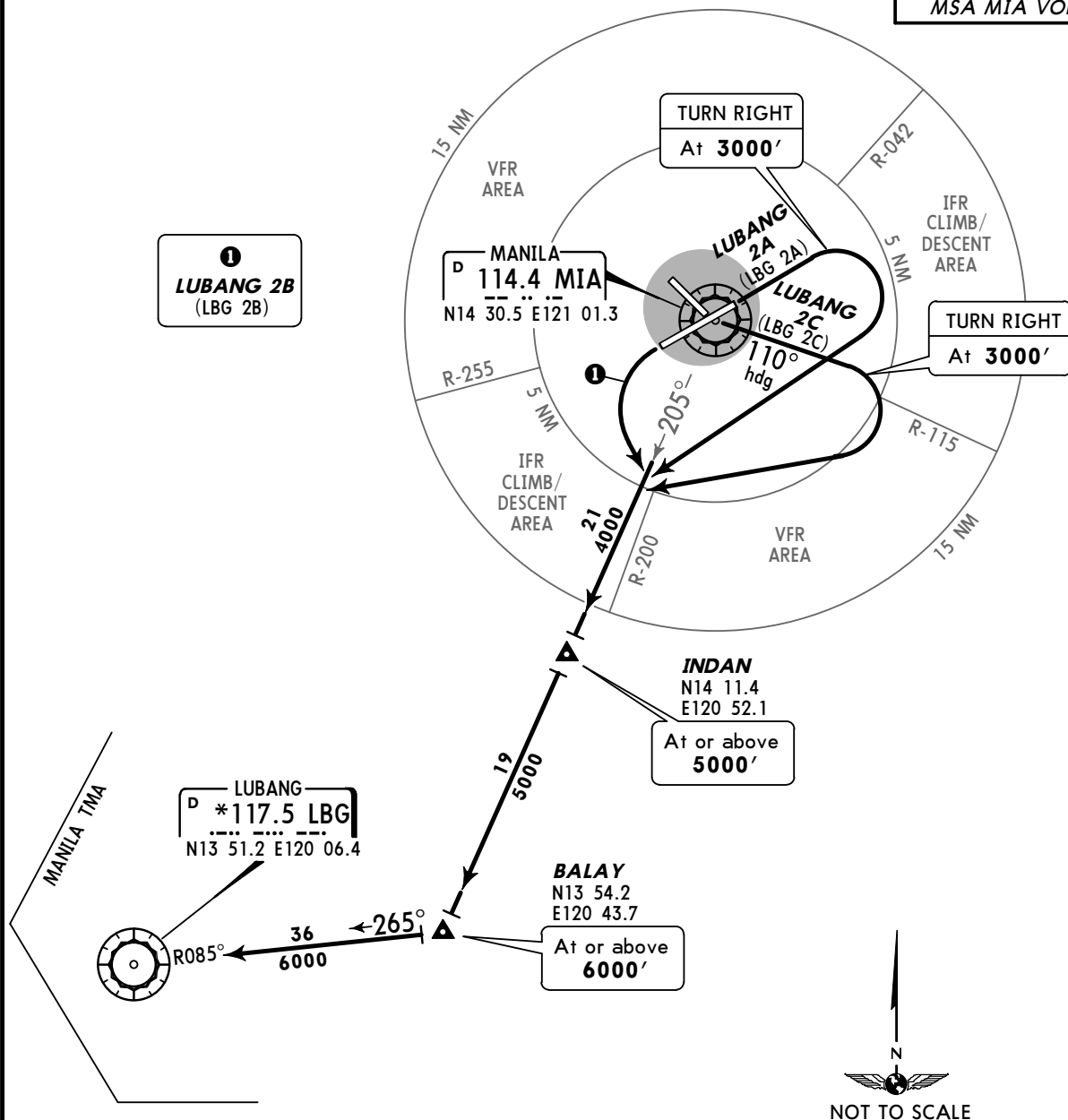
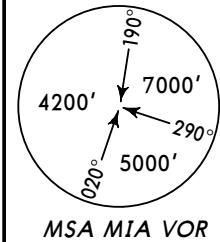
SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.

**LUBANG 2A (LBG 2A), LUBANG 2B (LBG 2B),
LUBANG 2C (LBG 2C) DEPARTURES**
(RWYS 06, 13, 24)



SID	INITIAL CLIMB
LUBANG 2A	Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.
LUBANG 2B	Rwy 24: LEFT turn within 5 NM.
LUBANG 2C	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING	
Intercept and track-out on MIA R-205 to INDAN. Continue climb to BALAY. At BALAY, turn RIGHT to intercept and track-in on LBG R-085.	

RPLL/MNL
NINYO AQUINO INTL

JEPPesen
24 FEB 17 **(10-3M)** **Eff 2 Mar**

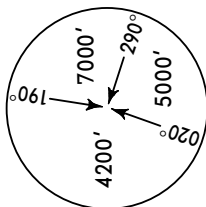
MANILA, PHILIPPINES

SID

Apt Elev
75'

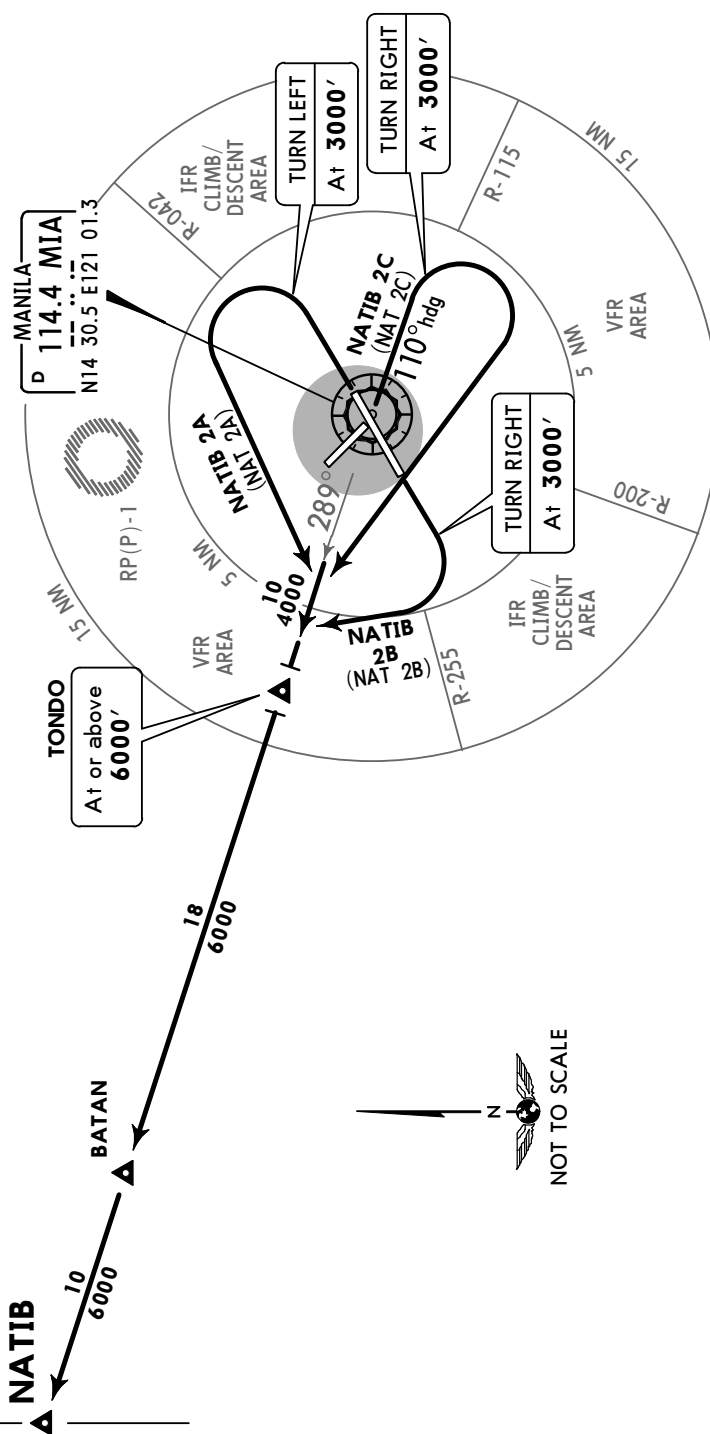
Trans level: FL130 Trans alt: 11000'

1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.



MSA MIA VOR

NATIB 2A (NAT 2A), NATIB 2B (NAT 2B), NATIB 2C (NAT 2C) DEPARTURES (RWYS 06, 13, 24)



SID	RWY	INITIAL CLIMB
NATIB 2A	06	Straight-out departure to 3000', then LEFT climbing turn avoiding RP(P)-1.
NATIB 2B	24	Straight-out departure to 3000', then RIGHT climbing turn.
NATIB 2C	13	Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING		
Intercept and track-out on MIA R-289 to TONDO. Continue climb to NATIB via BATAN.		

RPLL/MNL
NINYO AQUINO INTL

JEPPesen
24 FEB 17 **10-3N** Eff 2 Mar

MANILA, PHILIPPINES

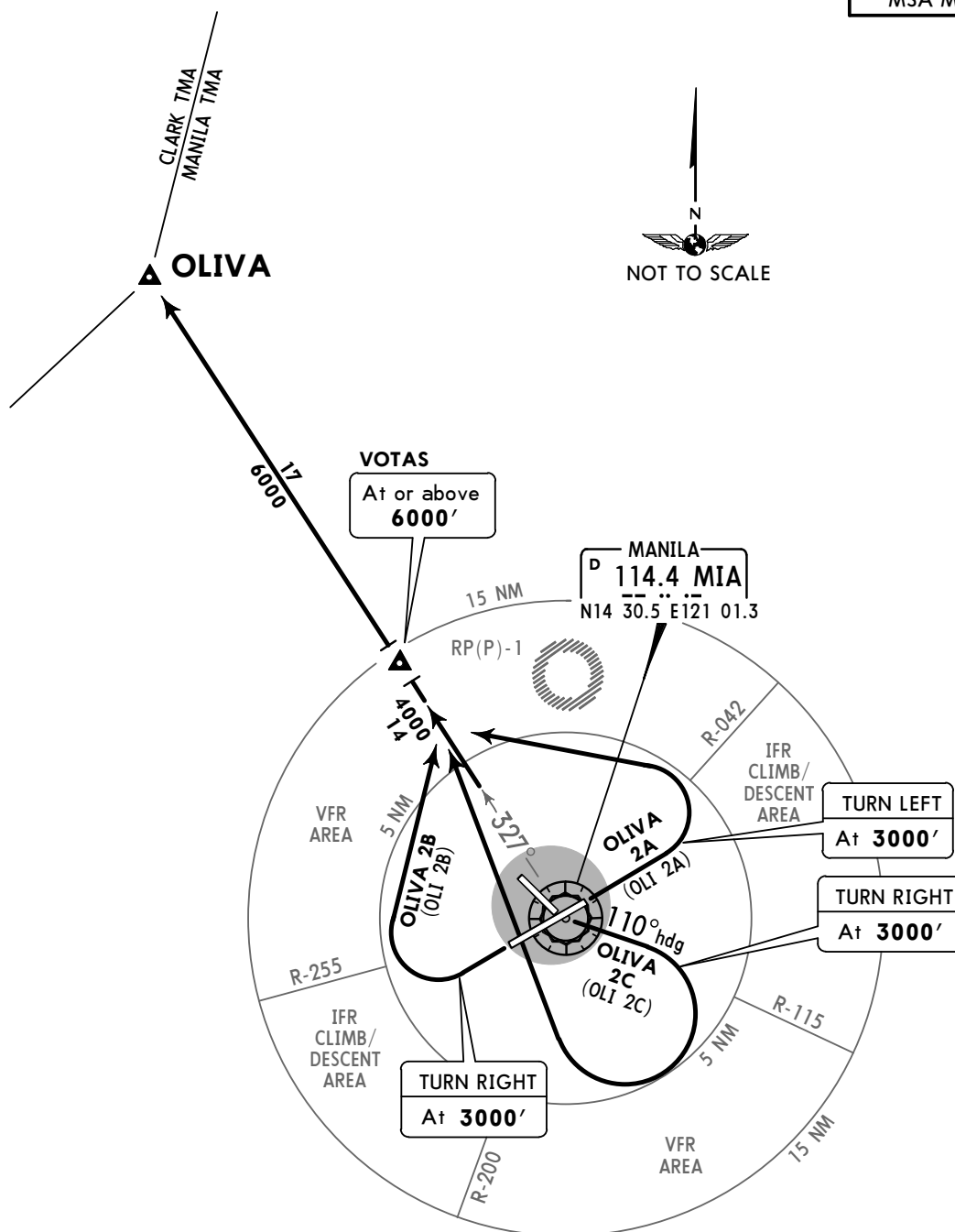
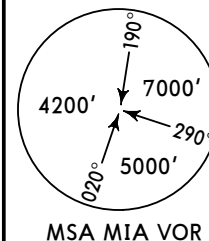
SID

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.

**OLIVA 2A (OLI 2A), OLIVA 2B (OLI 2B),
OLIVA 2C (OLI 2C) DEPARTURES**
(RWYS 06, 13, 24)



SID	RWY	INITIAL CLIMB
OLIVA 2A	06	Straight-out departure to 3000', then LEFT climbing turn avoiding RP(P)-1.
OLIVA 2B	24	Straight-out departure to 3000', then RIGHT climbing turn.
OLIVA 2C	13	Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING		
Intercept and track-out on MIA R-327 to VOTAS. Continue climb to OLIVA.		

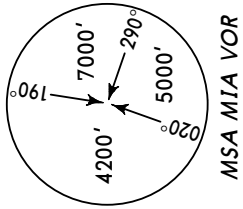
RPLL/MNL
NINYO AQUINO INTL

JEPPESEN
24 OCT 14 **(10-3P)**

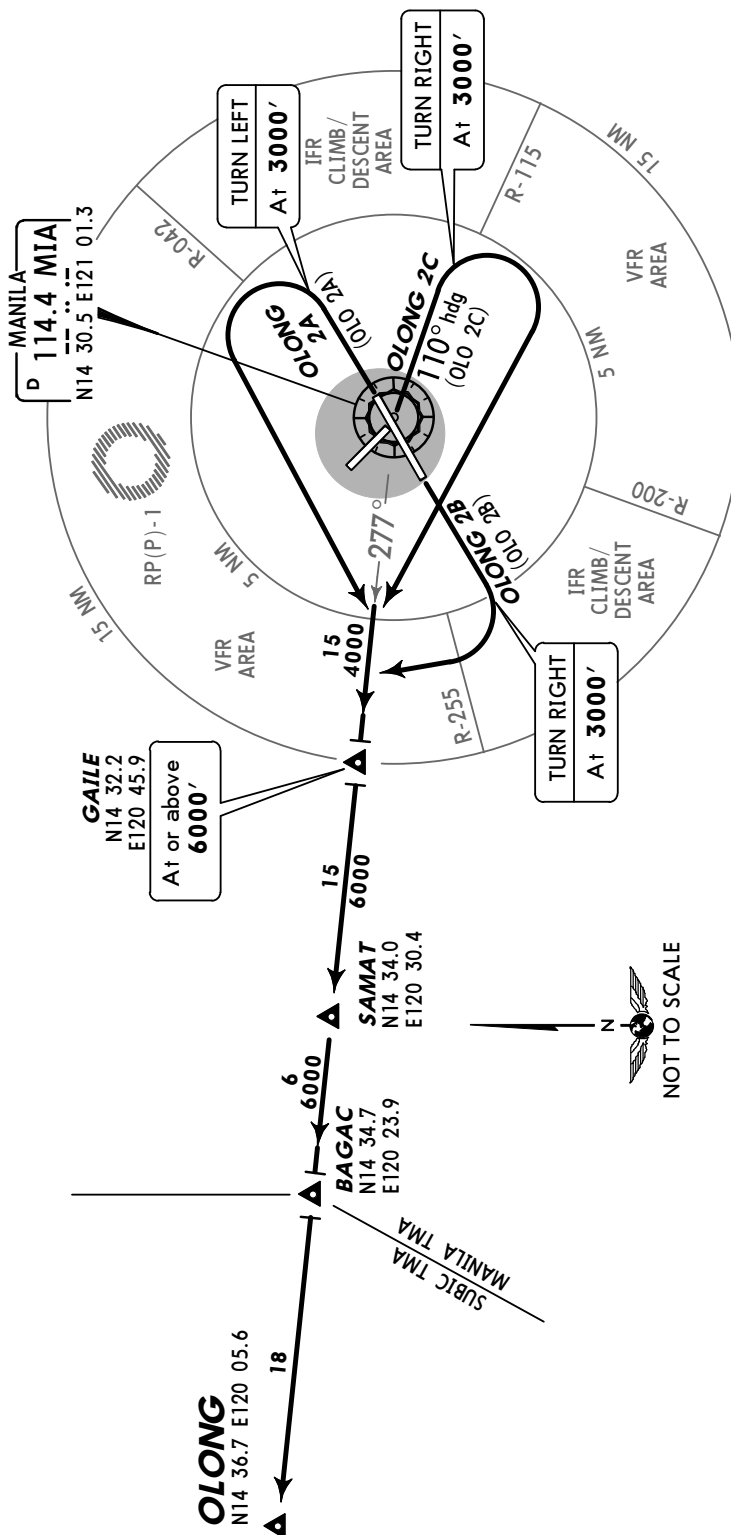
MANILA, PHILIPPINES
SID

Apt Elev
75'

- Trans level: FL130 Trans alt: 11000'
1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
 2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
 3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
 4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.



