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Airport Information For RPLL

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Revision Letter For Cycle 01-2015

Change Notices

Notebook

General Information

Location: Manila Phl
IATA Code: MNL
Lat/Long: N14° 30.6' E121° 00.8'
Elevation: 75 ft

Airport Use: Public
Magnetic Variation: 1.7°W

Fuel Types: 80-87 Octane, 100-130 Octane, 115-145 Octane, Jet A-1, Jet B
Repair Types: Minor Airframe, Minor Engine
Customs: Yes
Airport Type: IFR
Landing Fee: No
Control Tower: Yes
Jet Start Unit: No
LLWS Alert: No
Beacon: Yes

Sunrise: 2222 Z
Sunset: 0941 Z,

Runway Information

Runway: 06
Length x Width: 11188 ft x 197 ft
Surface Type: concrete
TDZ-Elev: 24 ft
Lighting: Edge, ALS, Centerline
Stopway: 364 ft

Runway: 13
Length x Width: 5771 ft x 148 ft
Surface Type: concrete
TDZ-Elev: 25 ft
Lighting: Edge, Centerline
Stopway: 492 ft

Runway: 24
Length x Width: 11188 ft x 197 ft
Surface Type: concrete
TDZ-Elev: 75 ft
Lighting: Edge, ALS, Centerline
Stopway: 584 ft

Runway: 31
Length x Width: 5771 ft x 148 ft
Surface Type: concrete
TDZ-Elev: 42 ft

Lighting: Edge, Centerline
Stopway: 492 ft

Communication Information

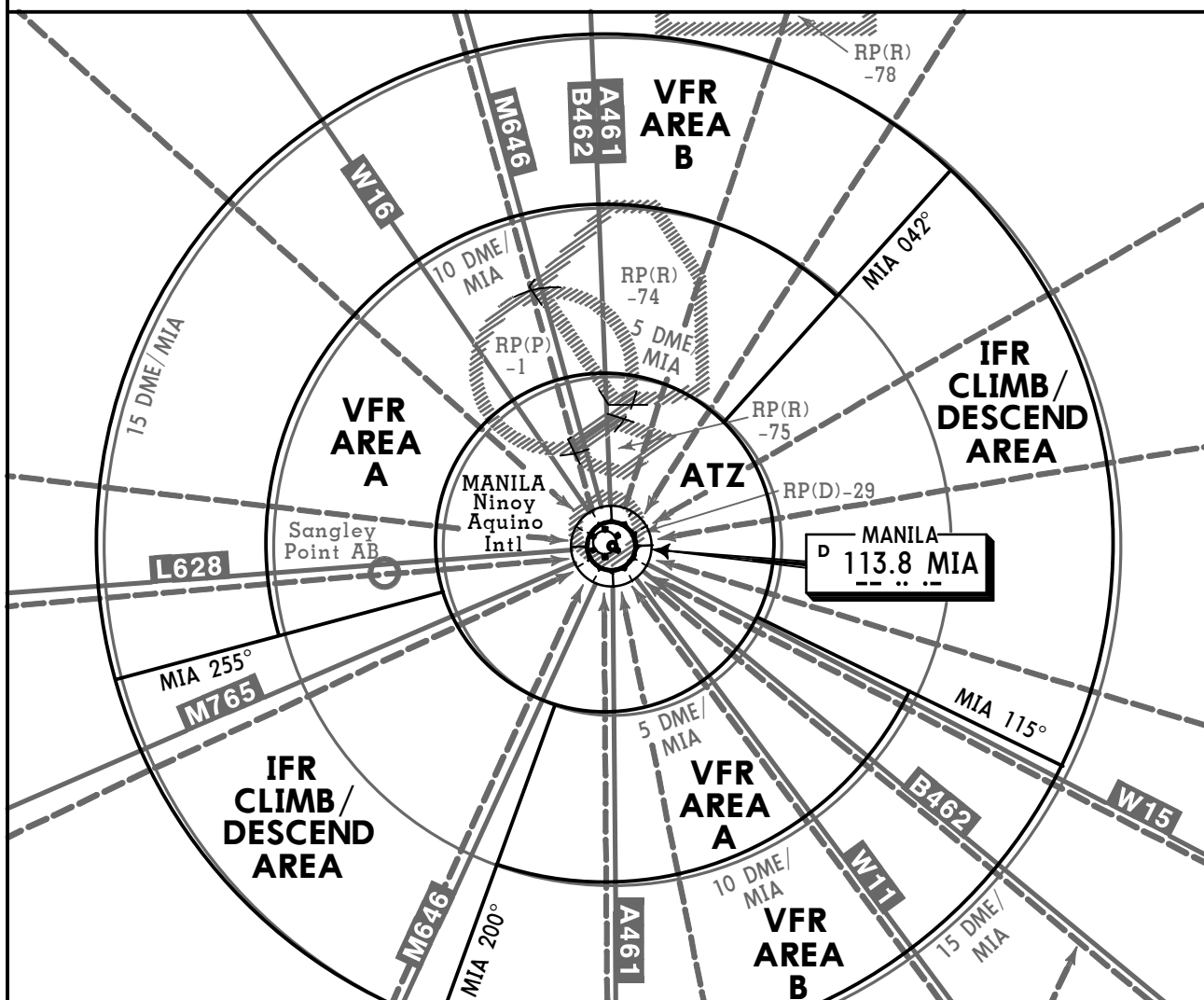
- ATIS 126.4
- Manila Tower 118.4 Secondary
- Manila Tower 118.1
- Manila Ground Control 122.0 Secondary
- Manila Ground Control 121.8
- Ramp Control 3 Ramp/Taxi Control 121.55 Secondary
- Ramp Control 3 Ramp/Taxi Control 121.35
- Manila Ramp/Taxi Control 121.7
- Domestic Ramp/Taxi Control 123.25
- Centennial Ramp/Taxi Control 128.8
- Manila Clearance Delivery 125.5 Secondary
- Manila Clearance Delivery 125.1
- Manila Approach Control 127.7 Secondary
- Manila Approach Control 124.8 Secondary
- Manila Approach Control 121.1
- Manila Flight Service Station 544.75
- Manila Flight Service Station 383.4
- Manila Flight Service Station 124.0

(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
<u>UNL</u>	<u>1500</u>	<u>2500</u>	<u>1999</u>
GND	GND	GND	GND

FLIGHT PROCEDURES

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

Mandatory IAS unless otherwise authorized by ATC.

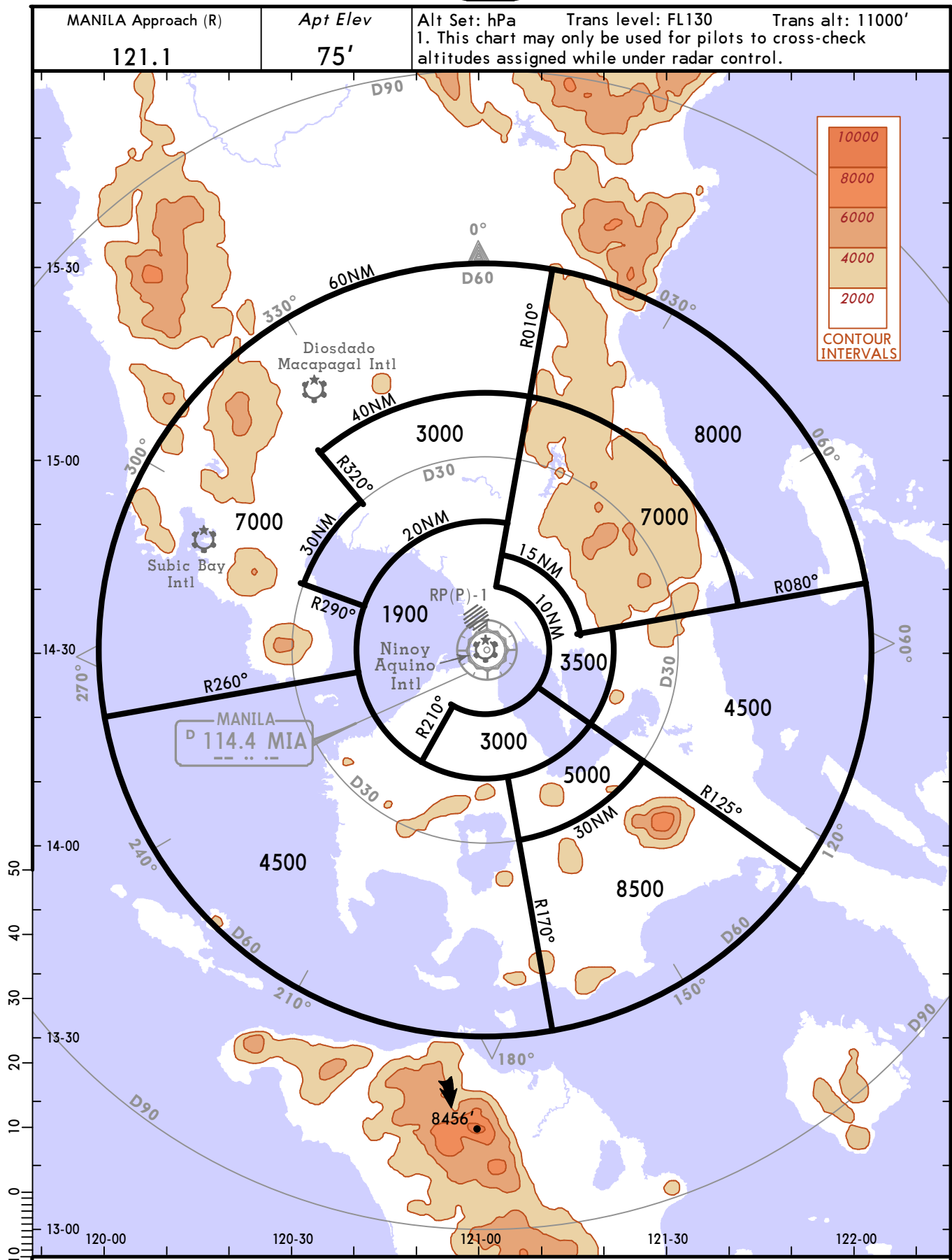
Entering TMA: 250 KTS. At 20NM Ninoy Aquino Intl Apt: 210 KTS. At 10NM Ninoy Aquino Intl Apt: 180 KTS. At 5NM Ninoy Aquino Intl Apt: 150 KTS.

VFR OPERATIONS:

1. Be equipped with 118.1 MHz transceivers and approach frequency 119.7 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 ARP. 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 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 vectoring altitude.
3. In the event of radar and/or communication failure, descent to 3000FT shall be effected only in the designated VFR areas-10 miles from the ARP. Otherwise, follow the Lost Communication Procedures.
4. All arriving IFR flights shall maintain an indicated airspeed (IAS) of 150kts or more up to 5 DME final of Rwy 06/24.
5. Arriving aircraft on radar vector to Manila shall not cancel clearance within 20NM.

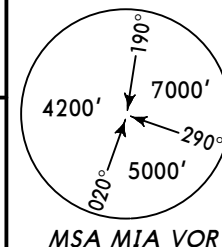


1. Minimum altitudes are calculated taking into account of minimum clearance above terrain/obstacles. Radar control service cannot be provided to aircraft below the applicable minimum. However, aircraft at designated altitude in relevant sector is not assured of radar contact.
2. LOSS OF COMMUNICATION
 - a. SQUAWK 7600 immediately, and
 - b. Follow established procedures.

ATIS
126.4

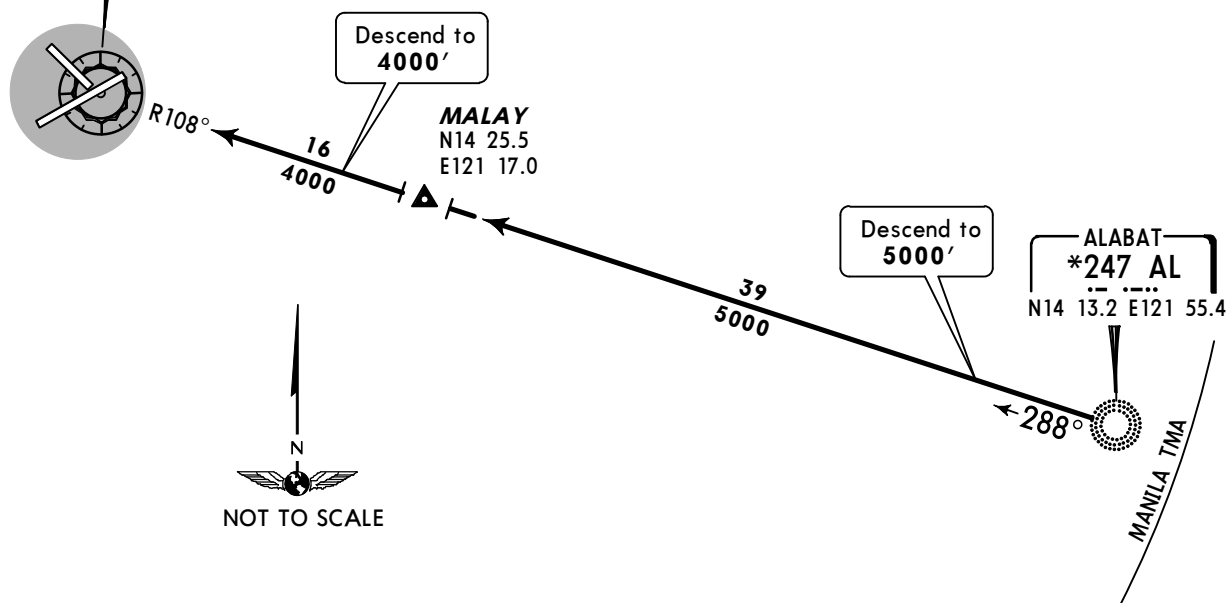
Apt Elev
75'

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



MANILA
D 114.4 MIA
N14 30.5 E121 01.3

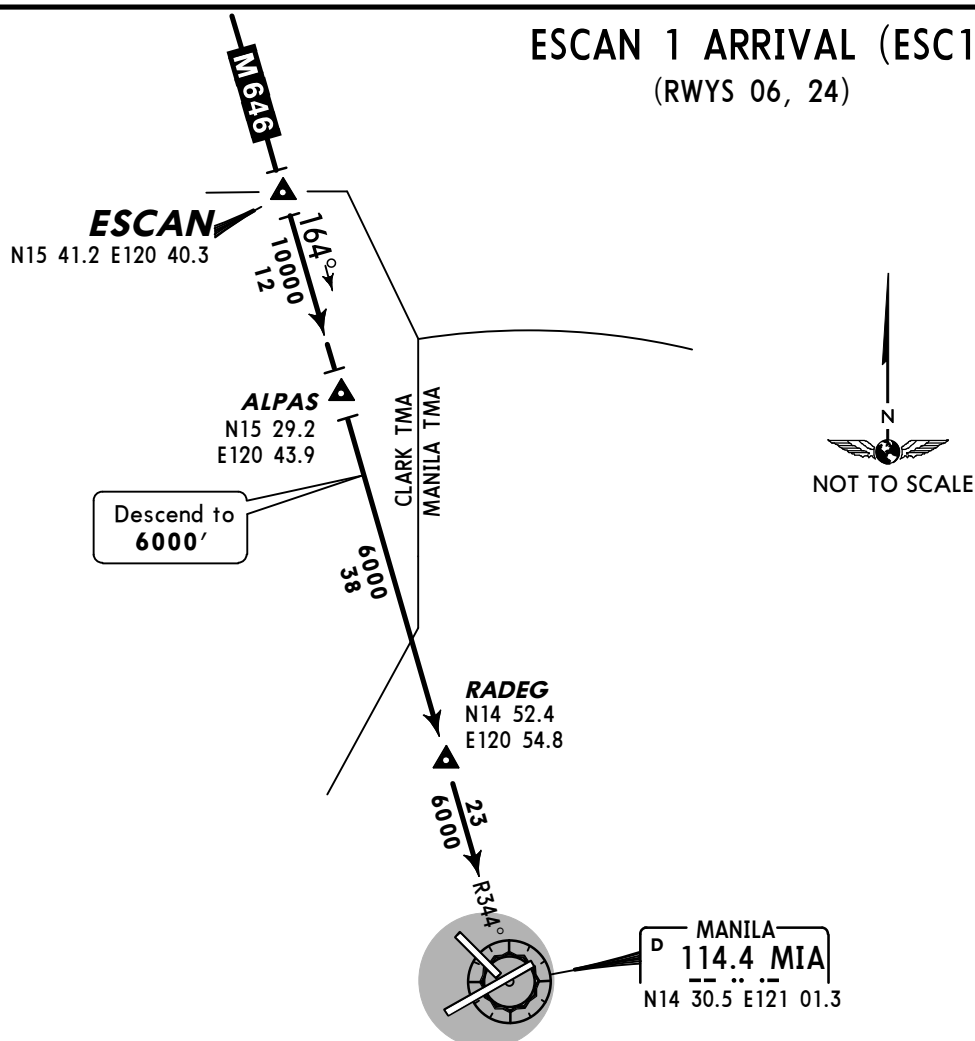
ALABAT 1 ARRIVAL (AL1) (RWYS 06, 24)



ROUTING

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

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



ROUTING

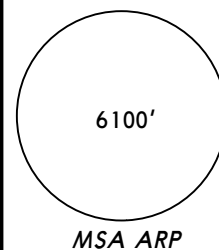
At ESCAN, track in on MIA R-344 to ALPAS. At ALPAS, descend to 6000' to MIA via RADEG.

ATIS
126.4

Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'
1. GNSS required. 2. RADAR required. 3. RNAV 1.
4. DME/DME not authorized.

ALABAT 3 (AL3), POLIO 2 [POLIO2] RNAV ARRIVALS (RWY 24)



POLIO
N15 00.5
E121 55.0

At 250 KT
Between
FL208 & FL144

LOURD
N14 45.8
E121 28.6

Between
10500' & 8000'

(IAF)
MUTAN
N14 42.4
E121 22.5

At or above
7000'

ETHAN
N14 37.7
E121 27.8

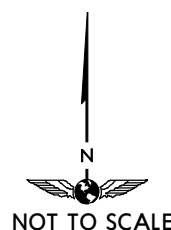
LIPER
N14 27.8
E121 39.0

Between
FL130 & 8700'

ALABAT
*247 AL
N14 13.2 E121 55.4



Direct distance from MUTAN to:
Ninoy Aquino Intl 24 NM

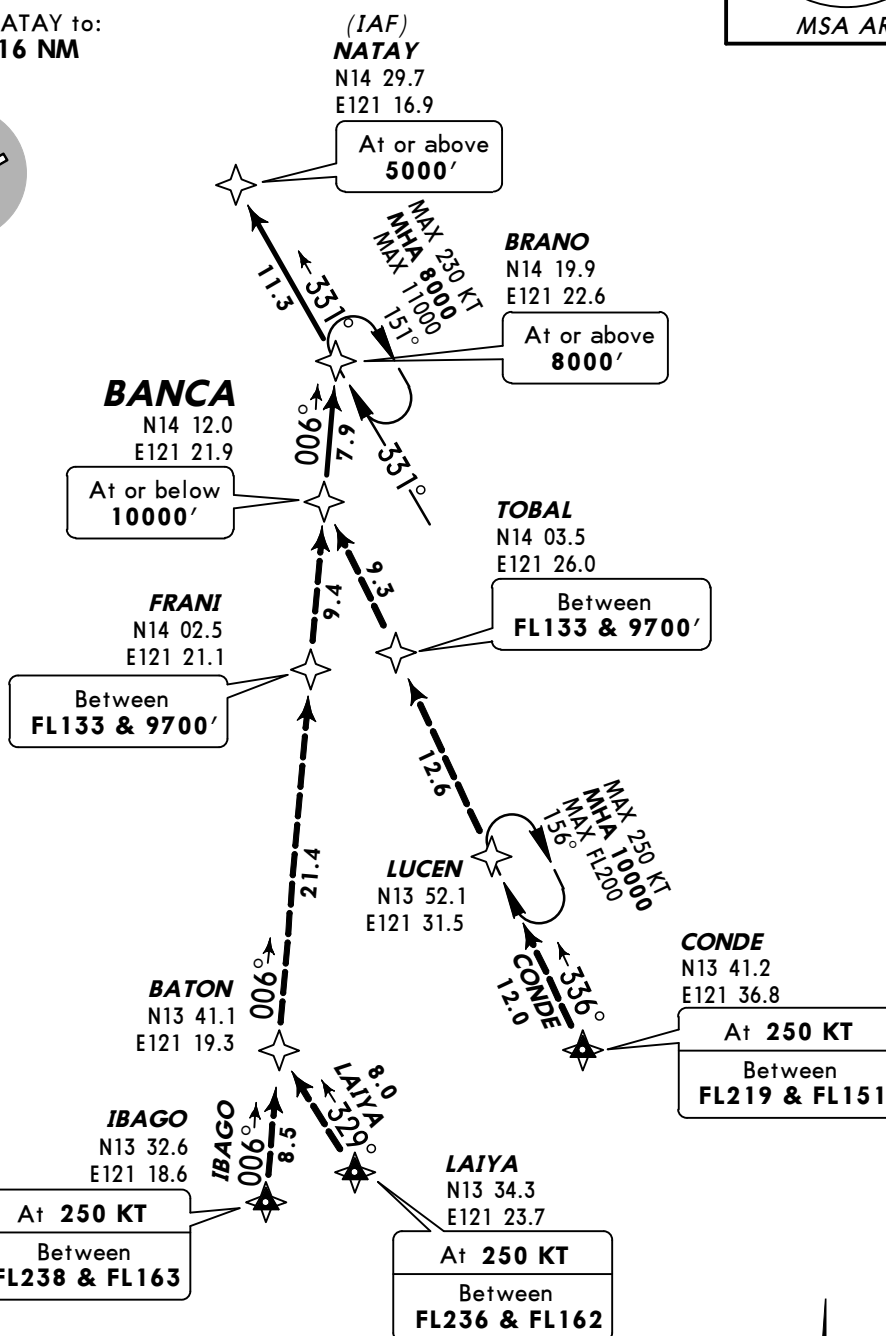


STAR	ROUTING
ALABAT 3	From AL to LIPER, to ETHAN, to MUTAN.
POLIO 2	From POLIO to LOURD, to MUTAN.

Alt Set: hPa Trans level: FL130 Trans alt: 11000'
1. GNSS required. 2. RADAR required. 3. RNAV 1.
 4. DME/DME not authorized.

6100'

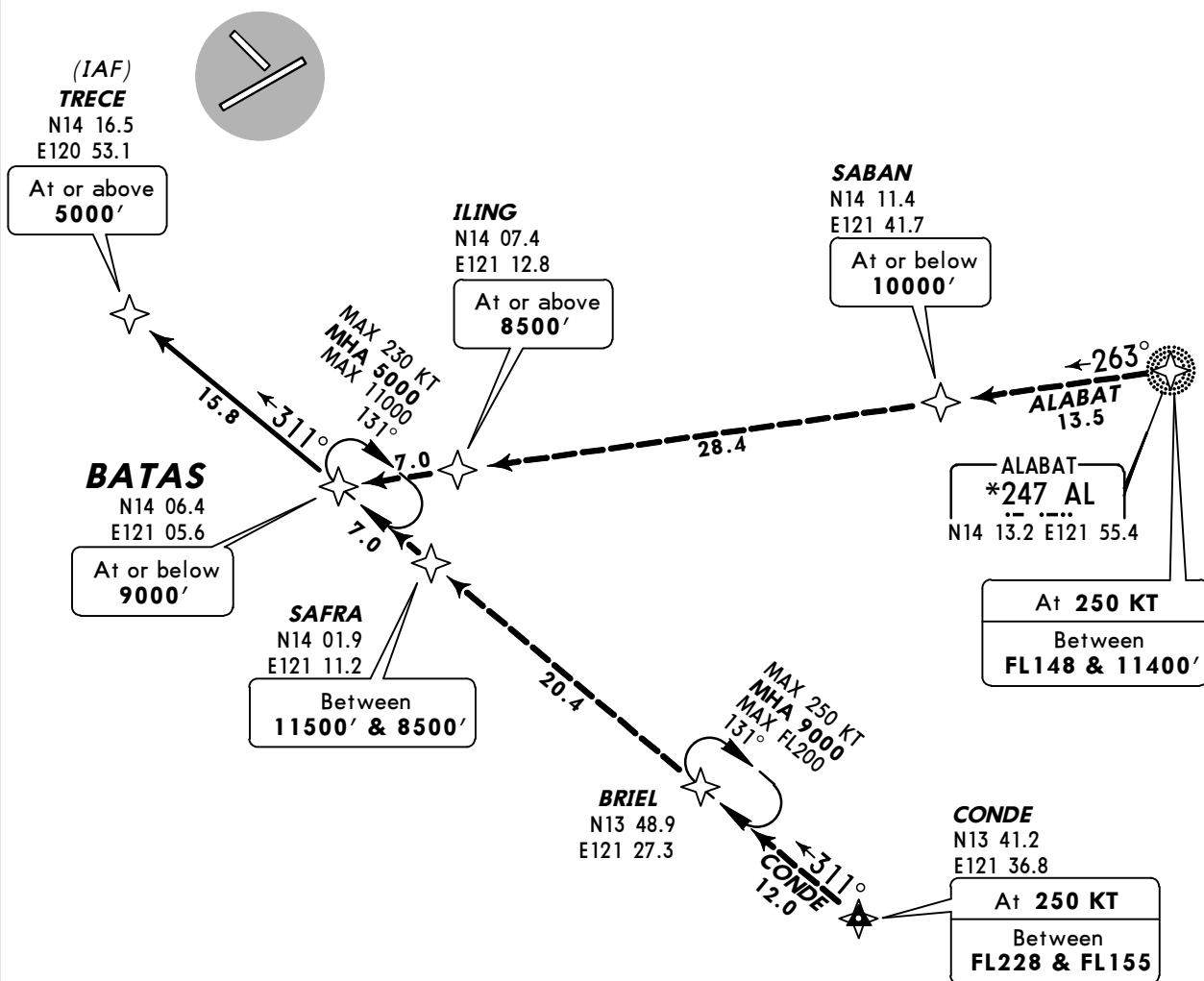
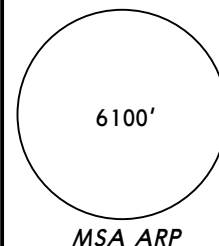
MSA ARP



NOT TO SCALE

LAIYA	From LAIYA to BATON, to FRANI, to BANCA.
--------------	--

From BANCA to BRANO, to NATAY.

ATIS
126.4Apt Elev
75'Alt Set: hPa Trans level: FL130 Trans alt: 11000'
1. GNSS required. 2. RADAR required. 3. RNAV 1.
4. DME/DME not authorized.**BATAS 1 RNAV ARRIVAL**
[BATAS1]
(RWY 06)Direct distance from TRECE to:
Ninoy Aquino Intl **16 NM****TRANSITIONS**

ALABAT	From AL to SABAN, to ILING, to BATAS.
CONDE	From CONDE to BRIEL, to SAFRA, to BATAS.

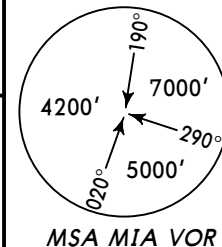
ROUTING

From BATAS to TRECE.

ATIS
126.4

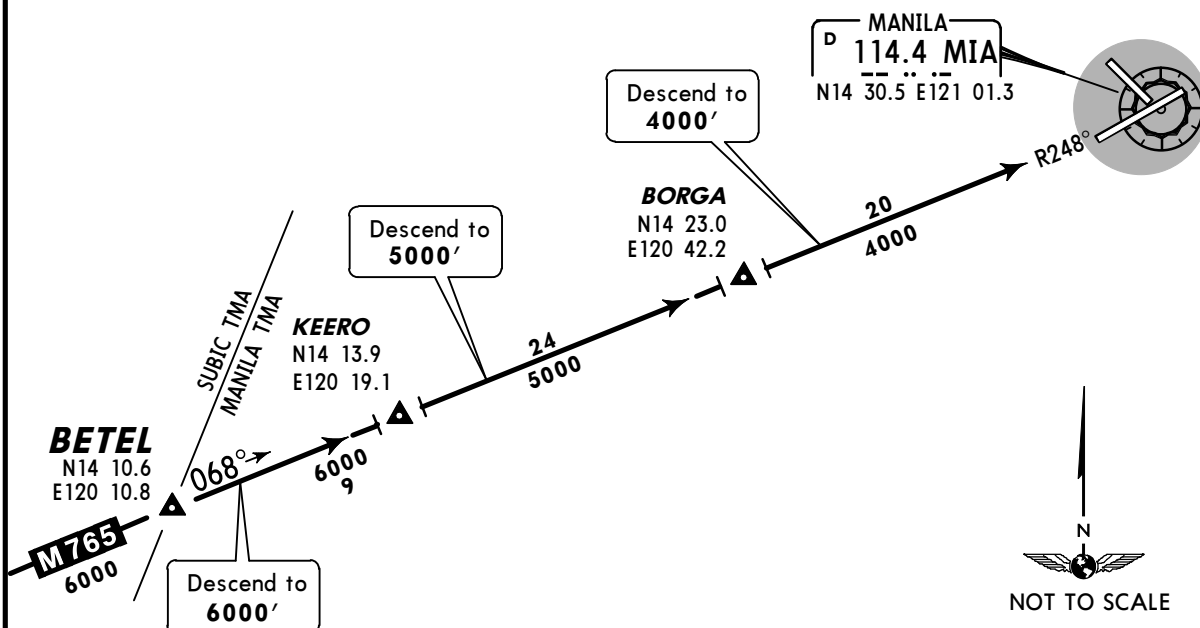
Apt Elev
75'

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



BETEL 1 ARRIVAL (BET1)

(RWYS 06, 24)

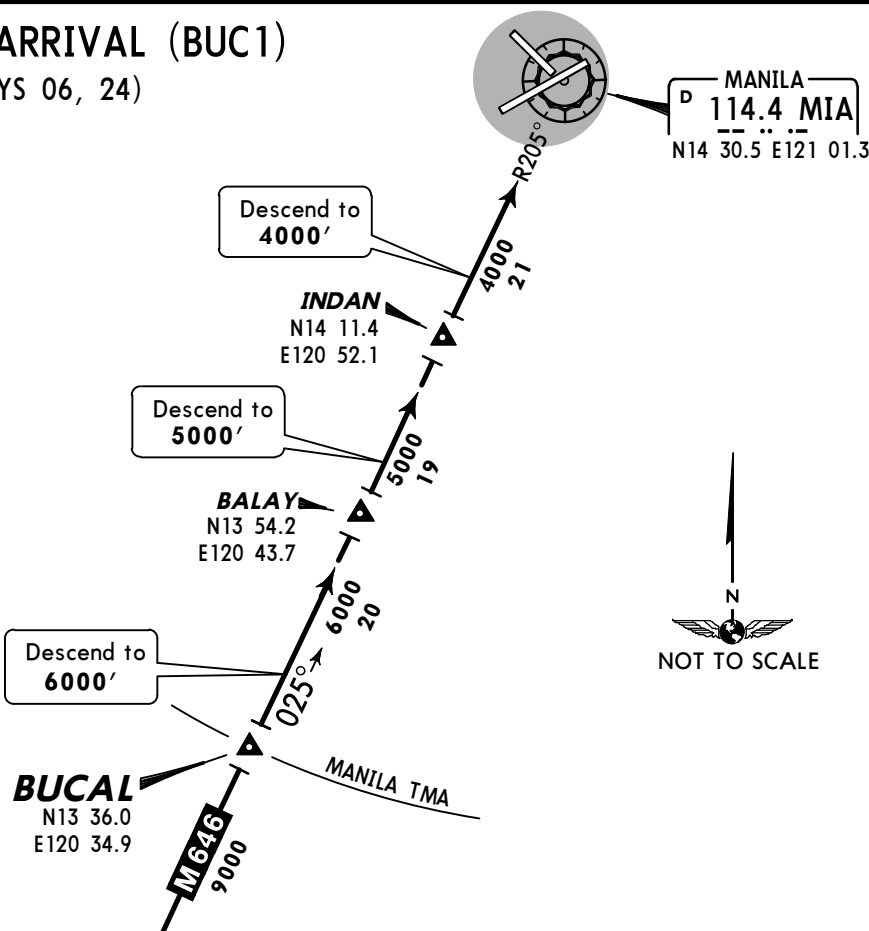


ROUTING

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

BUCAL 1 ARRIVAL (BUC1)

(RWYS 06, 24)



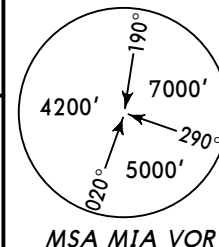
ROUTING

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

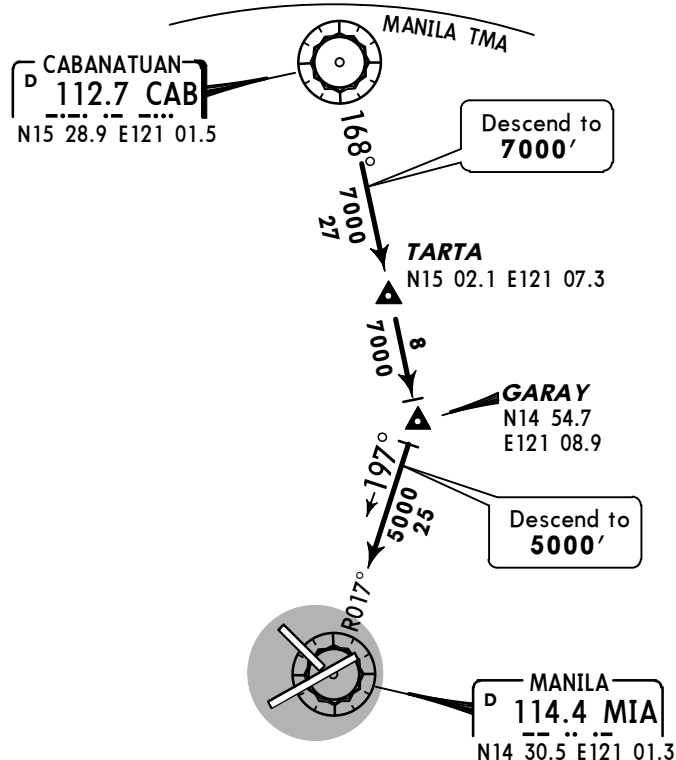
ATIS
126.4

Apt Elev
75'

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



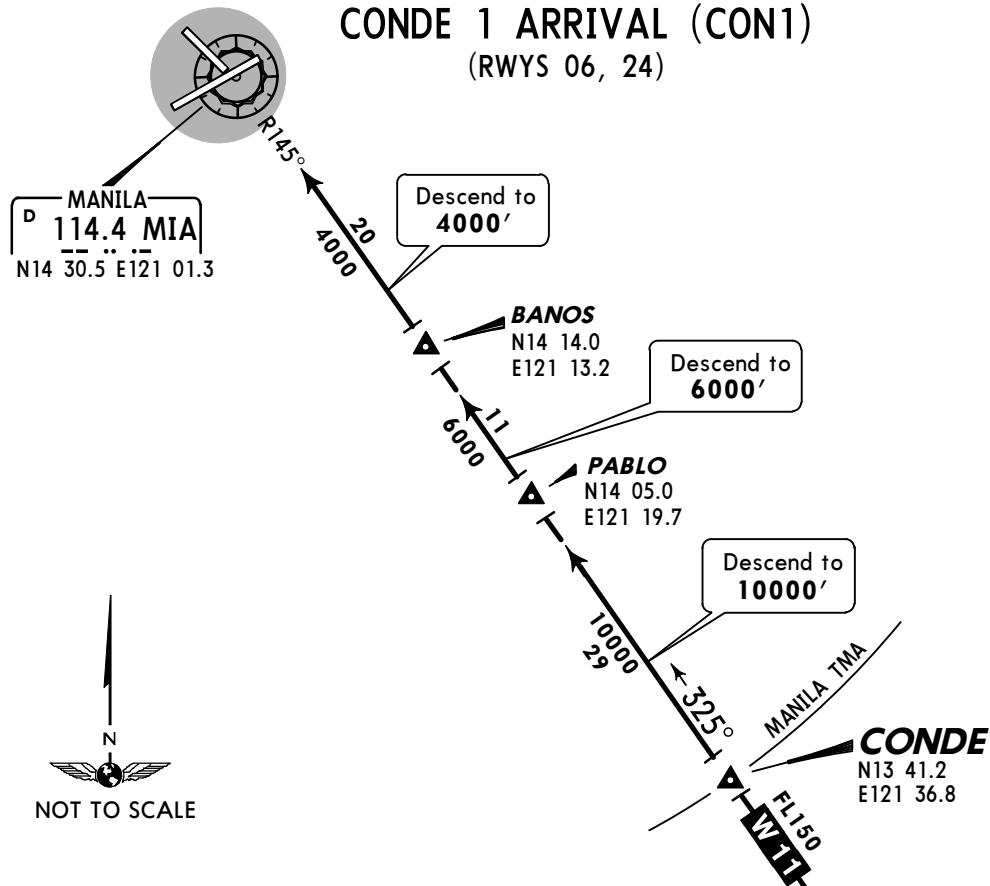
CABANATUAN 1 ARRIVAL (CAB1) (RWYS 06, 24)



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'.

