

MACAO SPECIAL ADMINISTRATIVE REGION
PEOPLE'S REPUBLIC OF CHINA
CIVIL AVIATION AUTHORITY

Postal Address: Alameda Dr. Carlos D'Assumpção, 336-342
Centro Comercial Cheng Feng, 18^o andar
Macao, China
AFTN ADDRESS: VMMCYAYX
TELEPHONE NUMBER: (853) 2851 1213
FAX NUMBER: (853) 2833 8089
E-MAIL: aacm@aacm.gov.mo

AIP MACAO
AIRAC AMDT
03/25
18 SEP 2025

IMPLEMENTATION

30 OCT 2025

AIRAC

1. Significant Information and Changes :

- 1.1 The Hong Kong radar frequencies will be changed to 123.95 MHz (primary) / 132.225 MHz (secondary) for RWY 16 SIDs and the departure frequencies will be changed to 122.0 MHz (primary) / 124.05 MHz (secondary) for RWY 34 SIDs. All related charts are updated.
- 1.2 WEF 0000 UTC 30 OCT 2025, waypoint GRUPA in HK FIR will no longer be available and the related RWY 16/34 GRUPA SIDs will be replaced by the SIDs "SKATE" as summarized below:

	Existing SIDs	New SIDs
RWY 34	GRUPA 4T	SKATE 1T
	GRUPA 5U	SKATE 1U
RWY 16	GRUPA 2P	SKATE 1P

2. Destroy the following pages and/or charts on implementation date

GEN 0.4-1/2	21 AUG 25/21 AUG 25
AD	
2 – VMMC – 25/26	13 JUL 23/07 AUG 25
2 – VMMC – 57/57A	28 NOV 24/28 NOV 24
2 – VMMC – 58/59	07 AUG 25/07 AUG 25
2 – VMMC – 60/60C	07 AUG 25/07 AUG 25
2 – VMMC – 60F/61	07 AUG 25/07 AUG 25
2 – VMMC – 62/62A	28 NOV 24/28 NOV 24
2 – VMMC – 62B/62C	28 NOV 24/07 AUG 25
2 – VMMC – 62D/62E	28 NOV 24/28 NOV 24
2 – VMMC – 62F/63	28 NOV 24/07 AUG 25
2 – VMMC – 63A/64A	07 AUG 25/07 AUG 25
2 – VMMC – 64D/64E	07 AUG 25/07 AUG 25
2 – VMMC – 64F/64G	28 NOV 24/28 NOV 24
2 – VMMC – 64H/65	28 NOV 24/07 AUG 25
2 – VMMC – 65A/66A	23 FEB 23/07 AUG 25
2 – VMMC – 66B/66C	23 FEB 23/07 AUG 25
2 – VMMC – 66D/67	27 JAN 22/07 AUG 25
2 – VMMC – 68/68A	27 JAN 22/07 AUG 25
2 – VMMC – 68B/68C	27 JAN 22/07 AUG 25
2 – VMMC – 69/69A	07 AUG 25/22 FEB 24

3. Insert the following new pages and/or charts on implementation date

GEN 0.4-1/2	30 OCT 25/30 OCT 25
AD	
2 – VMMC – 25/26	13 JUL 23/30 OCT 25
2 – VMMC – 57/57A	30 OCT 25/28 NOV 24
2 – VMMC – 58/59	30 OCT 25/30 OCT 25
2 – VMMC – 60/60C	07 AUG 25/30 OCT 25
2 – VMMC – 60F/61	07 AUG 25/30 OCT 25
2 – VMMC – 62/62A	30 OCT 25/30 OCT 25
2 – VMMC – 62B/62C	30 OCT 25/30 OCT 25
2 – VMMC – 62D/62E	30 OCT 25/30 OCT 25
2 – VMMC – 62F/63	30 OCT 25/30 OCT 25
2 – VMMC – 63A/64A	07 AUG 25/30 OCT 25
2 – VMMC – 64D/64E	07 AUG 25/30 OCT 25
2 – VMMC – 64F/64G	30 OCT 25/30 OCT 25
2 – VMMC – 64H/65	30 OCT 25/30 OCT 25
2 – VMMC – 65A/66A	23 FEB 23/30 OCT 25
2 – VMMC – 66B/66C	23 FEB 23/30 OCT 25
2 – VMMC – 66D/67	27 JAN 22/30 OCT 25
2 – VMMC – 68/68A	27 JAN 22/30 OCT 25
2 – VMMC – 68B/68C	27 JAN 22/30 OCT 25
2 – VMMC – 69/69A	30 OCT 25/22 FEB 24