**OLONG 2A (OLO 2A), OLONG 2B (OLO 2B),
OLONG 2C (OLO 2C) DEPARTURES**
(RWYS 06, 13, 24)



SID	INITIAL CLIMB	ROUTING
OLONG 2A	Rwy 06: Straight-out departure to 3000', then LEFT climbing turn avoiding RP(P)-1.	
OLONG 2B	Rwy 24: Straight-out departure to 3000', then RIGHT climbing turn.	
OLONG 2C	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.	
Intercept and track-out on MIA R-277 to GAILE. Continue climb to OLONG via SAMAT and BAGAC.		

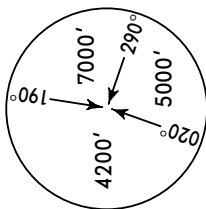
RPLL/MNL
NINYO AQUINO INTL

JEPPesen
24 OCT 14 **(10-3Q)**

MANILA, PHILIPPINES
SID

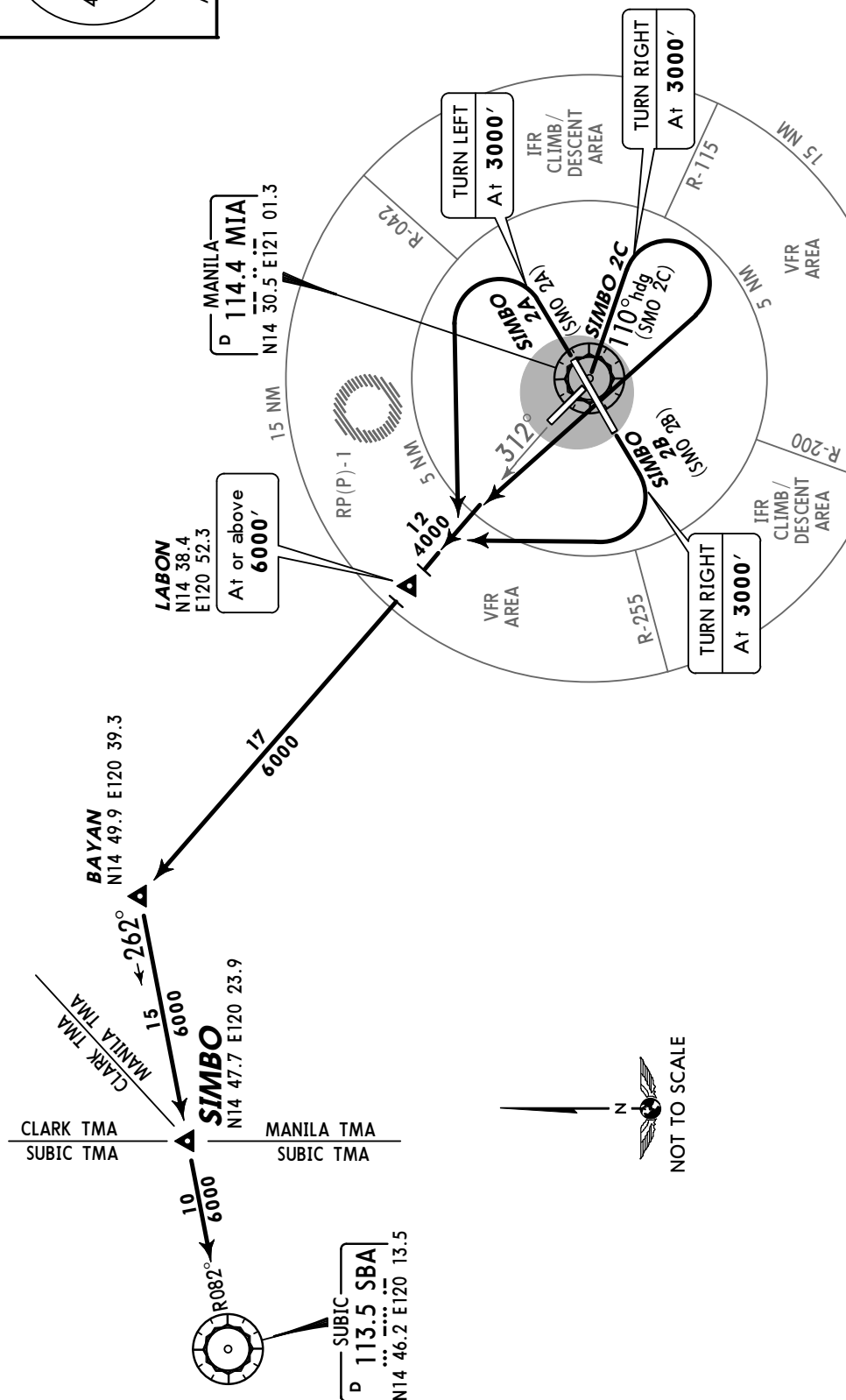
Apt Elev
75'

- Trans level: FL130 Trans alt: 11000'
1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
 2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
 3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
 4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.



MSA MIA VOR

**SIMBO 2A (SMO 2A), SIMBO 2B (SMO 2B),
SIMBO 2C (SMO 2C) DEPARTURES**
(RWYS 06, 13, 24)



SID	INITIAL CLIMB
SIMBO 2A	Rwy 06: Straight-out departure to 3000', then LEFT climbing turn avoiding RP(P)-1.
SIMBO 2B	Rwy 24: Straight-out departure to 3000', then RIGHT climbing turn.
SIMBO 2C	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING	
Intercept and track-out on MIA R-312 to LABON. Continue climb to BAYAN. At BAYAN, turn LEFT to intercept and track-in on SBA R-082 to SIMBO.	

RPLL/MNL
NINYO AQUINO INTL

JEPPESEN

24 FEB 17

10-3S

Eff 2 Mar

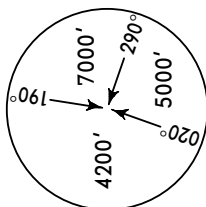
MANILA, PHILIPPINES

SID

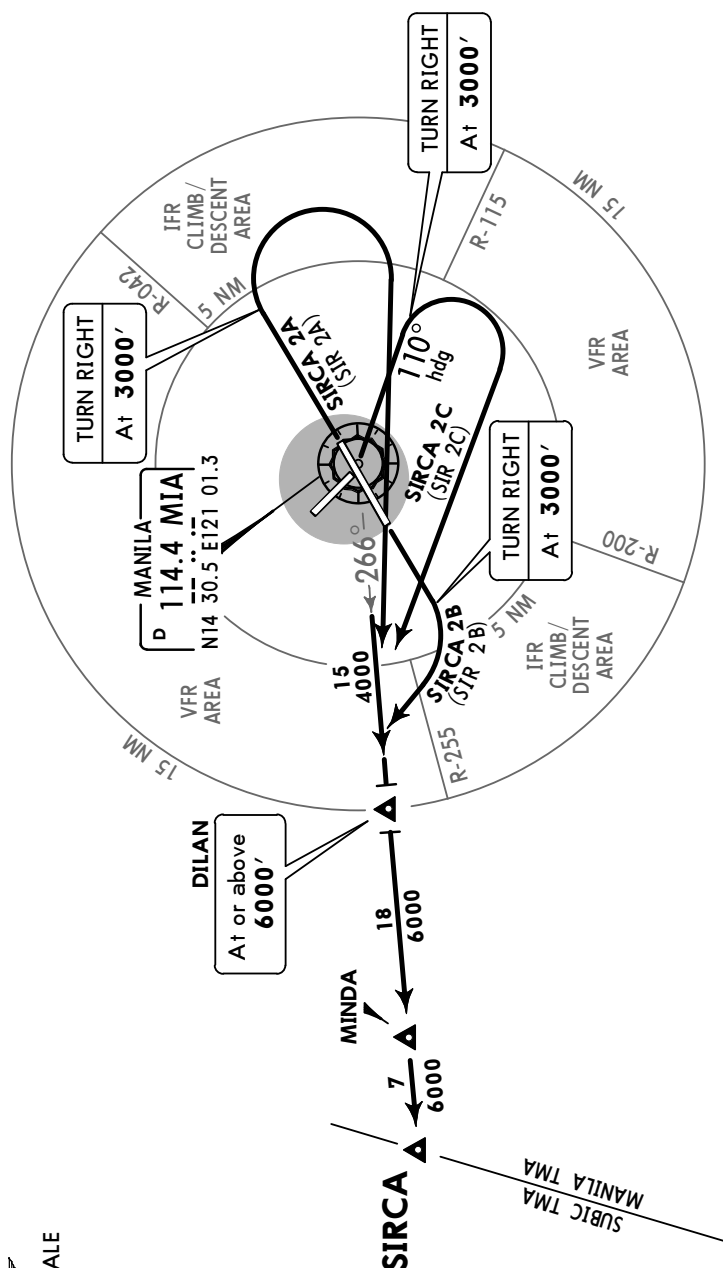
Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.



**SIRCA 2A (SIR 2A), SIRCA 2B (SIR 2B),
SIRCA 2C (SIR 2C) DEPARTURES**
(RWYS 06, 13, 24)



SID	RWY	INITIAL CLIMB	ROUTING
SIRCA 2A	06	Straight-out departure to 3000', then RIGHT climbing turn.	Intercept and track-out on MIA R-266 to DILAN. Continue climb to SIRCA via MINDA.
SIRCA 2B	24	Straight-out departure to 3000', then RIGHT climbing turn.	
SIRCA 2C	13	Turn LEFT heading 110° to 3000', then RIGHT climbing turn.	

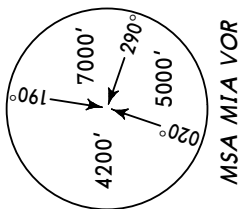
RPLL/MNL
NINYO AQUINO INTL

JEPPESSEN
24 OCT 14 **(10-3U)**

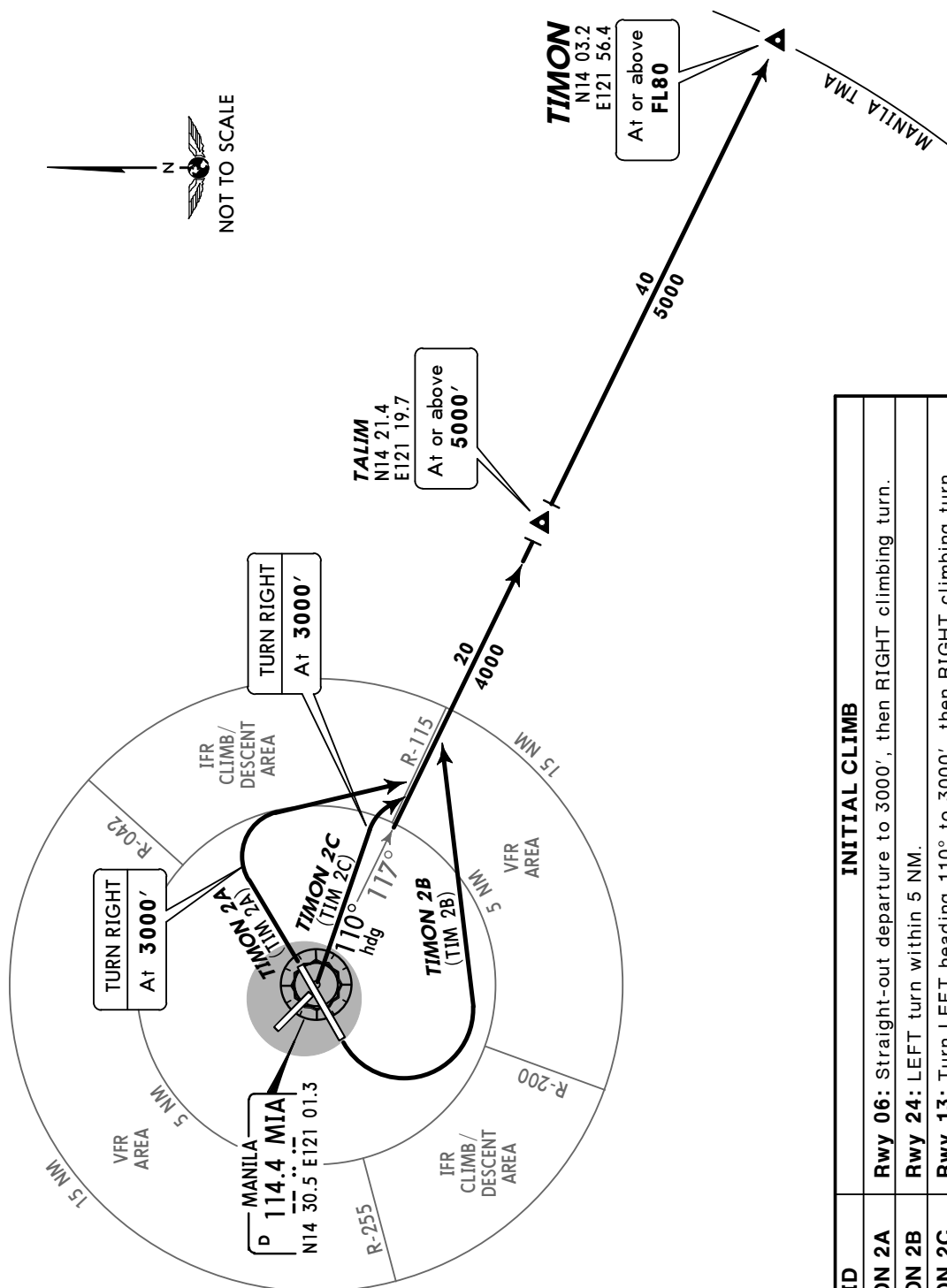
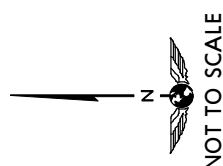
MANILA, PHILIPPINES
SID

Apt Elev
75'

- Trans level: FL130 Trans alt: 11000'
1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
 2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
 3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
 4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.



**TIMON 2A (TIM 2A), TIMON 2B (TIM 2B),
TIMON 2C (TIM 2C) DEPARTURES**
(RWYS 06, 13, 24)



SID	INITIAL CLIMB
TIMON 2A	Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.
TIMON 2B	Rwy 24: LEFT turn within 5 NM.
TIMON 2C	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING	
Intercept and track-out on MIA R-117 to TALIM. Continue climb to TIMON.	