ATIS
126.4

Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'
1. GNSS required. 2. RADAR required. 3. RNAV 1.
4. DME/DME not authorized.

CIA 1 [CIA1], LBG 3 [LBG3] RNAV ARRIVALS

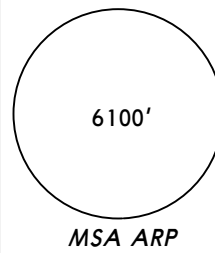
(RWY 24)

CLARK
D 113.1 CIA
N15 11.2 E120 33.6

At 250 KT
Between
FL187 & FL130

SIDRO
N15 01.4
E120 47.0

Between
FL130 & 9400'



(IAF)
BUZAL
N14 46.5
E121 07.1

At or above
7000'

ALIZA
N14 41.5
E120 58.1

At or above
10000'

LUCAN
N14 25.3
E120 41.4

At or above
FL156

Direct distance from BUZAL to:
Ninoy Aquino Intl 17 NM

HYDRA
N13 59.8
E120 15.1

LBG 3
046°
12.0
226°
MAX 250 KT
MHA FL160
MAX FL200

LUBANG
D *117.5 LBG
N13 51.2 E120 06.4

At 250 KT
At or above
FL273



STAR

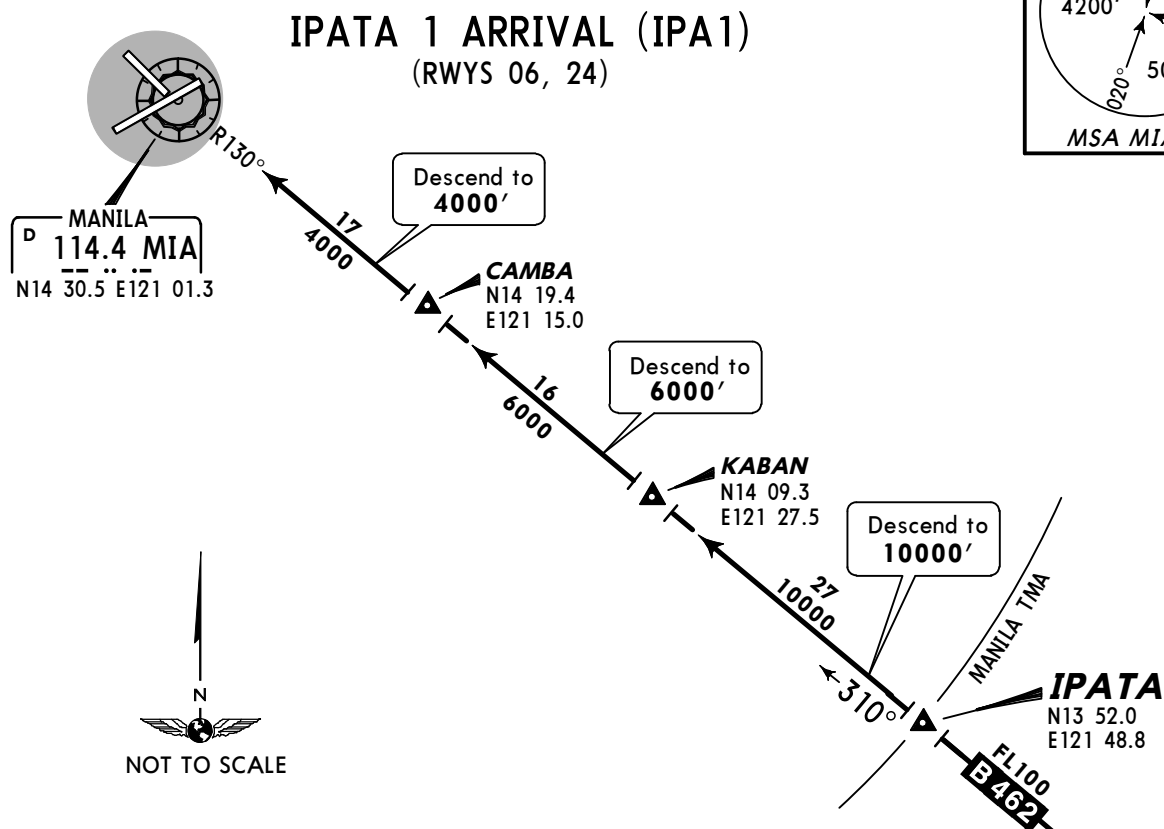
ROUTING

CIA 1

From CIA to SIDRO, to BUZAL.

LBG 3

From LBG to LUCAN, to ALIZA, to BUZAL.



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

MANILA
D 114.4 MIA
N14 30.5 E121 01.3

Descend to 5000'

TANAY
N14 33.4 E121 20.7

58
7000

261°

Descend to 7000'

JOMALIG
D *116.7 JOM
N14 42.3 E122 19.8

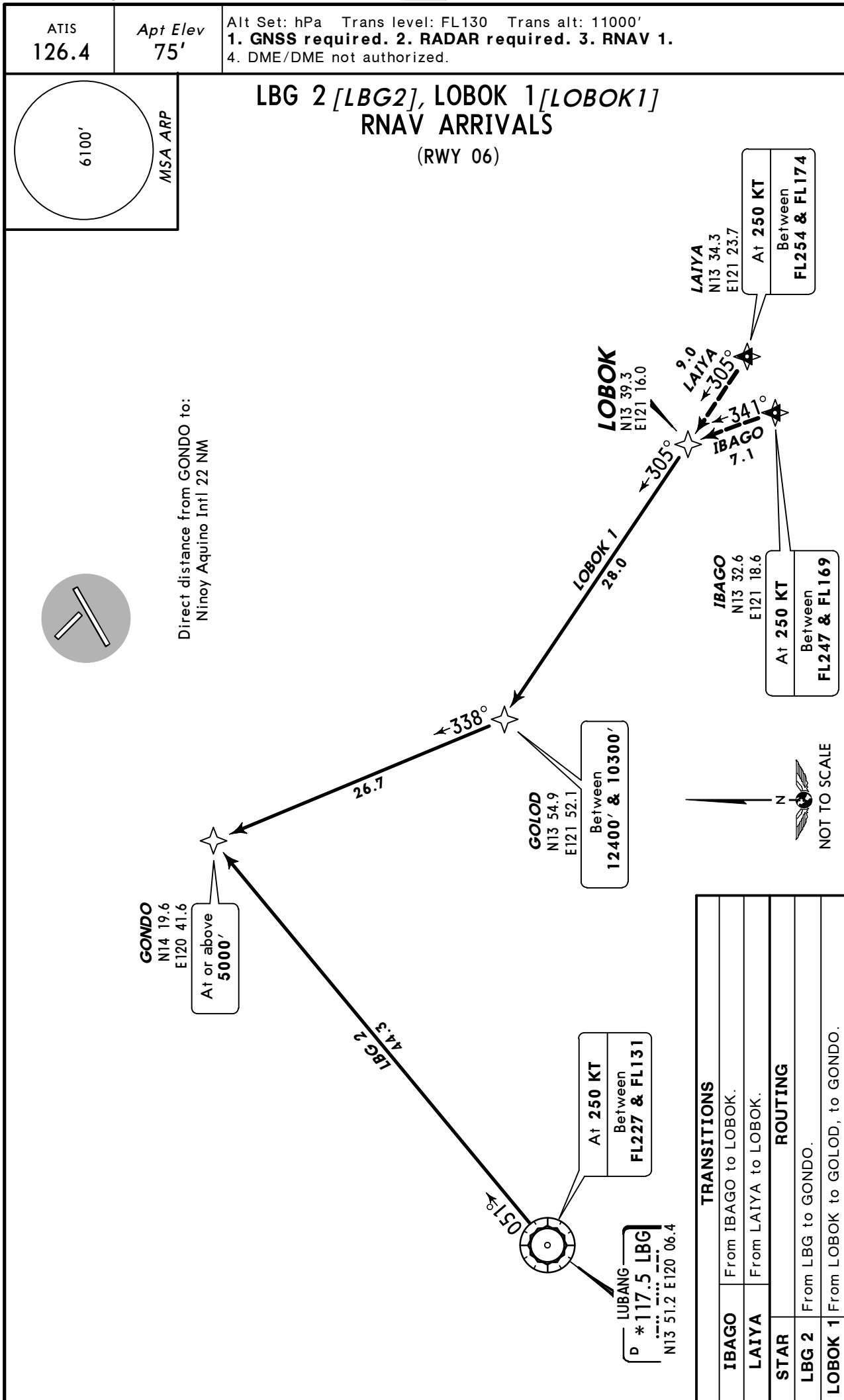
R081°

19
5000

N

NOT TO SCALE

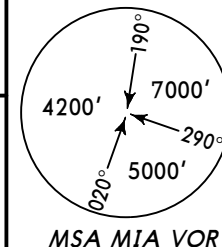
At JOM, track in on MIA R-081 and descend to 7000'. At TANAY, descend to 5000'.



ATIS
126.4

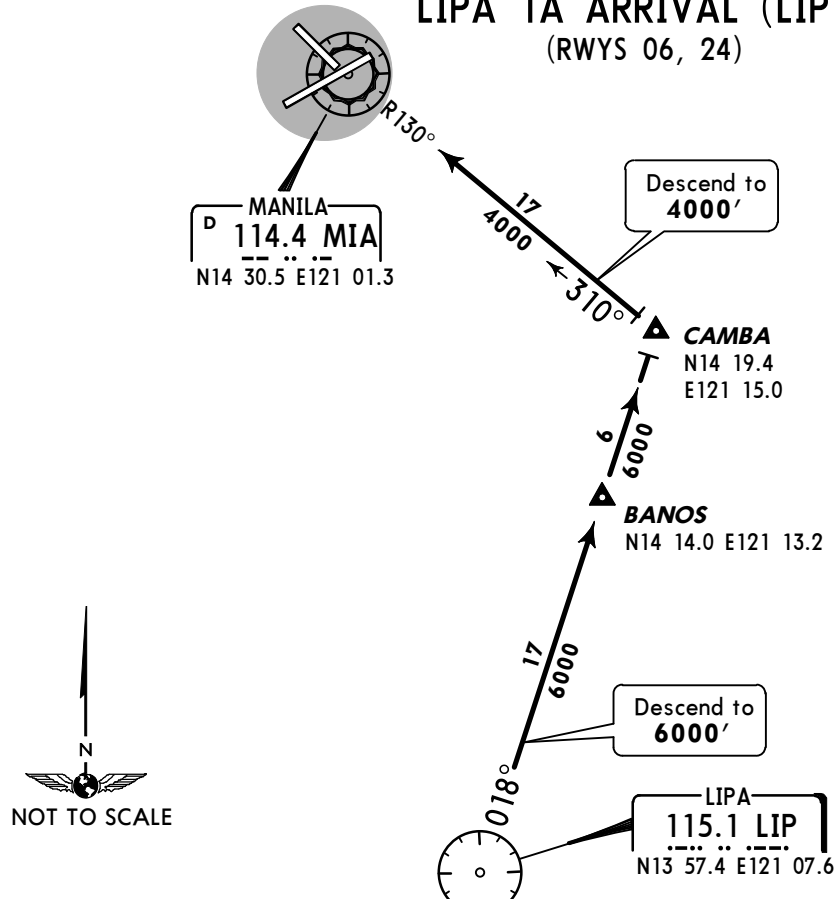
Apt Elev
75'

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



LIPA 1A ARRIVAL (LIP1A)

(RWYS 06, 24)

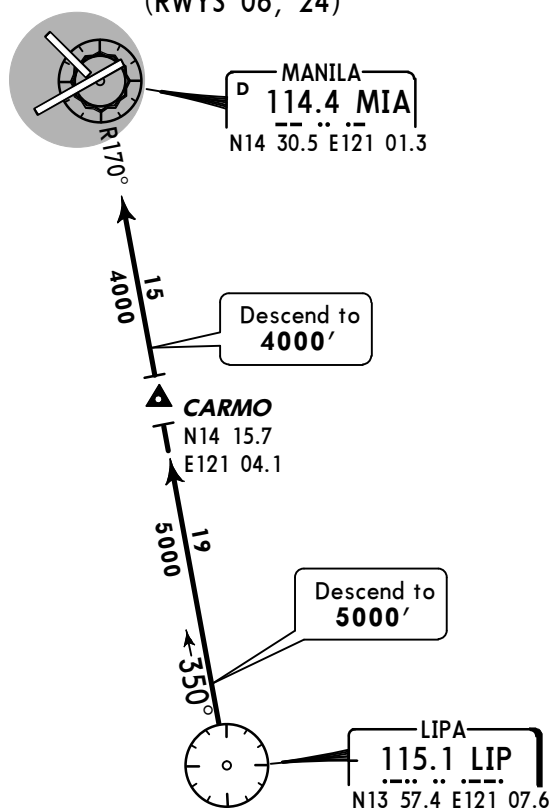


ROUTING

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)

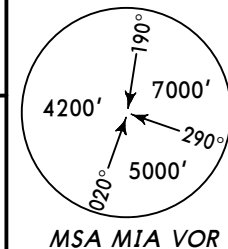
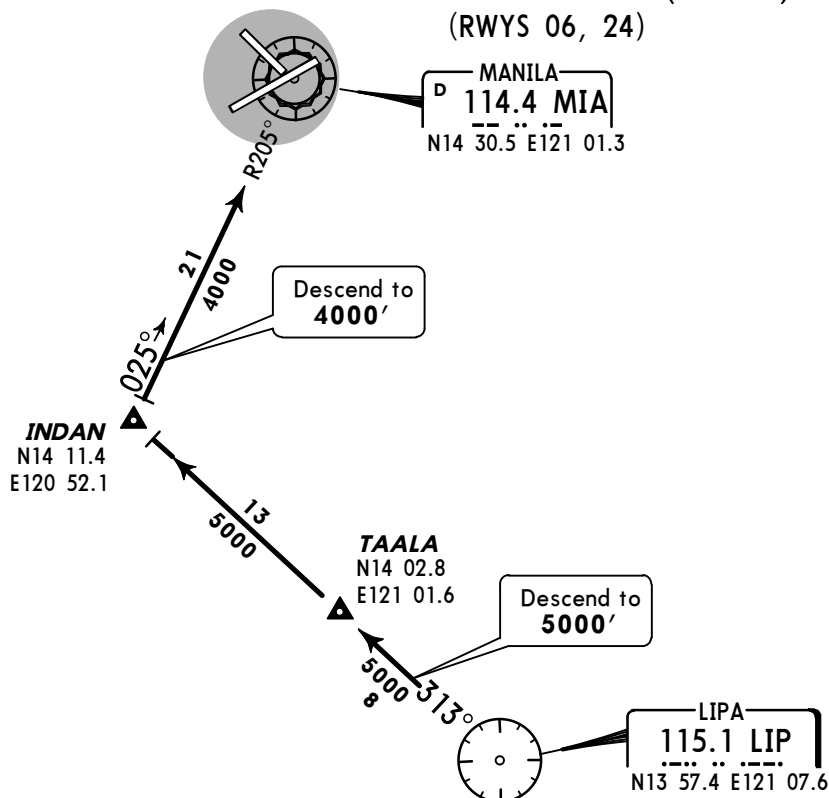


ROUTING

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

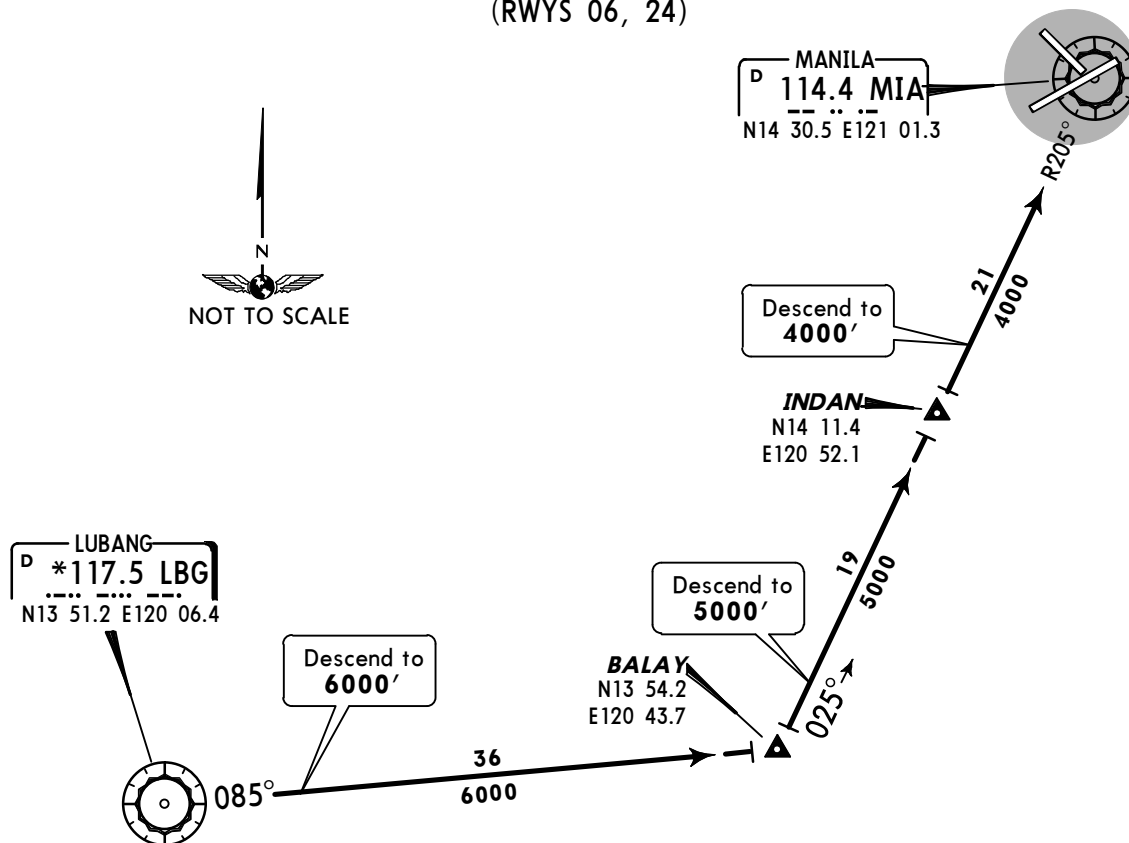
ATIS
126.4Apt Elev
75'

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

LIPA 1C ARRIVAL (LIP1C)
(RWYS 06, 24)

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'.

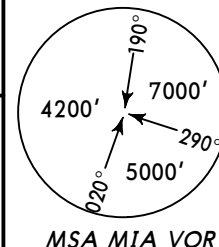
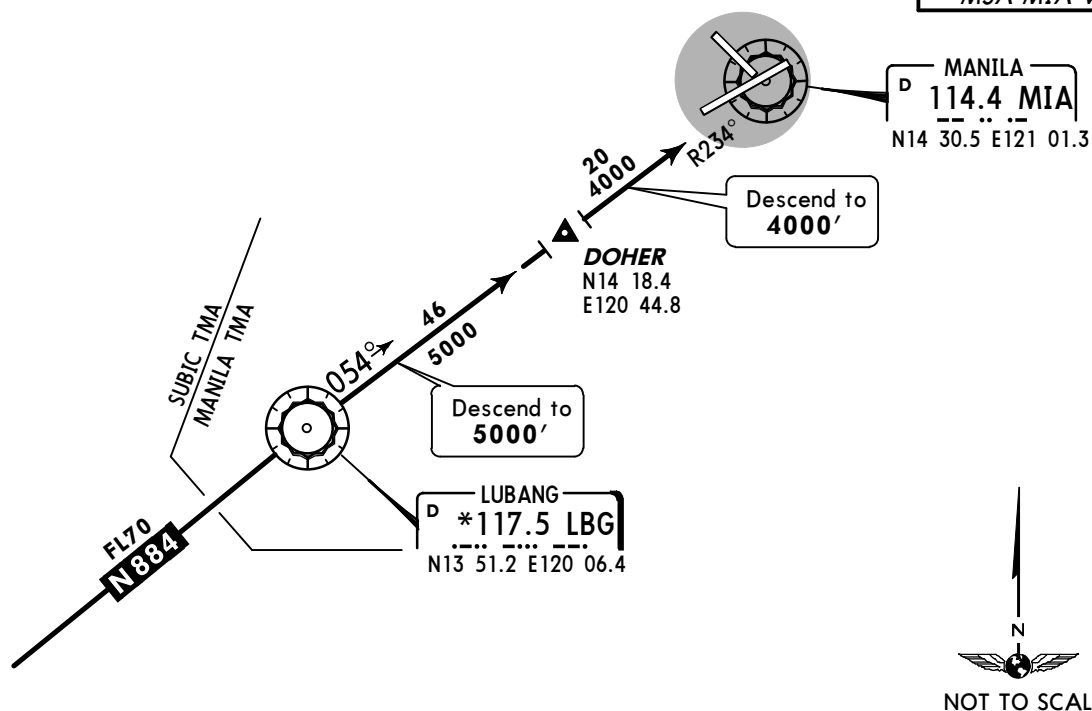
LUBANG 1A ARRIVAL (LBG1A)
(RWYS 06, 24)

ROUTING

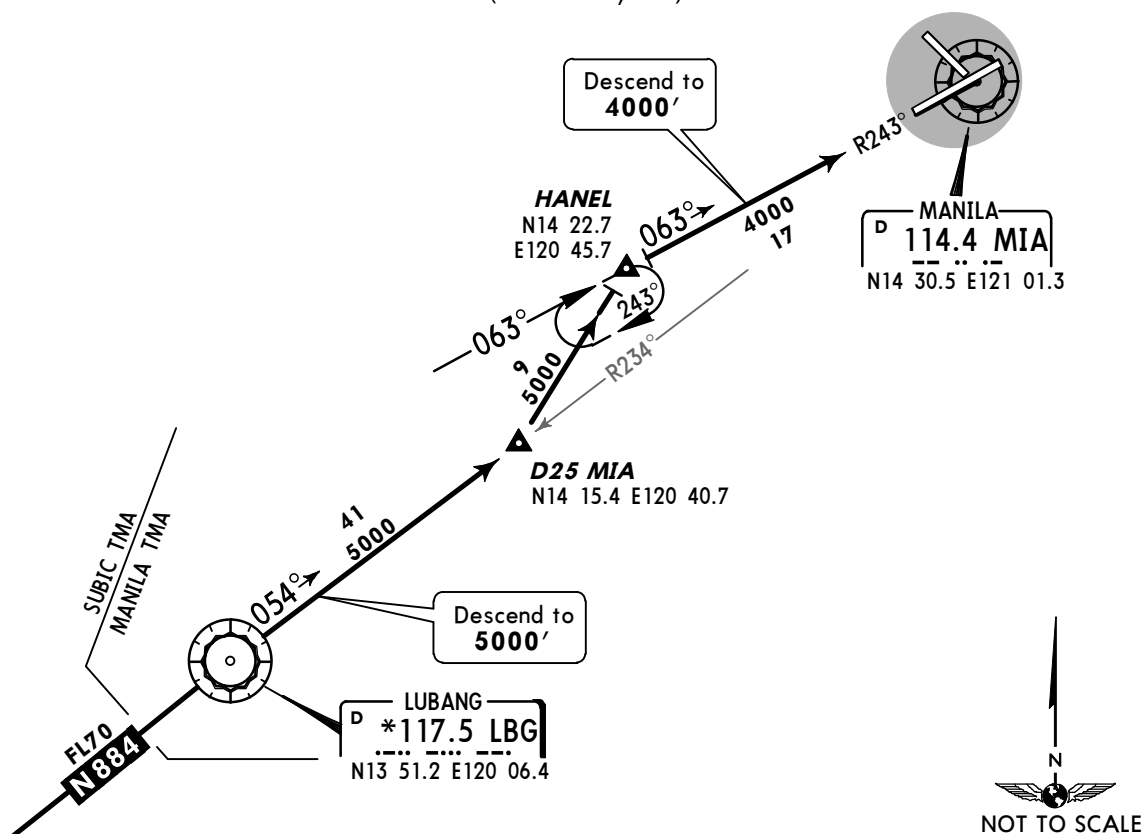
At LBG, track out on LBG R-085 and descend to 6000' to BALAY. At BALAY, track in on MIA R-205 and descend to 5000'. At INDAN, descend to 4000'.

ATIS
126.4Apt 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'.

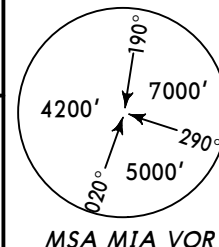
LUBANG 1C ARRIVAL (LBG1C)
(RWYS 06, 24)**ROUTING**

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'.