2 – VMMC – 69B/69C	07 AUG 25/07 AUG 25	2 – VMMC – 69B/69C	30 OCT 25/30 OCT 25
2 – VMMC – 69D/69E	07 AUG 25/22 FEB 24	2 – VMMC – 69D/69E	30 OCT 25/22 FEB 24
2 – VMMC – 70/-	07 AUG 25/-	2 – VMMC – 70/-	30 OCT 25/-
2 – VMMC – 71/71A	07 AUG 25/20 FEB 25	2 – VMMC – 71/71A	30 OCT 25/20 FEB 25
2 – VMMC – 71B/-	07 AUG 25/-	2 – VMMC – 71B/-	30 OCT 25/-
2 – VMMC – 71C/-	07 AUG 25/-	2 – VMMC – 71C/-	30 OCT 25/-
2 – VMMC – 71D/71E	07 AUG 25/20 FEB 25	2 – VMMC – 71D/71E	30 OCT 25/20 FEB 25
2 – VMMC – 71F/71G	07 AUG 25/20 FEB 25	2 – VMMC – 71F/71G	30 OCT 25/20 FEB 25
2 – VMMC – 72/-	07 AUG 25/-	2 – VMMC – 72/-	30 OCT 25/-

4. INCORPORATE the following manuscript amendments :

NIL.

5. Record entry of Amendment on page GEN 0.2 – 1

6. This Amendment incorporates information contained in the following AIP Supplement and/or NOTAM which are hereby cancelled:

AIP Supplement: NIL.