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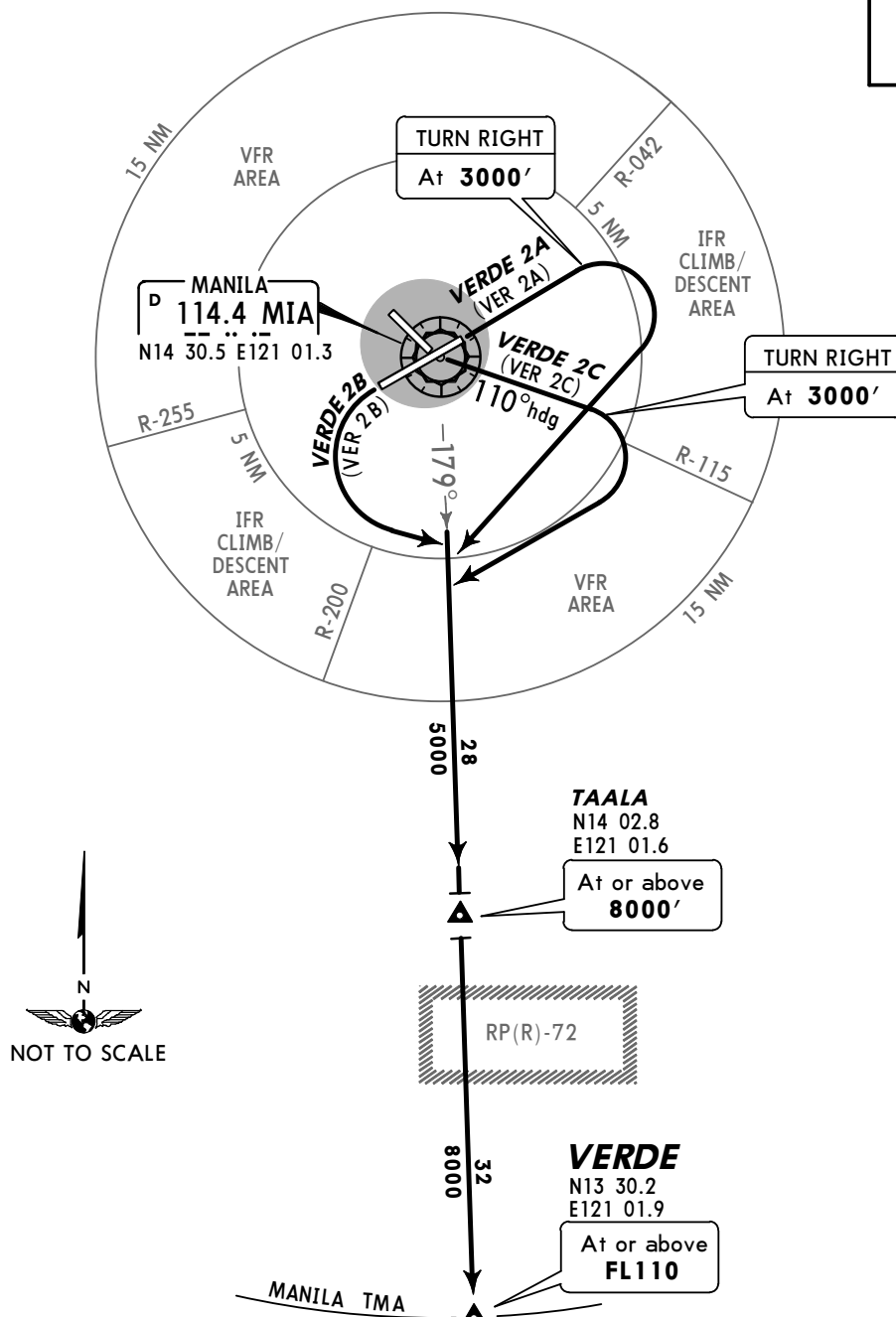
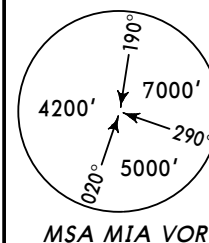
JEPPESEN
24 OCT 14 **(10-3V)**

MANILA, PHILIPPINES
SID

Apt Elev
75'

- Trans level: FL130 Trans alt: 11000'
1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
 2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
 3. IFR propeller-type departures on Rwy 13 may be allowed from sunrise to sunset.
 4. IFR departures on Rwy 31 may be allowed during VMC from sunrise to sunset.

**VERDE 2A (VER 2A), VERDE 2B (VER 2B),
VERDE 2C (VER 2C) DEPARTURES**
(RWYS 06, 13, 24)



SID	INITIAL CLIMB
VERDE 2A	Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.
VERDE 2B	Rwy 24: LEFT turn within 5 NM.
VERDE 2C	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING	
Intercept and track-out on MIA R-179 to TAALA. Continue climb to VERDE. Crossing restriction at TAALA may be increased by ATC subject to RP(R)-72 activities.	

RPLL/MNL

4 MAY 07

JEPPESEN

10-4

MANILA, PHILIPPINES
NINYO AQUINO INTL**NOISE ABATEMENT PROCEDURES**

Local Time minus 8 HOURS = UTC

Noise abatement procedures are applicable to all aircraft operating at the Ninoy Aquino International Airport.

DEPARTURE PROCEDURES FOR ALL RUNWAYS

- a. For jet aircraft, a speed of V2 plus 10 knots shall be maintained up to 3000 ft AGL after takeoff, after which acceleration to flap retraction may be commenced. Climb thrust shall be selected at 1500 ft AGL.
- b. All other (non-jet) aircraft shall attempt to attain 3000 ft AGL as soon as practicable consistent with safe operational practices for subject aircraft climb performance.
- c. In all the above cases, SID procedures shall be tracked as published.
- d. The above procedures shall be terminated and standard climb out procedures implemented immediately should any event affecting climb performance occur (i.e., problem with or loss of engine power).

MODIFIED NOISE ABATEMENT PROCEDURES FOR RWY 13 DEPARTURE (SOUTH BOUND)

In addition to the procedures listed above, after takeoff make a left climbing turn before the end of Rwy 13 (max 15 deg bank angle) heading 100 degrees.

RWY 13 open for takeoff for hushkitted B737-200 and DC-9 (Stage 2) aircraft from sunrise to sunset.

ARRIVAL PROCEDURES**Rwy 06 or 24 landings:**

Observe published aerodrome traffic circuit, altitudes/speeds.

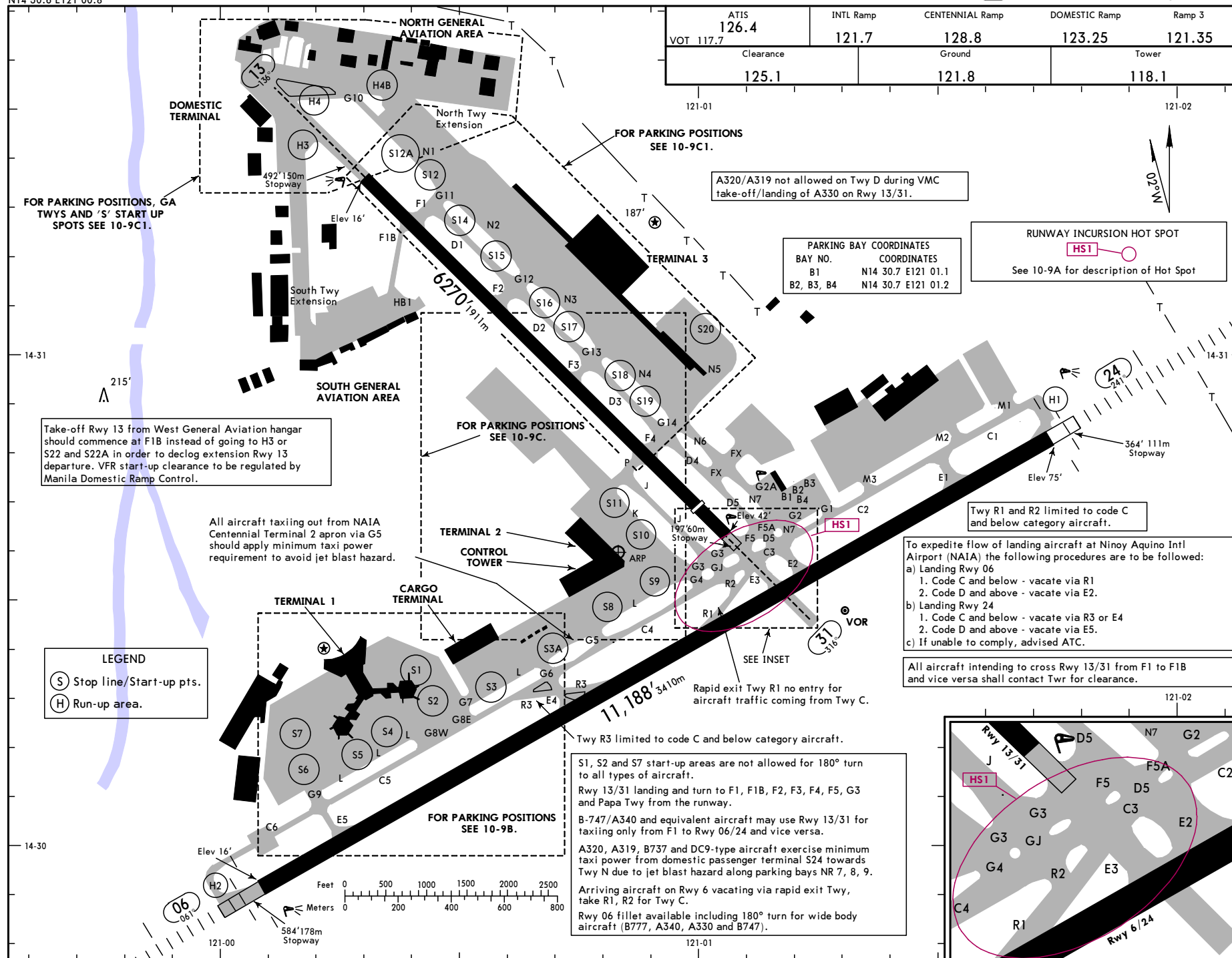
NOTE: IFR aircraft from the North and landing on Rwy 24 shall be radar vectored to the RIGHT base leg at or above 2000 ft.

RPLL/MNL

Apt Elev **75'**
N14 30.6 E121 00.8

JEPPesen MANILA, PHILIPPINES

10 MAR 17 (10-9) NINYO AQUINO INTL



RPLL/MNL**JEPPESEN**
10 MAR 17 **(10-9A)****MANILA, PHILIPPINES**
NINYO AQUINO INTL**GENERAL**

The following are imposed on general aviation traffic at Ninoy Aquino International Airport:

- a) Corporate Jet and air taxi are restricted to land and take-off to two cycles per hour from 2300 to 1100 daily.
- b) Aircraft not exceeding 12,527 lbs (5682 kg) are permitted to land only during the hours of 0100-0259 and 0800-sunset and only when Rwy 13 in use.

All general aviation aircraft are prohibited to conduct engine run-ups in vicinity of hangars.

Engine run-ups should be conducted at Rwy 13 run-up area, holding bays and start-up areas with prior clearance from Domestic Ramp Control.

Rwy 13 open for take-off for hush-kitted B737-200 and DC-9 (stage 2) aircraft from sunrise to sunset.

Take-off and landing on Rwy 13/31 of A330 and lower category aircraft allowed based on the following limitations:

- a) Take-off/landing on Rwy 13 allowed during IMC and VMC.
- b) Take-off/landing on Rwy 31 for day visual operations only.
- c) All take-off and landing on Rwy 13/31 must comply with existing noise abatement procedures.

Aircraft departing Rwy 13 to commence take-off roll at Arrow 2.

Take-off from Rwy 31 shall not be commenced from Taxiway F1 and Twy F2.

A320/319 not allowed on Twy D during VMC take-offs and landings of A330 on Rwy 13/31.

Touchdown on Rwy 13/31 shall be made beyond threshold marker (MNM ALT 15m).

General aviation category aircraft in a state of emergency landing must, as much as possible, utilize Rwy 13/31.

Take-off and landing on Rwy 06/24 during IMC is not allowed for general aviation aircraft with speed below 200 KT.

Rwy 06 takeoff from E3 intersection is not allowed for B737 and higher category aircraft.

Arriving aircraft on radar a vector to Manila shall not cancel IFR clearance within 20 NM.

Aircraft with security emergency shall park and will be cleared by authorities at

Isolation Parking Area located at C6.

Food and fish runs are prohibited to take-off and land at NAIA.

ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS			WIDTH
		LANDING BEYOND Threshold	Glide Slope	TAKE-OFF	
06 24	HIRL CL ALS SFL PAPI (angle 3.0°)		10,203' 3110m		197' 60m
			9843' 3000m		

- ① Rwy 06/24 open to aircraft operations daily except Friday to Wednesday between 1730-1930.
During emergency 30 minutes prior notice is required.

13 31	HIRL REIL CL PAPI (angle 3.0°)				148' 45m
		NA		5906' 1800m	

RUNWAY INCURSION HOT SPOT**HS1**

For information only, not to be construed as ATC instructions.

- HS1** Twys C3, C4, E2, E3, G3, G4, R1, and intersection of Rwy 31 and Twy C. Secure ATC clearance before crossing intersection.

TAKE-OFF

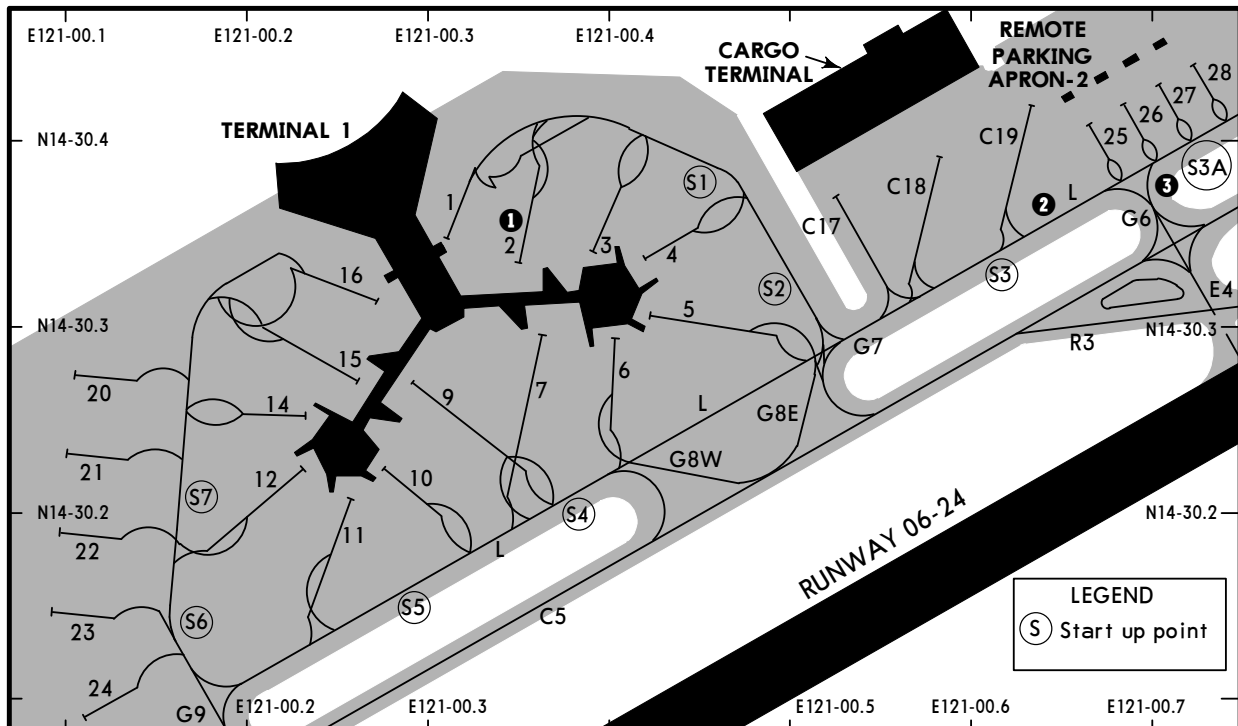
	AIR CARRIER (JAA)			AIR CARRIER (FAR 121)	
	LVP must be in Force All Rwys RL & CL	All Rwys RCLM (DAY only) or RL	All Rwys RCLM (DAY only) or RL	All Rwys Adequate Vis Ref	
A	RVR 200m	RVR 250m	RVR 400m	2 Eng	RVR 500m VIS 400m
B				3 & 4 Eng	
C					
D	RVR 250m	RVR 300m			

RPLL/MNL

JEPPESSEN
29 JAN 16 (10-9B) Eff 4 Feb

MANILA, PHILIPPINES

NINOY AQUINO INTL



- ❶ DC10 & L1011 aircraft pushing back from Bay 2 not allowed to run engine no. 2 until reaching point S1.
- ❷ Taxi-in/tow-out procedures implemented on parking stands. Twy Lima between G6 and S3 closed for code C and higher category aircraft if bay 25 and/or bay 26 is occupied by A321. Twy Lima between G6 and S3 is open for A320 and lower category aircraft if bay 25 and/or bay 26 is occupied by A321. Higher category aircraft allowed when no aircraft is parked at bay 25 and 26. First-in procedures implemented at bay 25 for A321 if bay 26 is to be occupied by A321. Last-out procedures implemented at bay 25 for A321 if bay 26 is occupied by A321. First-out procedures implemented at bay 26 for A321 if bay 25 is occupied by A321. Twy Lima between S3A and G6 closed for code D and higher category aircraft if there is an aircraft parked at Remote Parking Apron-2.
- ❸ Twy Lima between S3A and G6 closed for code D and higher category aircraft if there is an aircraft parked at Remote Parking Apron-2.

PARKING BAY COORDINATES

BAY No.	COORDINATES
TERMINAL 1	
1	N14 30.4 E121 00.3
2 thru 7	N14 30.3 E121 00.4
9	N14 30.3 E121 00.3
10, 11	N14 30.2 E121 00.3
12	N14 30.2 E121 00.2
14	N14 30.3 E121 00.2
15, 16	N14 30.3 E121 00.3
20	N14 30.3 E121 00.1
21, 22	N14 30.2 E121 00.1
23, 24	N14 30.1 E121 00.1
CARGO TERMINAL	
C17	N14 30.4 E121 00.5
C18, C19	N14 30.4 E121 00.6
REMOTE PARKING APRON-2	
25 thru 28	N14 30.4 E121 00.7

CHANGES: None.