ATIS
126.4

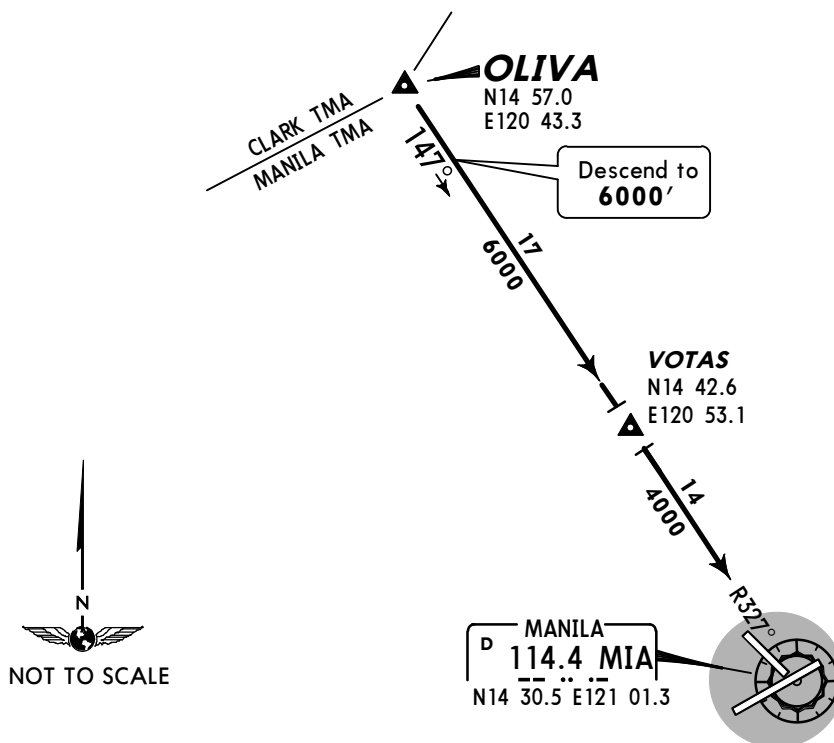
Apt Elev
75'

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



OLIVA 1A ARRIVAL (OLI1A)

(RWYS 06, 24)

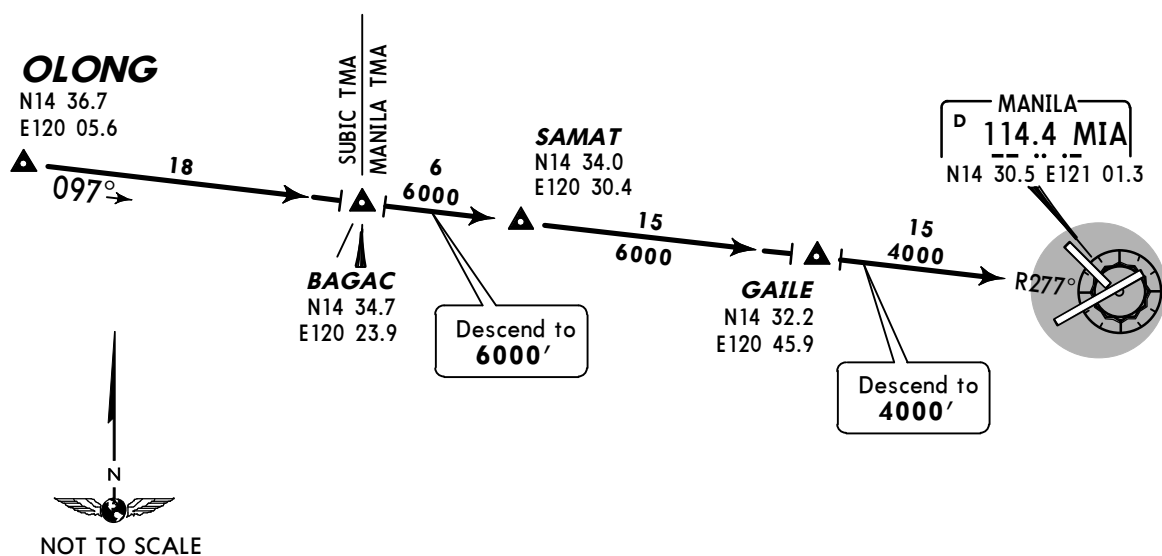


ROUTING

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

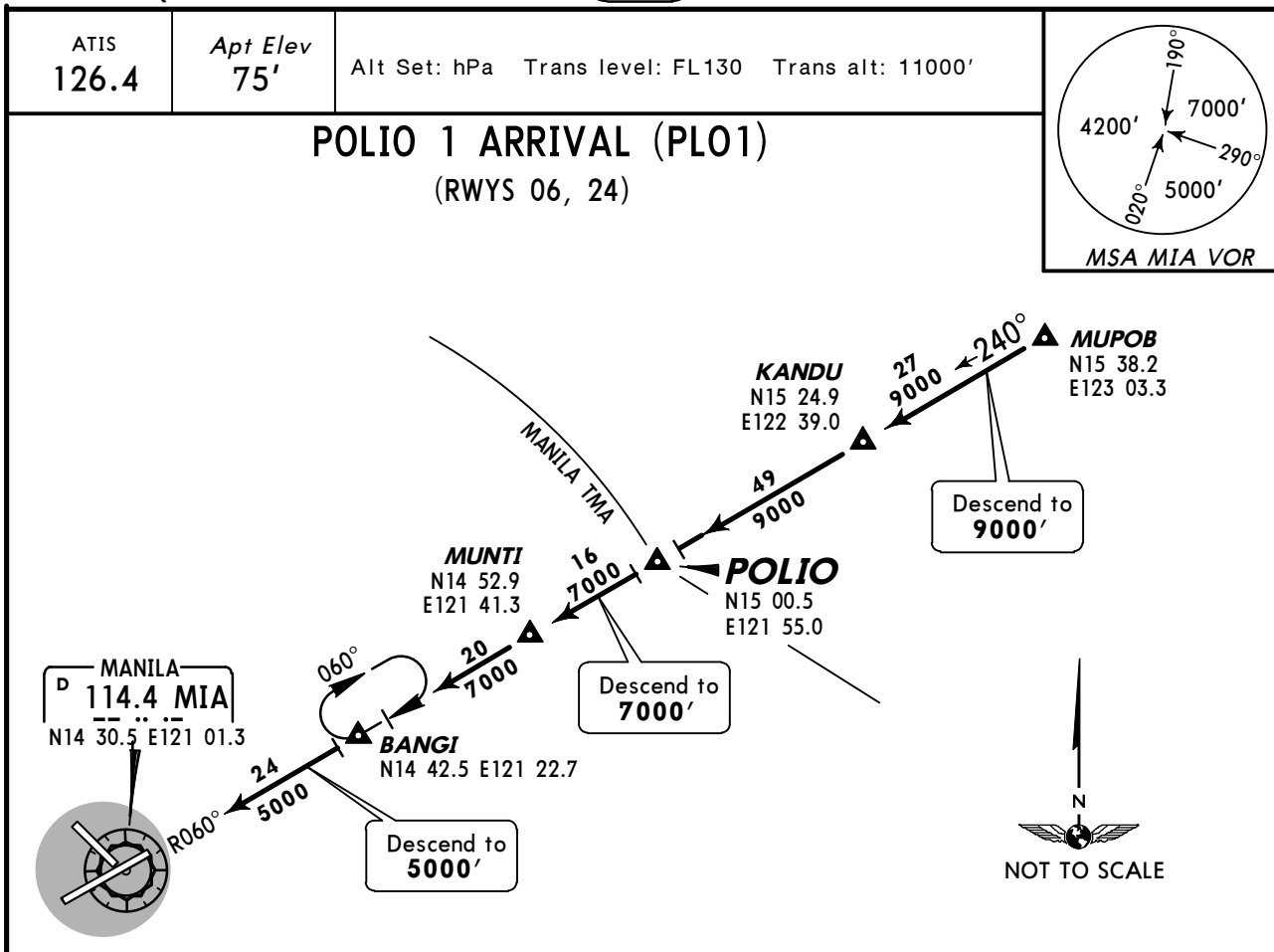
OLONG 1 ARRIVAL (OLO1)

(RWYS 06, 24)



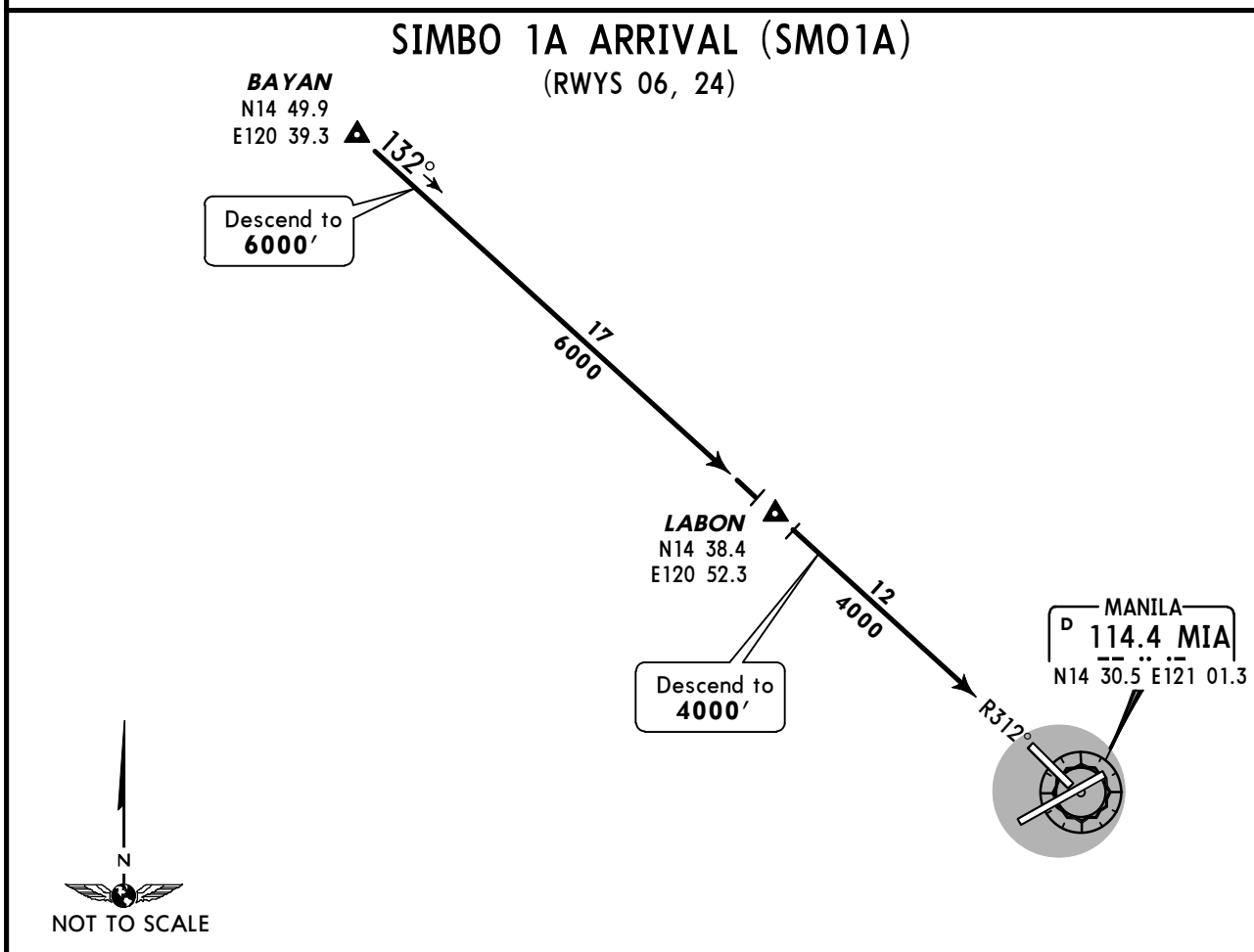
ROUTING

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



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'.



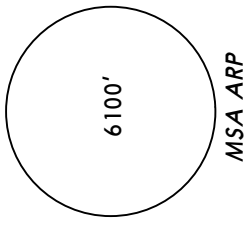
ROUTING

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

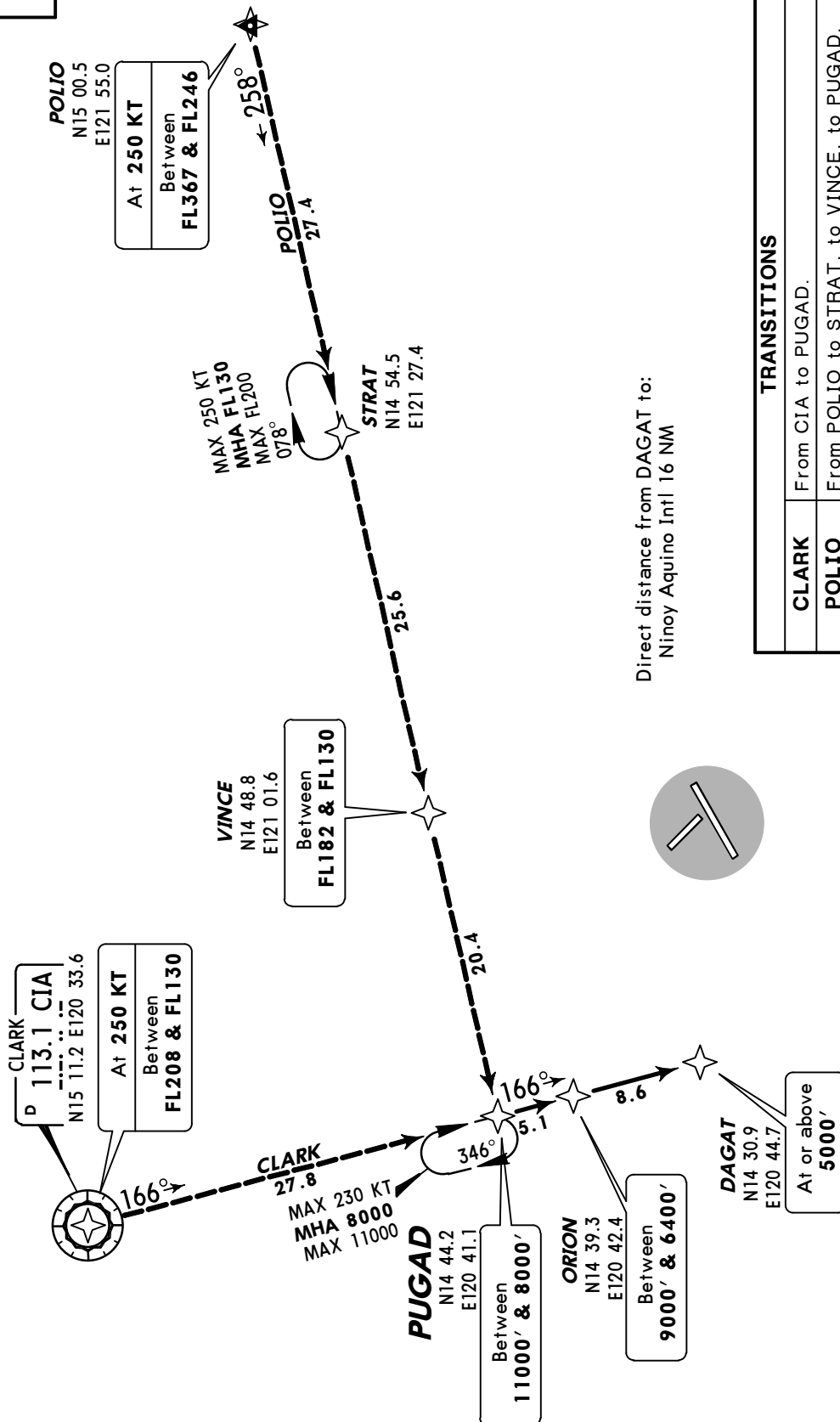
ATIS
126.4

Apt Elev
75'

Alt Set: hPa Trans level: FL130 Trans alt: 11000'
1. GNSS required. 2. RADAR required. 3. RNAV 1.
4. DME/DME not authorized.



PUGAD 1 RNAV ARRIVAL [PUGAD1] (RWY 06)

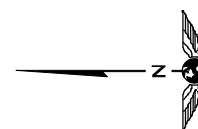


TRANSITIONS

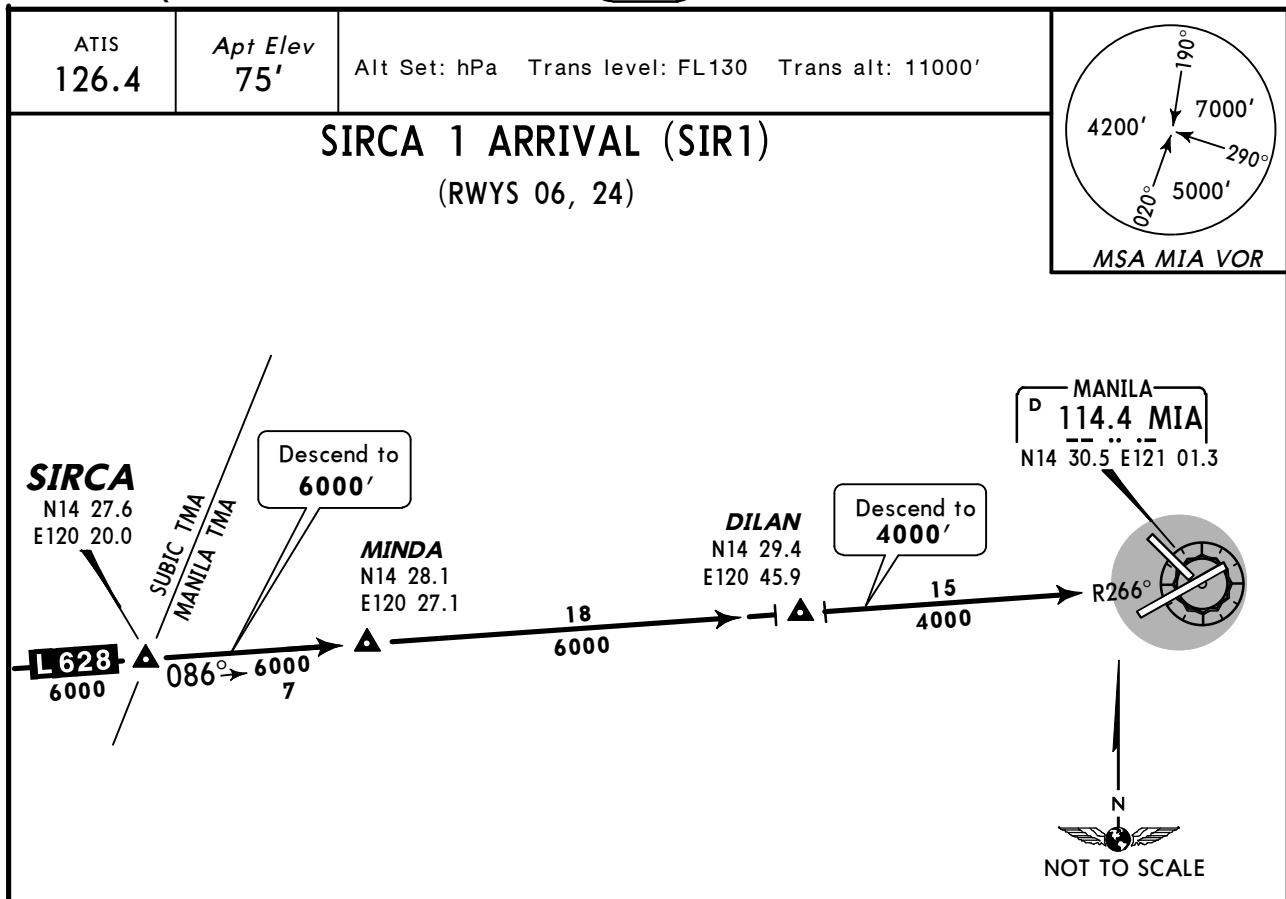
CLARK	From CIA to PUGAD.
POLIO	From POLIO to STRAT, to VINCE, to PUGAD.

ROUTING

From PUGAD to ORION, to DAGAT.

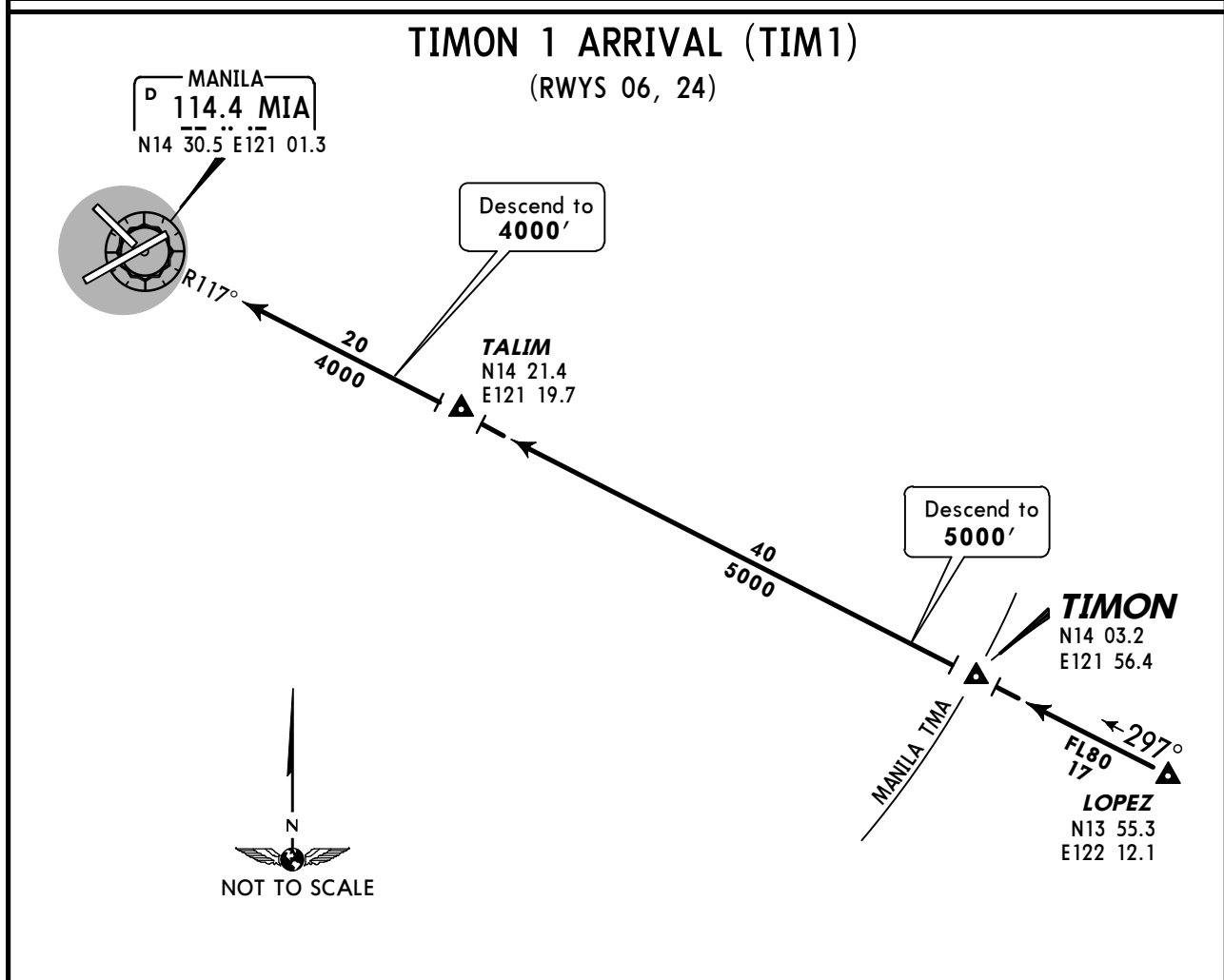


NOT TO SCALE



ROUTING

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



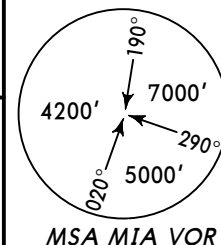
ROUTING

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

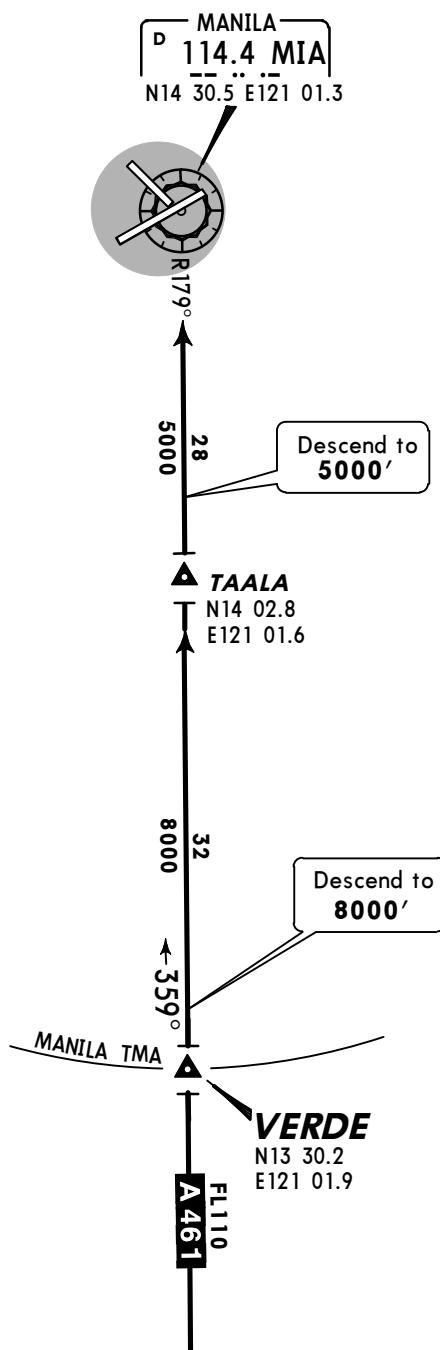
ATIS
126.4

Apt Elev
75'

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



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



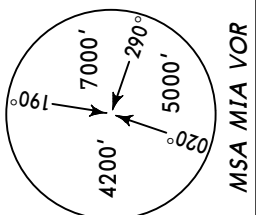
ROUTING

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

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

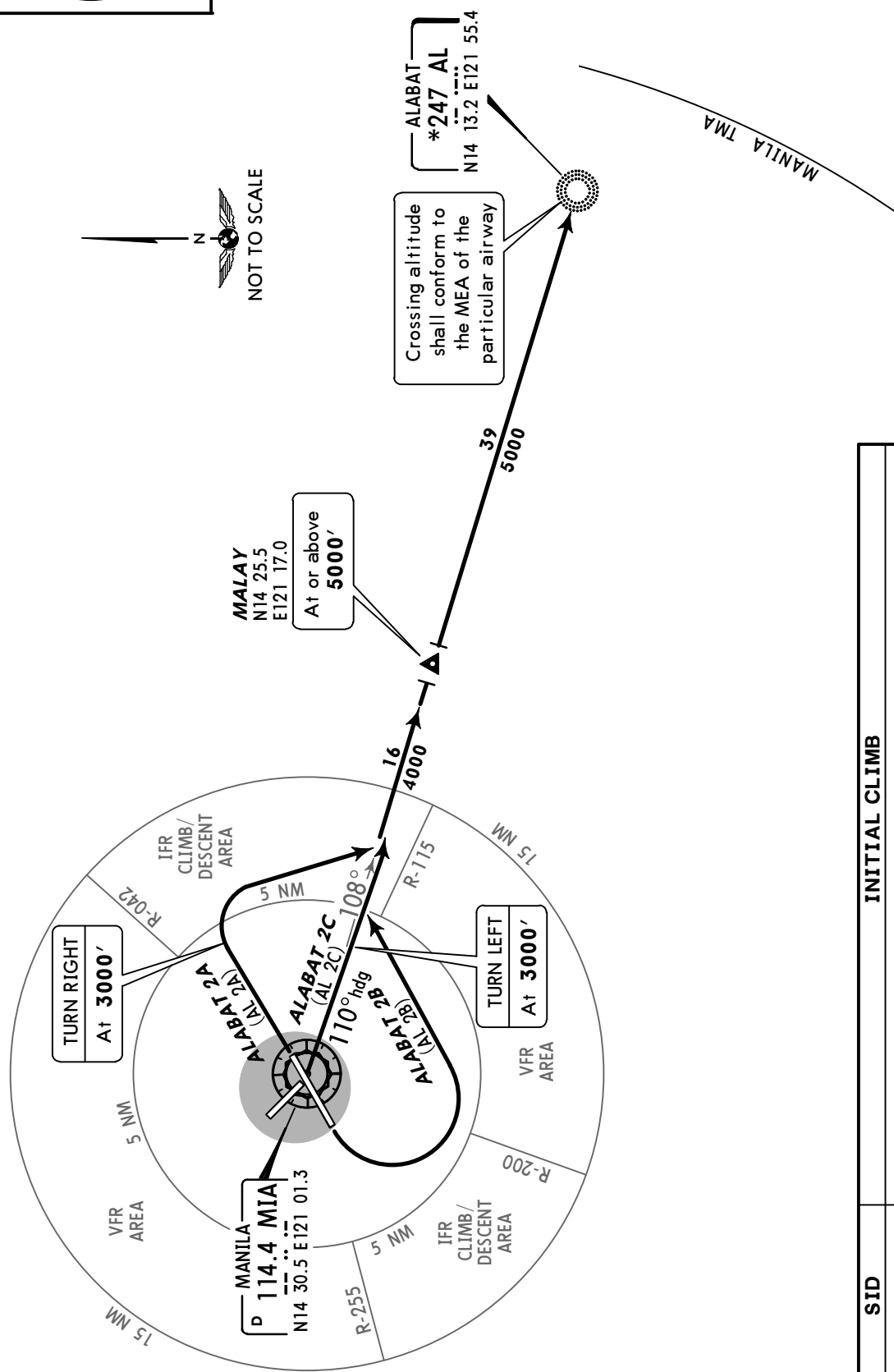
1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from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



MSA MIA VOR

ALABAT 2A (AL 2A), ALABAT 2B (AL 2B), ALABAT 2C (AL 2C) DEPARTURES

(RWYS 06, 13, 24)

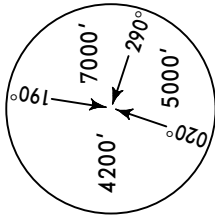


SID	INITIAL CLIMB
ALABAT 2A	Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.
ALABAT 2B	Rwy 24: LEFT turn within 5 NM.
ALABAT 2C	Rwy 13: Turn LEFT heading 110° to 3000', then LEFT climbing turn.
ROUTING	
Intercept and track-out on MIA R-108 to MALAY. Continue climb to AL.	

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

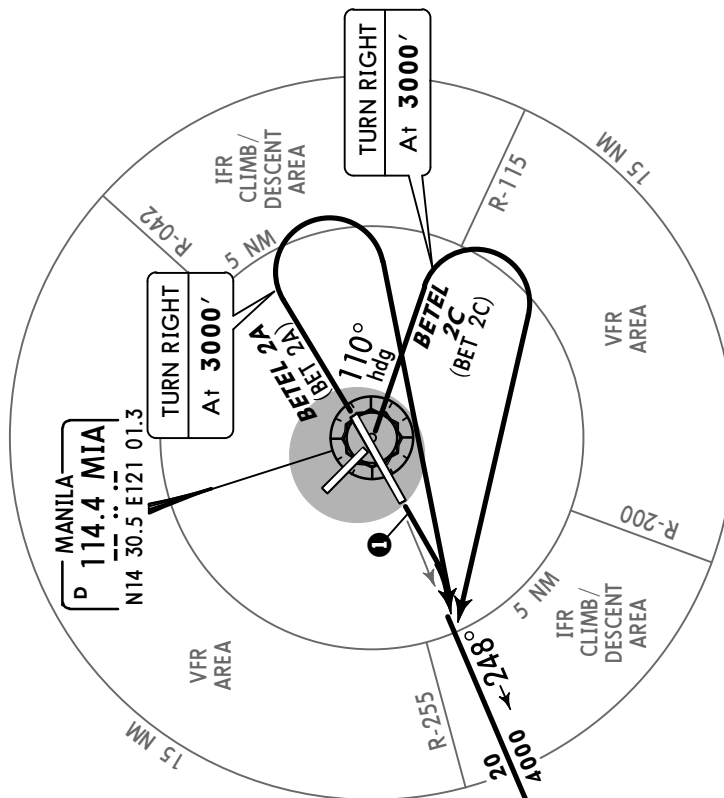
1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from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



MSA MIA VOR

BETEL 2A (BET 2A), BETEL 2B (BET 2B), BETEL 2C (BET 2C) DEPARTURES

(RWYS 06, 13, 24)



BETEL 2B
(BET 2B)

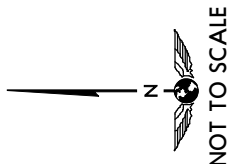
BORGA
N14 23.0
E120 42.2

At or above
5000'

KEERO
N14 13.9
E120 19.1

At or above
6000'

BETEL
N14 10.6
E120 10.8



INITIAL CLIMB

SID

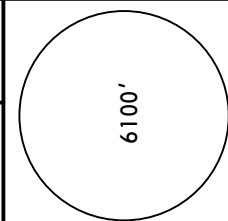
BETEL 2A	Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.
BETEL 2B	Rwy 24: RIGHT turn within 5 NM.
BETEL 2C	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.

ROUTING

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

Apt Elev
75'

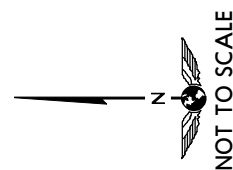
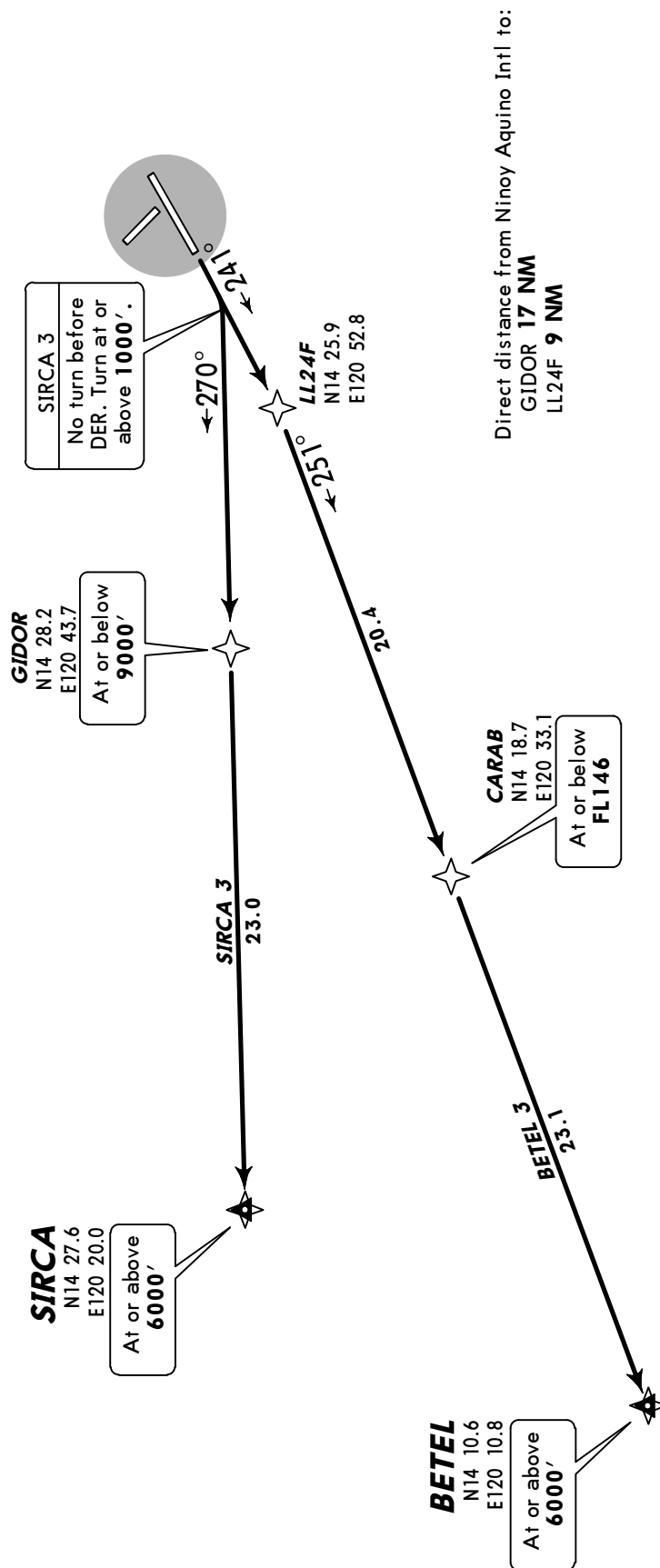
Trans level: FL130 Trans alt: 11000'
1. GNSS required. 2. RADAR required. 3. RNAV 1.
4. DME/DME not authorized.



MSA ARP

BETEL 3 [BETEL3], SIRCA 3 [SIRCA3] RNAV DEPARTURES (RWY 24)

SID	INITIAL CLIMB
BETEL 3	Climb on track 241° to LL24F, then to CARAB and BETEL.
SIRCA 3	Climb on track 241° to at or above 1000', turn RIGHT direct to GIDOR, then to SIRCA.