NOTAM: NIL

GEN 0.4 CHECKLIST OF AIP PAGES

PART 1 - GENERAL (GEN)		2.1-2	27 MAR 08	4.2-1	02 JAN 97
		2.2-1	02 JAN 97		
GEN 0		2.2-2	02 JAN 97	PART 2 - EN-ROUTE (ENR)	
0.1-1	01 FEB 07	2.2-3	02 JAN 97		
0.1-2	01 FEB 07	2.2-4	02 JAN 97	ENR 0	
0.1-3	01 FEB 07	2.2-5	02 JAN 97	0.6-1	02 JAN 97
0.2-1	11 JUN 15	2.2-6	02 JAN 97	0.6-2	02 JAN 97
0.3-1	02 JAN 97	2.2-7	16 JUN 22		
0.4-1	30 OCT 25	2.2-8	02 JAN 97	ENR 1	
0.4-2	30 OCT 25	2.2-9	26 APR 18	1.1-1	01 FEB 07
0.5-1	02 JAN 97	2.3-1	30 JUL 98	1.1-2	01 FEB 07
0.6-1	05 APR 01	2.4-1	25 JUL 02	1.2-1	01 FEB 07
0.6-2	05 APR 01	2.5-1	20 FEB 14	1.2-2	04 JAN 18
0.6-3	02 JAN 97	2.6-1	02 JAN 97	1.3-1	01 FEB 07
		2.6-2	02 JAN 97	1.4-1	05 APR 01
GEN 1		2.7-1	30 JUL 98	1.5-1	24 JUN 04
1.1-1	20 FEB 14	2.7-2	02 JAN 97	1.5-2	24 JUN 04
1.1-2	20 FEB 14			1.5-3	24 JUN 04
1.1-3	16 JUN 22	GEN 3		1.6-1	11 AUG 11
1.2-1	16 JUN 22	3.1-1	26 APR 18	1.7-1	10 FEB 00
1.2-2	24 NOV 16	3.1-2	01 DEC 22	1.7-2	30 JUL 98
1.2-3	24 NOV 16	3.1-3	19 OCT 23	1.8-1	02 JAN 97
1.2-4	24 NOV 16	3.1-4	13 JUL 23	1.9-1	02 JAN 97
1.2-5	24 NOV 16	3.1-5	19 OCT 23	1.10-1	21 AUG 25
1.2-6	19 OCT 23	3.1-6	16 JUN 22	1.10-2	16 JUN 22
1.3-1	24 NOV 16	3.1-7	16 JUN 22	1.11-1	23 APR 20
1.3-2	24 NOV 16	3.2-1	01 FEB 07	1.12-1	24 FEB 22
1.3-3	24 NOV 16	3.2-2	01 FEB 07	1.12-2	24 FEB 22
1.3-4	24 NOV 16	3.2-3	20 MAR 14	1.12-3	24 FEB 22
1.3-5	24 NOV 16	3.3-1	11 AUG 11	1.13-1	12 JUL 12
1.3-6	24 NOV 16	3.3-2	26 APR 18	1.14-1	01 FEB 07
1.3-7	24 NOV 16	3.4-1	26 APR 18	1.14-2	01 FEB 07
1.3-8	24 NOV 16	3.4-2	11 AUG 11	1.14-3	01 FEB 07
1.3-9	20 FEB 14	3.4-3	12 JUL 12	1.14-4	01 FEB 07
1.3-10	20 FEB 14	3.4-4	12 JUL 12	1.14-5	01 FEB 07
1.4-1	19 NOV 20	3.4-5	10 FEB 00	1.14-7	17 APR 14
1.4-2	19 NOV 20	3.4-6	02 JAN 97	1.14-8	17 APR 14
1.5-1	19 OCT 23	3.5-1	20 FEB 14	1.14-9	17 APR 14
1.6-1	13 JUL 23	3.5-2	20 MAR 14	1.14-10	17 APR 14
1.6-2	21 AUG 25	3.5-3	20 FEB 14	1.14-11	17 APR 14
1.6-3	23 MAY 19	3.5-4	20 MAR 14	ENR 2	
1.6-4	03 APR 25	3.5-5	23 NOV 17		
1.6-5	21 AUG 25	3.5-6	23 NOV 17	2.1-1	25 FEB 10
1.6-6	21 AUG 25	3.5-7	23 NOV 17	2.2-1	02 JAN 97
1.6-7	21 AUG 25	3.6-1	13 JUL 23		
1.6-8	21 AUG 25	3.6-2	11 JUN 15	ENR 3	
1.6-9	13 JUL 23	3.6-3	11 JUN 15		
1.7-1	03 APR 25	3.6-5	10 FEB 00	3.1-1	02 JAN 97
1.7-2	21 AUG 25			3.2-1	02 JAN 97
1.7-3	03 APR 25	GEN 4		3.3-1	02 JAN 97
1.7-4	03 APR 25	4.1-1	01 FEB 07	3.4-1	08 SEP 22
GEN 2		4.1-2	01 FEB 07	3.4-2	08 SEP 22
2.1-1	27 MAR 08	4.1-3	18 APR 13	3.4-2A	28 JAN 21
		4.1-4	18 APR 13	3.4-3	08 SEP 22
				3.4-3A	19 NOV 20