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RPLL/MNL

29 JAN 16

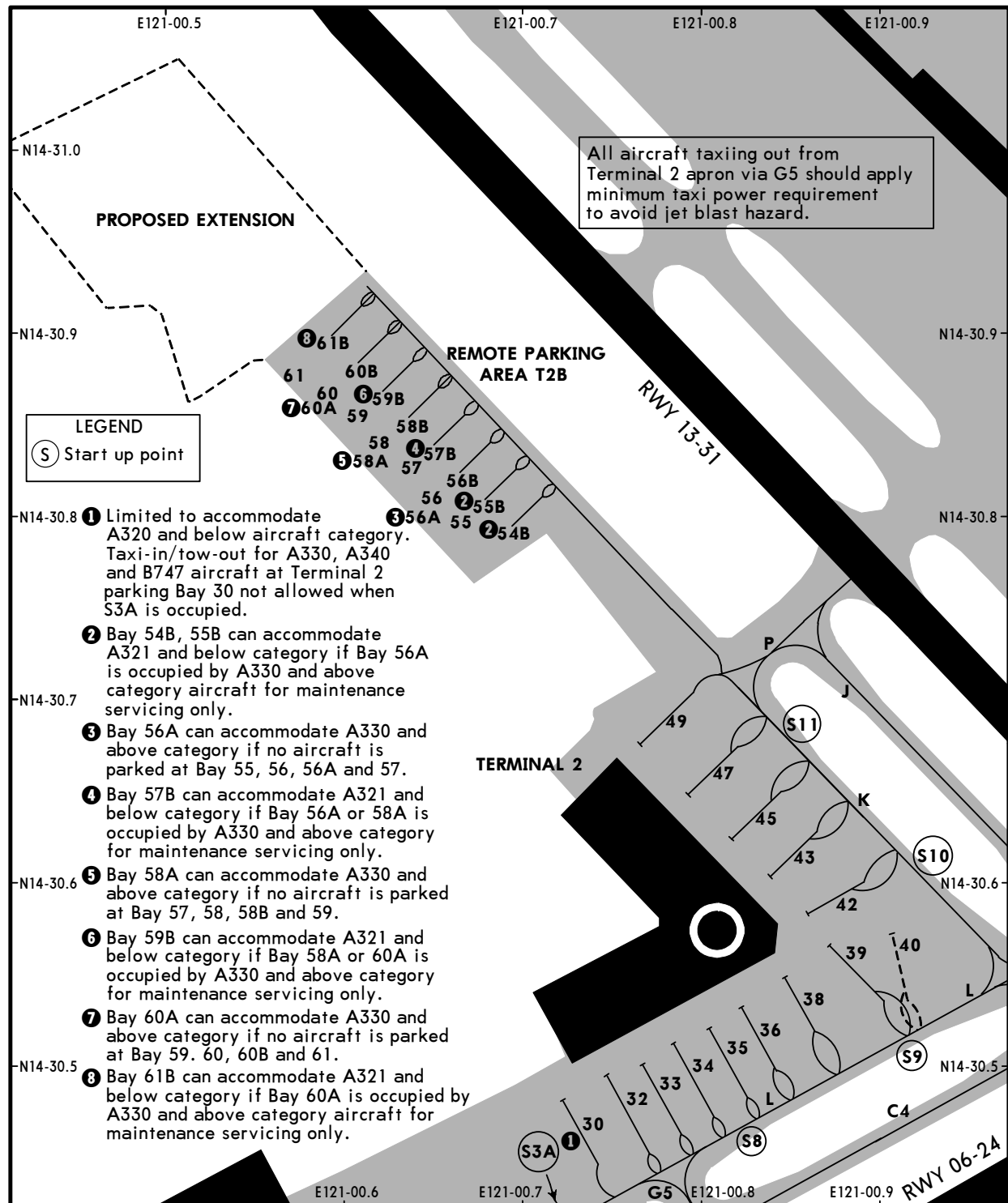
JEPPesen

10-9C

Eff 4 Feb

MANILA, PHILIPPINES

NINYO AQUINO INTL



BAY No.	COORDINATES
TERMINAL 2	
30	N14 30.5 E121 00.7
32 thru 36	N14 30.5 E121 00.8
38	N14 30.5 E121 00.9
39, 40, 42, 43	N14 30.6 E121 00.9
45	N14 30.6 E121 00.8
47, 49	N14 30.7 E121 00.8
REMOTE PARKING AREA T2B	
54B	N14 30.8 E121 00.7
55 thru 58B	N14 30.8 E121 00.6
59 thru 60B	N14 30.9 E121 00.6
61, 61B	N14 30.9 E121 00.5

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2 DEC 16

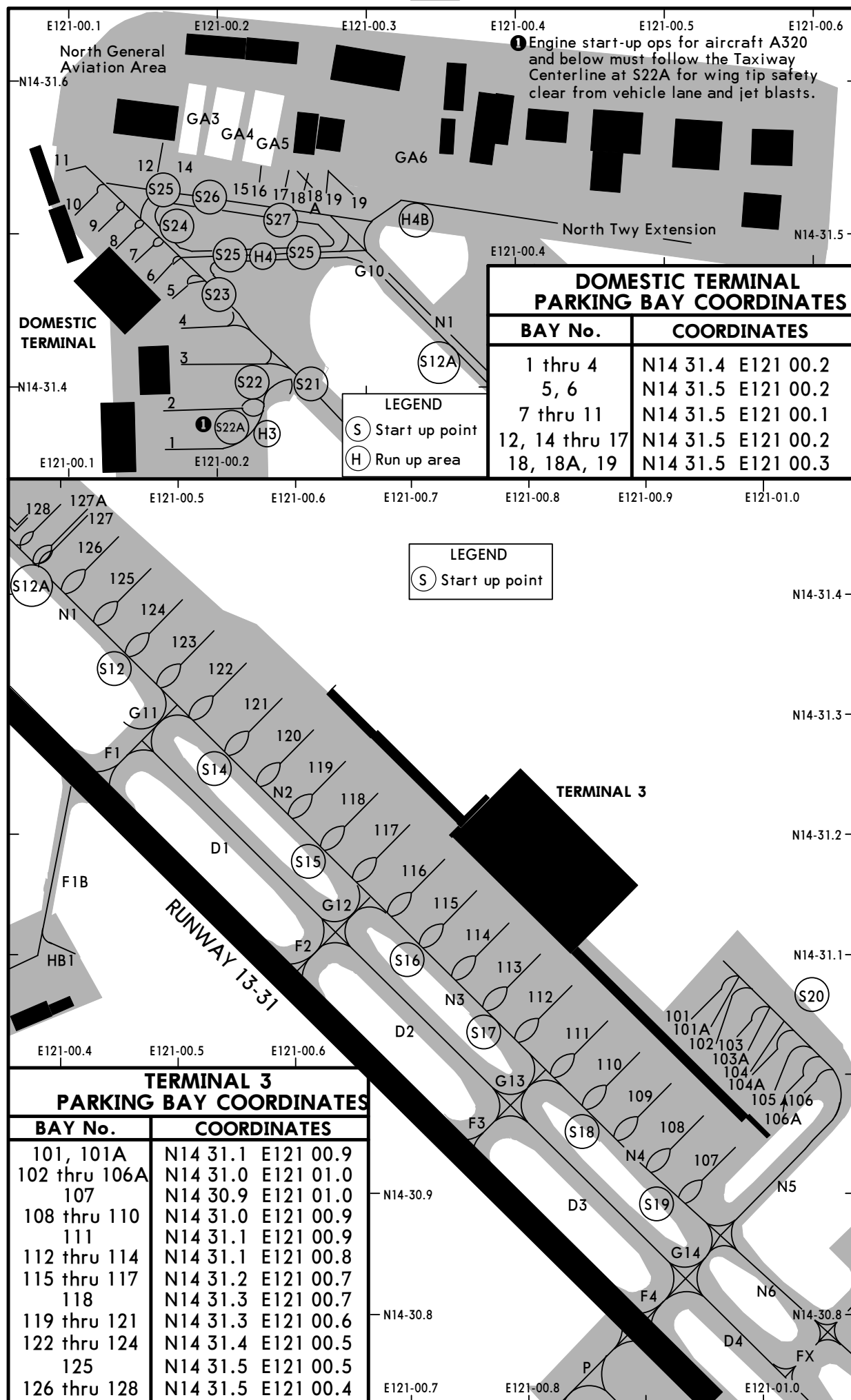
JEPPesen

(10-9C1)

Eff 8 Dec

MANILA, PHILIPPINES

NINYO AQUINO INTL



RPLL/MNL **JEPPESEN**
9 MAY 14 **(10-9D)****MANILA, PHILIPPINES**
NINYO AQUINO INTL**INTERNATIONAL DEPARTURES**

The Pilot shall call Clearance Delivery for ATC clearance 5 minutes from the estimated start-up time. After receiving clearance the pilot shall switch to Ground Control for start-up clearance then after receiving start-up clearance the pilot shall switch to Ramp Control for push-back clearance or any other maneuver on the apron (including idle power start-up on bays) *Note: Start-up shall commence at designated starting point only.* Pilots intending to utilize RNAV route L628 shall call Clearance Delivery for ATC clearance 5 minutes prior to blockoff/push-back time. Clearance shall be cancelled if not blockoff/push-back 5 minutes after receipt of ATC clearance.

Procedure for issuance of ATC clearance and push back for flights utilizing L628.

- Pilot shall call Clearance Delivery notifying that aircraft is ready for push back in 5 minutes using the following phraseology: Call sign - (Destination) via L628 - Parking position - Required ATC clearance - Ready to push back in 5 minutes.
- Clearance Delivery shall relay ATC clearance issued by Manila Control, in addition to the instruction that ATC clearance void if not push back by (time).
- ATC clearance shall be cancelled on the expiry of the 5 minute grace period.

Procedure for departing flight from Manila utilizing L628.

- FL280 and FL390 are reserved FL's on L628.
- 10 minutes longitudinal separation using Mach Number Technique (MNT) will be applied to successive departures requesting same FL. *Note: For application of MNT, FPL should indicate True Mach Number from Ibohi until Menam.*
- Additional longitudinal separation as appropriate shall be provided by ATC for the faster aircraft following a slower aircraft on the same route.

DOMESTIC DEPARTURES

The pilot shall call Clearance Delivery specifying preferred runway and request for ATC clearance 5 minutes from estimated start-up time. After receiving clearance the pilot shall switch to Ground Control for start-up clearance then after receiving start-up clearance the pilot shall switch to Ramp Control for push-back clearance or any other maneuver on the apron (including idle power start-up on bays). *Note: Start-up shall commence at designated starting point only.*

SPEED RESTRICTIONS

Unless authorized by ATC, arriving aircraft shall enter the Manila TMA at a speed of 250 knots IAS. At 20 NM, arriving aircraft shall maintain a speed of 210 knots IAS. At 10 NM from the airport, arriving aircraft must strictly maintain a speed of 180 knots IAS and at 5 NM, strictly maintain a speed of 150 knots IAS. If there is no need to apply the speed restriction, ATC shall inform the pilot of the arriving aircraft with the phraseology "No speed control required".

ARRIVAL PROCEDURES

ROTA - Runway occupancy time-arrival

ROTA will start at the time the aircraft crosses the runway threshold marker on its final glide to the time it vacates the runway from a specified point.

After the aircraft has landed, the pilot shall change to Ground Control immediately after clearing the runway or as instructed by ATC. Ground Control will instruct the aircraft to proceed to specified entrance gateways.

Contact Ramp Control or as instructed by ATC for approval to continue taxiing into the apron towards assigned parking bay.

Aircraft entering the apron are to follow closely the apron taxi guidelines so as to maintain safe distance between taxiing and parked aircraft.

DEPARTURE PROCEDURES

ROTD - Runway occupancy time-departure

ROTD will start at the time the aircraft reaches no 1 position (lined-up on the runway threshold marker) and the pilot reads back the ATC's take-off clearance to the time it is airborne (wheels off the ground).

SIMULTANEOUS OPERATIONS ON RWY 06/24 AND RWY 13/31**GENERAL**

During periods of traffic congestion, simultaneous operations on Rwy 06/24 and Rwy 13/31 may be authorized by the controller in accordance with the procedures and separation minima described under DEPARTURES on 10-9E.

RPLL/MNL **JEPPESEN**
9 MAY 14 **(10-9E)****MANILA, PHILIPPINES**
NINYO AQUINO INTL**DEPARTURES**

Between aircraft taking-off on either Rwy 06/24 and:

- a. *Aircraft taking-off on Rwy 31* No separation is necessary between the two departures regardless of type, provided that the departure on Rwy 31 shall commence its take-off not farther than the intersection of Rwy 31 and Rwy 06/24.
- b. *Aircraft taking-off on Rwy 13* Sufficient separation shall be maintained between the two departures to ensure that the first departing aircraft shall have passed the intersection of the two runways before the second departing aircraft shall commence its take-off.

Between aircraft departing on Rwy 13 ahead of another aircraft landing on either Rwy 06 or Rwy 24:

- a. Sufficient separation shall be effected between the two aircraft to ensure that the landing aircraft on either Rwy 06 or Rwy 24 shall not cross the Las Pinas shoreline or abeam the town of Taguig, as the case may be, on its final glide until the departing aircraft on Rwy 13 shall have passed the intersection of the two runways.
- b. Sufficient separation shall be effected between the two aircraft to ensure that a departing aircraft on Rwy 13 shall not converge with a landing aircraft on the downwind leg of either Rwy 06 or Rwy 24.

ARRIVALS

Between aircraft landing on either Rwy 06 or Rwy 24 ahead of an aircraft landing on Rwy 13, sufficient separation shall be effected between the two arrivals to ensure that the aircraft landing on Rwy 13 shall not cross the Pasay shoreline on its final glide until the landing aircraft on Rwy 06 or Rwy 24 shall have passed and is clear of the intersection of two runways.

Between aircraft landing on Rwy 13 ahead of another aircraft landing on Rwy 06 or Rwy 24:

- a. The landing aircraft on Rwy 06 shall not cross the Las Pinas shoreline on its final glide until the landing aircraft on Rwy 13 shall have turned into the taxiway, or have made a 180° turn, or come to a full stop before reaching the intersection of Rwy 13 and Rwy 06/24.
- b. The landing aircraft on Rwy 24 shall not cross the line abeam Taguig town on its final glide until the landing aircraft on Rwy 13 shall have turned into the taxiway, or have made a 180° turn, or made a full stop before reaching the intersection of Rwy 13 and Rwy 06/24.

Between aircraft landing on either Rwy 06 or Rwy 24 ahead of another aircraft:

- a. *Landing on Rwy 31* The landing aircraft on Rwy 31 shall not cross Laguna de Bay shoreline (abeam Meralco) on its final glide until the landing aircraft on either Rwy 06 or Rwy 24 shall have passed and is clear of the intersection of the two runways.
- b. *Taking-off on Rwy 13* Sufficient separation shall be effected between the two aircraft to ensure that the aircraft departing on Rwy 13 shall not commence its take-off until the landing aircraft on either Rwy 06 or Rwy 24 shall have passed, or have stopped short and will remain clear of, the intersection of the two runways.

Between aircraft landing on Rwy 13 ahead of another aircraft taking-off on either Rwy 06 or Rwy 24: Sufficient separation shall be effected between the two aircraft to ensure that the departing aircraft on Rwy 06 or Rwy 24 shall not commence its take-off until the landing aircraft on Rwy 13 shall have turned into a taxiway, or have made a 180° turn, or made a full-stop, before reaching the intersection of the two runways.

Between aircraft landing on Rwy 31 ahead of another aircraft taking-off on either Rwy 06 or Rwy 24: Sufficient separation shall be effected between the two aircraft to ensure that the departing aircraft on Rwy 06 or Rwy 24 shall not commence its take-off until the landing aircraft on Rwy 31 shall have passed the intersection of the two runways.

GO-AROUND PROCEDURES**Rwy 24** - A LEFT TURN commencing from a line abeam Taguig town within an arc short of the runway threshold. However, Jet aircraft shall be made to pull-up and go around to re-enter downwind for Rwy 24 with pilot's discretion when to make the turn to join downwind.**Rwy 06** - A RIGHT TURN commencing Las Pinas shoreline within an arc short of the runway threshold. However, Jet aircraft shall be made to pull-up and go around to re-enter downwind for Rwy 06 with pilot's discretion when to make turn to join downwind.**Rwy 13** - For light aircraft (12,500 lbs and below), a RIGHT TURN from the Baclaran church within an arc short of the threshold; for DC-3, HS-748, YS-11 and similar types from the Pasay shoreline.**Rwy 31** - When Rwy 06 is in use, a RIGHT TURN commencing from Laguna de Bay shoreline abeam Meralco with an arc short of the housing area.