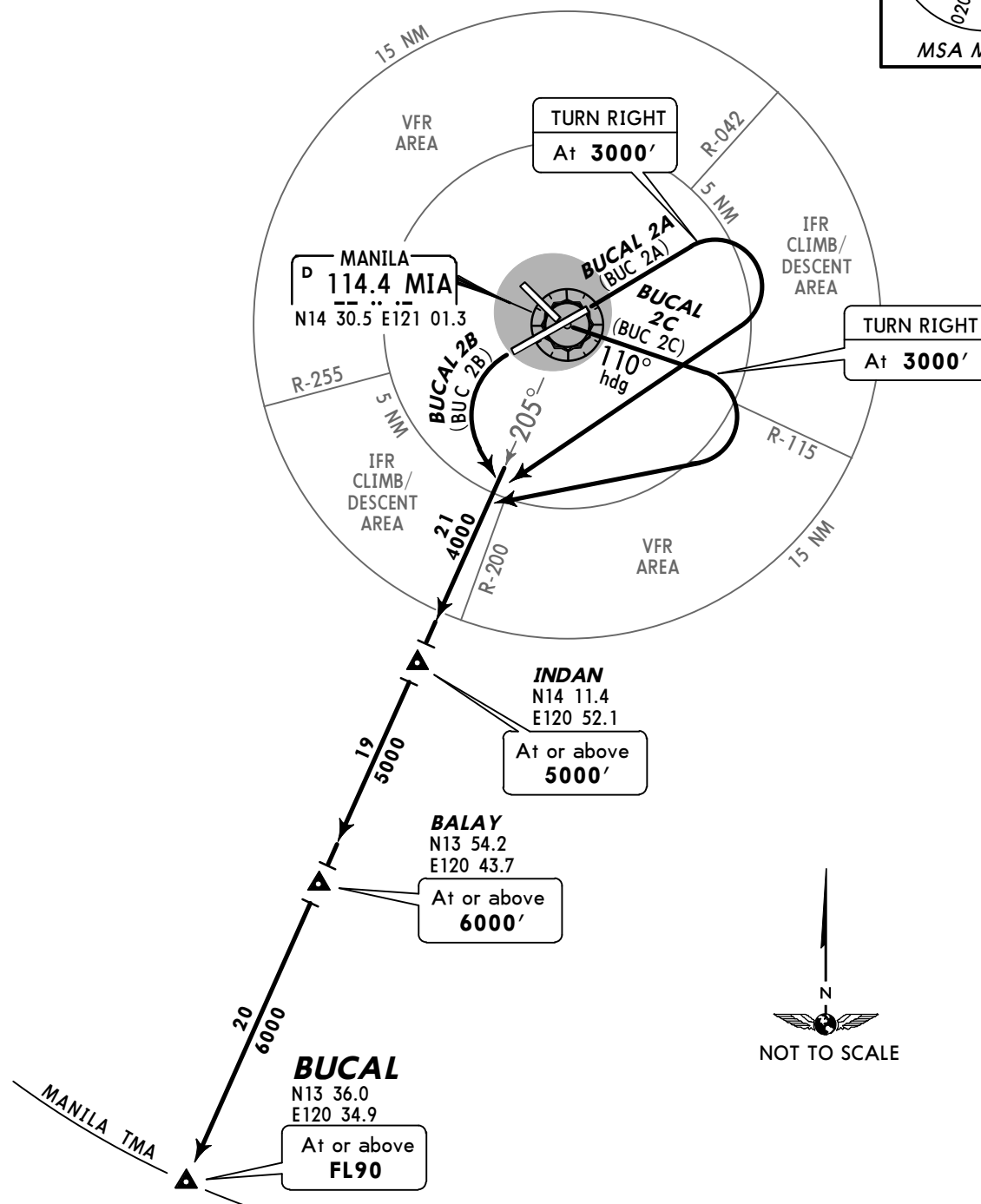
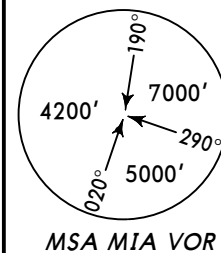


LOST COMMS
Squawk Mode A code 7600 and follow established procedures.

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****INITIAL CLIMB**

BUCAL 2A	Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.
BUCAL 2B	Rwy 24: LEFT turn within 5 NM.
BUCAL 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 BUCAL via BALAY.

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

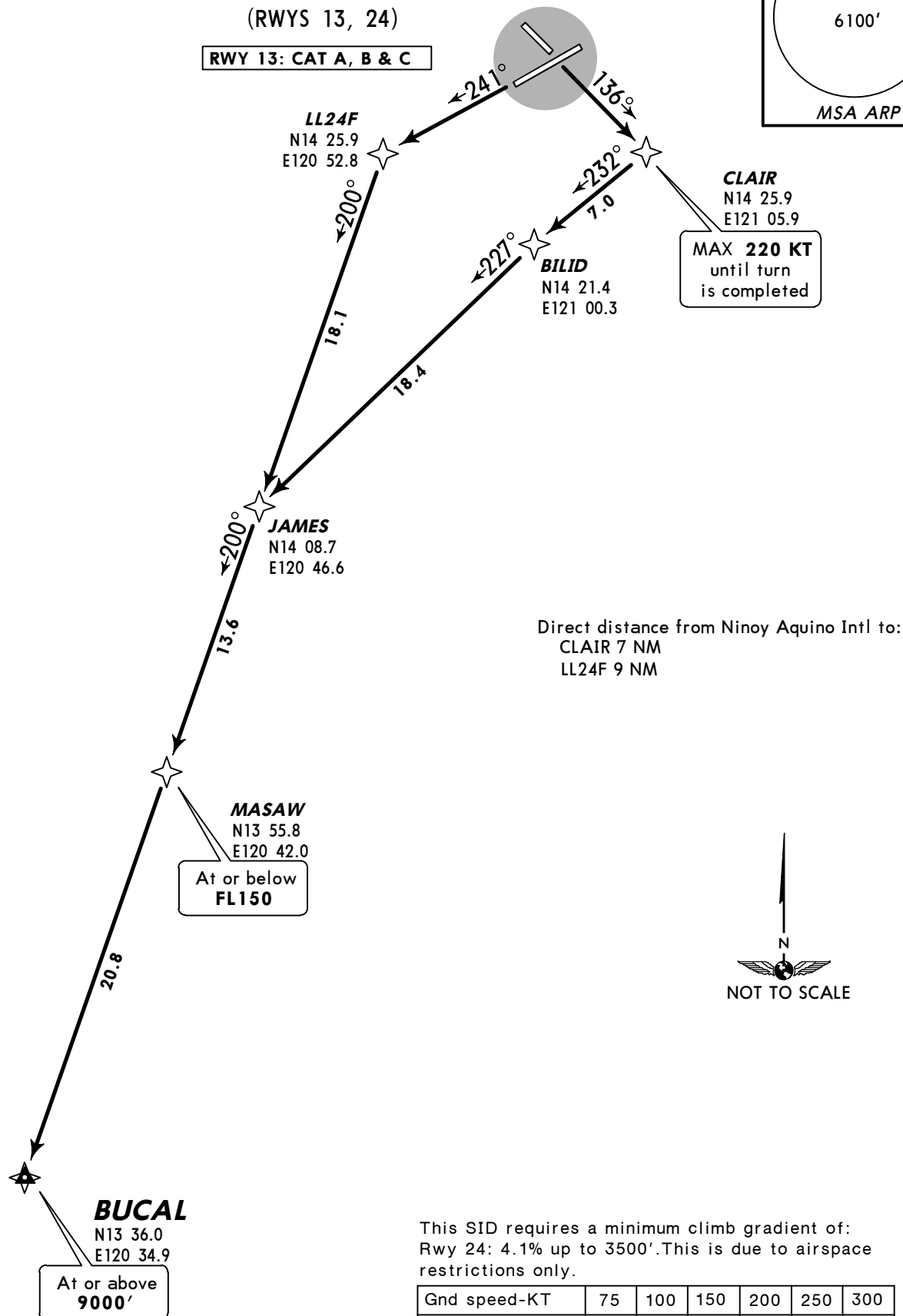
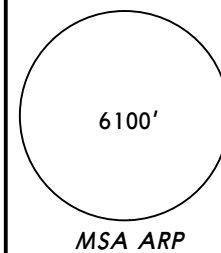
1. GNSS required. 2. RADAR required. 3. RNAV 1.
4. DME/DME not authorized. 5. RWY 13 transition is authorized only when
RWYS 13/24 are in use.

BUCAL 3 RNAV DEPARTURE

[BUCAL3]

(RWYS 13, 24)

RWY 13: CAT A, B & C



This SID requires a minimum climb gradient of:
Rwy 24: 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

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

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Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. GNSS required. 2. RADAR required. 3. RNAV 1.

4. DME/DME not authorized. 5. This procedure is authorized only when RYWS 13/24 are in use.

CAWIT 2 RNAV DEPARTURE

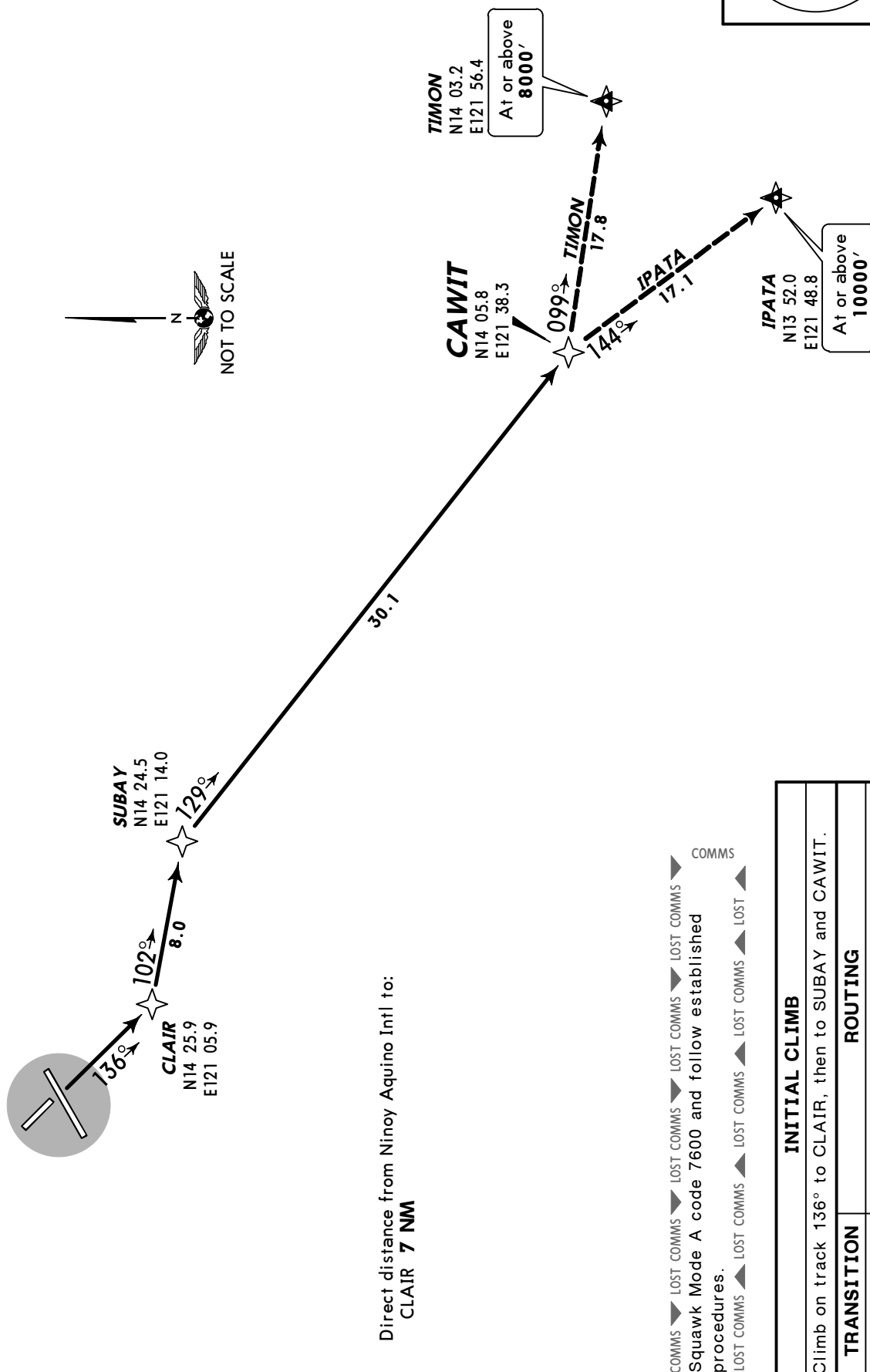
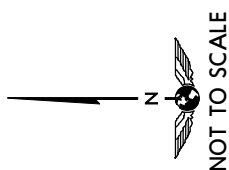
[CAWIT2]

(RWY 13)

CAT A, B & C

6100'

MSA ARP



Direct distance from Ninoy Aquino Intl to:
CLAIR 7 NM

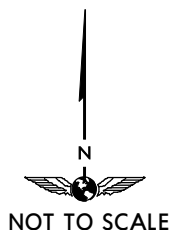
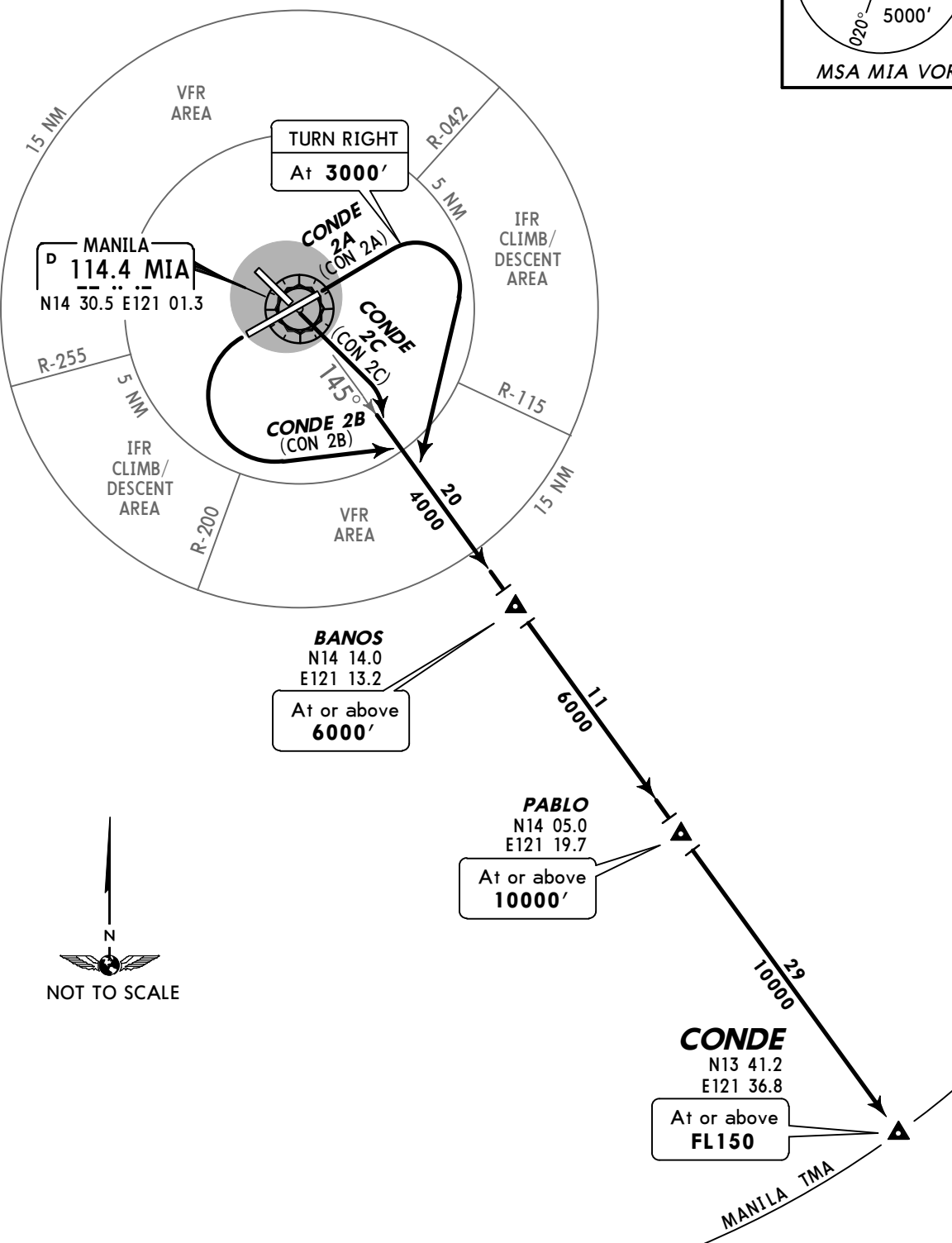
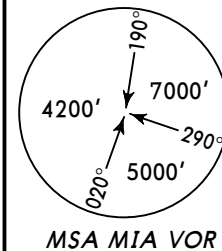
COMMS ► LOST COMMS ► LOST COMMS ► LOST COMMS ► LOST COMMS
Squawk Mode A code 7600 and follow established procedures.
LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

INITIAL CLIMB	
Climb on track 136° to CLAIR, then to SUBAY and CAWIT.	
TRANSITION	ROUTING
IPATA	From CAWIT to IPATA.
TIMON	From CAWIT to TIMON.

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

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. GNSS required. 2. RADAR required. 3. RNAV 1.

4. DME/DME not authorized. 5. CLENA 2 shall only be used when RWYS 06/13 are in use.

CLENA 1 [CLENA1], CLENA 2 [CLENA2]
RNAV DEPARTURES

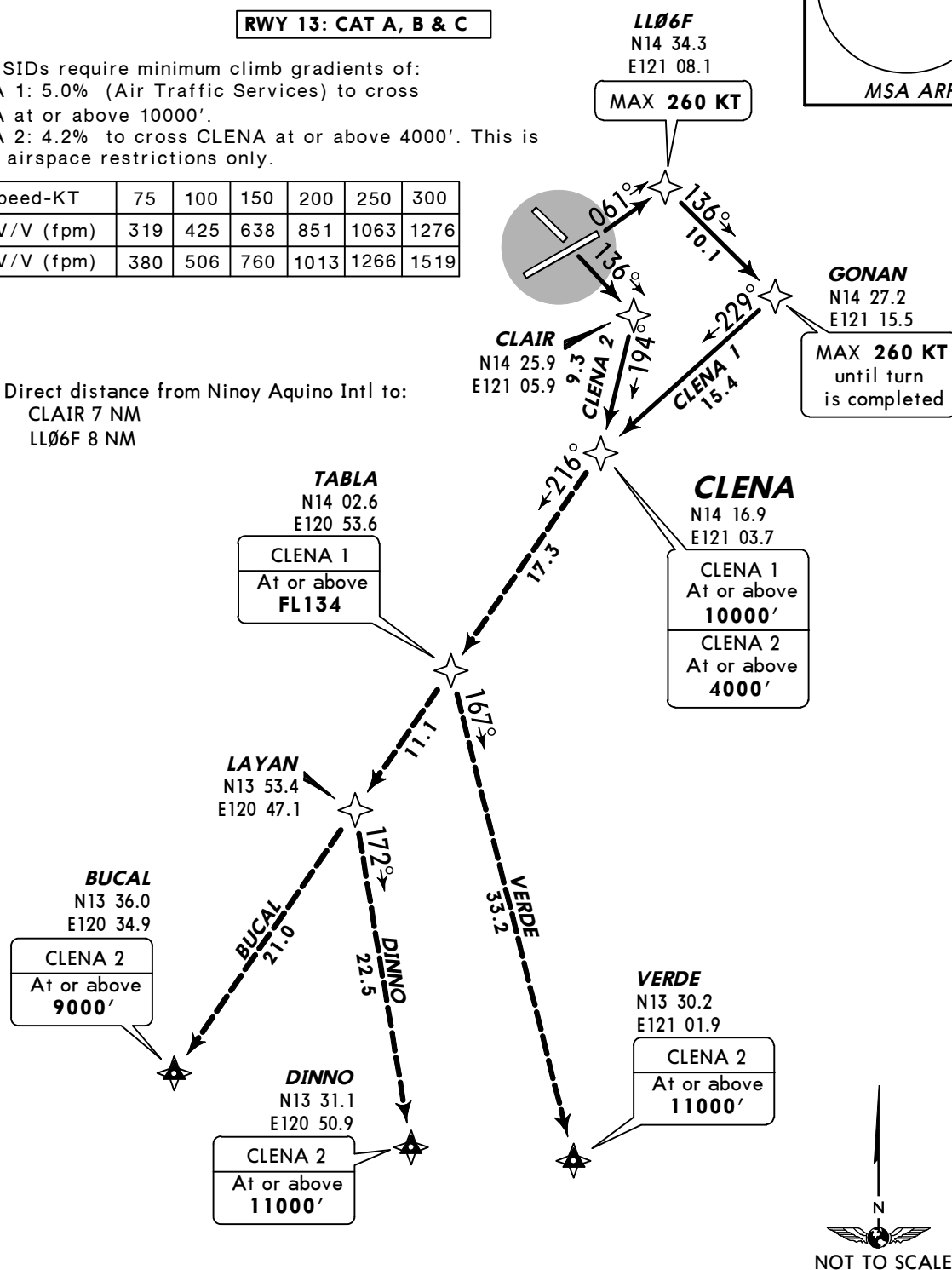
(RWYS 06, 13)

RWY 13: CAT A, B & C

These SIDs require minimum climb gradients of:
CLENA 1: 5.0% (Air Traffic Services) to cross
CLENA at or above 10000'.
CLENA 2: 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
5.0% V/V (fpm)	380	506	760	1013	1266	1519

Direct distance from Ninoy Aquino Intl to:
CLAIR 7 NM
LL06F 8 NM



SID	RWY	INITIAL CLIMB
CLENA 1	06	Climb on track 061° to LL06F, then to GONAN and CLENA.
CLENA 2	13	Climb on track 136° to CLAIR, then to CLENA.
TRANSITION		ROUTING
BUCAL		From CLENA to TABLA, LAYAN and BUCAL.
DINNO		From CLENA to TABLA, LAYAN and DINNO.
VERDE		From CLENA to TABLA then VERDE.

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

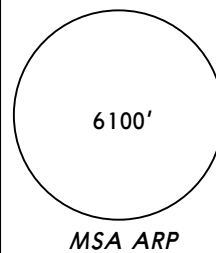
1. GNSS required. 2. RADAR required. 3. RNAV 1.

4. DME/DME not authorized. 5. RWY 13 transition are authorized only when RWYS 13/24 are in use.

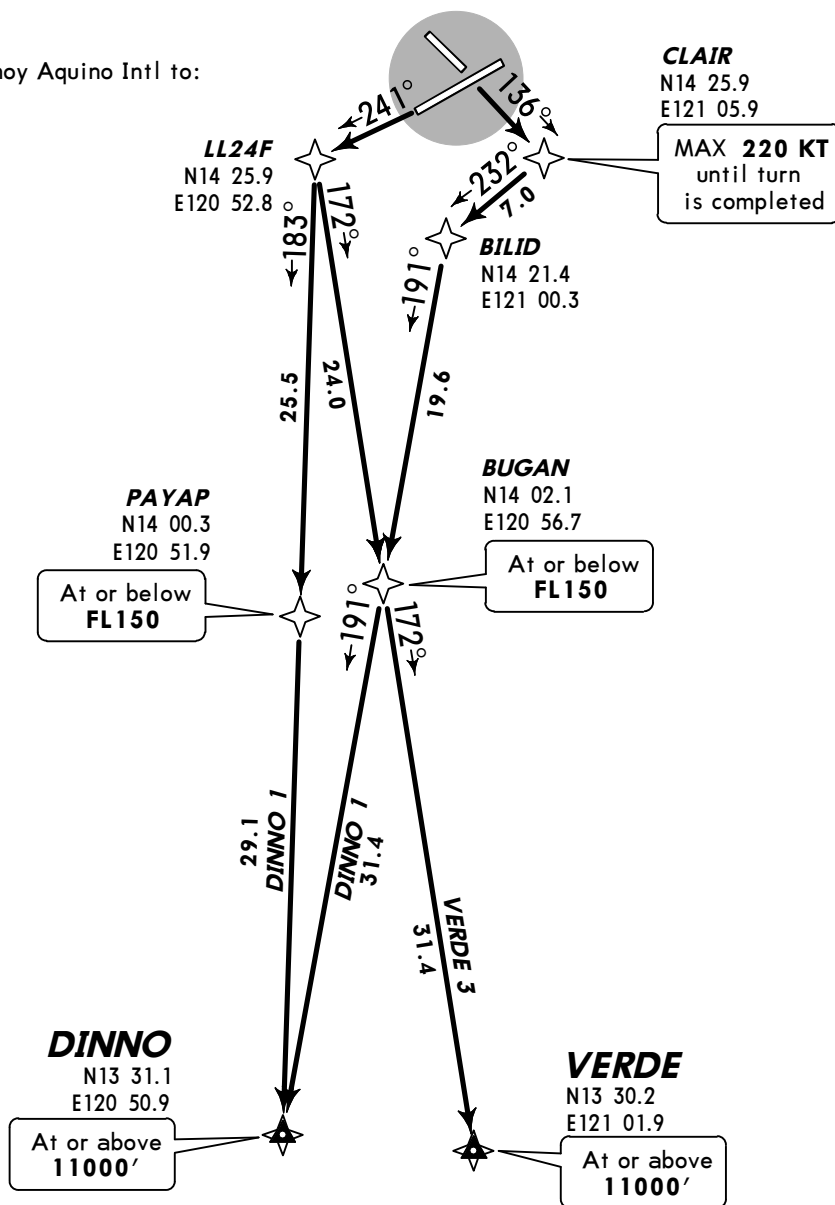
DINNO 1 [DINNO1], VERDE 3 [VERDE3] RNAV DEPARTURES

(RWYS 13, 24)

RWY 13: CAT A, B & C

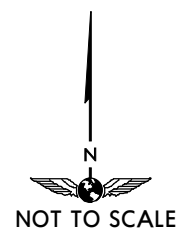


Direct distance from Ninoy Aquino Intl to:
CLAIR 7 NM
LL24F 9 NM



These SIDs require a minimum climb gradient of:
RWY 24: 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

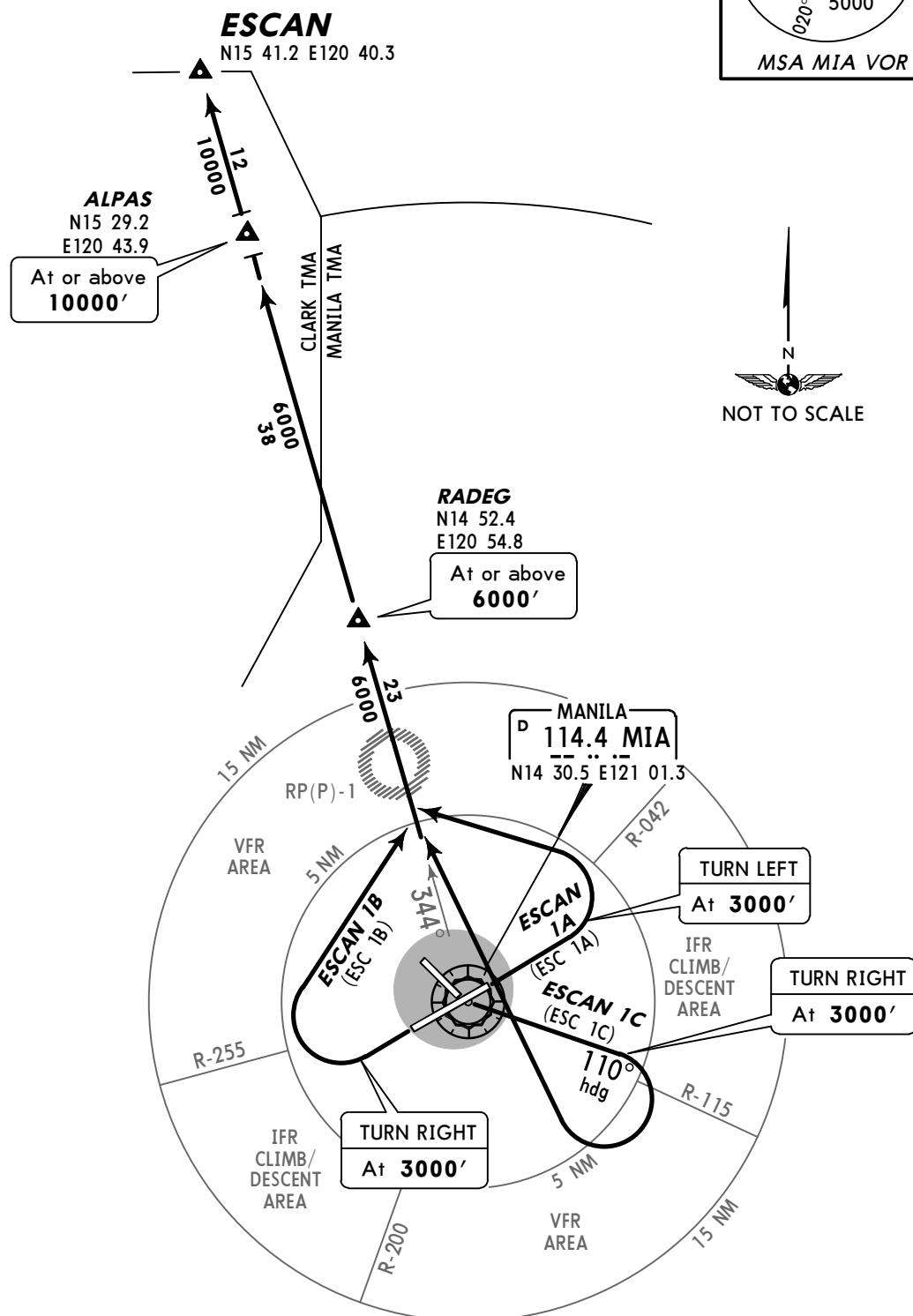
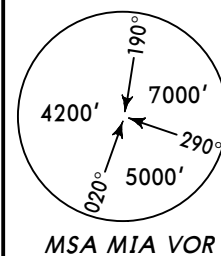


SID	RWY	INITIAL CLIMB
DINNO 1	13	Climb on track 136° to CLAIR, then to BILID, BUGAN and DINNO.
	24	Climb on track 241° to LL24F, then to PAYAP and DINNO.
VERDE 3	13	Climb on track 136° to CLAIR, then to BILID, BUGAN and VERDE.
	24	Climb on track 241° to LL24F, then to BUGAN and VERDE.

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****INITIAL CLIMB**

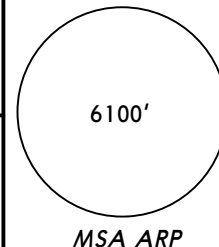
ESCAN 1A	Rwy 06: Straight-out departure to 3000', then LEFT climbing turn avoiding RP(P)-1.
ESCAN 1B	Rwy 24: Straight-out departure to 3000', then RIGHT climbing turn.
ESCAN 1C	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.

ROUTING

Intercept and track-out on MIA R-344 to RADEG. Continue climb to ESCAN via ALPAS.

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

N14 37.1
E120 54.4

At or above
1900'



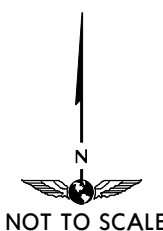
← 316°



Direct distance from Ninoy Aquino Intl to:
HARBO 9 NM

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

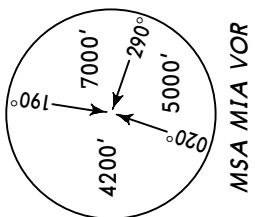


INITIAL CLIMB

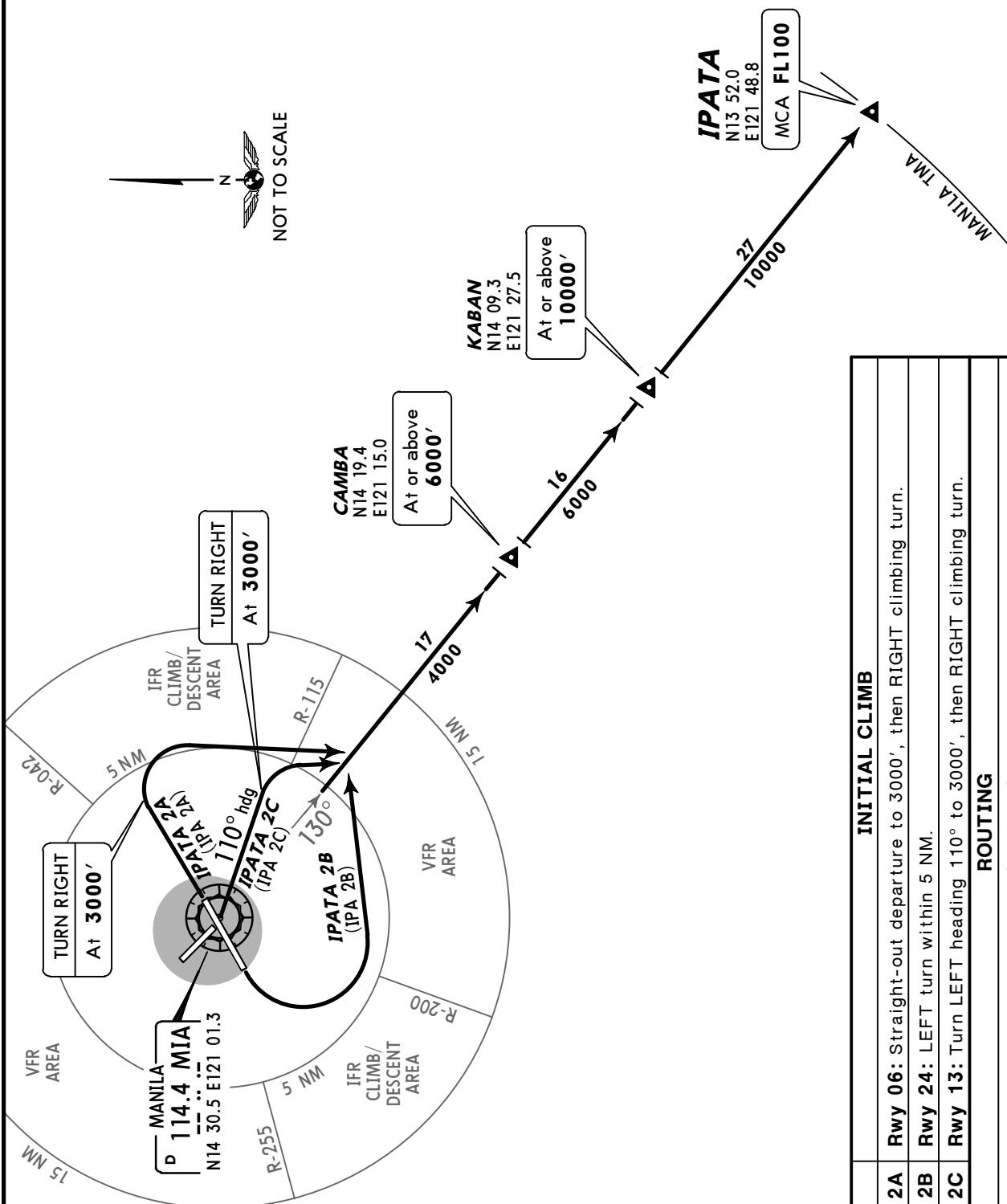
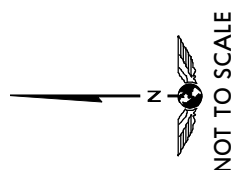
Climb on track 316° to HARBO at or above 1900'. Contact ATC for further instructions.