3.4-4	22 FEB 24	2 - VMMC - 12	01 FEB 07	2 - VMMC - 64 F	30 OCT 25
3.4-5	22 FEB 24	2 - VMMC - 13	25 JUL 24	2 - VMMC - 64 G	30 OCT 25
3.5-1	02 JAN 97	2 - VMMC - 14	25 JUL 24	2 - VMMC - 64 H	30 OCT 25
3.6-1	02 JAN 97	2 - VMMC - 15	25 JUL 24	2 - VMMC - 65	30 OCT 25
		2 - VMMC - 16	25 JUL 24	2 - VMMC - 65 A	23 FEB 23
ENR 4		2 - VMMC - 17	25 JUL 24	2 - VMMC - 66 A	30 OCT 25
4.1-1	02 JAN 97	2 - VMMC - 18	25 JUL 24	2 - VMMC - 66 B	23 FEB 23
4.2-1	02 JAN 97	2 - VMMC - 18 A	25 JUL 24	2 - VMMC - 66 C	30 OCT 25
4.3-1	02 JAN 97	2 - VMMC - 19	25 JUL 24	2 - VMMC - 66 D	27 JAN 22
4.4-1	04 JAN 18	2 - VMMC - 19 A	25 JUL 24	2 - VMMC - 67	30 OCT 25
		2 - VMMC - 20	13 JUL 23	2 - VMMC - 68	27 JAN 22
ENR 5		2 - VMMC - 21	18 APR 13	2 - VMMC - 68 A	30 OCT 25
5.1-1	04 JAN 18	2 - VMMC - 22	18 APR 13	2 - VMMC - 68 B	27 JAN 22
5.2-1	02 JAN 97	2 - VMMC - 23	18 APR 13	2 - VMMC - 68 C	30 OCT 25
5.3-1	02 JAN 97	2 - VMMC - 24	28 MAR 19	2 - VMMC - 68 D	28 JAN 21
5.4-1	02 JAN 97	2 - VMMC - 25	13 JUL 23	2 - VMMC - 68 E	27 JAN 22
5.5-1	02 JAN 97	2 - VMMC - 26	30 OCT 25	2 - VMMC - 69	30 OCT 25
5.6-1	02 JAN 97	2 - VMMC - 27	18 APR 13	2 - VMMC - 69 A	22 FEB 24
		2 - VMMC - 50	22 FEB 24	2 - VMMC - 69 B	30 OCT 25
ENR 6		2 - VMMC - 51	03 MAY 01	2 - VMMC - 69 C	30 OCT 25
6-1	02 JAN 97	2 - VMMC - 52	25 JUL 24	2 - VMMC - 69 D	30 OCT 25
		2 - VMMC - 53	25 JUL 24	2 - VMMC - 69 E	22 FEB 24
PART 3 - AERODROMES		2 - VMMC - 54	04 JAN 18	2 - VMMC - 70	30 OCT 25
(AD)		2 - VMMC - 55	04 JAN 18	2 - VMMC - 71	30 OCT 25
		2 - VMMC - 56	02 JAN 97	2 - VMMC - 71 A	20 FEB 25
AD 0		2 - VMMC - 57	30 OCT 25	2 - VMMC - 71 B	30 OCT 25
0.6-1	16 JUL 20	2 - VMMC - 57 A	28 NOV 24	2 - VMMC - 71 C	30 OCT 25
0.6-2	20 MAR 14	2 - VMMC - 57 B	28 NOV 24	2 - VMMC - 71 D	30 OCT 25
0.6-3	20 MAR 14	2 - VMMC - 57 C	28 MAR 19	2 - VMMC - 71 E	20 FEB 25
		2 - VMMC - 58	30 OCT 25	2 - VMMC - 71 F	30 OCT 25
AD 1		2 - VMMC - 59	30 OCT 25	2 - VMMC - 71 G	20 FEB 25
1.1-1	15 JUL 10	2 - VMMC - 60	07 AUG 25	2 - VMMC - 72	30 OCT 25
1.1-2	07 AUG 25	2 - VMMC - 60 C	30 OCT 25	2 - VMMC - 73	04 JAN 18
1.1-3	26 APR 18	2 - VMMC - 60 D	07 AUG 25	2 - VMMC - 74	04 JAN 18
1.2-1	13 JUL 23	2 - VMMC - 60 E	07 AUG 25		
1.3-1	02 JAN 97	2 - VMMC - 60 F	07 AUG 25	AD 3	
1.4-1	02 JAN 97	2 - VMMC - 61	30 OCT 25	3 - 1	21 AUG 25
1.5-1	03 APR 25	2 - VMMC - 62	30 OCT 25	3 - 2	24 NOV 16
		2 - VMMC - 62 A	30 OCT 25	3 - 3	24 NOV 16
AD 2		2 - VMMC - 62 B	30 OCT 25	3 - 4	24 FEB 22
2 - VMMC - 1	26 APR 18	2 - VMMC - 62 C	30 OCT 25	3 - 5	03 APR 25
2 - VMMC - 2	23 MAY 17	2 - VMMC - 62 D	30 OCT 25	3 - 6	21 AUG 25
2 - VMMC - 3	13 JUL 23	2 - VMMC - 62 E	30 OCT 25	3 - 7	24 NOV 16
2 - VMMC - 4	17 JUN 21	2 - VMMC - 62 F	30 OCT 25	3 - 8	24 NOV 16
2 - VMMC - 5	20 MAR 14	2 - VMMC - 63	30 OCT 25	3 - 9	04 JAN 18
2 - VMMC - 6	24 MAY 18	2 - VMMC - 63 A	07 AUG 25		
2 - VMMC - 7	24 MAY 18	2 - VMMC - 64 A	30 OCT 25		
2 - VMMC - 8	23 FEB 23	2 - VMMC - 64 B	07 AUG 25		
2 - VMMC - 9	23 FEB 23	2 - VMMC - 64 C	07 AUG 25		
2 - VMMC - 10	01 FEB 07	2 - VMMC - 64 D	07 AUG 25		
2 - VMMC - 11	01 FEB 07	2 - VMMC - 64 E	30 OCT 25		