Simultaneous use of Rwy 06/24 and Rwy 13/31 for Jet aircraft shall be prohibited.

The controller on duty may deviate from the above procedures if in his best judgement such deviations are in the interest of safety and efficiency.

SIMULTANEOUS USE OF Rwy 06/24 and Rwy 13/31



JEPPESEN MANILA, PHILIPPINES

27 APR 12

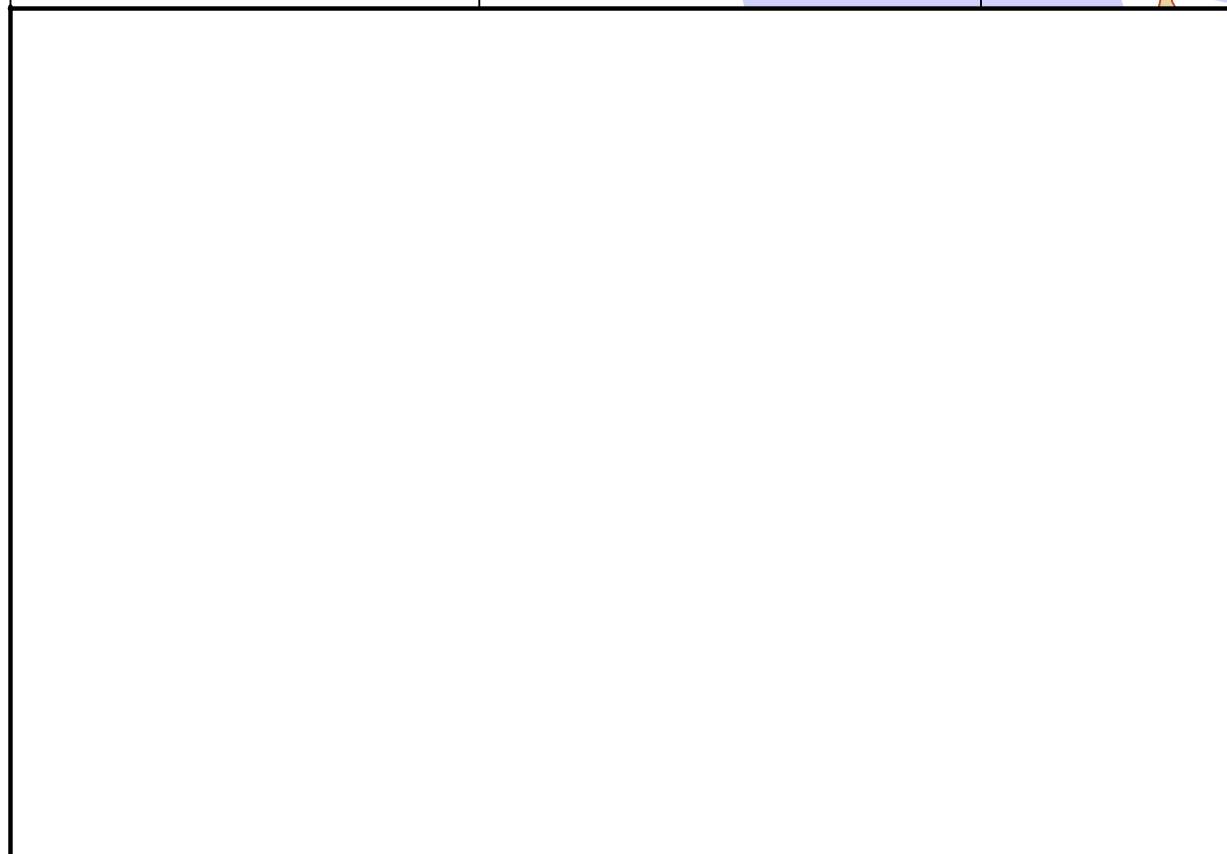
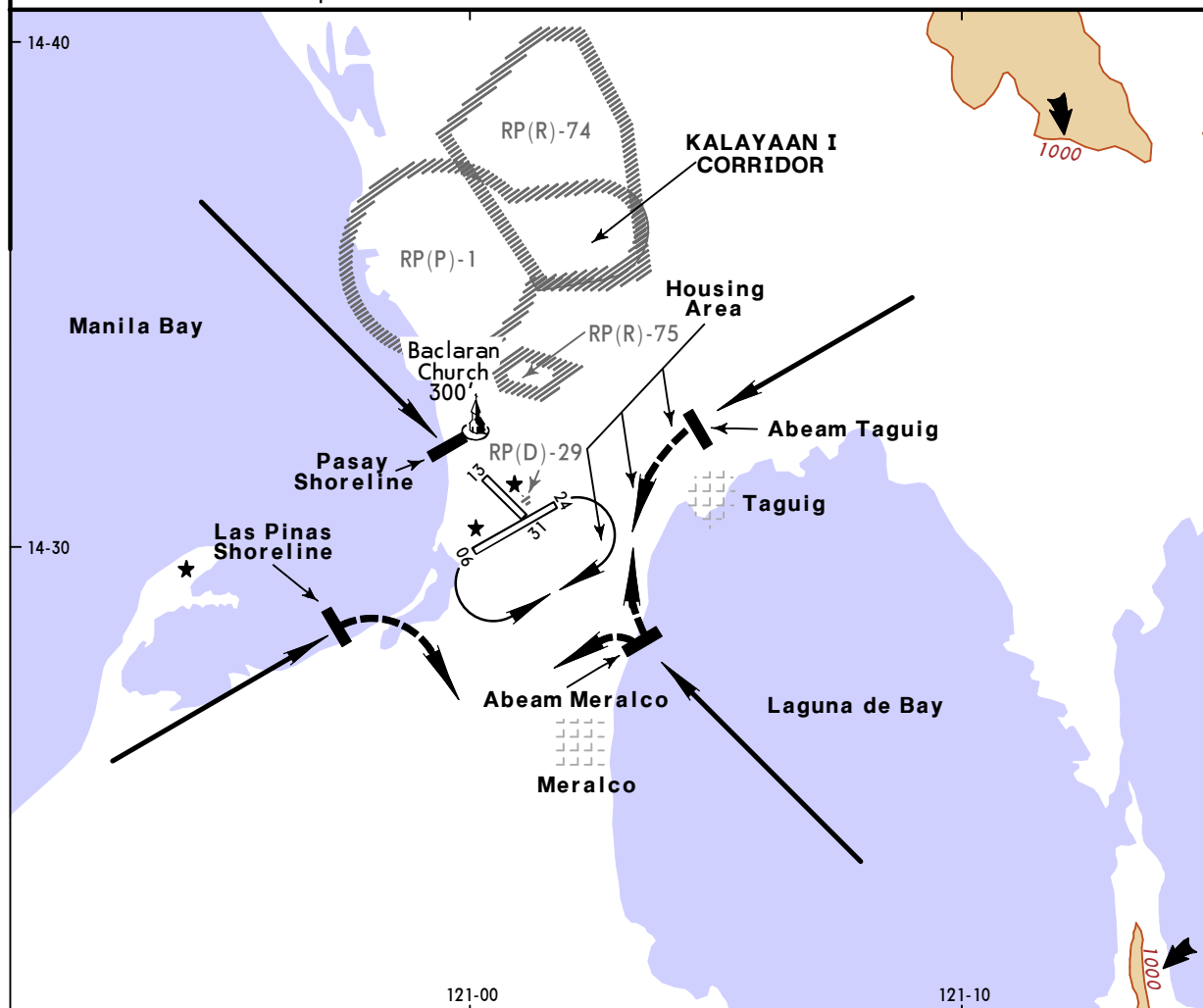
(10-9E1)

Eff 3 May

NINYO AQUINO INTL

Apt Elev 75'

ATIS	MANILA Approach (R)	MANILA Tower	Ground
126.4	121.1	118.1	121.8
Alt Set: hPa	Apt Elev: 3 hPa	Trans level: FL 130	Trans alt: 11000'

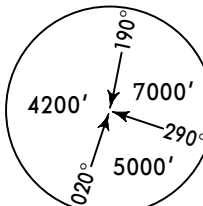


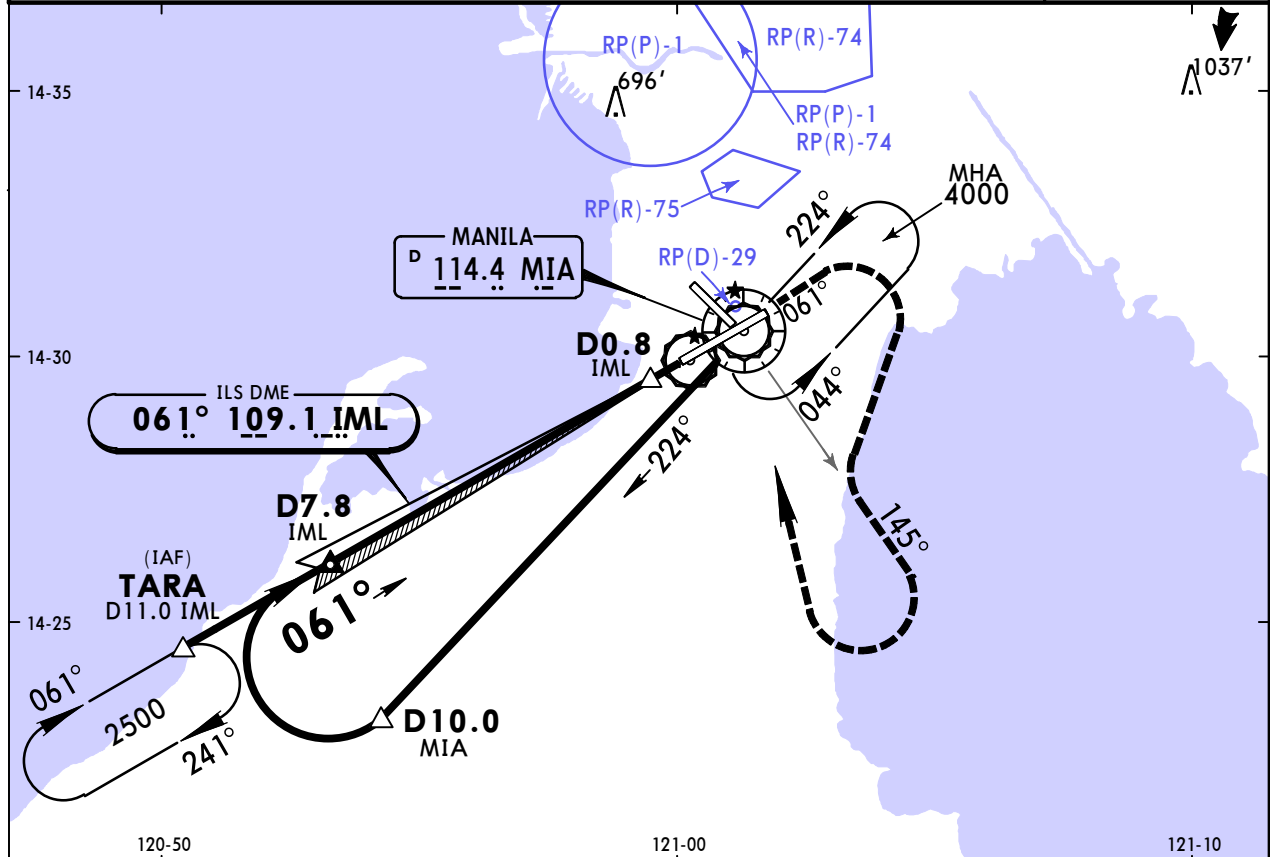
RPLL/MNL
NINYO AQUINO INTL

24 FEB 17 **(11-1)** Eff 2 Mar

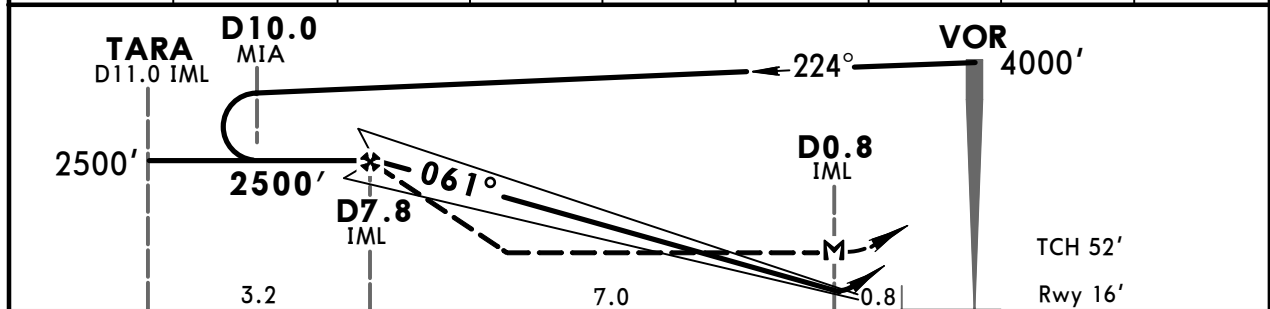
MANILA, PHILIPPINES
ILS or LOC Rwy 06

BRIEFING STRIP™

ATIS 126.4		MANILA Approach (R) 121.1		MANILA Tower 118.1		Ground 121.8	
LOC IML 109.1	Final Apch Crs 061°	Minimum Alt D7.8 IML 2500' (2484')	ILS DME DA(H) 280' (264')	Apt Elev 75' Rwy 16'		 MSA MIA VOR	
MISSED APCH: Track 061°. At 1000' turn RIGHT to intercept MIA VOR R-145. At 4000' turn RIGHT for holding at MIA VOR, or as instructed by ATC.							
Alt Set: hPa		Rwy Elev: 1 hPa	Trans level: FL 130		Trans alt: 11000'		
1. DME and VOR required.							



LOC (GS out)	IML DME	7.8	7.0	6.0	5.0	4.0	3.0	2.0
	ALTITUDE	2500'	2255'	1935'	1615'	1295'	975'	655'



Gnd speed-Kts	70	90	100	120	140	160	<div>PAPI</div> <div>ALS</div> <div><div></div><div></div><div></div><div></div></div>	1000'	on 061°	4000'	MIA
GS	3.01°	373	479	532	639	745					
MAP at D0.8 IML											

STRAIGHT-IN LANDING RWY06				CIRCLE-TO-LAND			
ILS		LOC (GS out)		Not Authorized North of the Field between Rwy 13 & 24		South of Rwy 06/24.	
DA(H) 280' (264')		MDA(H) 380' (364')		Northwest between Rwy 06 & 13.			
FULL	ALS out		ALS out	Max Kts	MDA(H)		MDA(H)
A	0.8 km	1.2 km	1.6 km	100	470'(395') - 1.9 km	630'(555') - 1.9 km	
				135	570'(495') - 2.8 km	630'(555') - 2.8 km	
				180	670'(595') - 3.7 km	670'(595') - 3.7 km	
				205	770'(695') - 4.6 km	770'(695') - 4.6 km	