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)



SID	INITIAL CLIMB
IPATA 2A	Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.
IPATA 2B	Rwy 24: LEFT turn within 5 NM.
IPATA 2C	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING	
Intercept and track-out on MIA R-130 to CAMBA. Continue climb to IPATA via KABAN.	

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

1. GNSS required. 2. RADAR required. 3. RNAV 1.

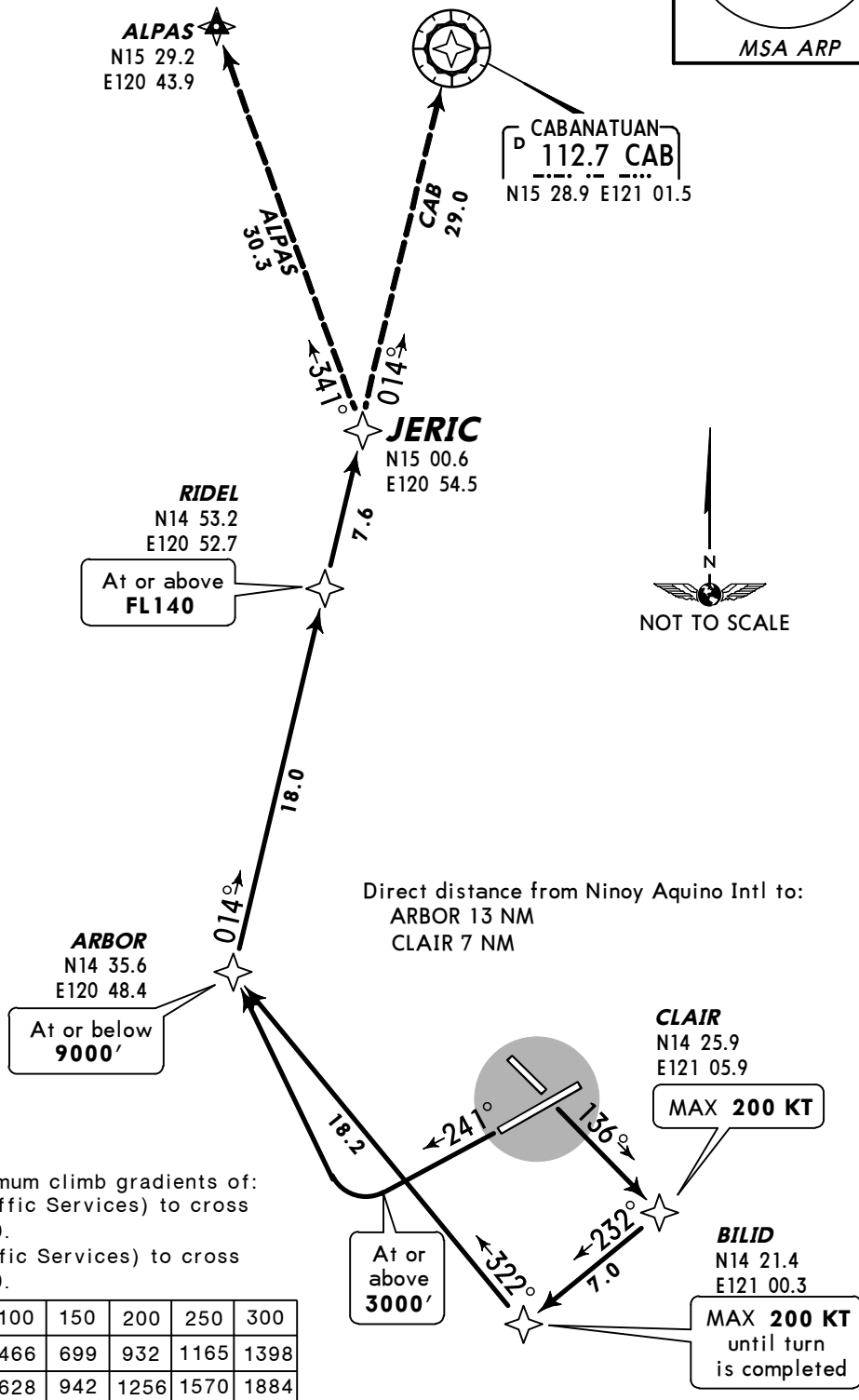
4. DME/DME not authorized. 5. RWY 13 transition is authorized only when RWYS 13/24 are in use.

JERIC 1 RNAV DEPARTURE

[JERIC1]

(RWY 13, 24)

RWY 13: CAT A, B & C



This SID requires a minimum climb gradients of:
RWY 13 : 4.6% (Air Traffic Services) to cross
RIDEL at or above FL140.
RWY 24: 6.2% (Air Traffic Services) to cross
RIDEL at or above FL140.

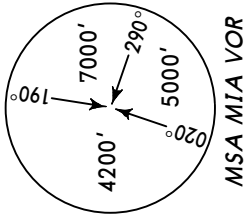
Gnd speed-KT	75	100	150	200	250	300
4.6% V/V (fpm)	349	466	699	932	1165	1398
6.2% V/V (fpm)	471	628	942	1256	1570	1884

RWY	INITIAL CLIMB
13	Climb on track 136° to CLAIR, then to BILID, ARBOR, RIDEL and JERIC.
24	Climb on track 241° to at or above 3000', turn RIGHT direct to ARBOR, then to RIDEL and JERIC.
TRANSITION	ROUTING
ALPAS	From JERIC to ALPAS.
CAB	From JERIC to CAB.

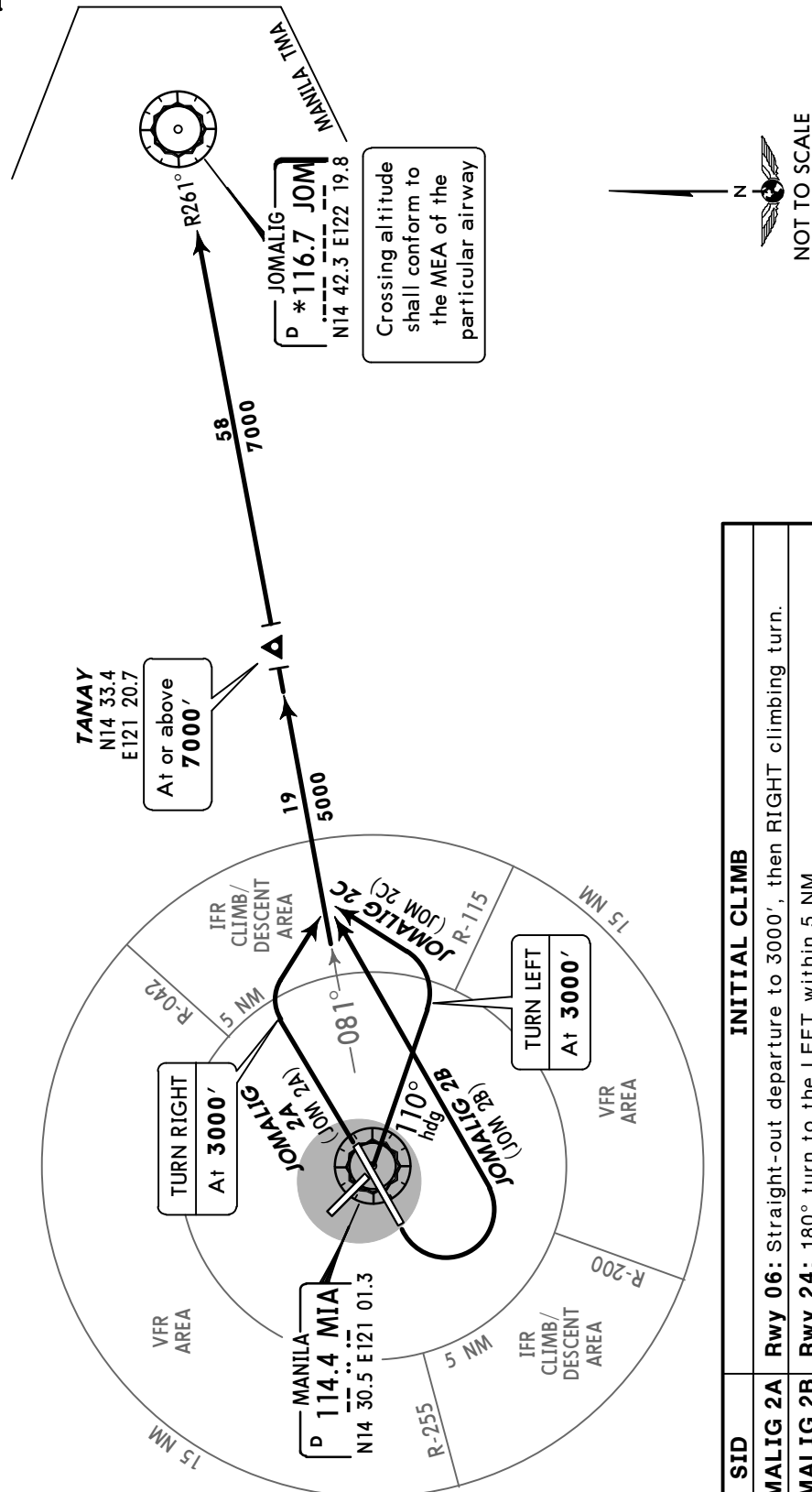
Apt Elev
75'

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	INITIAL CLIMB
JOMALIG 2A	Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.
JOMALIG 2B	Rwy 24: 180° turn to the LEFT within 5 NM.
JOMALIG 2C	Rwy 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.	

Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

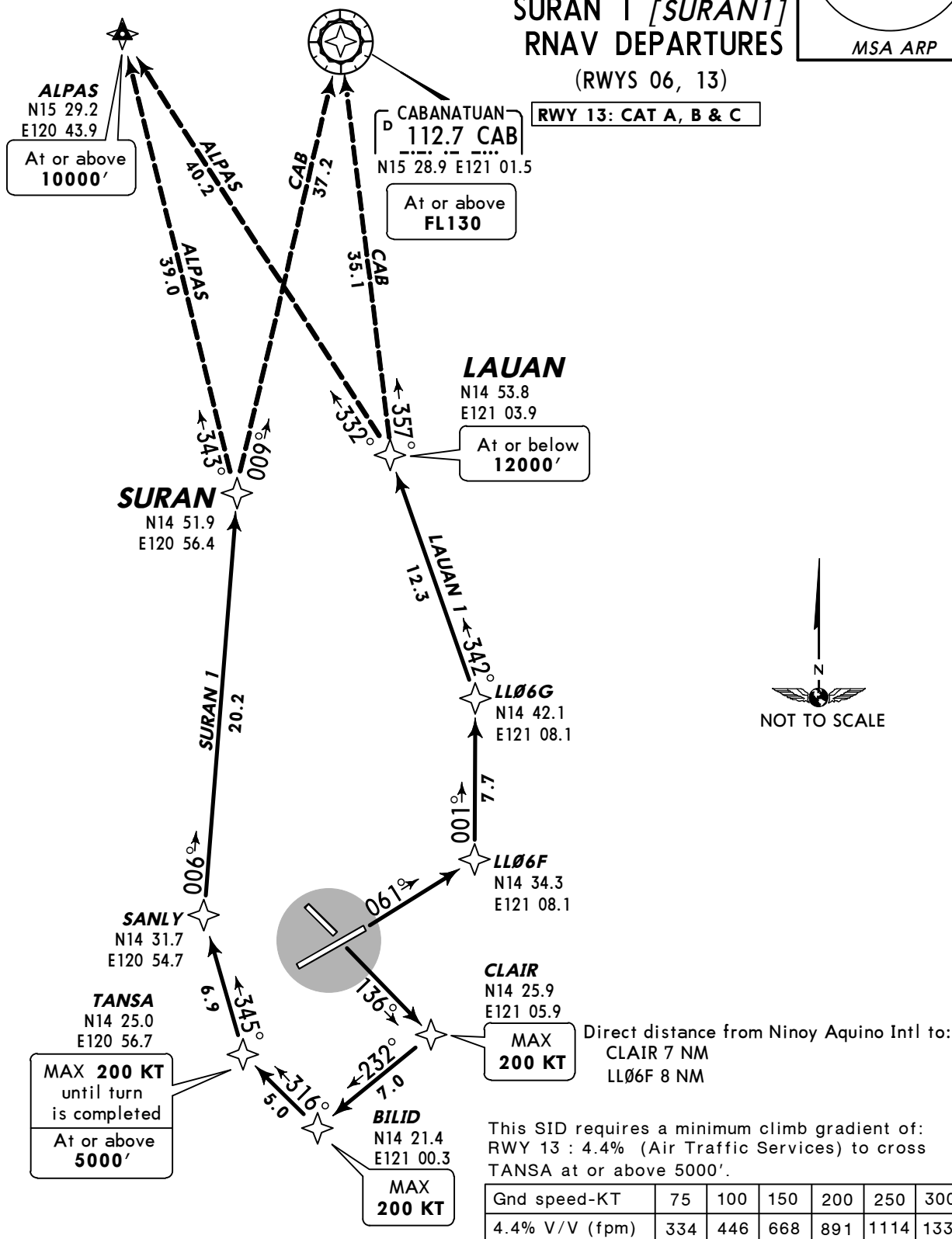
1. GNSS required. 2. RADAR required. 3. RNAV 1.
4. DME/DME not authorized. 5. SURAN 1 is authorized only when
RWYS 06/13 are in use.

LAUAN 1 [LAUAN1],
SURAN 1 [SURAN1]
RNAV DEPARTURES

(RWYS 06, 13)

6100'

MSA ARP



SID	RWY	INITIAL CLIMB
LAUAN 1	06	Climb on track 061° to LL06F, then to LL06G and LAUAN.
SURAN 1	13	Climb on track 136° to CLAIR, then to BILID, TANSA, SANLY and SURAN.
TRANSITION	RWY	ROUTING
ALPAS	06	From LAUAN to ALPAS.
	13	From SURAN to ALPAS.
CAB	06	From LAUAN to CAB.
	13	From SURAN to CAB.

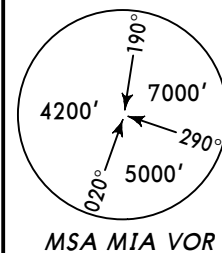
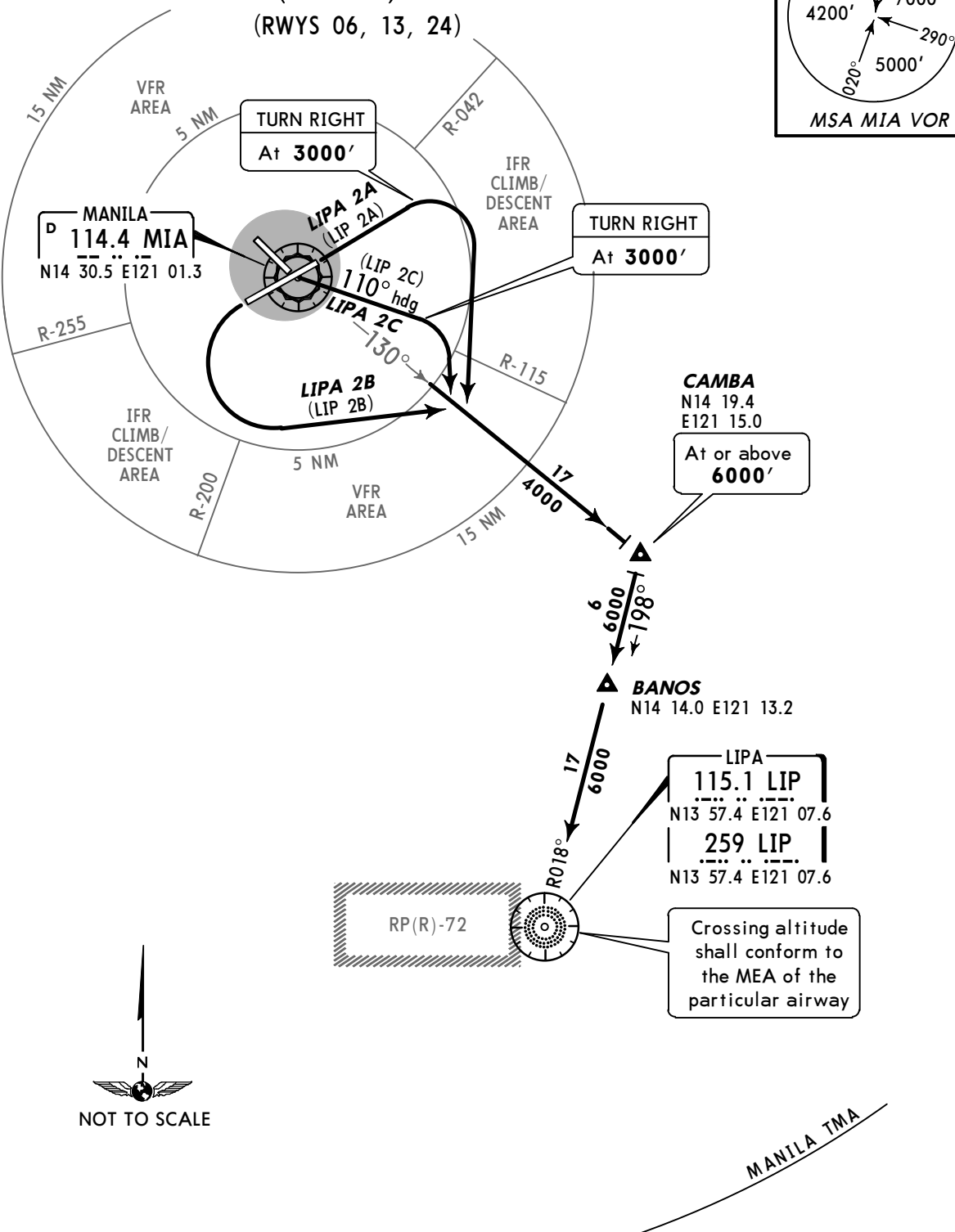
Apt Elev
75'

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.	

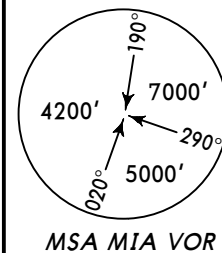
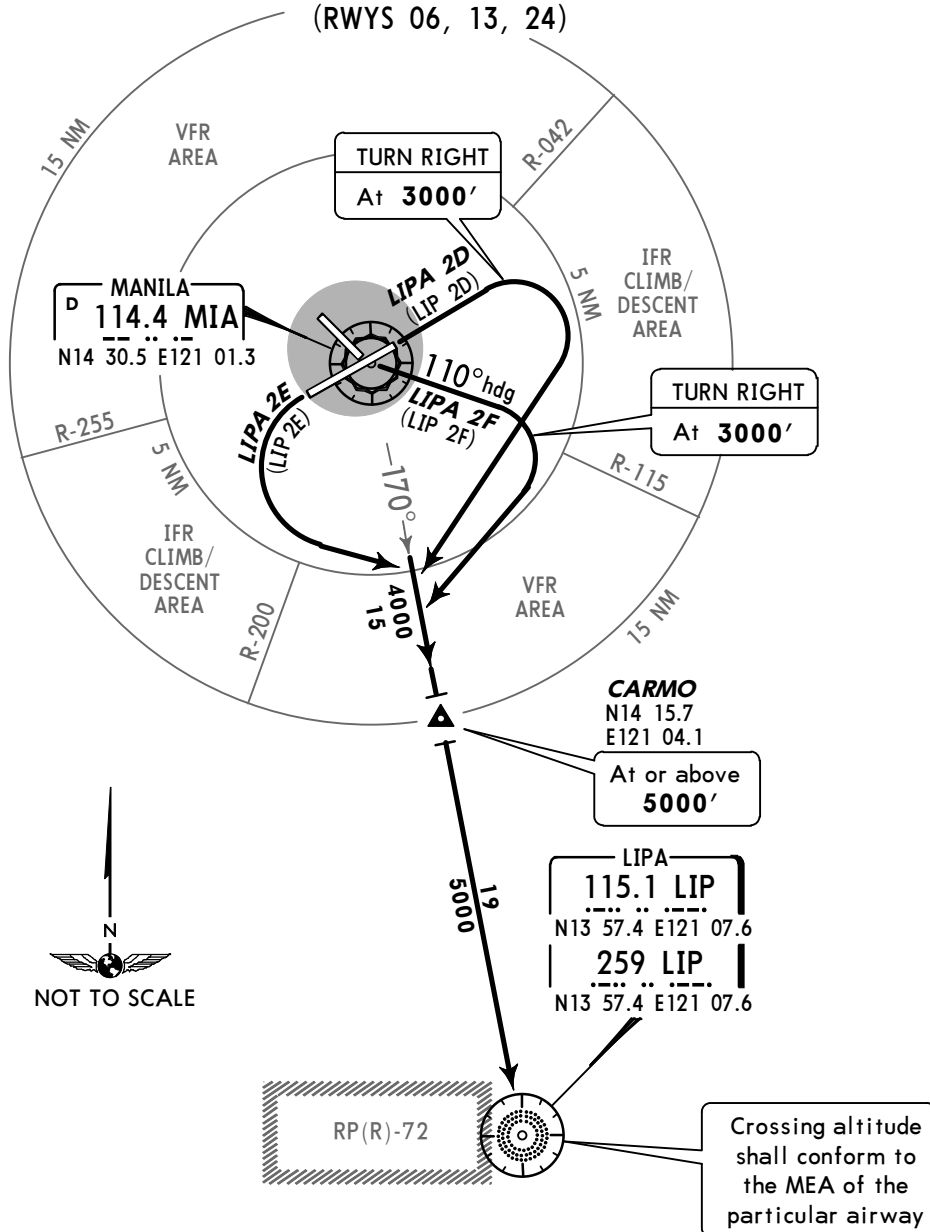
Apt Elev
75'

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)

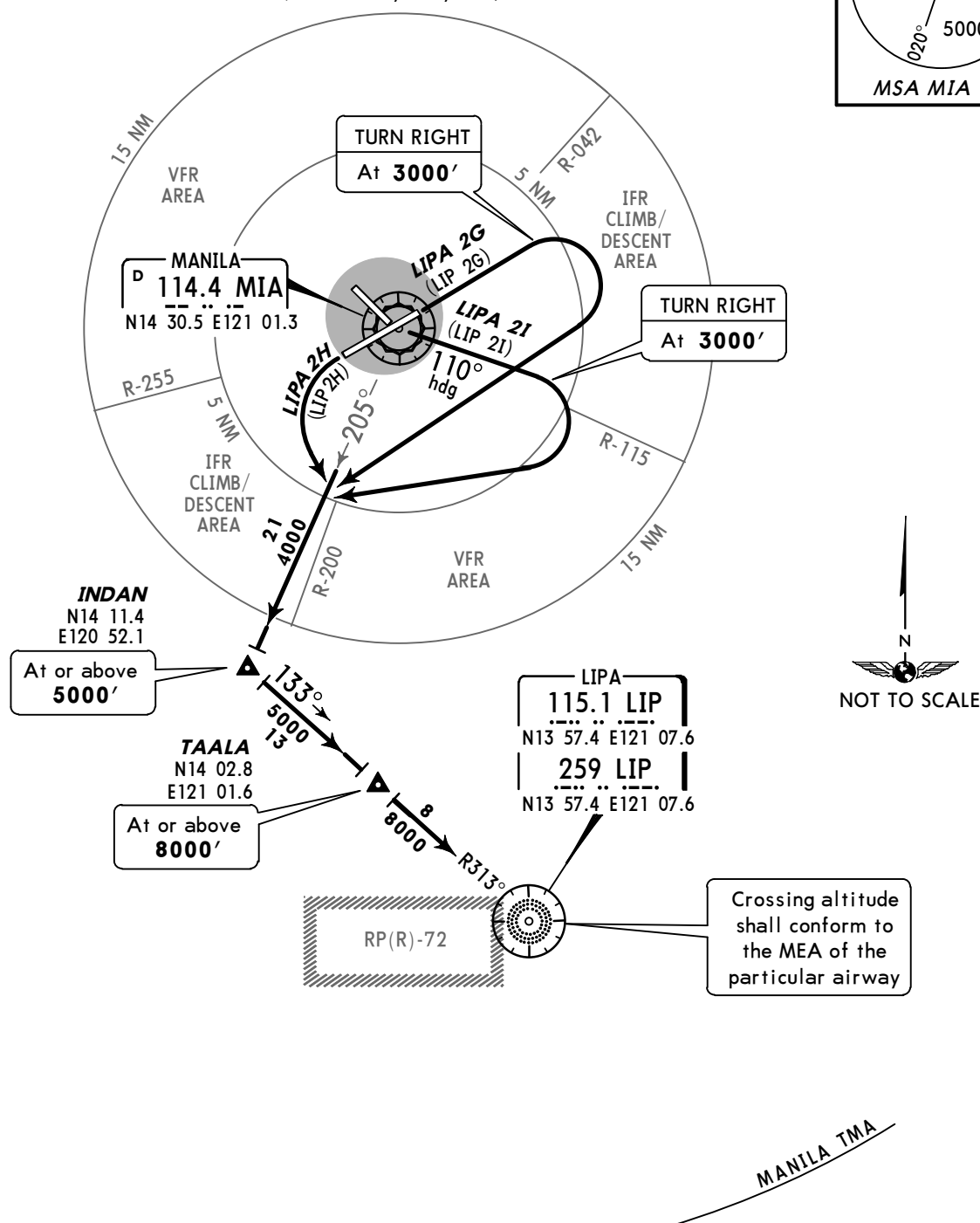
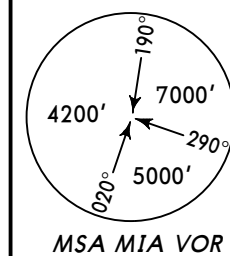


SID	INITIAL CLIMB
LIPA 2D	Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.
LIPA 2E	Rwy 24: LEFT turn within 5 NM.
LIPA 2F	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.
ROUTING	
Intercept and track-out on MIA R-170 to CARMO. Continue climb to LIP. Crossing restriction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

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.	

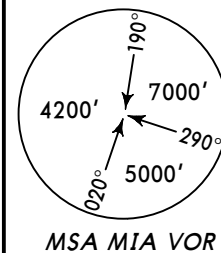
Apt Elev
75'

Trans level: FL130 Trans alt: 11000'

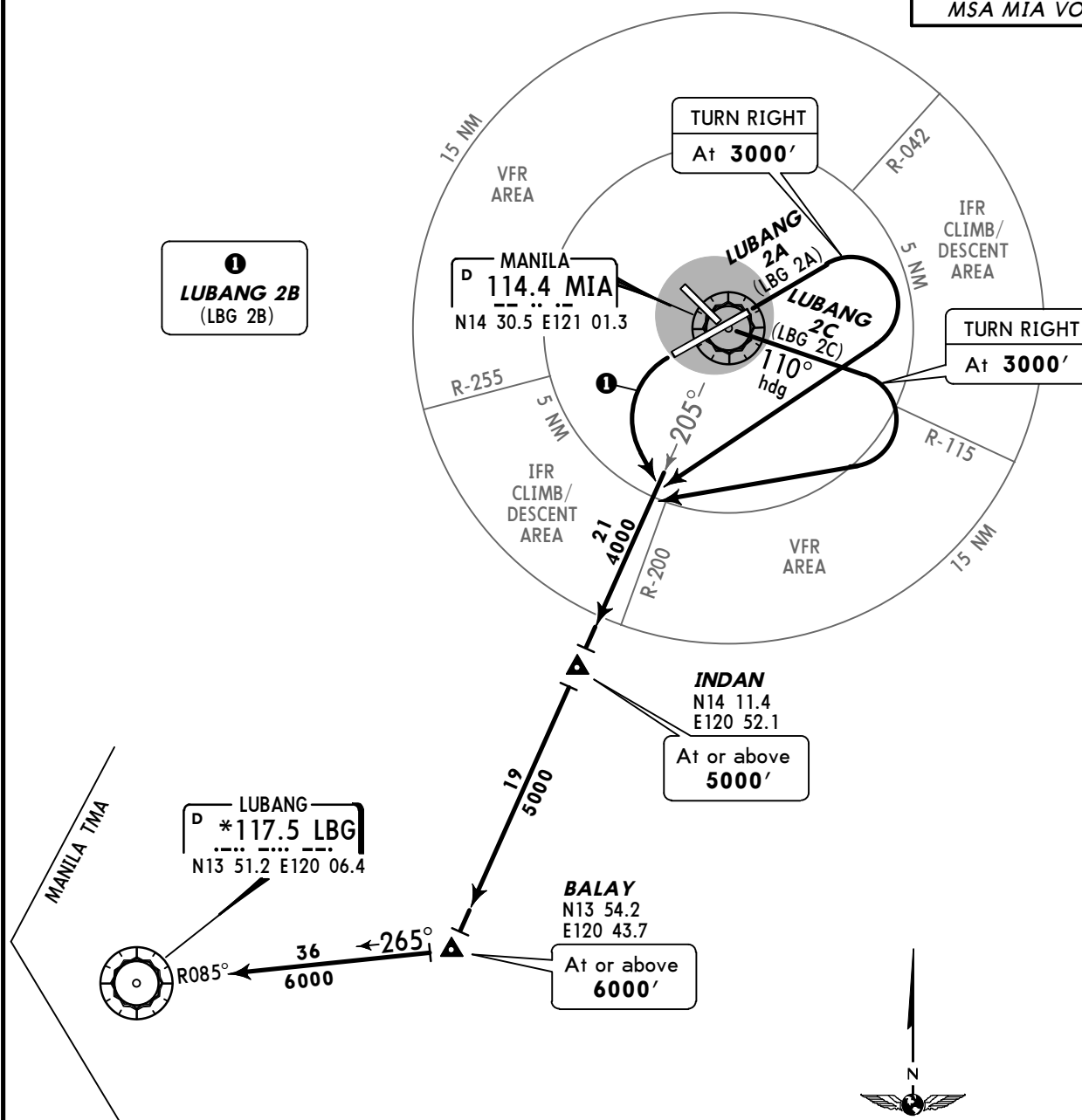
1. From sunrise to sunset, IFR departures on Rwy 06/24 shall climb in the IFR Climb/Descent Area so as to cross the VFR area at 3000' or above.
2. IFR jet departures with STAGE III engines on Rwy 13 may be allowed from sunrise to sunset.
3. IFR propeller-type departures on Rwy 13 may be allowed from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



MSA MIA VOR

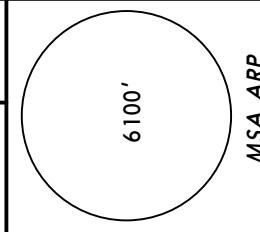


NOT TO SCALE

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.	

Apt Elev
75'

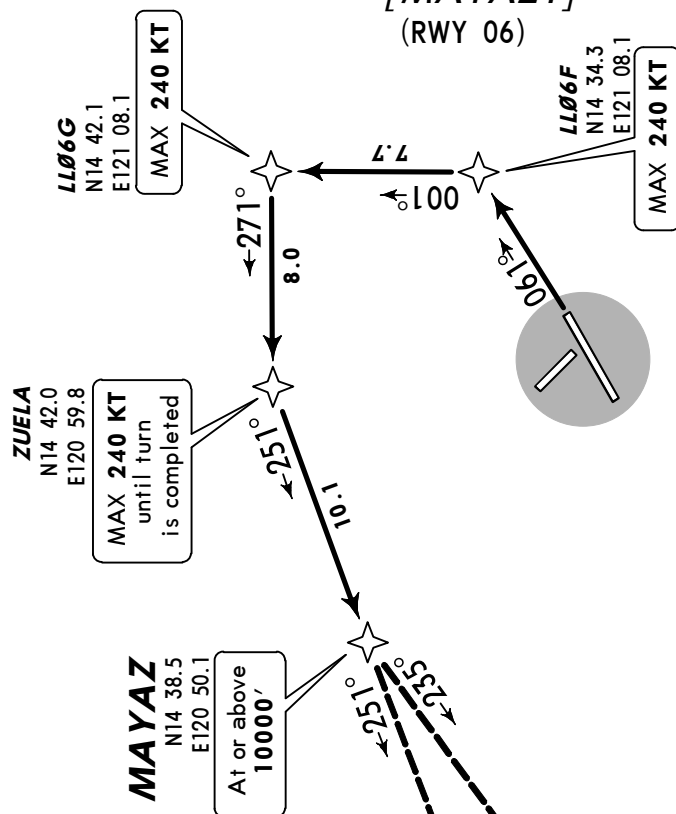
Trans level: FL130 Trans alt: 11000'
1. GNSS required. 2. RADAR required. 3. RNAV 1.
4. DME/DME not authorized.