4 Engine tests and ground runs

Engine run-up are subject to the following conditions:

- 4.1 Normally engine runs above ground idle power are not permitted during the critical hours of 2200 to 0700 local time. Exception may be considered case by case, depending on actual operational analyses (e.g. time needed for engine run-up, expected movements, etc).
- 4.2 Engine Ground Run Procedures
 - 4.2.1 An engine ground run is defined as any engine start up not associated with the planned aircraft departure. Maintenance or test running of jet engine not mounted on an aircraft is prohibited unless performed in a test cell of adequate design.
 - 4.2.2 Normally, engine ground running at idle power for duration not exceeding 15 minutes may be conducted on aircraft parking bays with previous coordination with Airport Operation Coordination Centre (AOCC). Extension of such limitation is subject to AOCC approval depending on airport conditions. Power runs above idle for maintenance purpose must be conducted at designated areas.
 - 4.2.3 Initial requests for a ground run at any time should be made by telephone to Airport Operation Coordination Centre. The airline or their representatives are responsible for ensuring that all safety precautions against injury to persons or damage to properties, aircraft, vehicles, marine vessels (when the jet blast is directed towards the sea) and equipment in the vicinity are adopted. When ready to conduct the engine run, clearance from Macau Ground on 121.725 MHz. A listening watch must be maintained on the frequency throughout the engine run. The aircraft anti-collision beacons must be activated for the entire duration and that Macau Ground should be advised on its completion.

VMMC AD 2.22 FLIGHT PROCEDURES

See AD Charts

VMMC AD 2.23 ADDITIONAL INFORMATION

1 Automatic Terminal Information Service (ATIS)

STATION	BROADCAST ON FREQUENCY	HOURS	CONTENTS	REMARKS
MACAU International Airport	126.4 MHz	24 hours	Continuous broadcast in voice by Aerodrome control: - Runway in use, - Surface wind, - Visibility, - Runway visual range when it is less than 1500m - Present weather - Cloud - Trend forecast - Aerodrome QNH, - Air temperature and Dew Point, - Any essential information considered to be useful to operation of aircraft e.g. low visibility operation in force, thunderstorms warnings, typhoon signal no. 8 or above, aerodrome surface conditions, unserviceability of navigation aids, type(s) of approach to be expected etc.	Pilots are required to acknowledge the identifier at first contact on the frequency of responsible approach control unit (Zhuhai APP 119.025 MHz and 125.525 MHz, Hong Kong radar 123.95 MHz and 132.225 MHz) if aircraft is arriving and on 118.0 / 121.725 MHz as appropriate (see AD 2.20) if aircraft is departing

2 GNSS RAIM Prediction Services and Associated NOTAM Information

GNSS RAIM availability prediction service and the associated NOTAM information related to GNSS availability will not be provided by AACM or Macau International Airport.