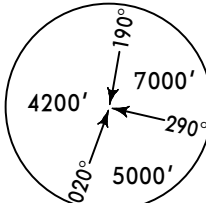
PANS OPS

RPLL/MNL
NINYO AQUINO INTL

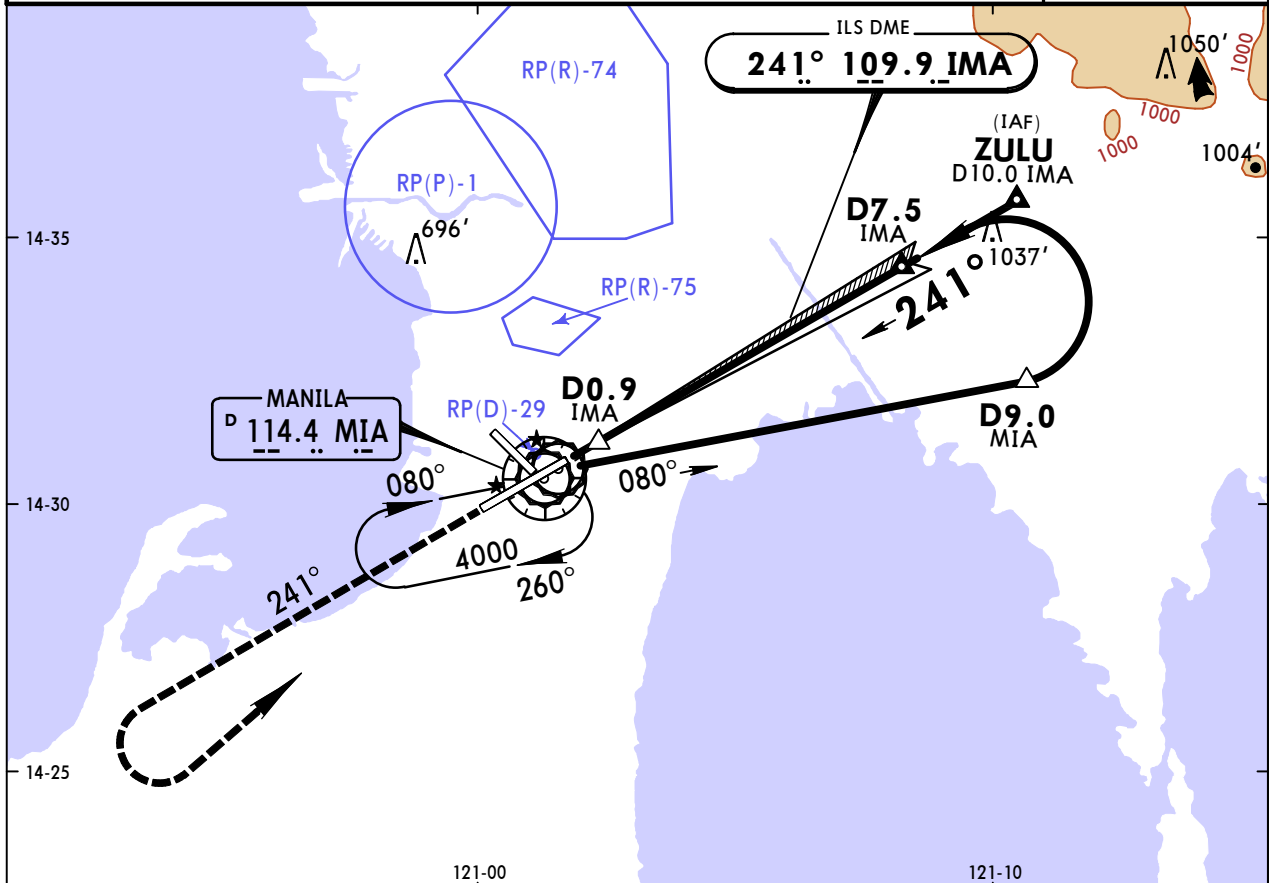
JEPPesen
24 FEB 17 **(11-2)** Eff 2 Mar

MANILA, PHILIPPINES
ILS or LOC Rwy 24

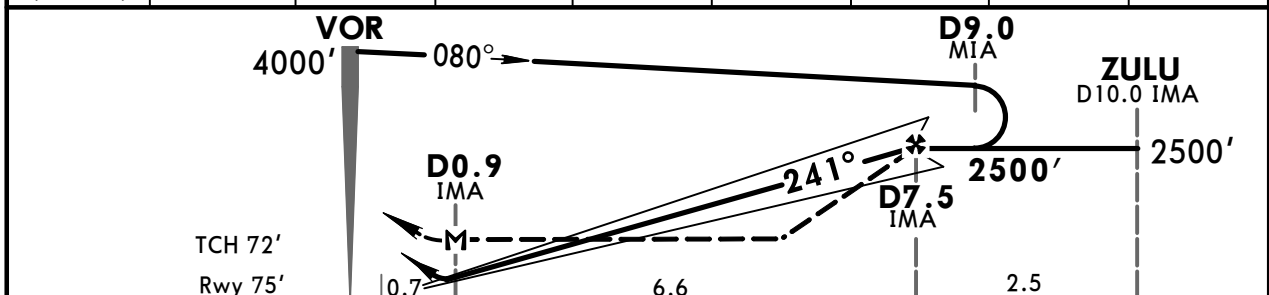
BRIEFING STRIP


ATIS 126.4		MANILA Approach (R) 121.1		MANILA Tower 118.1		Ground 121.8
LOC IMA 109.9	Final Apch Crs 241°	Minimum Alt D7.5 IMA 2500' (2425')	ILS DME DA(H) 375' (300')	Apt Elev 75' Rwy 75'		
MISSED APCH: Track 241° on climb to 4000'. At 4000' turn LEFT for holding at MIA VOR, or as instructed by ATC.						
Alt Set: hPa		Rwy Elev: 3 hPa		Trans level: FL 130		
1. VOR and DME required.				Trans alt: 11000'		

MSA MIA VOR



LOC (GS out)	IMA DME	2.0	3.0	4.0	5.0	6.0	7.0	7.5
	ALTITUDE	725'	1050'	1375'	1700'	2025'	2350'	2500'



Gnd speed-Kts	70	90	100	120	140	160		MIA 114.4
GS	3.06°	379	487	541	650	758		
MAP at D0.9 IMA								

STRAIGHT-IN LANDING RWY24				CIRCLE-TO-LAND			
ILS		LOC (GS out)		Not Authorized North of the Field between Rwy 13 & 24			
DA(H) 375' (300')		MDA(H) 500' (425')		South of Rwy 06/24.		Northwest between Rwy 06 & 13.	
FULL		ALS out		Max Kts	MDA(H)	MDA(H)	
A	0.8 km	1.2 km	1.8 km	100	470'(395') - 1.9 km	630'(555') - 1.9 km	
				135	570'(495') - 2.8 km	630'(555') - 2.8 km	
				180	670'(595') - 3.7 km	670'(595') - 3.7 km	
				205	770'(695') - 4.6 km	770'(695') - 4.6 km	

PANS OPS

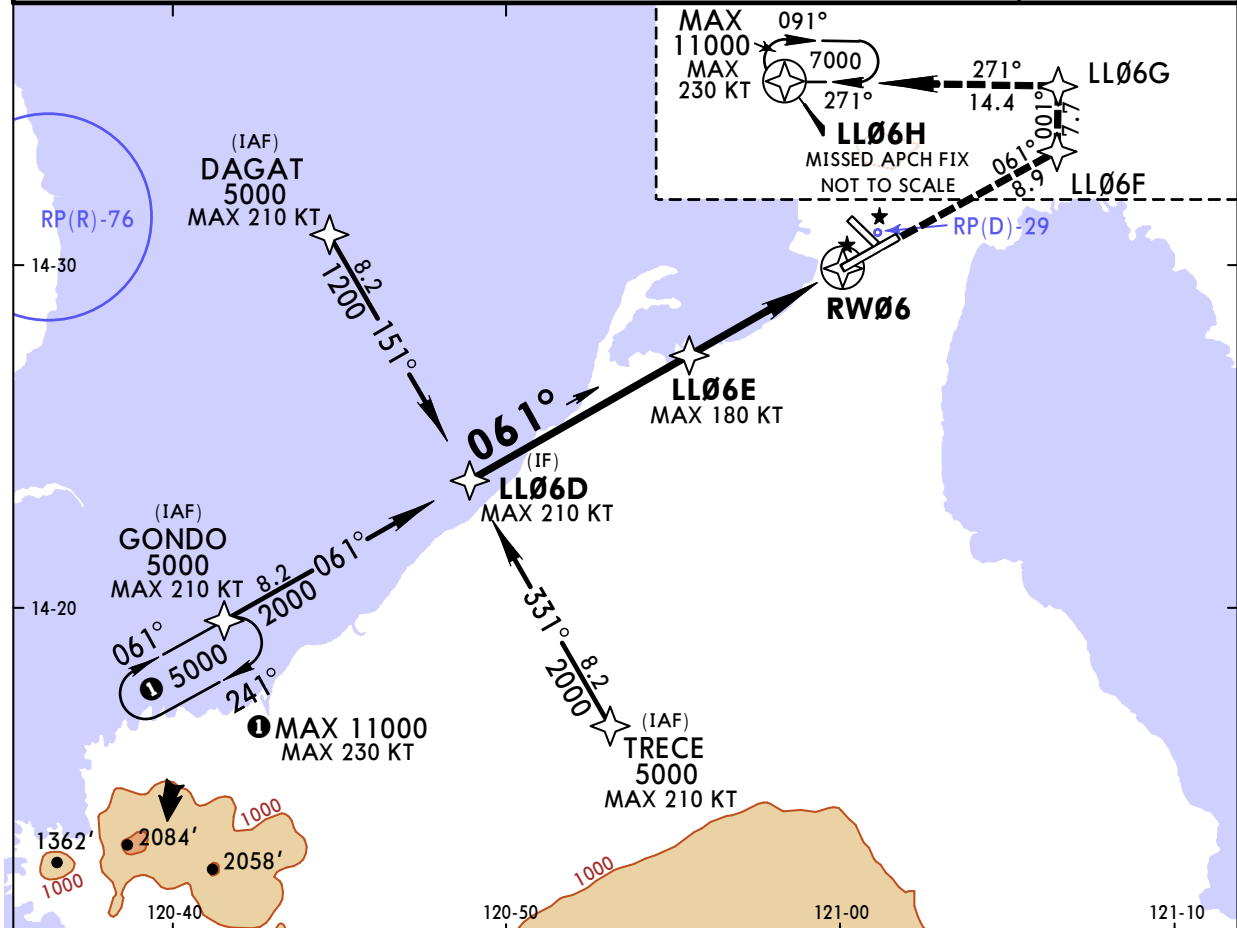
RPLL/MNL
NINYO AQUINO INTL

JEPPesen
24 FEB 17 **(12-1)** **Eff 2 Mar**

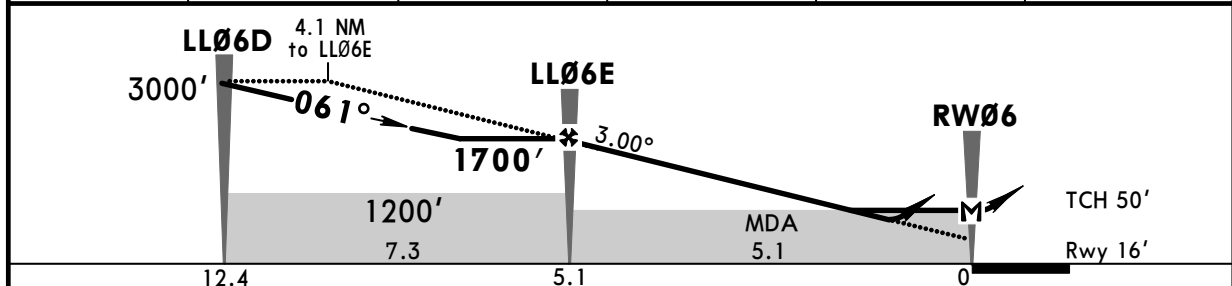
MANILA, PHILIPPINES
RNAV (GNSS) Rwy 06

BRIEFING STRIP

ATIS 126.4		MANILA Approach (R) 121.1		MANILA Tower 118.1		Ground 121.8	
RNAV	Final Apch Crs 061°	Procedure Alt LL06E 1700' (1684')	LNAV/VNAV DA(H) 410' (394')	Apt Elev 75' Rwy 16'		<div><div>6100'</div><div>MSA ARP</div></div>	
MISSED APCH: Climb on course 061° to LL06F, turn LEFT to LL06G, to LL06H and hold at 7000'.							
Alt Set: hPa Rwy Elev: 1 hPa Trans level: FL 130 Trans alt: 11000' 1. Baro-VNAV not authorized below 0°C (32°F).							



NM to RW06	LL06E	5.0	4.0	3.0	2.0
ALTITUDE	1700'	1660'	1340'	1020'	700'



Gnd speed-Kts	70	90	100	120	140	160	<div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; background-color: black; margin-right: 5px;"></div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PAPI ALS</div> </div>	<div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; background-color: black; margin-right: 5px;"></div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">on 061°</div> </div>	LL06F
Descent angle	3.00°	372	478	531	637	743			
LNAV/VNAV: MAP at DA									
LNAV: MAP at RW06									

STRAIGHT-IN LANDING RWY 06

LNAV/VNAV		LNAV	
DA(H) 410' (394')		MDA(H) 460' (444')	
ALS out		ALS out	

PANS OPS

A	1.6 km	1.6 km
B		
C		
D		

RPLL/MNL
NINYO AQUINO INTL

24 FEB 17

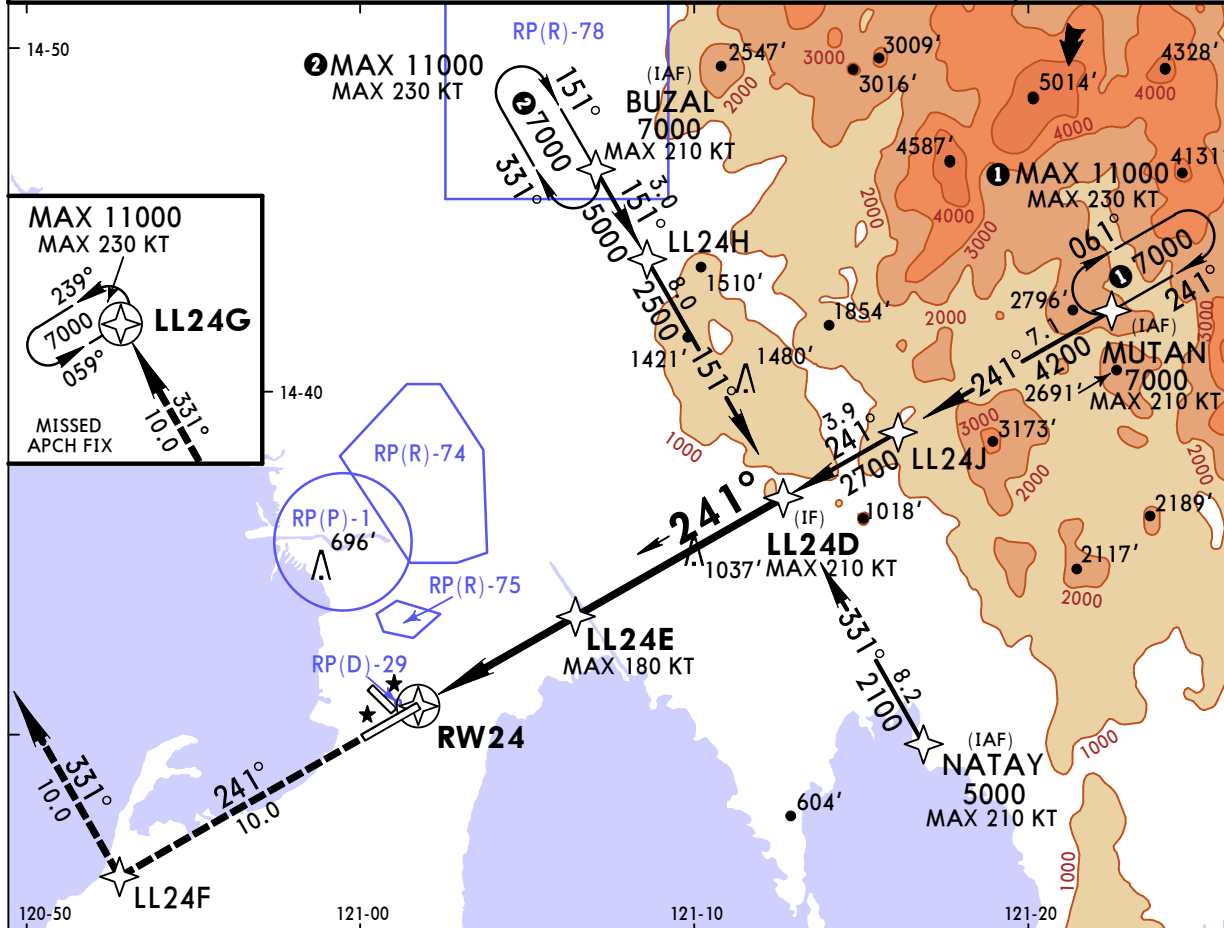
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Eff 2 Mar

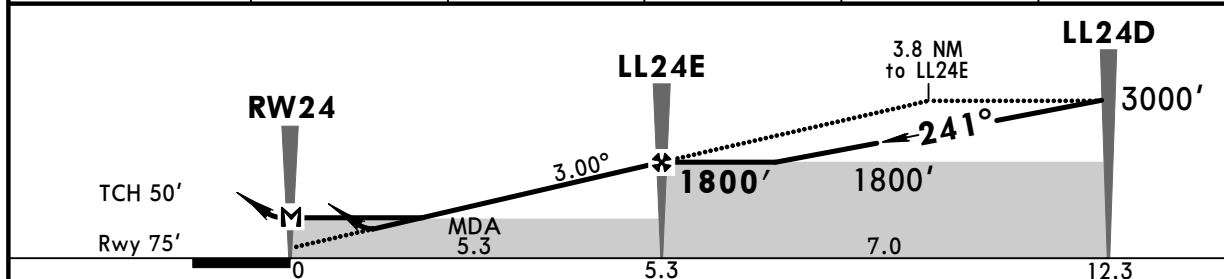
MANILA, PHILIPPINES
RNAV (GNSS) Rwy 24

BRIEFING STRIP™

ATIS 126.4	MANILA Approach (R) 121.1	MANILA Tower 118.1	Ground 121.8
RNAV	Final Apch Crs 241°	Procedure Alt LL24E 1800' (1725')	LNAV/VNAV DA(H) 680' (605')
Apt Elev 75' Rwy 75'			
MISSED APCH: Climb on course 241° to LL24F, turn RIGHT to LL24G and hold at 7000'.			
Alt Set: hPa Rwy Elev: 3 hPa Trans level: FL 130 Trans alt: 11000' 1. Baro-VNAV not authorized below 0°C (32°F).			
<div style="border: 1px solid black; border-radius: 50%; width: 100px; height: 100px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> 6100' </div> MSA ARP			