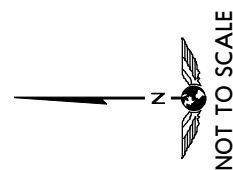
MAYAZ 1 RNAV DEPARTURE

[MAYAZ1]

(RWY 06)



Direct distance from Ninoy Aquino Intl to:
LL06F 8 NM



INITIAL CLIMB

Climb on track 061° to LL06F, then to LL06G, ZUELA and MAYAZ.

ROUTING

BETEL From MAYAZ to BETEL.

SIRCA From MAYAZ to SIRCA.

This SID requires a minimum climb gradient of:
5.0% to cross MAYAZ at or above 10000'.

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

SIRCA
1.1.3

SIRCA
N14 27.6
E120 20.0

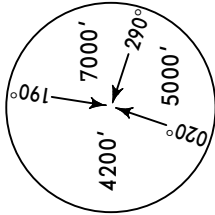
BETEL
4.2

BETEL
N14 10.6
E120 10.8

Apt Elev
75'

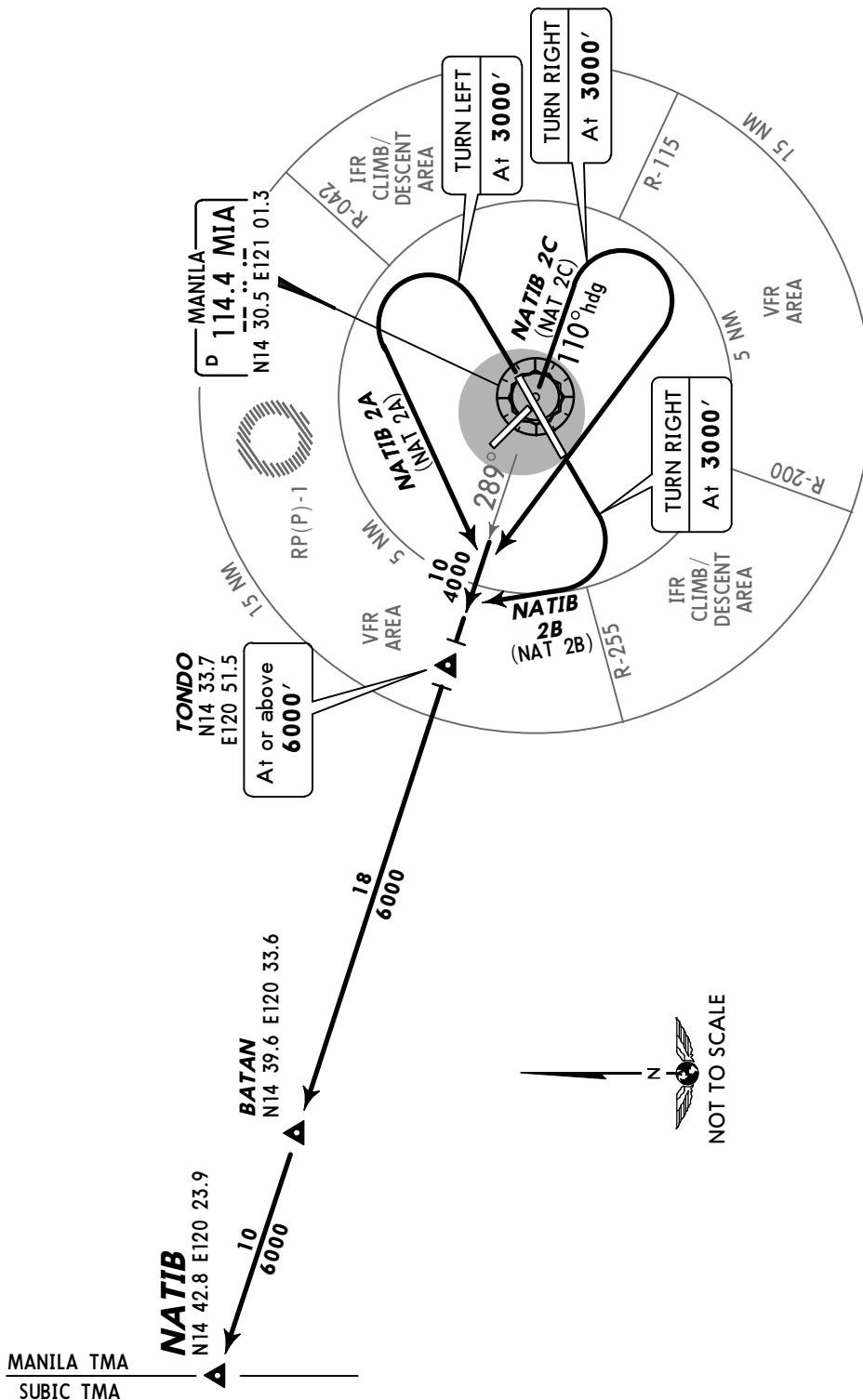
Trans level: FL130 Trans alt: 11000'

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)



INITIAL CLIMB

Rwy 06: Straight-out departure to 3000', then LEFT climbing turn avoiding RP(P)-1.

Rwy 24: Straight-out departure to 3000', then RIGHT climbing turn.

Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.

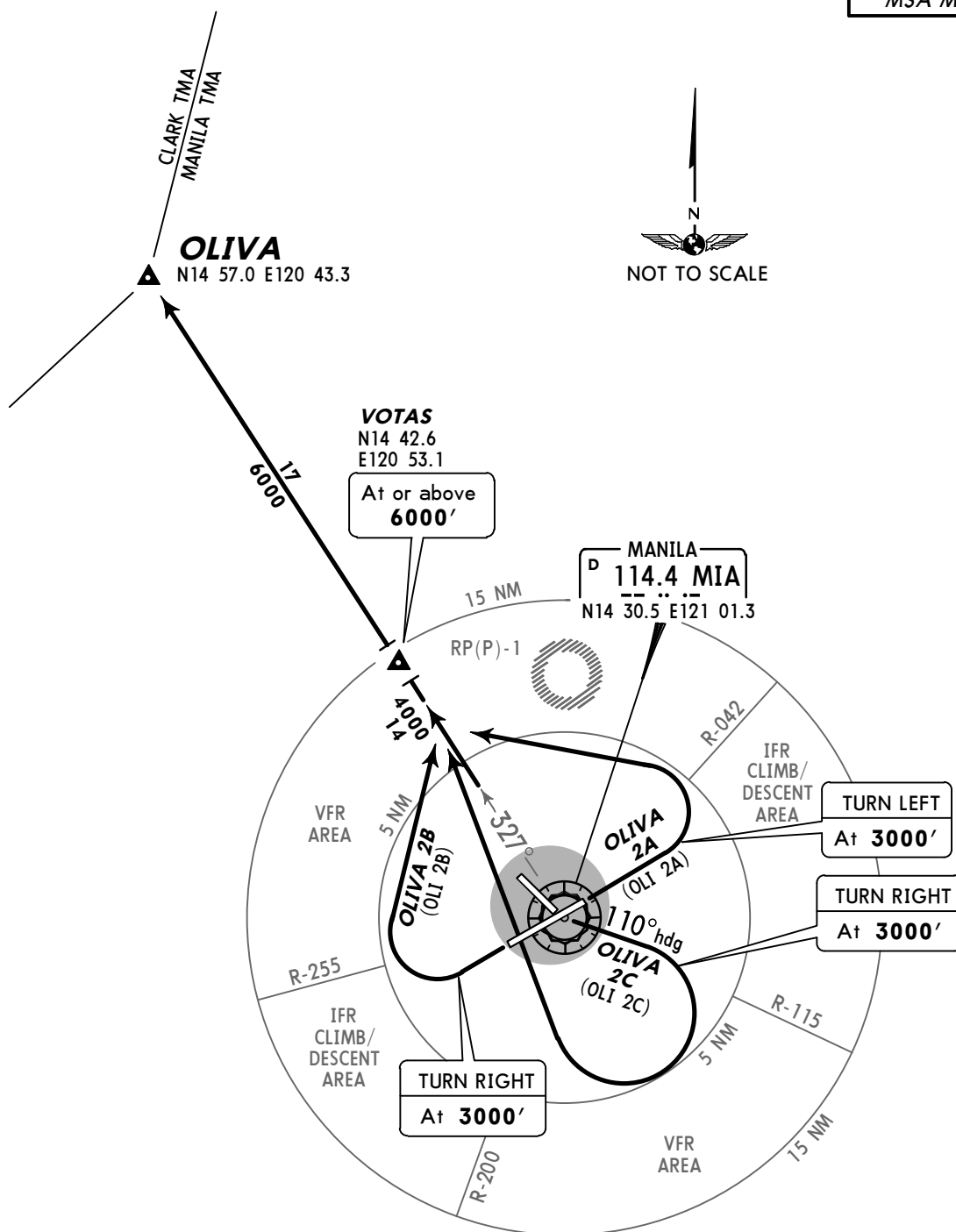
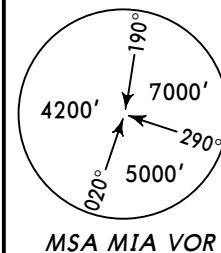
ROUTING

Intercept and track-out on MIA R-289 to TONDO. Continue climb to NATIB via BATAN.

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****INITIAL CLIMB**

OLIVA 2A	Rwy 06: Straight-out departure to 3000', then LEFT climbing turn avoiding RP(P)-1.
OLIVA 2B	Rwy 24: Straight-out departure to 3000', then RIGHT climbing turn.
OLIVA 2C	Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.

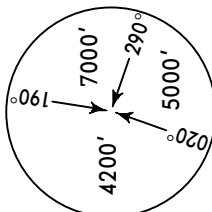
ROUTING

Intercept and track-out on MIA R-327 to VOTAS. Continue climb to OLIVA.

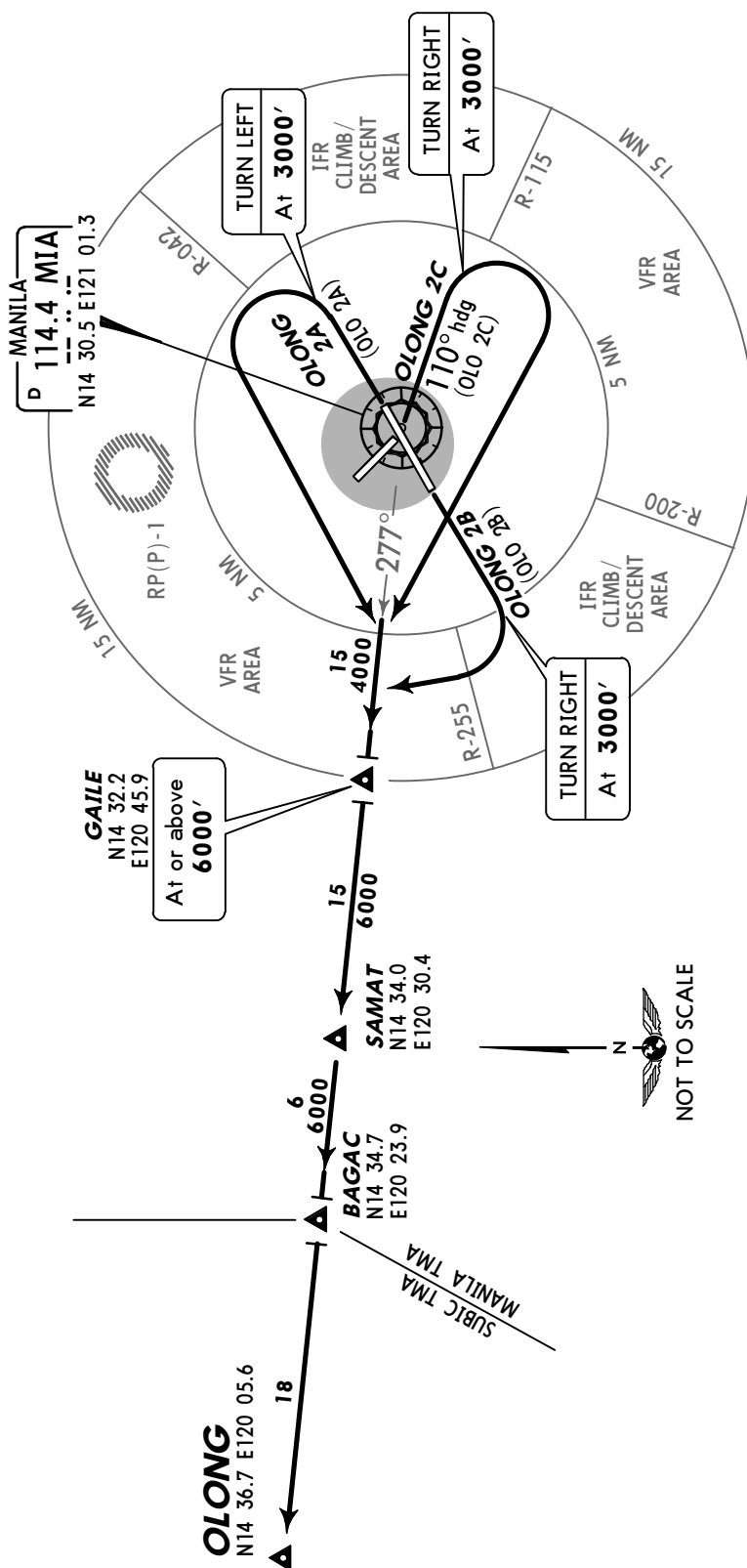
Apt Elev
75'

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)

**INITIAL CLIMB****Rwy 06:** Straight-out departure to 3000', then LEFT climbing turn avoiding RP(P)-1.**Rwy 24:** Straight-out departure to 3000', then RIGHT climbing turn.**Rwy 13:** Turn LEFT heading 110° to 3000', then RIGHT climbing turn.**ROUTING**

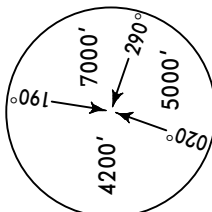
Intercept and track-out on MIA R-277 to GAILE. Continue climb to OLONG via SAMAT and BAGAC.

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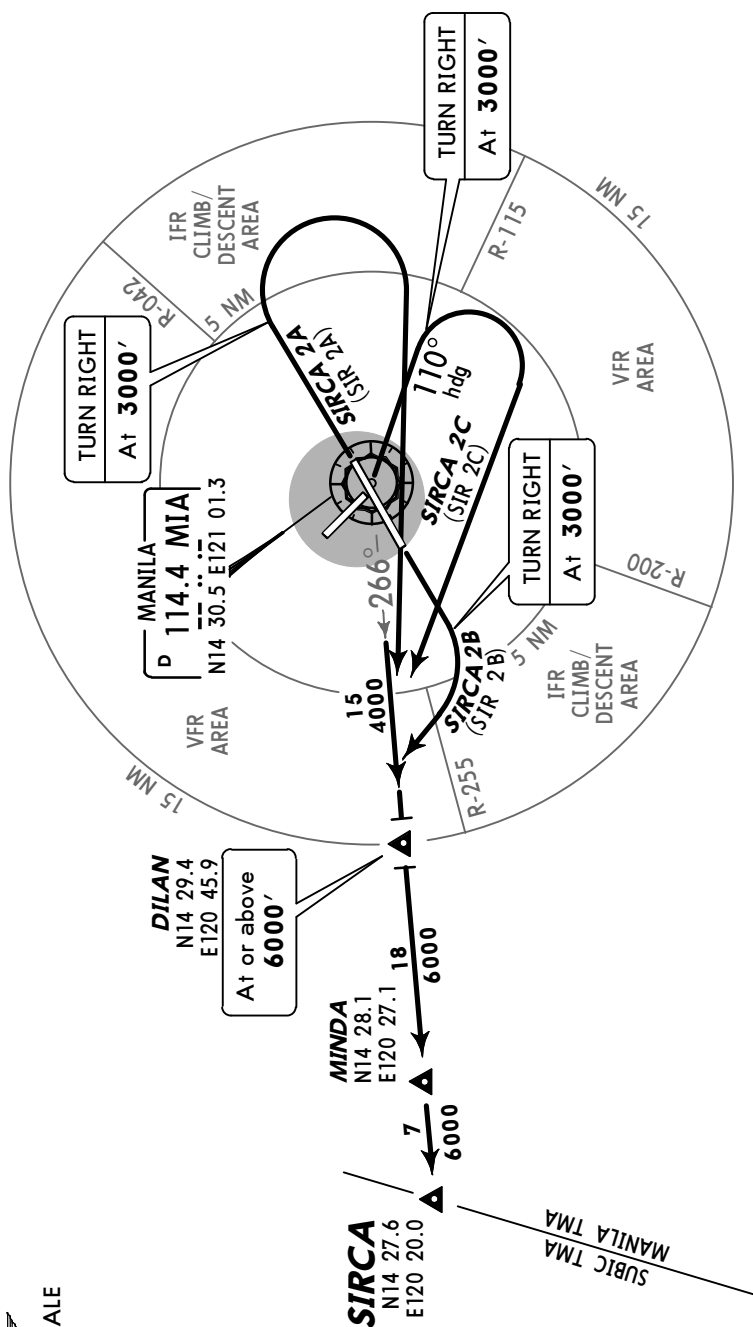
Apt Elev
75'

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**

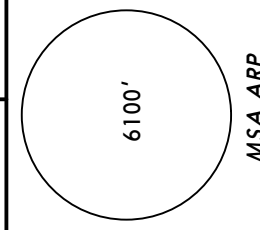
(RWYS 06, 13, 24)

**INITIAL CLIMB****SIRCA 2A** Rwy 06: Straight-out departure to 3000', then RIGHT climbing turn.**SIRCA 2B** Rwy 24: Straight-out departure to 3000', then RIGHT climbing turn.**SIRCA 2C** Rwy 13: Turn LEFT heading 110° to 3000', then RIGHT climbing turn.**ROUTING**

Intercept and track-out on MIA R-266 to DILAN. Continue climb to SIRCA via MINDA.

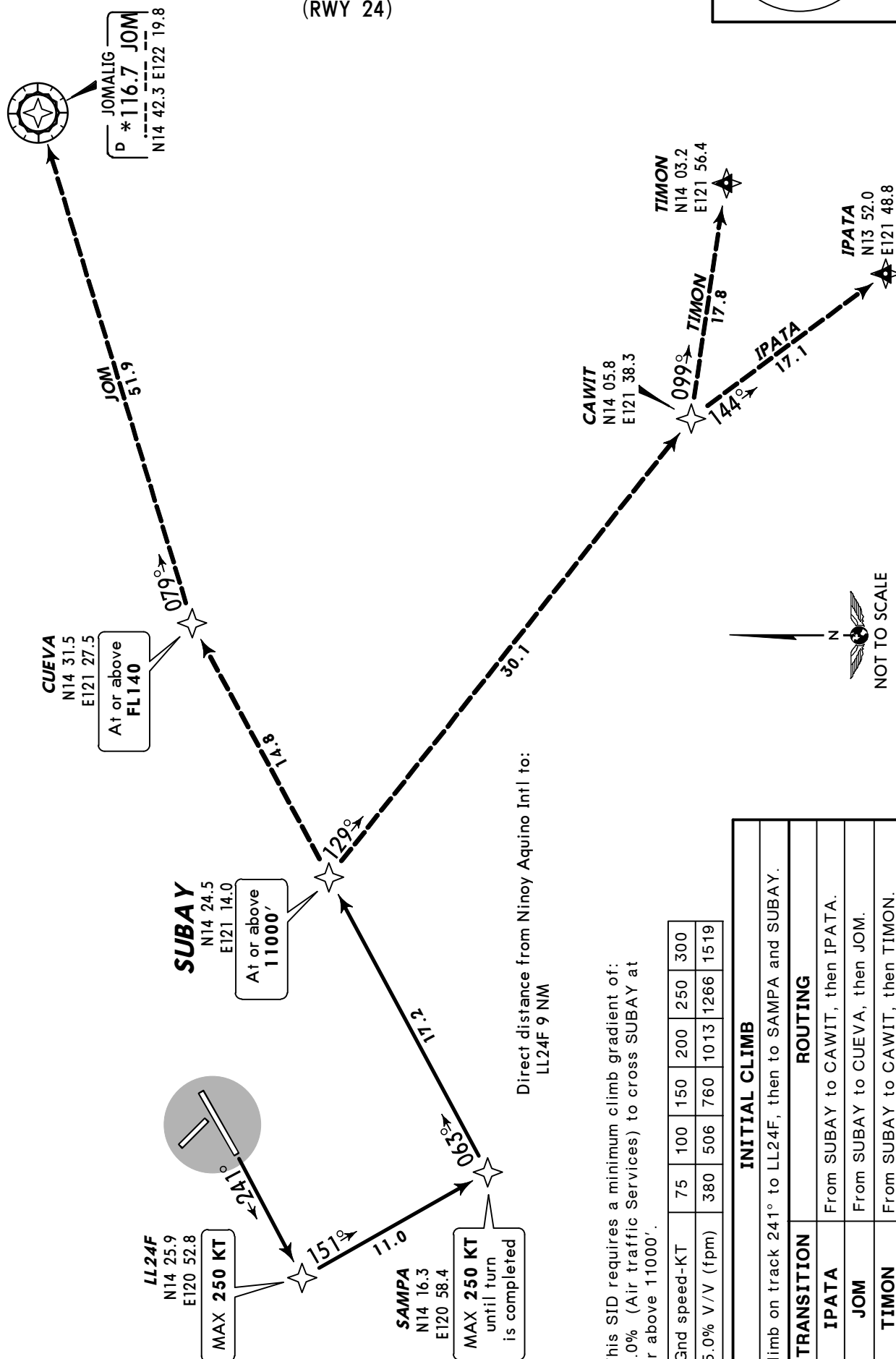
Apt Elev
75'

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



SUBAY 1 RNAV DEPARTURE

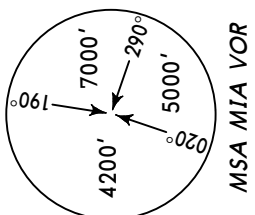
[SUBAY1]
(RWY 24)



Apt Elev
75'

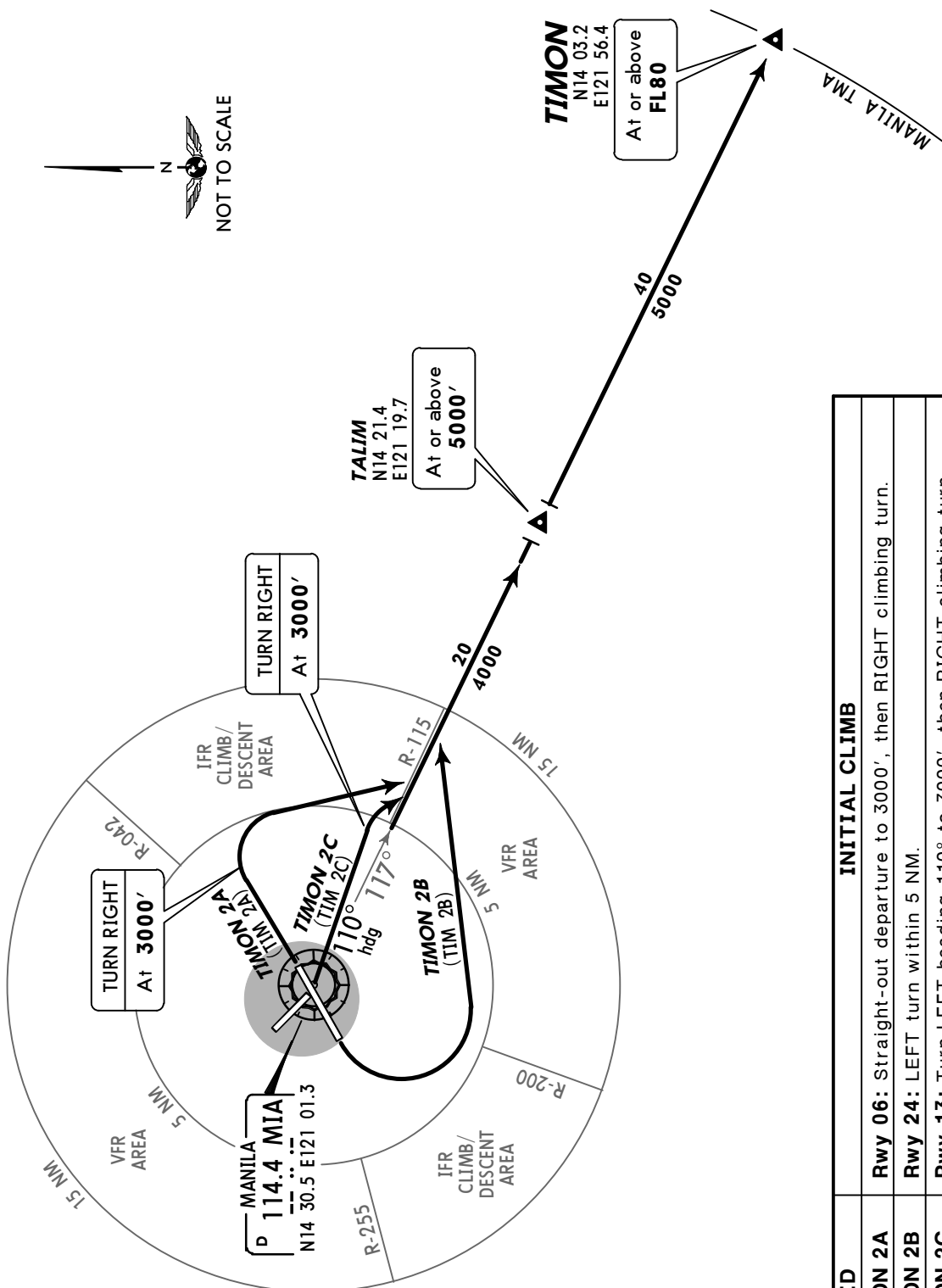
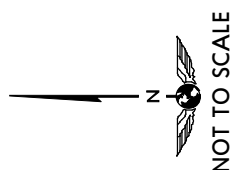
Trans level: FL130 Trans alt: 11000'

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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NOISE ABATEMENT PROCEDURES

Local Time minus 8 HOURS = UTC

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

I 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)

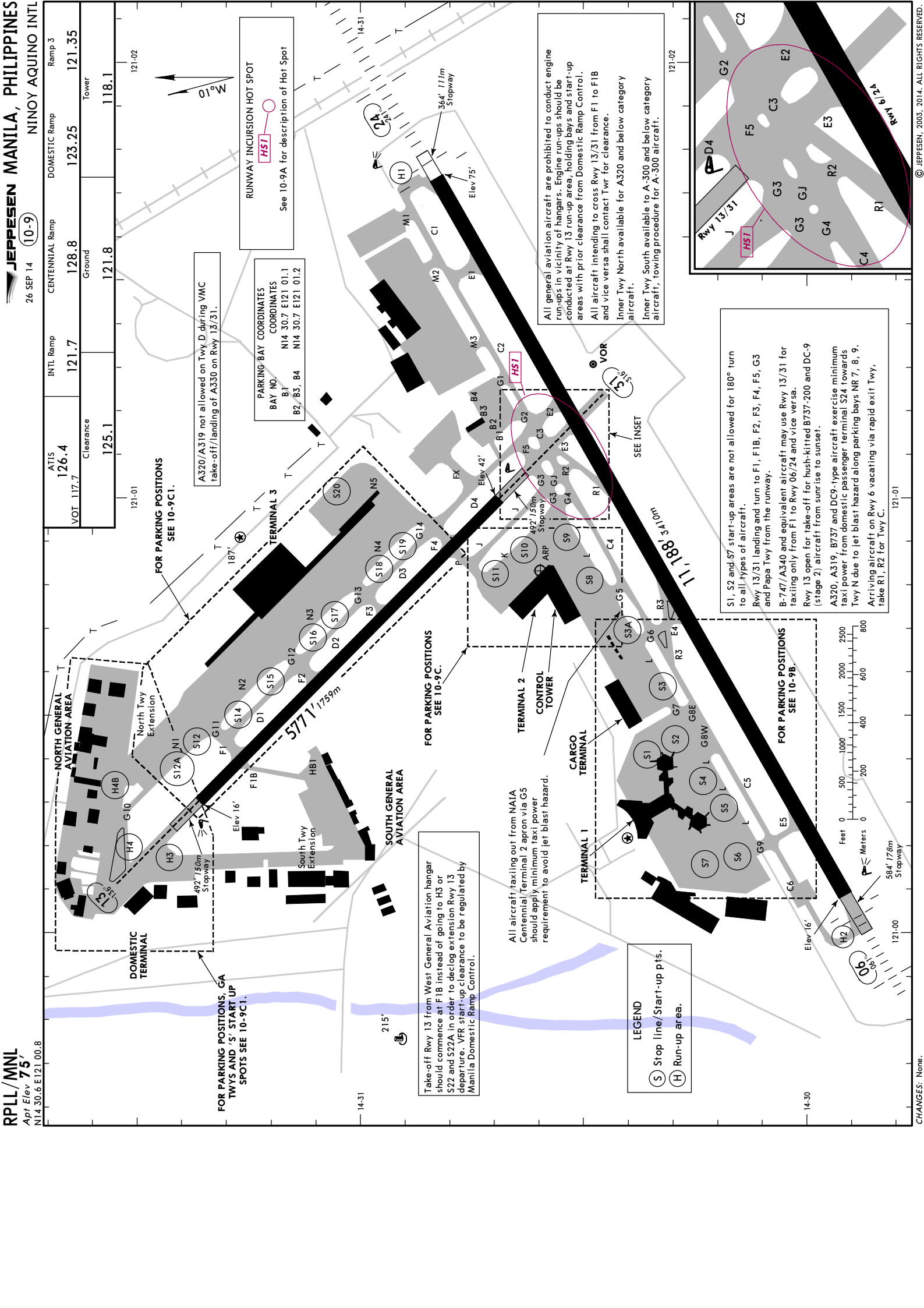
In addition to the procedures listed above, after takeoff make a left climbing turn before the end of Rwy 13 (max 15 deg bank angle) heading 100 degrees.

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.



GENERAL

Aircraft not exceeding 18,642 lbs (8456 kg) gross weight shall confine take-off and landing to Rwy 13/31 unless the following conditions exist:

- Wind velocity is more than 5 kts or direction is not favorable.
- Poor visibility or adverse weather.
- Presence of obstruction or hazard.

Take-off and landing on Rwy 13/31 of code C (A320) and lower category aircraft allowed based on following limitations:

- Take-off on Rwy 13 allowed from 0100Z to 0259Z and 0800Z to sunset (sunset to sunrise subject to ATC discretion).
 - Take-off Rwy 31 not allowed for A319 and above category aircraft due to obstacle limitation surface requirement for Rwy 31. For lower category, take-off Rwy 31 allowed except from 0100Z to 0259Z and 0800Z to sunset.
 - Landing on Rwy 31 not allowed except during emergency.
 - Landing on Rwy 13 of code C aircraft allowed whenever Rwy 06/24 is closed.
- Note: During IMC, no take-off/landing on Rwy 13/31 of code C aircraft whenever there is a code C aircraft operating on Twy D.
- Landing on Rwy 13 during day VMC limited to category A and B from 0100Z to 0259Z and 0800Z to sunset.
 - All take-off and landing on Rwy 13/31 must comply with existing noise abatement procedure.

Aircraft not exceeding 12,527 lbs (5682 kg) shall be permitted to operate only during the hours 0100-0259 and 0800-sunset UTC and only when Rwy 13 in use.

All aircraft departing Rwy 13 must only commence take-off roll on third arrow pavement marking before threshold.

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

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

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

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

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

ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS		TAKE-OFF	WIDTH
		LANDING BEYOND Threshold	Glide Slope		
06 ① 24	HIRL CL ALS SFL PAPI (angle 3.0°)		10,203' 3110m 9843' 3000m		197' 60m

- ① Rwy 06/24 closed to aircraft operations daily between 1730-1930 for maintenance work except during emergencies wherein 30 minutes prior notice is required.

13 31	HIRL REIL CL PAPI (angle 3.0°)			② 6263' 1909m	148' 45m
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- ② First 492' (150m), prior to runway threshold is available for takeoff.