In accordance with ICAO Doc 9613, PBN Manual, aircraft operators shall subscribe the necessary information provided by other service providers to verify the RAIM availability for the intended route of flight.

1. Navigation aids related to Macao Instrument Flight Procedures:

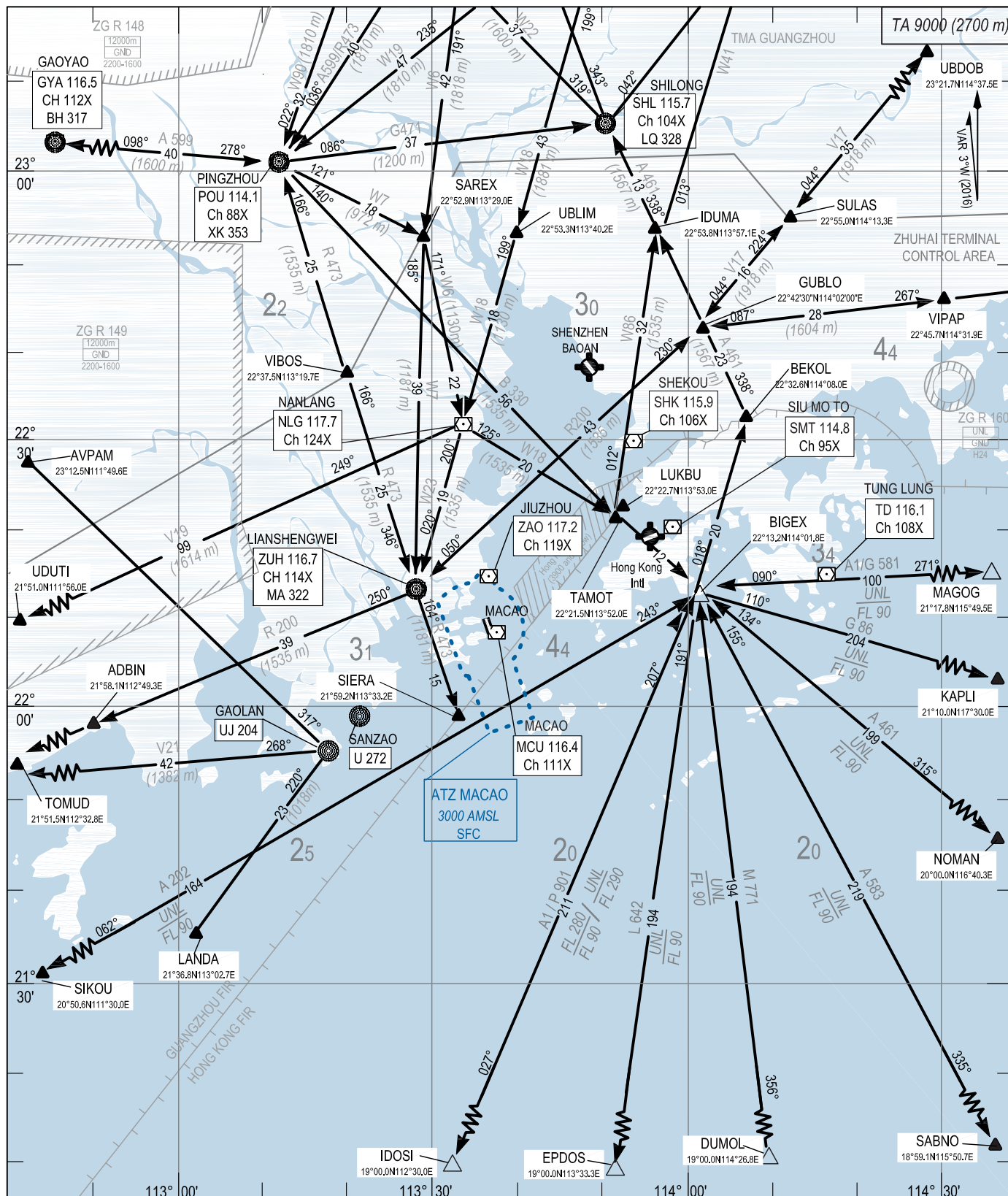
Navigation aids	Frequency	Coordinates	
CON DVOR/DME	113.0MHz/CH77X	23°35.3'N	113°35.2'E
GAOLAN NDB	UJ 204	21°55.2'N	113°17.6'E
MCU DVOR/DME	116.4MHz/CH111X	22°08'08"N	113°35'52"E
NLG DVOR/DME	117.7MHz/CH124X	22°31.9'N	113°33.7'E
POU DVOR/DME	114.1MHz/CH88X	23°01.3'N	113°11.4'E
SANZAO NDB	U 272	21°59.3'N	113°21.3'E
SHL DVOR/DME	115.7MHz/CH104X	23°05.5'N	113°51.0'E
SMT DVOR/DME	114.8MHz/CH95X	22°20'15.43"N	113°58'55.46"E
TD DVOR/DME	116.1MHz/CH108X	22°14'52.42"N	114°17'35.30"E
ZAO DVOR/DME	117.2MHz/CH119X	22°14.7'N	113°36.7'E
ZUH DVOR/DME	116.7MHz/CH114X	22°13.3'N	113°28.0'E
CEN DVOR/DME	114.6MHz/CH93X	23°09.1'N	113°25.0'E