NM to RW24	2.0	3.0	4.0	5.0	5.3
ALTITUDE	760'	1080'	1400'	1720'	1800'



Gnd speed-Kts	70	90	100	120	140	160
Descent Angle	3.00°	372	478	531	637	743
LNAV/VNAV: MAP at DA						
LNAV: MAP at RW24						

STRAIGHT-IN LANDING RWY 24					
LNAV/VNAV DA(H) 680' (605')			LNAV MDA(H) 770' (695')		
ALS out			ALS out		

PANS OPS

A	1.6 km	1.6 km
B		
C		
D		

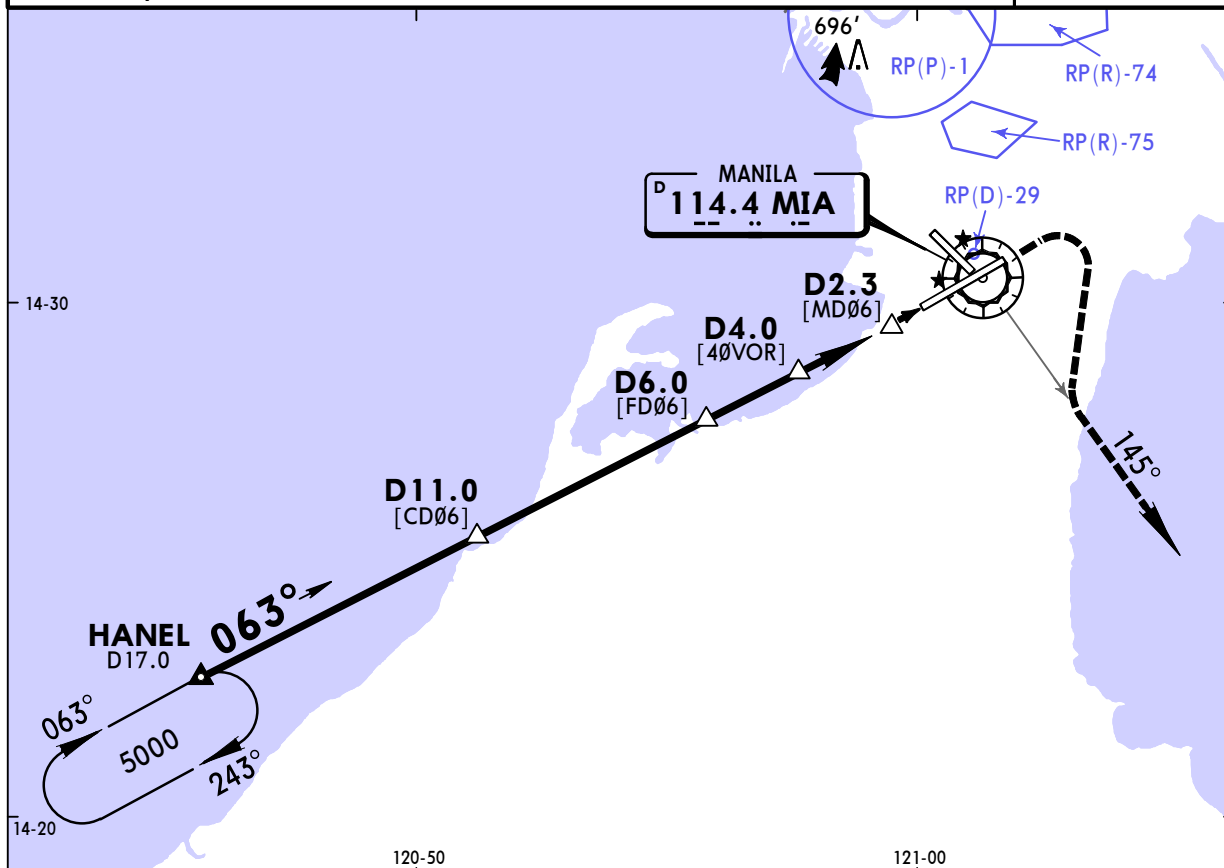
RPLL/MNL
NINYO AQUINO INTL

JEPPesen
24 FEB 17 **(13-1)** Eff 2 Mar

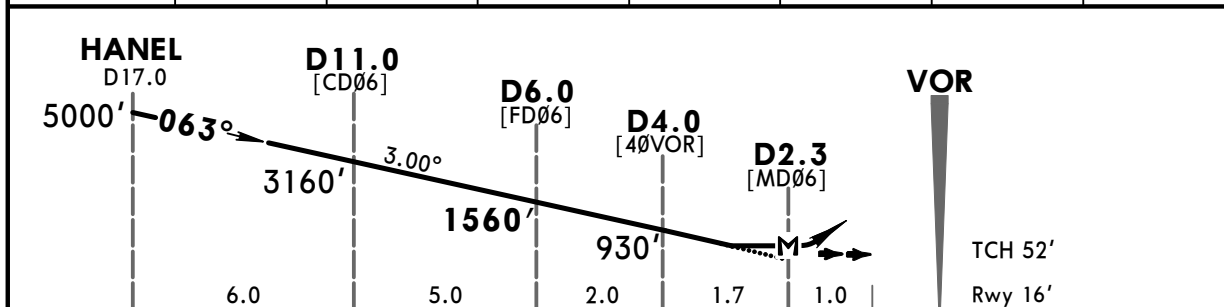
MANILA, PHILIPPINES
VOR Z Rwy 06

BRIEFING STRIP

ATIS 126.4		MANILA Approach (R) 121.1		MANILA Tower 118.1		Ground 121.8	
VOR MIA 114.4	Final Apch Crs 063°	Minimum Alt D6.0 1560' (1544')	MDA(H) 490' (474')	Apt Elev 75' Rwy 16'		A circular diagram with a center point. Four arrows point from the center to the circumference at the following angles and altitudes: 190° to 7000', 290° to 5000', 020° to 4200', and 020° to 4200'.	
MISSED APCH: Climb to 1000'. Then RIGHT climbing turn to MIA VOR R-145. Return to MIA VOR at 4000' or as instructed by ATC.							
Alt Set: hPa		Rwy Elev: 1 hPa		Trans Level: FL 130			
1. DME required.				Trans alt: 11000		MSA MIA VOR	



MIA DME	8.0	7.0	6.0	5.0	4.0	3.0	2.6
ALTITUDE	2200'	1880'	1560'	1250'	930'	610'	490'



Gnd speed-Kts	70	90	100	120	140	160				
Descent Angle 3.00°	372	478	531	637	743	849				
MAP at D2.3										

STRAIGHT-IN LANDING RWY06				CIRCLE-TO-LAND			
MDA(H) 490' (474')				Not Authorized North of the Field Between Rwy 13 & 24			
			ALS out	Max Kts		MDA(H)	
A	0.8 km		1.6 km	100		500' (425') - 1.9 km	
B				135		580' (505') - 2.8 km	
C	1.2 km		2.0 km	180		680' (605') - 3.7 km	
D	1.6 km		2.4 km	205		780' (705') - 4.6 km	

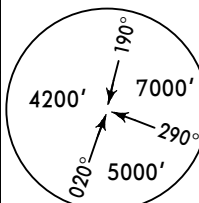
PANS OPS

RPLL/MNL
NINYO AQUINO INTL

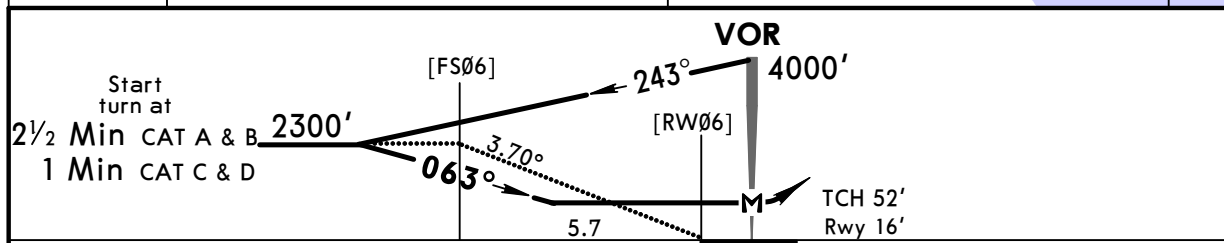
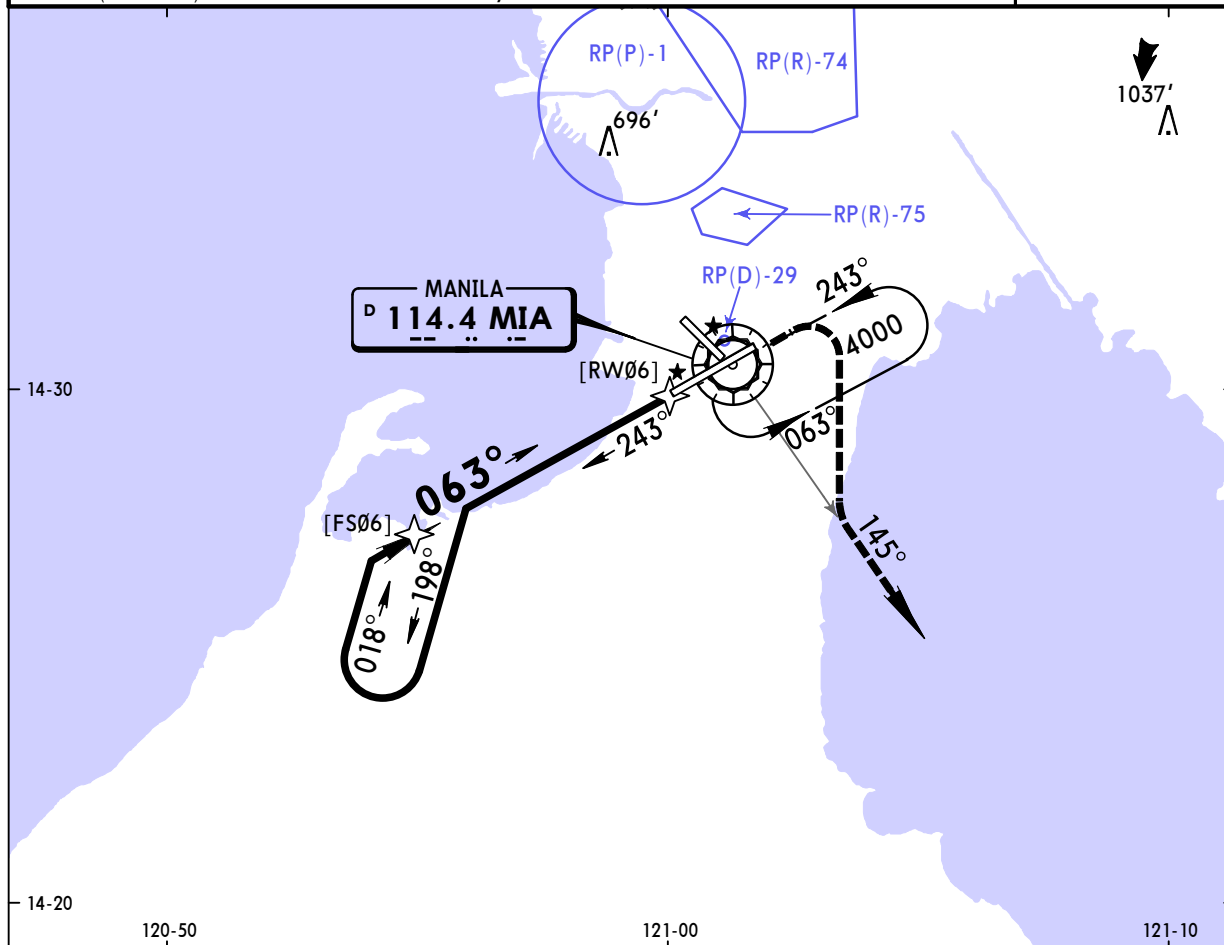
JEPPesen
24 FEB 17 **(13-2)** Eff 2 Mar




MANILA, PHILIPPINES
VOR Y Rwy 06

BRIEFING STRIP™

ATIS 126.4		MANILA Approach (R) 121.1		MANILA Tower 118.1		Ground 121.8	
VOR MIA 114.4	Final Apch Crs 063°	No FAF		MDA(H) 660' (644')	Apt Elev 75' Rwy 16'		
MISSED APCH: Climb to 1000', then RIGHT climbing turn to MIA VOR R-145. Return to MIA VOR at 4000' or as instructed by ATC.							
Alt Set: hPa Rwy Elev: 1 hPa Trans level: FL 130 Trans alt: 11000' 1. Based on TAS 140 KT (still air) for Cat A & B aircraft only and based on TAS of 225 KT (still air) for Cat C & D aircraft only.							

MSA MIA VOR



Gnd speed-Kts	70	90	100	120	140	160	PAPI ALS 	1000' 		MIA 114.4 R-145
Descent Angle 3.70°	458	589	655	786	917	1048				
MAP at VOR										

STRAIGHT-IN LANDING RWY06				CIRCLE-TO-LAND			
MDA(H) 660' (644')				Not Authorized North of the Field Between Rwy 13 & 24			
ALS out				Max Kts	MDA(H)		
A	1.6 km			100	660' (585') - 1.8 km		
B	2.8 km			135	660' (585') - 2.8 km		
C	3.7 km			180	680' (605') - 3.7 km		
D				205	780' (705') - 4.6 km		

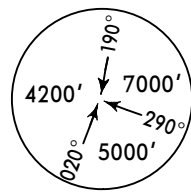
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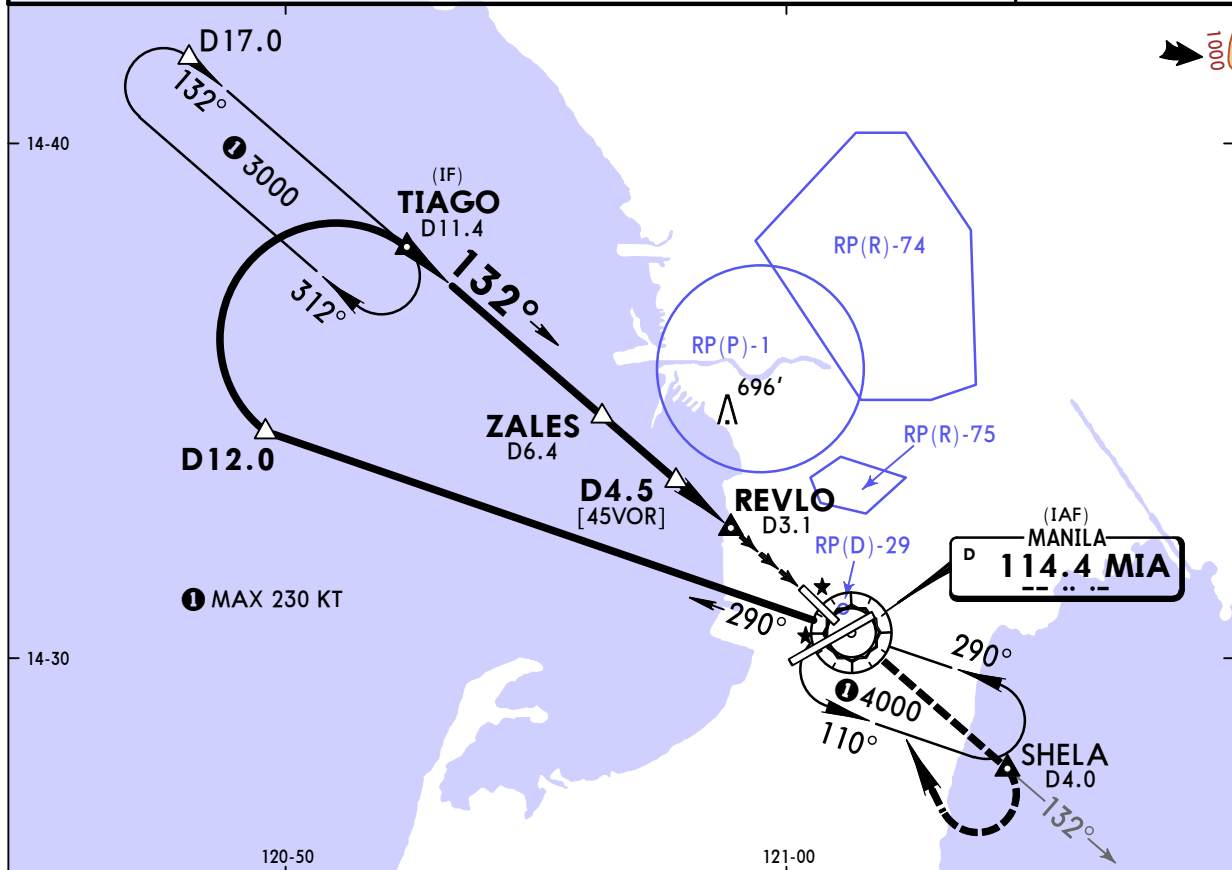
RPLL/MNL
NINYO AQUINO INTL