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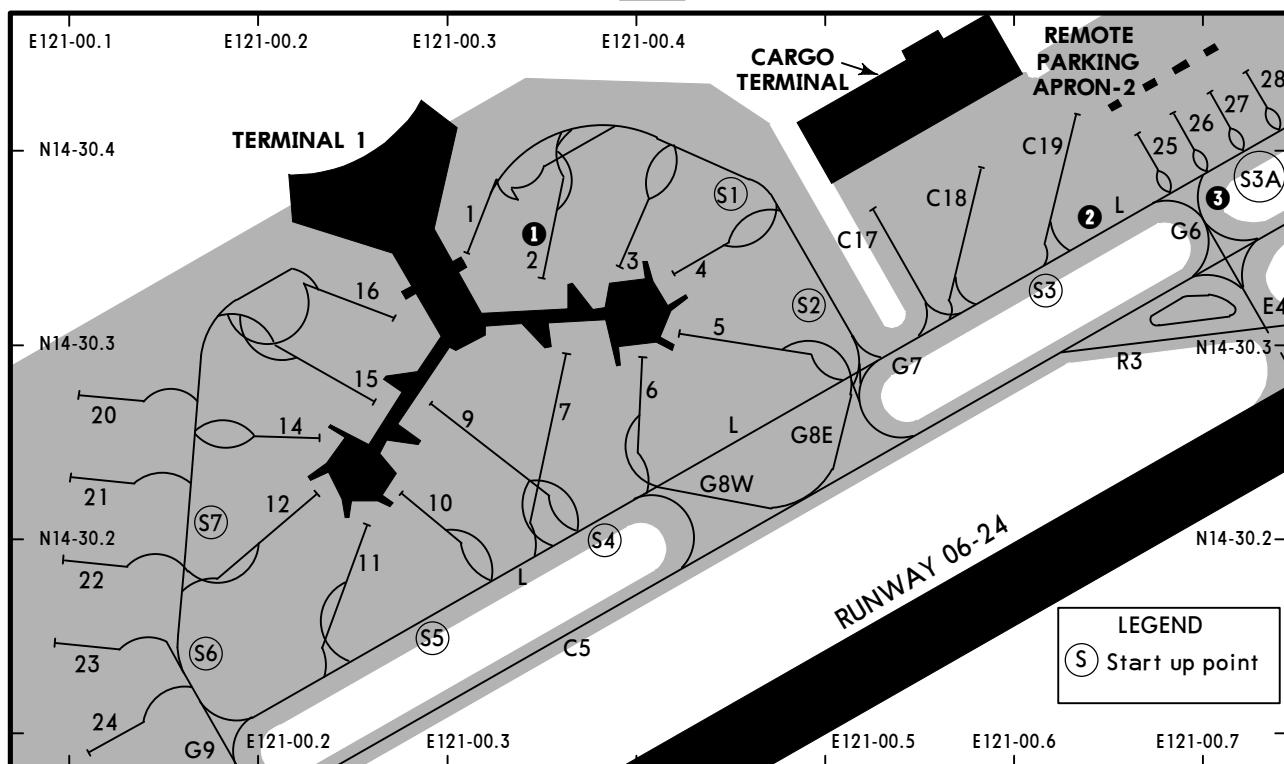
RUNWAY INCURSION HOT SPOT**HS1**

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

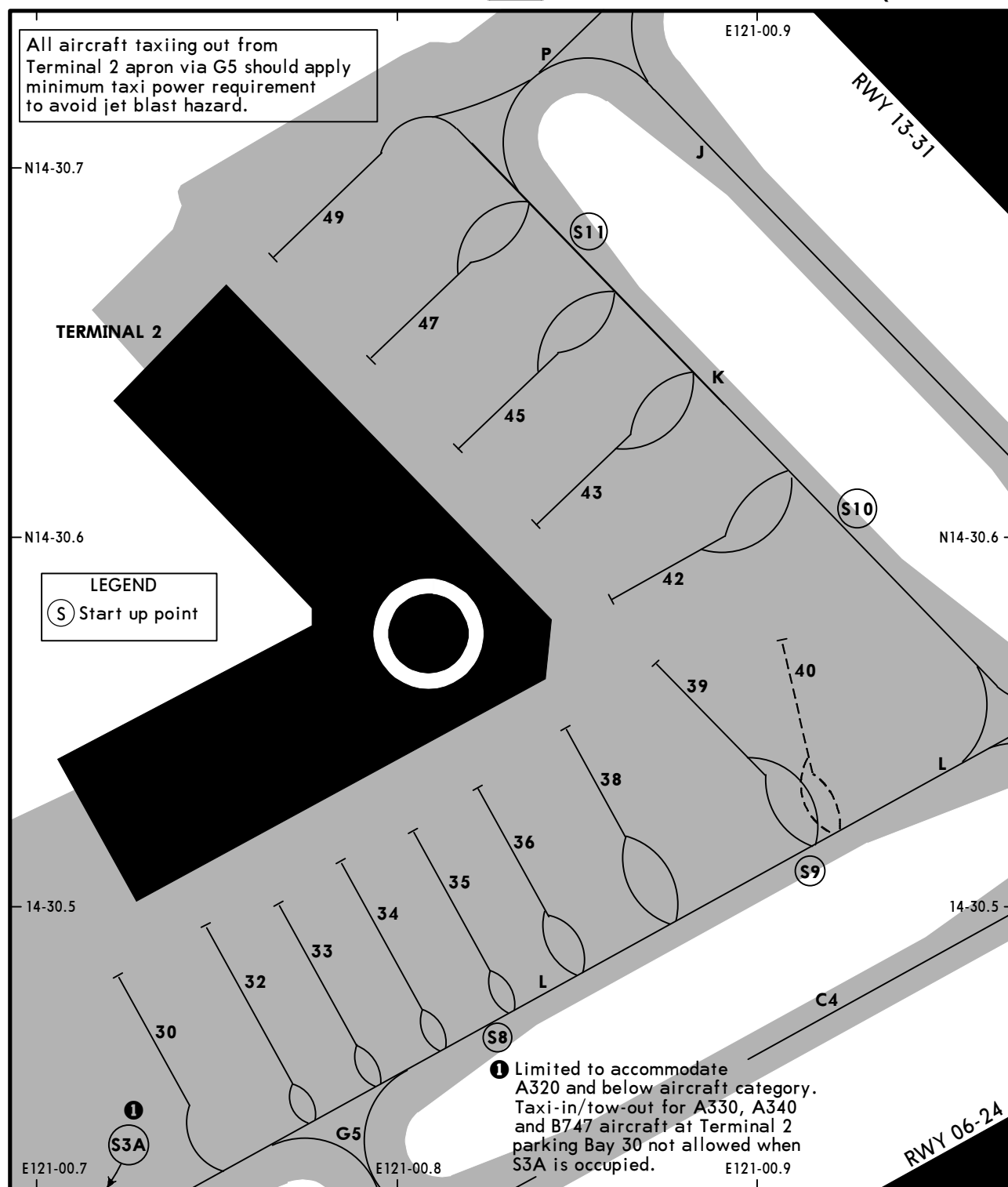
AIR CARRIER (JAA)				AIR CARRIER (FAR 121)	
LVP must be in Force All Rwys RL & CL		All Rwys RCLM (DAY only) or RL	All Rwys RCLM (DAY only) or RL	All Rwys Adequate Vis Ref	
A			RVR 400m	2 Eng	RVR 500m VIS 400m
B	RVR 200m	RVR 250m		3 & 4 Eng	
C					
D	RVR 250m	RVR 300m			



- ① DC10 & L1011 aircraft pushing back from Bay 2 not allowed to run engine no. 2 until reaching point S1.
- ② 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.
- ③ 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.

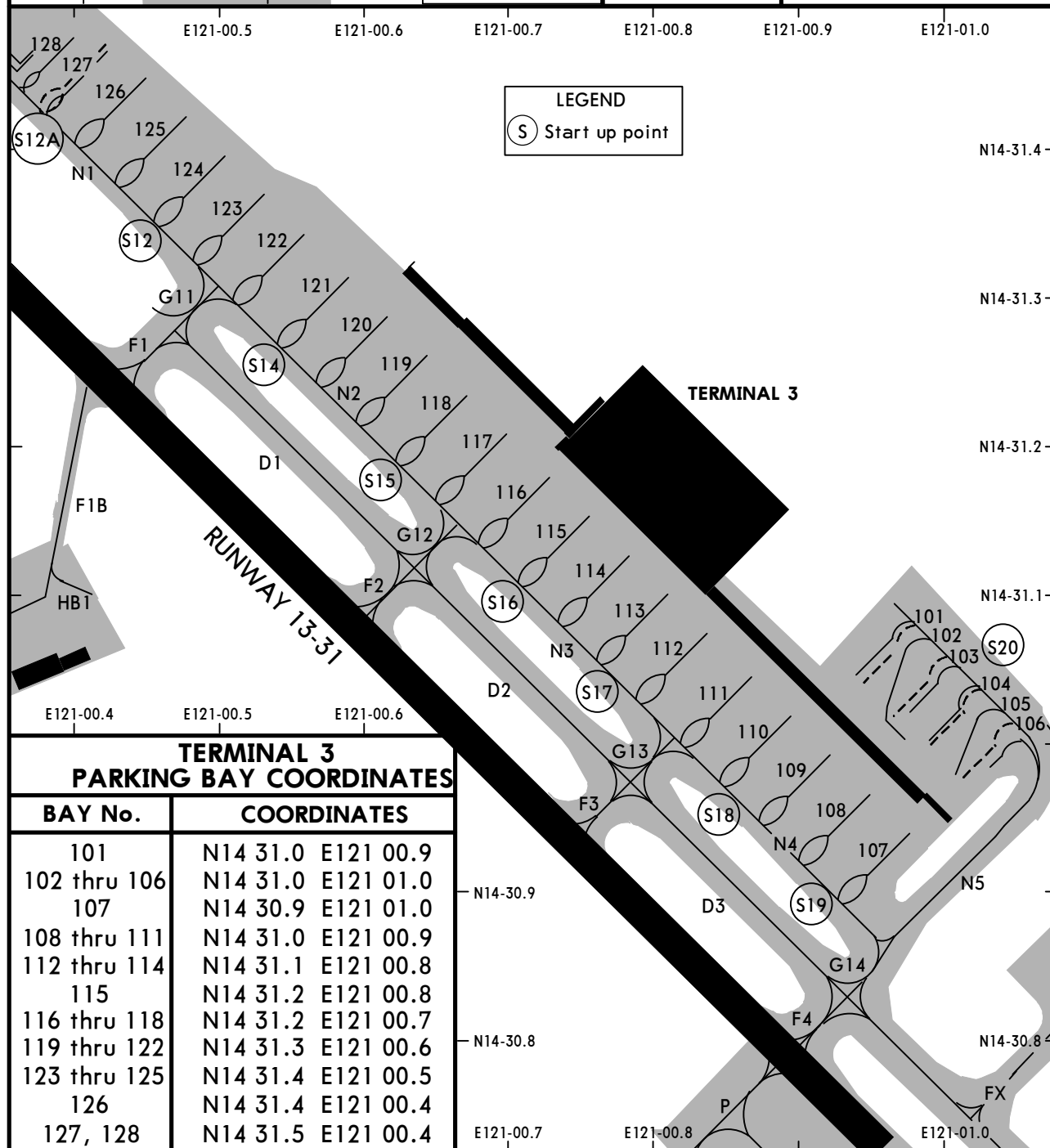
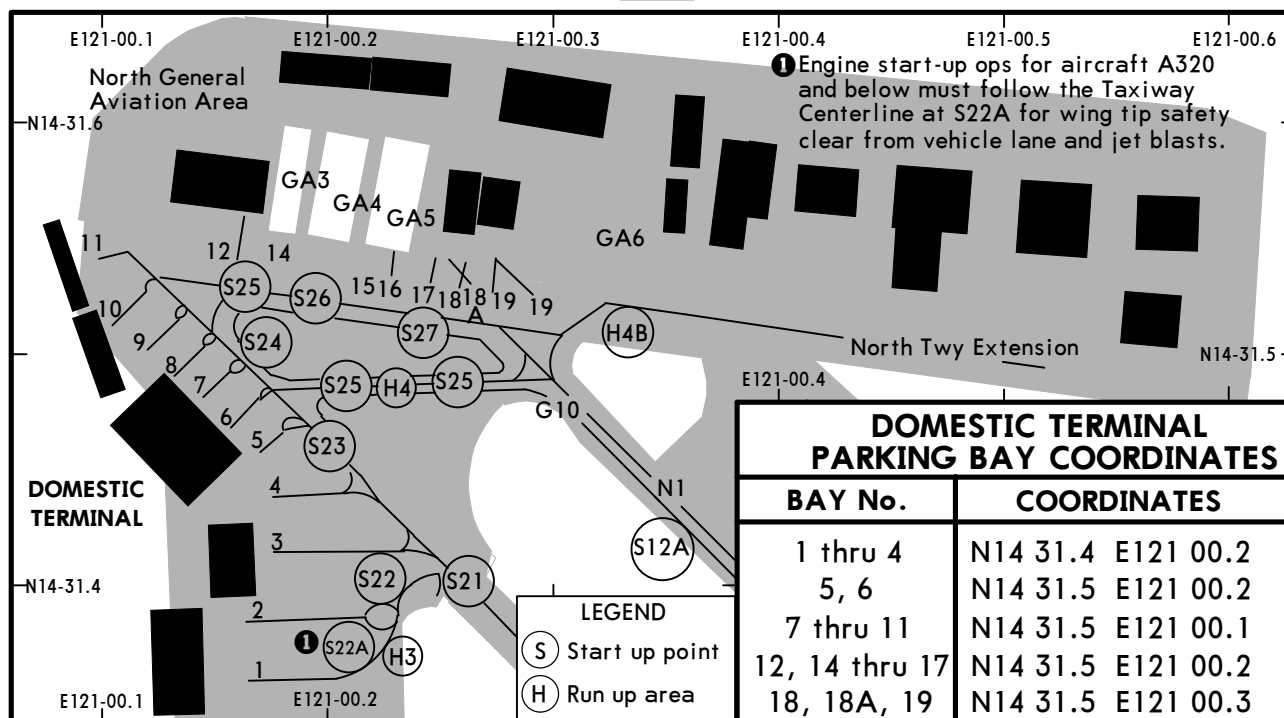
PARKING BAY COORDINATES

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



PARKING BAY COORDINATES

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



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.

- a. 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.
- b. 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).
- c. ATC clearance shall be cancelled on the expiry of the 5 minute grace period.

Procedure for departing flight from Manila utilizing L628.

- a. FL280 and FL390 are reserved FL's on L628.
- b. 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.*
- c. 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.

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

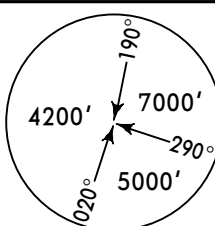
JEPPESEN MANILA, PHILIPPINES
 27 APR 12 (10-9E1) Eff 3 May
 NINOY AQUINO INTL

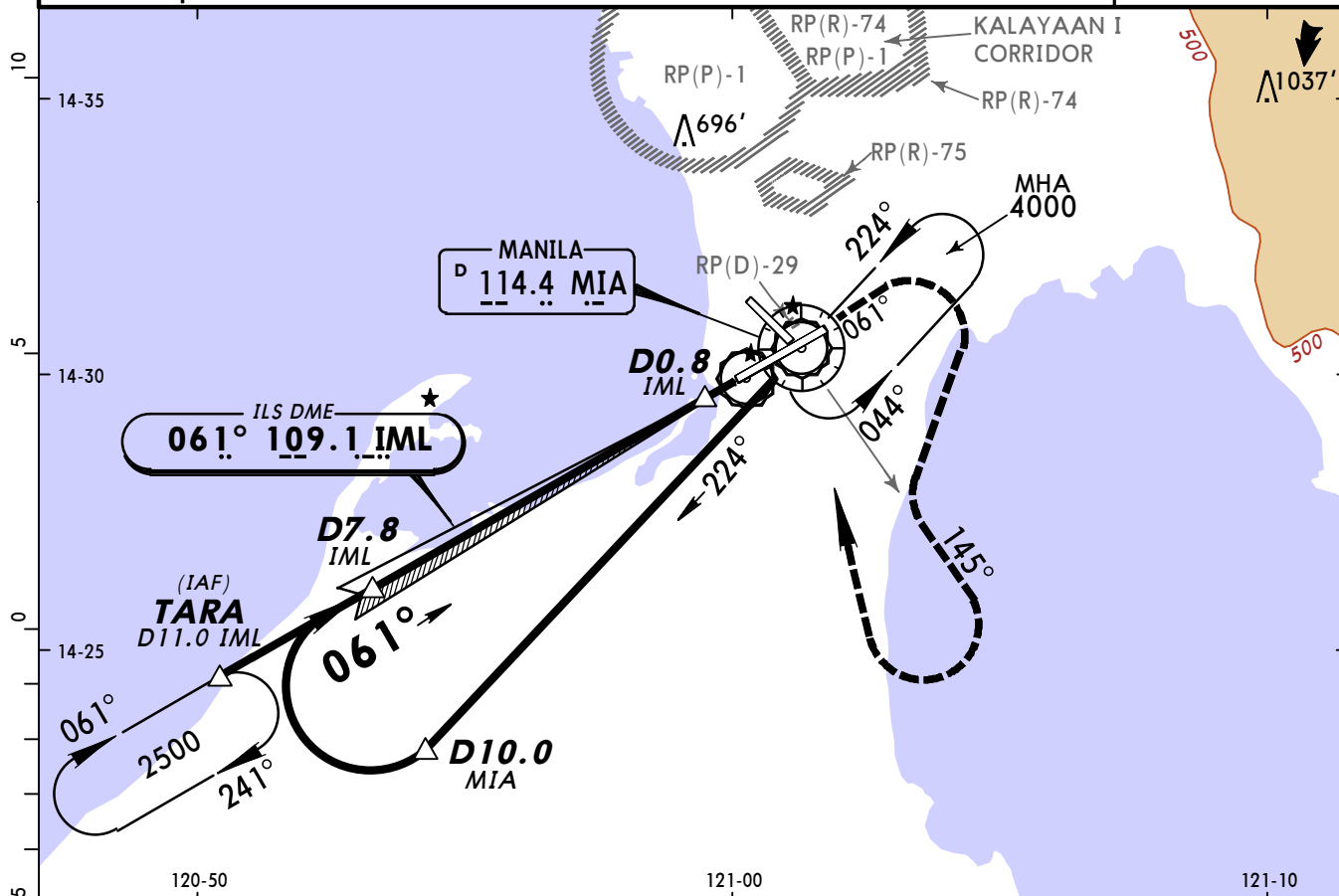
ATIS	MANILA Approach (R)	MANILA Tower	Ground
126.4	121.1	118.1	121.8

Alt Set: hPa Apt Elev: 3 hPa Trans level: FL 130 Trans alt: 11000'

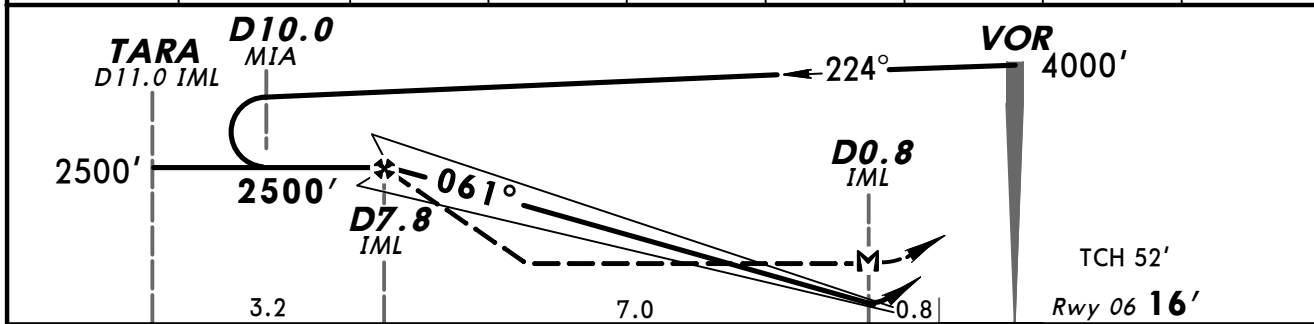


BRIEFING STRIP™

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 06 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			
1. 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'

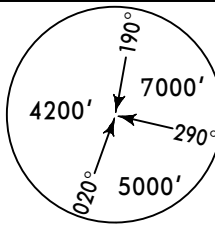


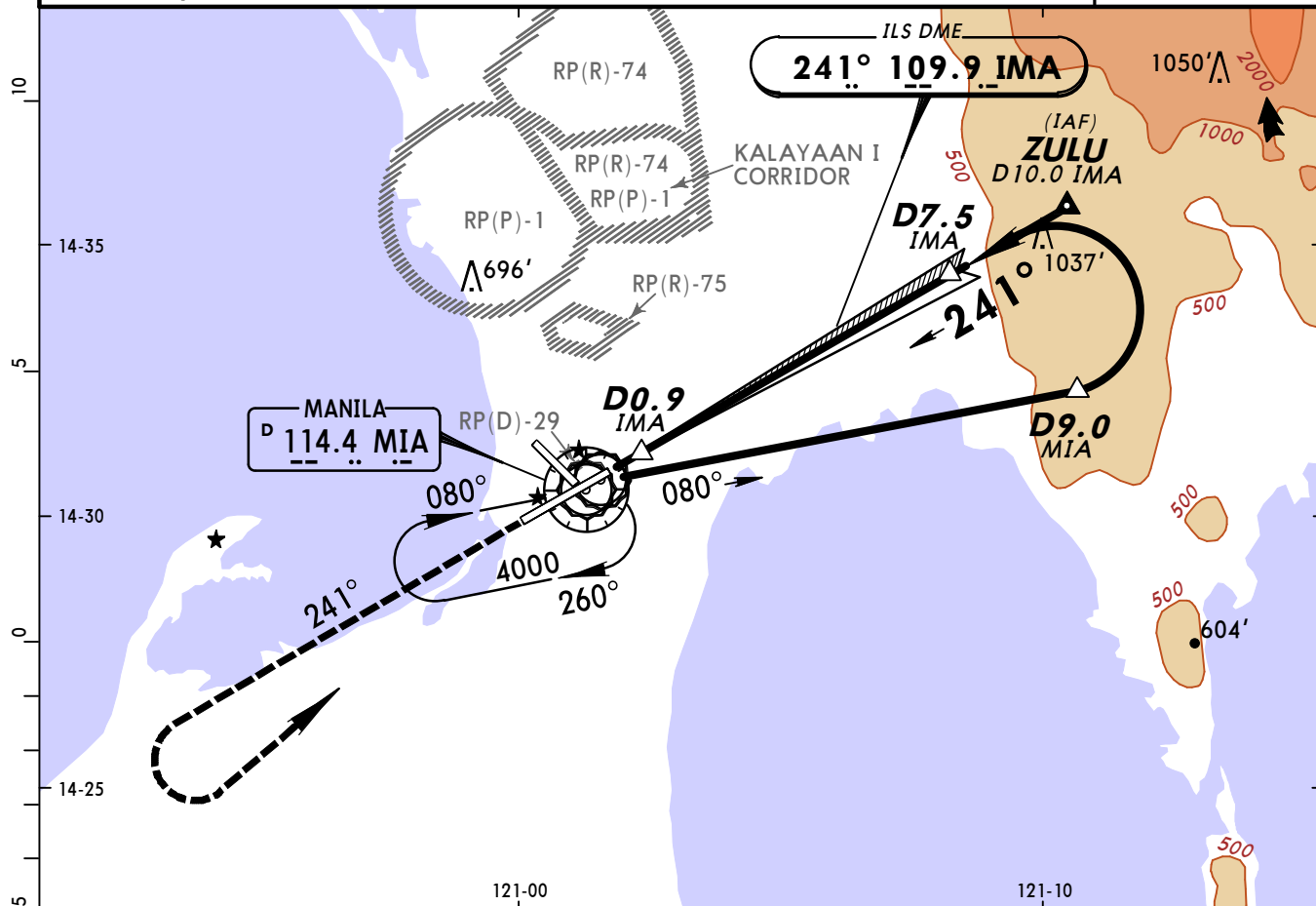
Gnd speed-Kts	70	90	100	120	140	160	PAPI ALS		1000'	on 061°	4000'	MIA
GS	3.01°	373	479	532	639	745						114.4
MAP at D0.8 IML												R-145

STRAIGHT-IN LANDING RWY06				CIRCLE-TO-LAND			
ILS DME		LOC (GS out) DME		Not Authorized North of the Field between Rwy 13 & 24			
DA(H) 280' (264')		MDA(H) 380' (364')		South of Rwy 06/24.		Northwest between Rwy 06 & 13.	
FULL	ALS out		ALS out	Max Kts	MDA(H)	MDA(H)	
A				100	470' (395') - 1.9 km	630' (555') - 1.9 km	
B	0.8 km	1.2 km	1.6 km	135	570' (495') - 2.8 km	630' (555') - 2.8 km	
C			2.0 km	180	670' (595') - 3.7 km	670' (595') - 3.7 km	
D				205	770' (695') - 4.6 km	770' (695') - 4.6 km	

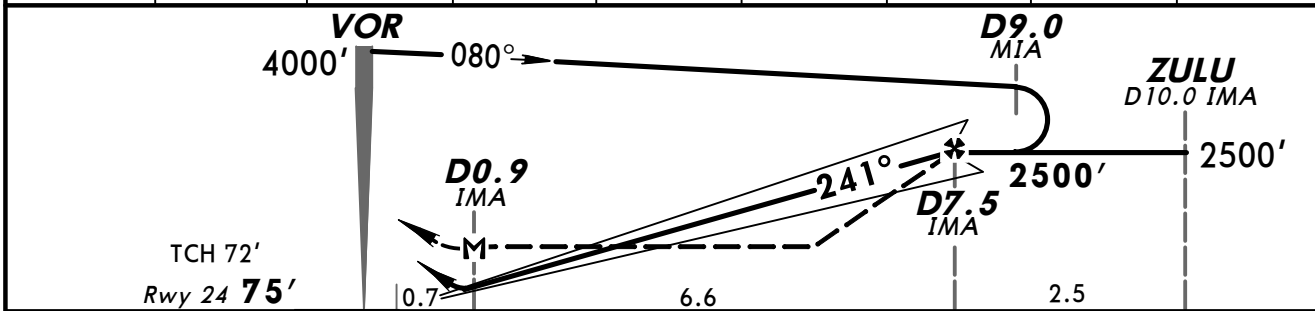
PANS OPS

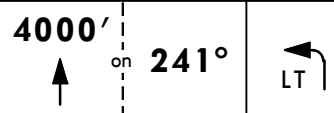
BRIEFING STRIP™

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 24 75'		 MSA MIA VOR
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		Trans alt: 11000'	
1. VOR required.						



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'

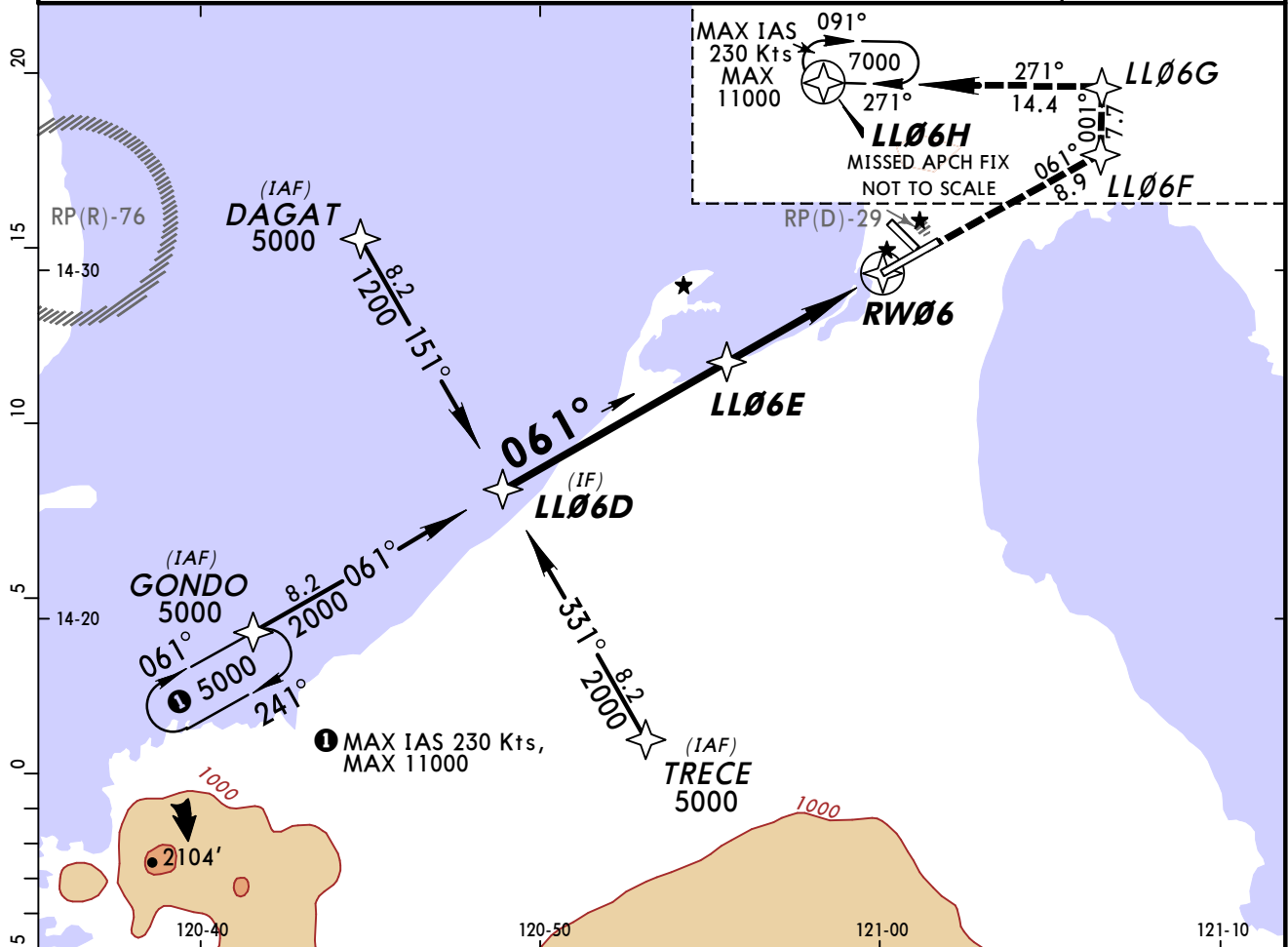


Gnd speed-Kts	70	90	100	120	140	160		MIA 114.4
GS	3.06°	379	487	541	650	758		
MAP at D0.9 IMA								

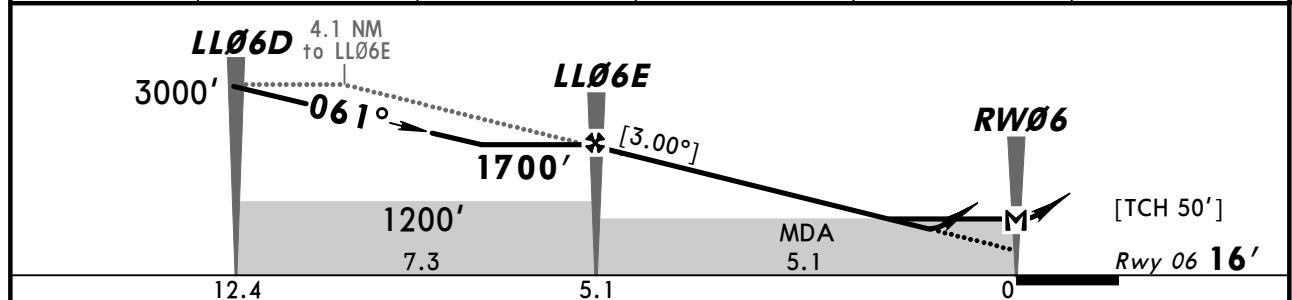
STRAIGHT-IN LANDING RWY24				CIRCLE-TO-LAND			
ILS DME		LOC (GS out) DME		Not Authorized North of the Field between Rwy 13 & 24			
DA(H) 375' (300')		MDA(H) 500' (425')		South of Rwy 06/24.		Northwest between Rwy 06 & 13.	
FULL	ALS out		ALS out	Max Kts	MDA(H)		MDA(H)
A				100	470' (395') - 1.9 km	630'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

PANS OPS

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 06 16'		6100' MSA ARP
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).						