JEPPesen
24 FEB 17 **(13-3)** Eff 2 Mar

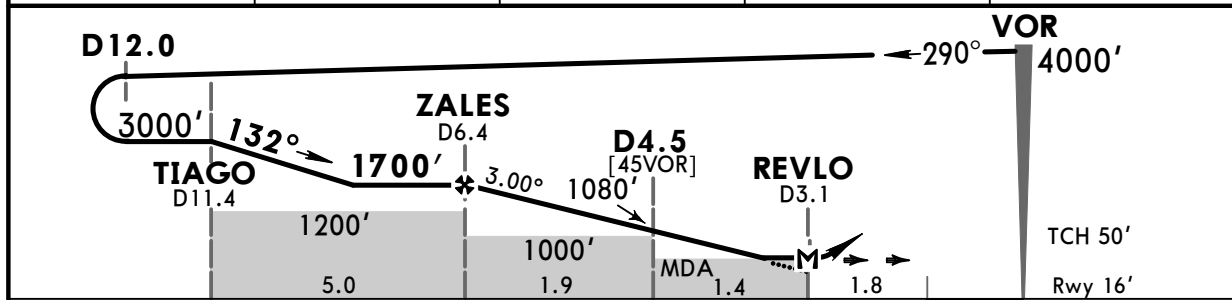
MANILA, PHILIPPINES
VOR Rwy 13
CAT A, B & C

BRIEFING STRIP

ATIS 126.4		MANILA Approach (R) 121.1		MANILA Tower 118.1		Ground 121.8	
VOR MIA 114.4	Final Apch Crs 132°	Minimum Alt ZALES 1700' (1684')	MDA(H) 650' (634')		Apt Elev 75' Rwy 16'		
MISSED APCH: Climb to 4000' direct MIA VOR, then outbound via MIA VOR R-132 to SHELA, then turn RIGHT direct to MIA VOR and hold or as instructed by ATC.							
Alt Set: hPa		Rwy Elev: 1 hPa	Trans level: FL 130		Trans alt: 11000'		
1. DME required.							MSA MIA VOR



MIA DME	6.4	5.0	4.0	3.1
ALTITUDE	1700'	1244'	926'	650'



Gnd speed-Kts	70	90	100	120	140	160	REIL PAPI 4000' ↑ D → MIA 114.4
Descent Angle 3.00°	372	478	531	637	743	849	
MAP at REVLO							

STRAIGHT-IN LANDING RWY 13				CIRCLE-TO-LAND			
MDA(H) 650' (634')							
A	3.7 km			A	NOT APPLICABLE		
B				B			
C				C			
D	NOT APPLICABLE			D			

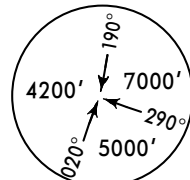
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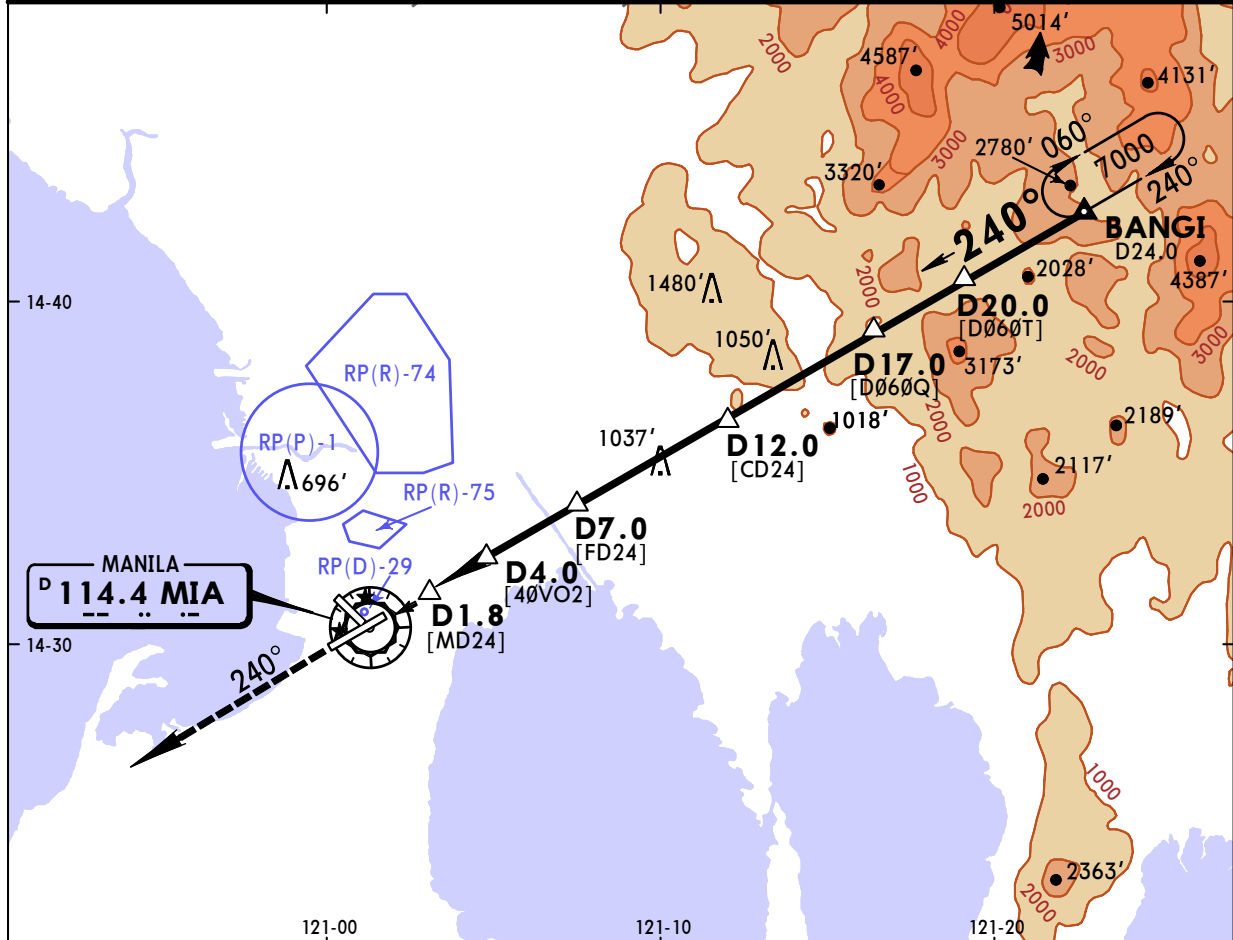
RPLL/MNL
NINYO AQUINO INTL

JEPPesen
24 FEB 17 **(13-4)** Eff 2 Mar

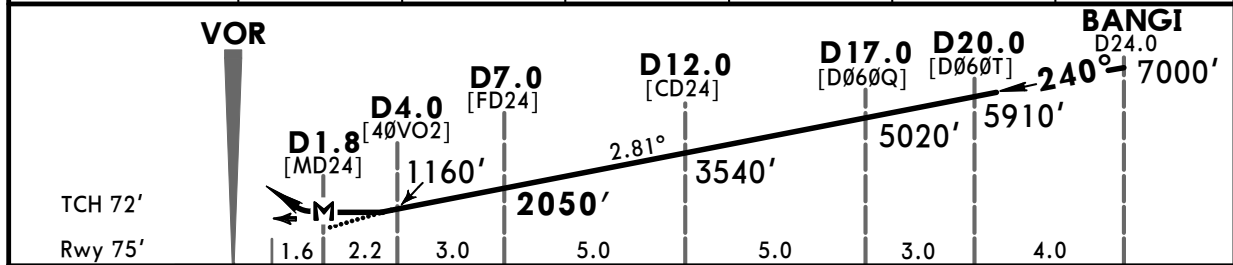
MANILA, PHILIPPINES
VOR Z Rwy 24


BRIEFING STRIP

ATIS 126.4		MANILA Approach (R) 121.1		MANILA Tower 118.1		Ground 121.8	
VOR MIA 114.4	Final Apch Crs 240°	Minimum Alt D7.0 2050' (1975')	MDA(H) 870' (795')	Apt Elev 75' Rwy 75'			
MISSED APCH: Climb outbound on MIA VOR R-240 to 4000'. Return to MIA VOR or as instructed by ATC.							
Alt Set: hPa		Rwy Elev: 3 hPa		Trans level: FL 130			
1. DME required.				Trans alt: 11000'		MSA MIA VOR	



MIA DME	3.0	4.0	5.0	6.0	7.0	8.0
ALTITUDE	870'	1160'	1450'	1750'	2050'	2350'



Gnd speed-Kts	70	90	100	120	140	160		4000' on 114.4 R-240
Descent Angle	2.81°	348	447	497	596	795		
MAP at D1.8								

STRAIGHT-IN LANDING RWY 24				CIRCLE-TO-LAND			
MDA(H) 870' (795')				Not Authorized North of the Field Between Rwy 13 & 24			
		ALS out		Max Kts	MDA(H)		
A	RVR 720 m VIS 800 m	1.6 km		100	870' (795') - 1.9 km		
B	1.2 km	2.0 km		135	1030' (955') - 2.8 km		
C	2.8 km	3.6 km		180	1130' (1055') - 3.7 km		
D	3.2 km	4.0 km		205	1130' (1055') - 4.6 km		

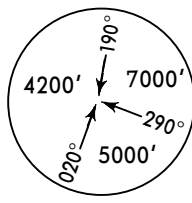
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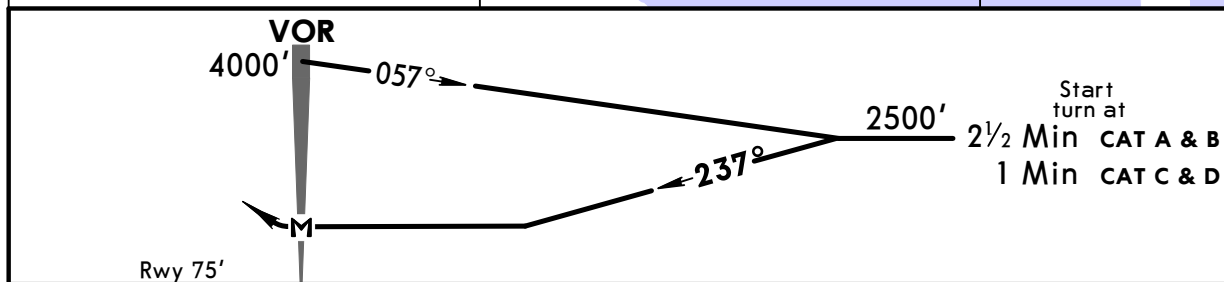
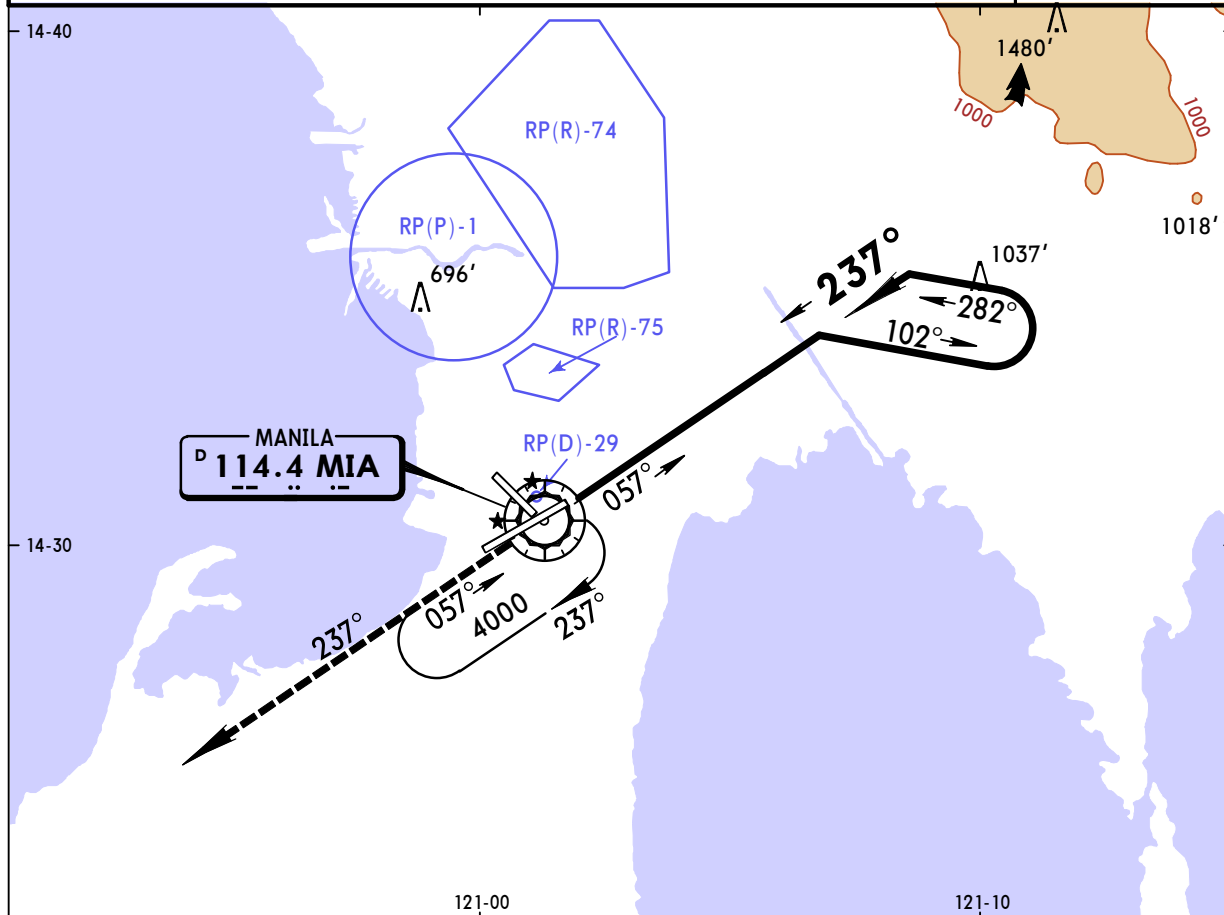
RPLL/MNL
NINYO AQUINO INTL

JEPPESEN
25 MAR 16 **(13-5)**

MANILA, PHILIPPINES
VOR Y Rwy 24

BRIEFING STRIP™

ATIS 126.4		MANILA Approach (R) 121.1		MANILA Tower 118.1		Ground 121.8	
VOR MIA 114.4	Final Apch Crs 237°	No FAF		MDA(H) 870' (795')	Apt Elev 75' Rwy 75'		
MISSED APCH: Climb to MIA VOR R-237 or heading 237° to 4000'. Return to MIA VOR or as instructed by ATC.							
Alt Set: hPa Rwy Elev: 3 hPa Trans level: FL 130 Trans alt: 11000'							
1. Based on TAS 140 kts (still air) for Cat A & B aircraft only and based on TAS of 225 kts (still air) for Cat C & D aircraft only.							



MAP at VOR				PAPI ALS		4000'	MIA on 114.4 R-237
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STRAIGHT-IN LANDING RWY 24				CIRCLE-TO-LAND	
MDA(H) 870' (795')				Not Authorized North of the Field Between Rws 13 & 24	
		ALS out		Max Kts	MDA(H)
A	RVR 720 m VIS 800 m	1.6 km		100	870' (795') - 1.9 km
B	1.2 km	2.0 km		135	1030' (955') - 2.8 km
C	2.8 km	3.6 km		180	1130' (1055') - 3.7 km
D	3.2 km	4.0 km		205	1130' (1055') - 4.6 km

PANS OPS