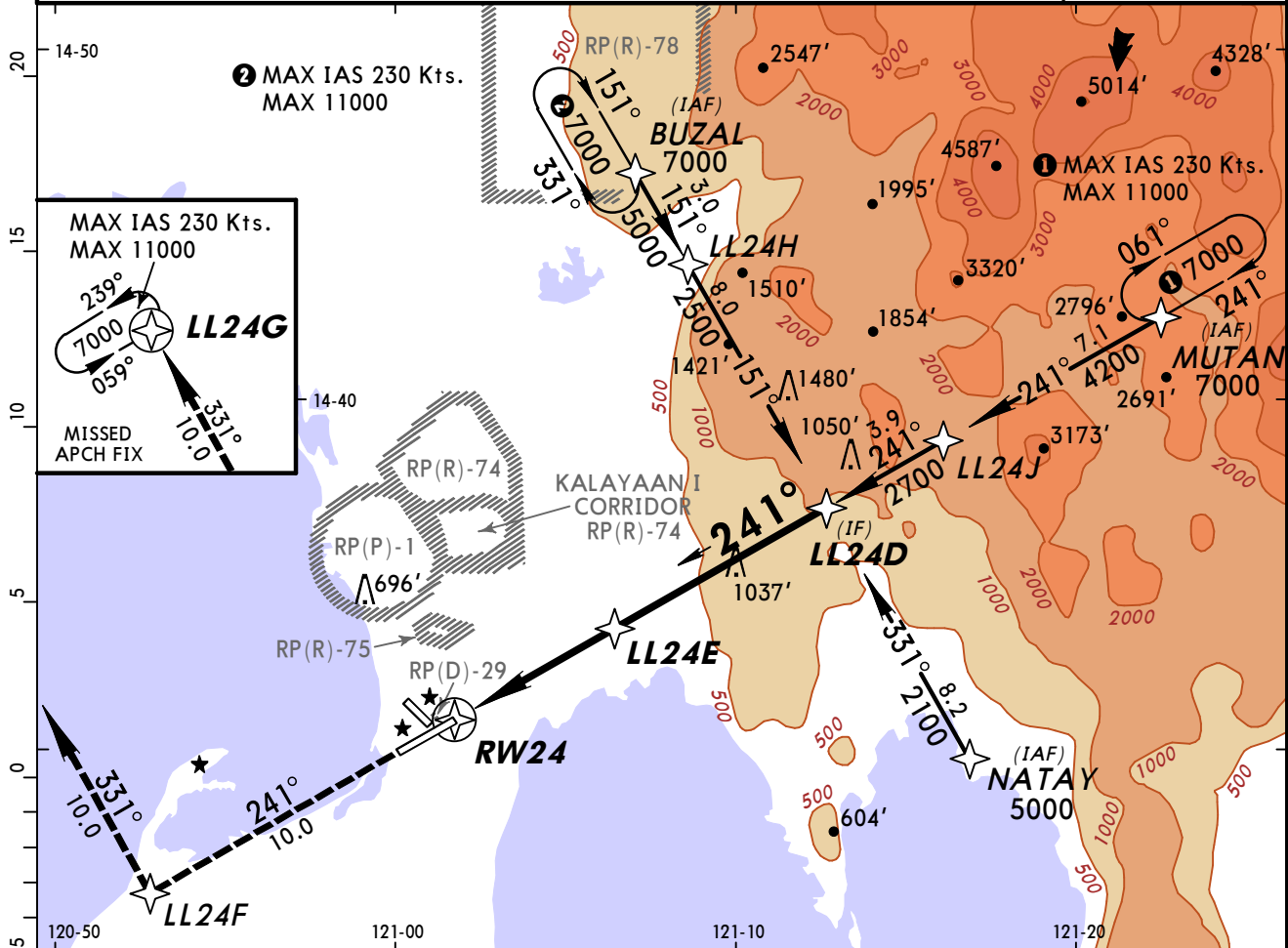
NM to RW06	LL06E	5.0	4.0	3.0	2.0
ALTITUDE	1700'	1660'	1340'	1020'	700'



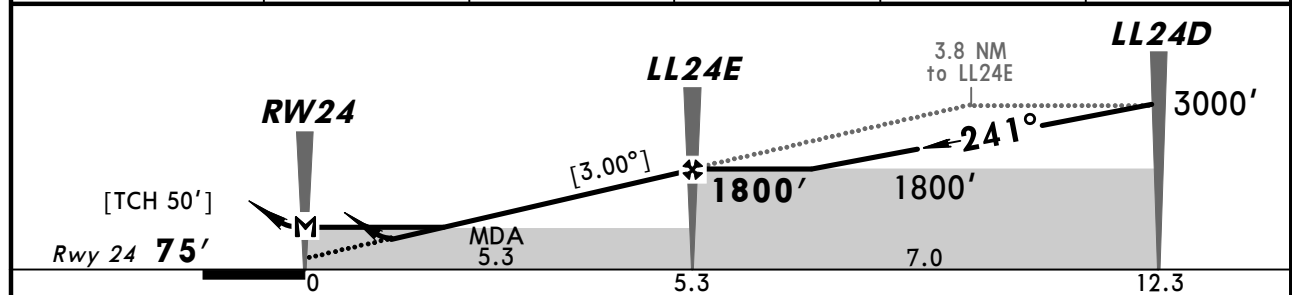
Gnd speed-Kts	70	90	100	120	140	160	PAPI ALS	↑ on 061° LL06F
Descent angle [3.00°]	372	478	531	637	743	849		
MAP at RW06								

STRAIGHT-IN LANDING RWY 06				
LNAV/VNAV		LNAV		
DA(H) 410' (394')		MDA(H) 460' (444')		
ALS out		ALS out		
A	1.6 km		1.6 km	
B				
C				
D				

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) 430' (355')	Apt Elev 75' Rwy 24 75'	6100' MSA ARP	
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		
1. Baro-VNAV not authorized below 0°C (32°F).					Trans alt: 11000'	

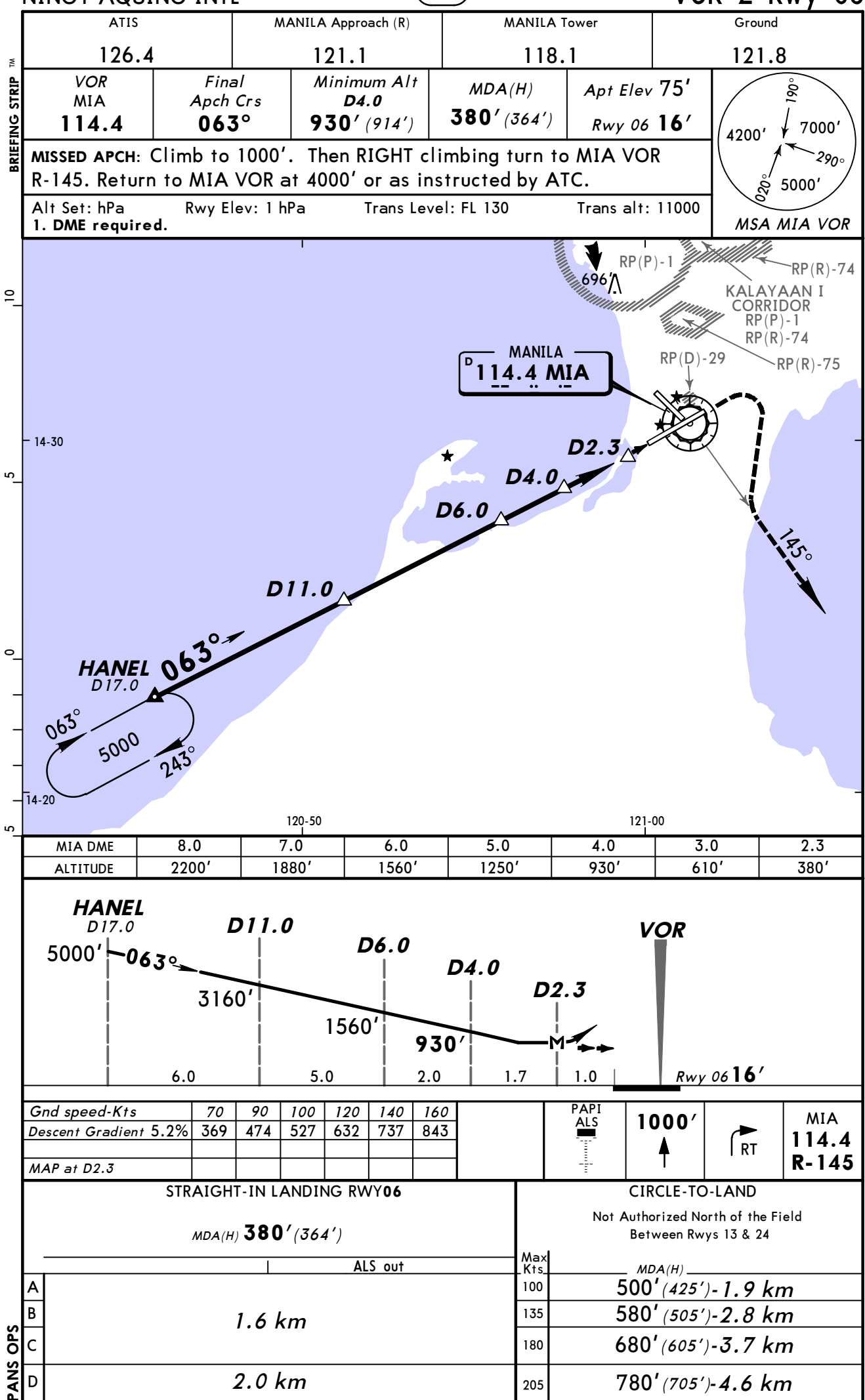


NM to RW24	2.0	3.0	4.0	5.0	5.3
ALTITUDE	760'	1080'	1400'	1720'	1800'

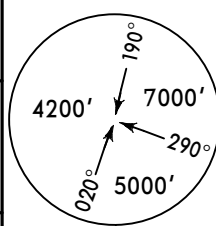


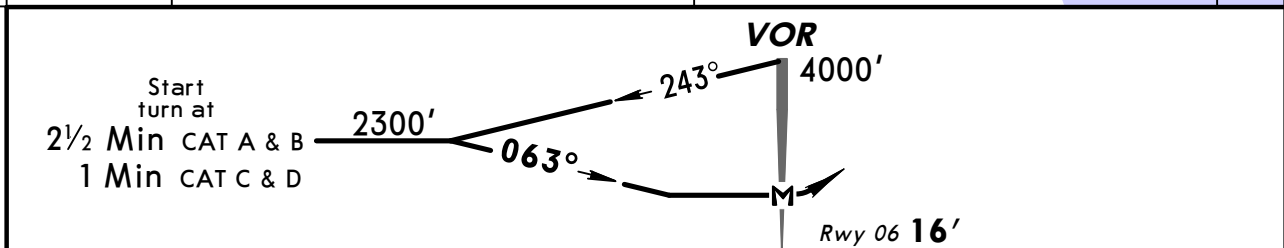
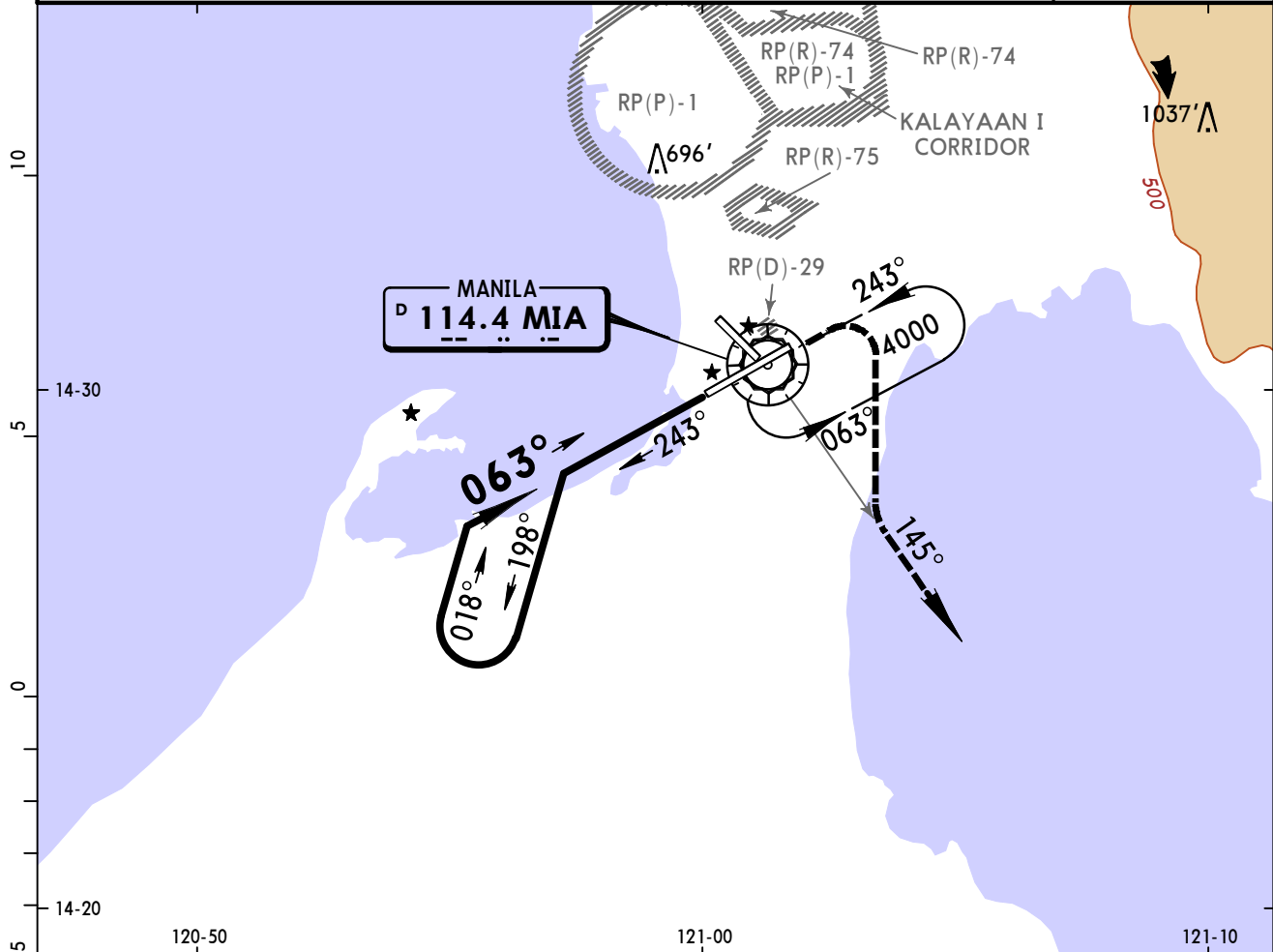
Gnd speed-Kts	70	90	100	120	140	160	PAPI ALS
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STRAIGHT-IN LANDING RWY 24										
LNAV/VNAV DA(H) 430' (355')					LNAV MDA(H) 530' (455')					
ALS out					ALS out					
A	1.6 km					1.6 km				
B										
C										
D										



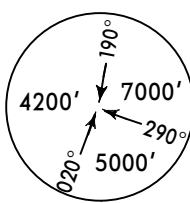
BRIEFING STRIP™

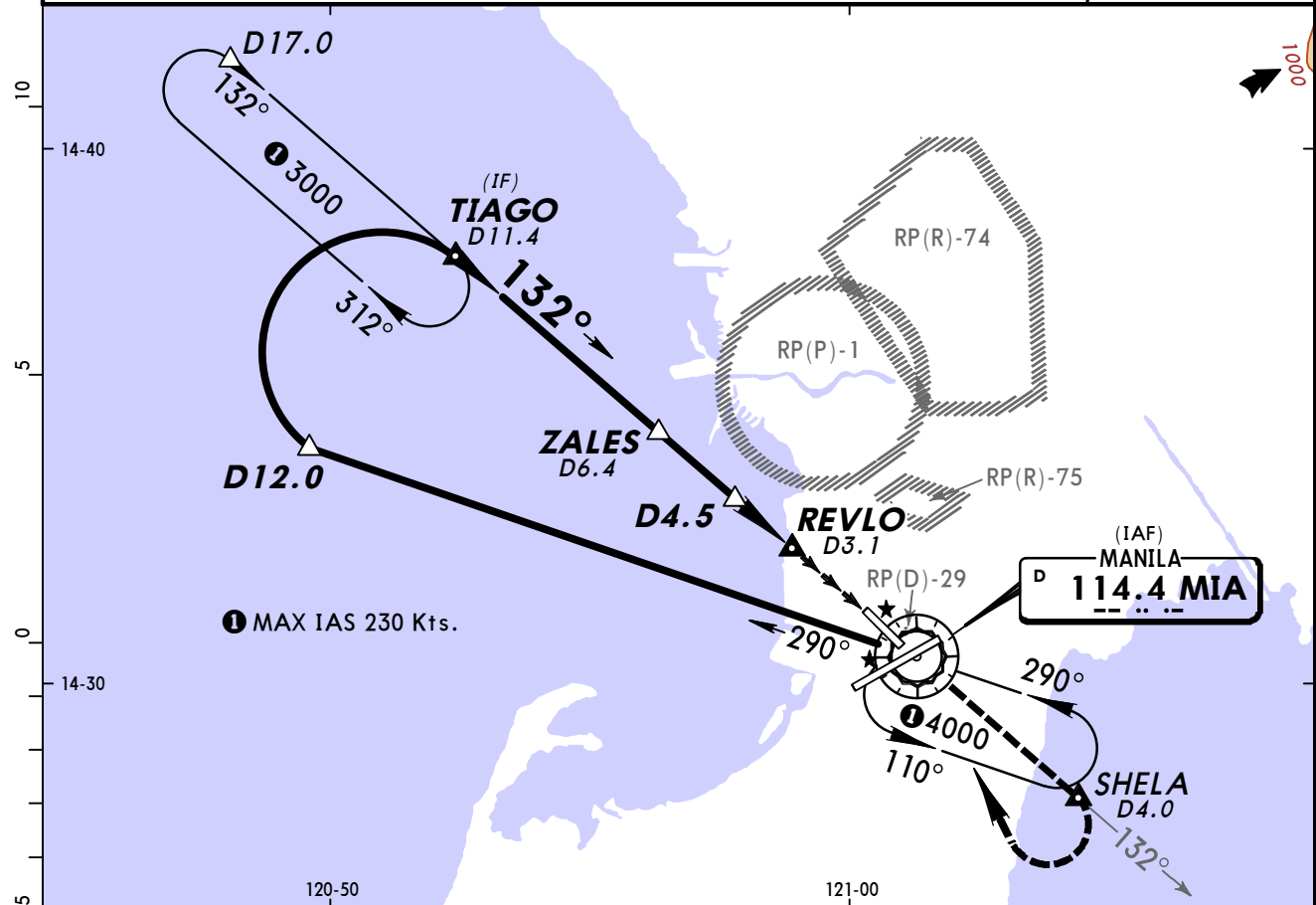
ATIS 126.4		MANILA Approach (R) 121.1		MANILA Tower 118.1		Ground 121.8	
VOR MIA 114.4	Final Apch Crs 063°	No FAF		MDA(H) 660' (644')	Apt Elev 75' Rwy 06 16'		 MSA MIA VOR
MISSED APCH: Climb to 1000', then RIGHT climbing turn to MIA VOR R-145. Return to MIA VOR at 4000' or as instructed by ATC.							
Alt Set: hPa Rwy Elev: 1 hPa Trans level: FL 130 Trans alt: 11000' 1. Based on TAS 140 kts (still air) for Cat A & B aircraft only and based on TAS of 225 kts (still air) for Cat C & D aircraft only.							



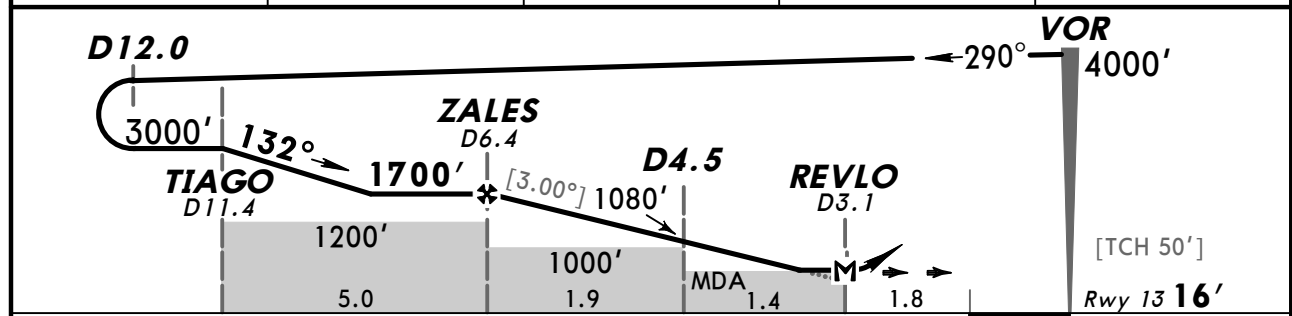
								PAPI ALS	1000'	RT	MIA 114.4 R-145
MAP at VOR											

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				135	660' (585') - 2.8 km		
C	2.8 km			180	680' (605') - 3.7 km		
D	3.7 km			205	780' (705') - 4.6 km		

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 ZALEZ 1700' (1684')	MDA(H) 650' (634')	Apt Elev 75' Rwy 13 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 1. DME required.		Rwy Elev: 1 hPa		Trans level: FL 130 Trans alt: 11000'		
MSA MIA VOR						



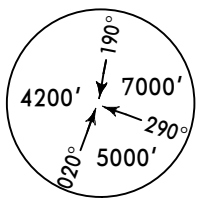
MIA DME	6.4	5.0	4.0	3.1
ALTITUDE	1700'	1244'	926'	650'

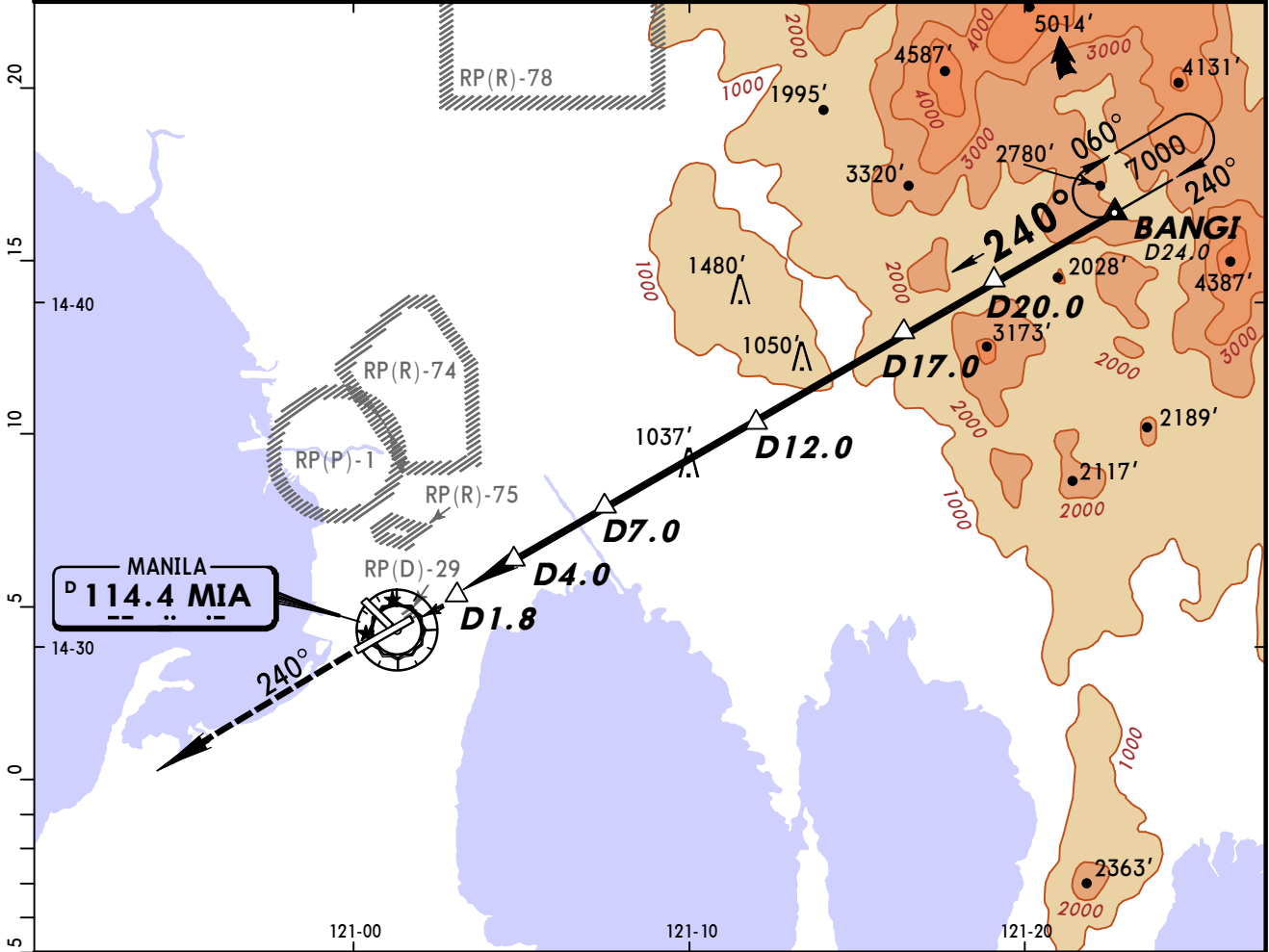


Gnd speed-Kts	70	90	100	120	140	160		REIL PAPI	4000' ↑	D→	MIA 114.4
Descent Angle [3.00°]	372	478	531	637	743	849					
MAP at REVLO											

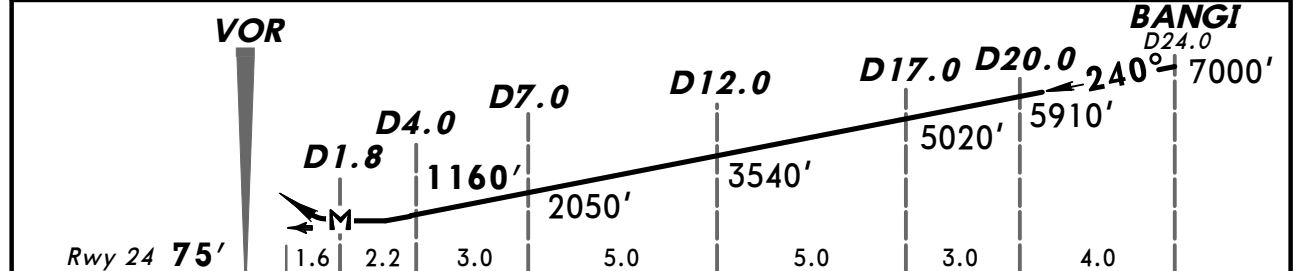
STRAIGHT-IN LANDING RWY 13						CIRCLE-TO-LAND					
MDA(H) 650' (634')											
A	3.7 km					Max Kts	NOT APPLICABLE				
B						A					
C						B					
D	NOT APPLICABLE					C					
						D					

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 D4.0 1160' (1085')	MDA(H) 750' (675')	Apt Elev 75' Rwy 24 75'		 MSA MIA VOR
MISSED APCH: Climb outbound on MIA VOR R-240 to 4000'. Return to MIA VOR or as instructed by ATC.						
Alt Set: hPa 1. DME required.		Rwy Elev: 3 hPa		Trans level: FL 130 Trans alt: 11000'		



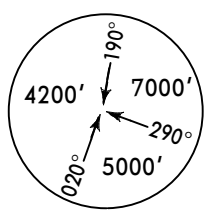
MIA DME	3.0	4.0	5.0	6.0	7.0	8.0
ALTITUDE	860'	1160'	1450'	1750'	2050'	2350'

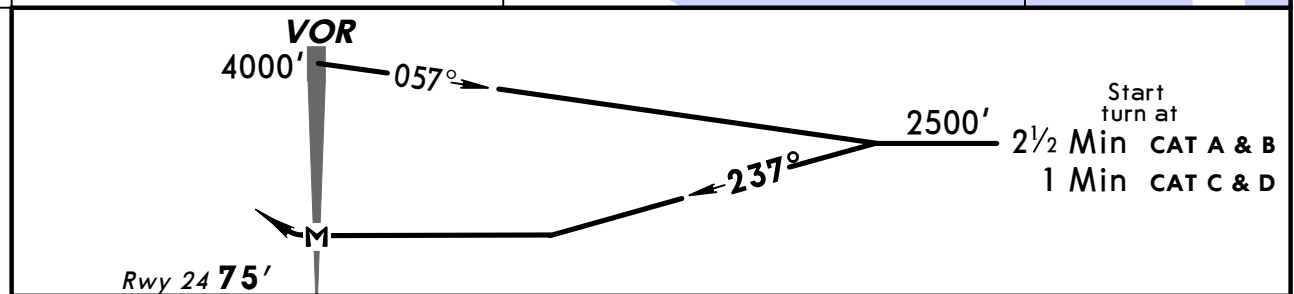
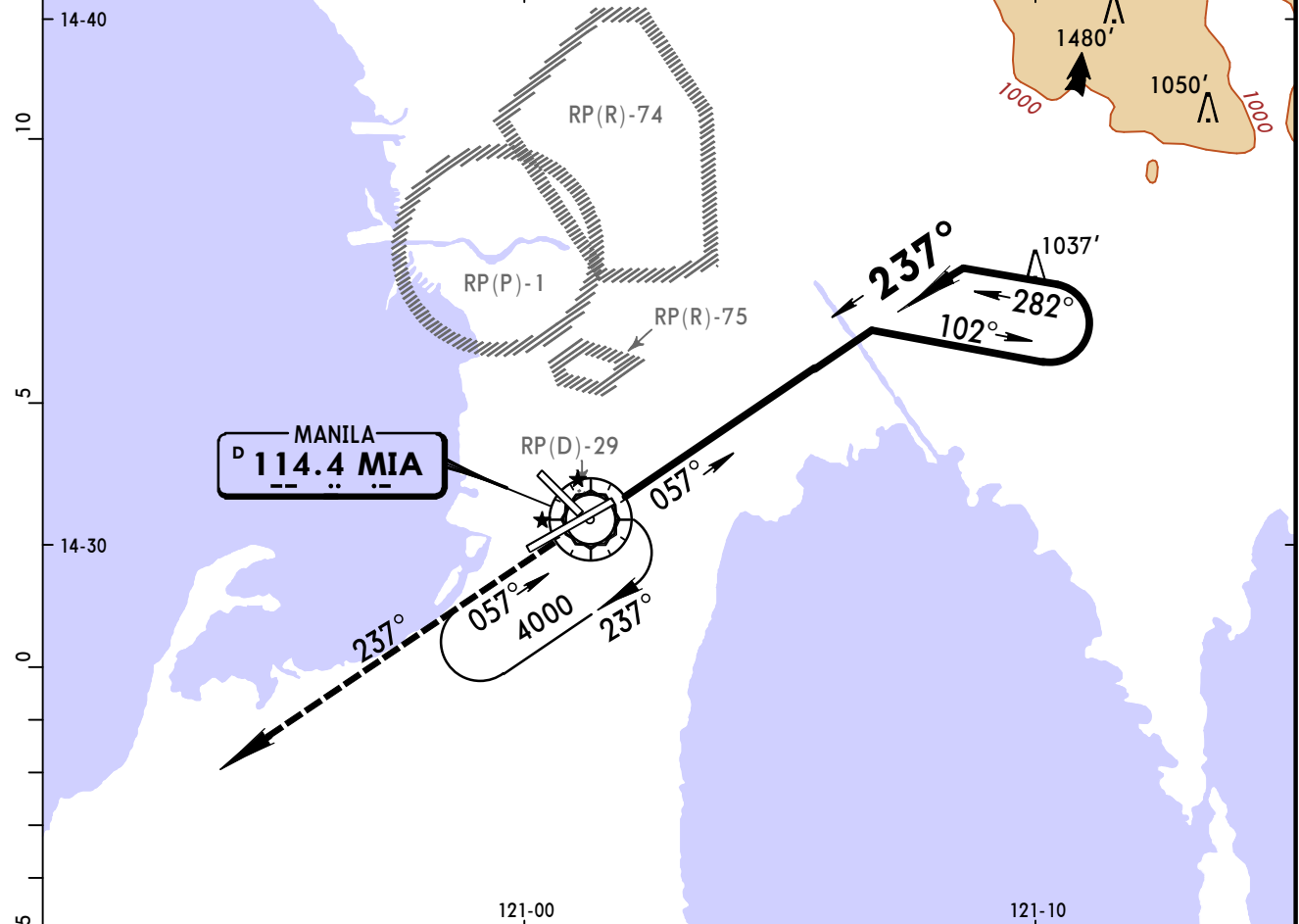


Gnd speed-Kts	70	90	100	120	140	160		MIA 114.4 R-240
Descent Gradient 4.9%	347	447	496	595	695	794		
MAP at D1.8								

STRAIGHT-IN LANDING RWY 24			CIRCLE-TO-LAND		
MDA(H) 750' (675')			Not Authorized North of the Field Between Rwy 13 & 24		
		ALS out	Max Kts	MDA(H)	
A	1.6 km		100	840' (765')- 1.9 km	
B			135	1030' (955')- 2.8 km	
C	2.0 km		180	1130' (1055')- 3.7 km	
D	2.4 km		205	1130' (1055')- 4.6 km	

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) 840' (765')	Apt Elev 75' Rwy 24 75'	 MSA MIA VOR
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.						



						PAPI ALS	4000' MIA on 114.4 R-237
MAP at VOR							

STRAIGHT-IN LANDING RWY24				CIRCLE-TO-LAND			
MDA(H) 840' (765')				Not Authorized North of the Field Between Rwy 13 & 24			
ALS out				Max Kts	MDA(H)		
A	1.6 km			100	840' (765') - 1.9 km		
B				135	1030' (955') - 2.8 km		
C	2.0 km			180	1130' (1055') - 3.7 km		
D				205	1130' (1055') - 4.6 km		

PANS OPS

MANILA, (NINYO AQUINO INTL - RPLL)

TERMINAL CHART CHANGE NOTICES

Chart Change Notices for Airport RPLL

Type: Terminal

Effectivity: Permanent

Begin Date: Immediately

End Date: No end date

(12-1/12-2) CAO, Manila VOR (MIA) freq. changed from 113.8 to 114.4

Type: Terminal

Effectivity: Temporary

Begin Date: Immediately

End Date: Until Further Notice

(10-9B), Terminal 1, parking of acft B773 and A346 not allowed at parking bays 6 & 14.