2. Way-Points related to Macao Instrument Flight Procedures:

Way-Point	Radial & Distance	Coordinates	
ALLEY	TD R205° DME 75.0	21°05'11.15"N	113°47'09.50"E
ATIKO		21 48 29.56N	113 32 26.04E
BIGRO		21°34.2'N	111°49.6'E
BOKAT		22°02.3'N	113°00.0'E
BUMDI		22°21'39.62"N	114°18'52.61"E
CHALI		21°17'45.00"N	113°36'41.00"E
CONGA	TD R105° DME 142.3	21°44'02.50"N	116°47'05.90"E
DAKIG		21°50'52.90"N	114°26'33.33"E
DALOL		21°44'36.90"N	114°50'45.34"E
DUMEP		21°44'36.30"N	115°12'49.87"E
FUSU	CON R191° DME 32.5	23°03.2'N	113°30.5'E
GUBLO		22°42'30.0"N	114°02'00.00"E
GURIN	MCU R246° DME 37.0	21°51.1'N	113°00.0'E

HAZEL		22°01'26.49"N	113°40'56.63"E
IDUMA	SHL R158 ° DME 13.0	22°53.8'N	113°57.1'E
INDUS		22°02'41.0"N	113°36'01.0"E
KIBAS	NLG R220° DME 29.5 ZUH R250° DME 14.0	22°08.3'N	113°14.5'E
LARIT		21°53'41.37"N	115°16'06.56"E
LATOP	MCU DME 9.0 ZAO R041° NLG R167° DME 15.6	22°16.9'N	113°38.6E
LEKEN		21°53'01.06"N	114°54'44.95"E
LUBMO		21°57'55.24"N	114°31'52.98"E
LUKBU		22°22'44.12"N	113°53'01.50"E
MEBKI		21°44'32.75"N	115°34'54.24"E
MIPAG	GLN R311 ° DME 20.6	22 ° 55.3'N	113 ° 44.5'E
MULET	MCU R164° DME 35	21°35'01.95"N	113°47'51.87"E
NUDPI		21°54'18.90"N	115°37'28.21"E
Papa "P"	MCU R164° DME 10.0	21°58'39"N	113°39'22"E
PECAN	TD R200° DME 50.5	21°26'20.2"N	114°02'05.6"E
Romeo "R"	MCU R209° DME 18.0	21°51.8'N	113°26.9'E
RUNLI		21°26'59.72"N	113°40'51.00"E
SAREX	POU R120° DME 18.2 CON R191° DME 43.0	22°52.9'N	113°29.0'N
SEGPO		21°57'32.77"N	114°21'18.59"E
SKATE	TD R135° DME 64.0	21°31'54.99"N	115°08'39.94"E
SOSLU		21°38'44.03"N	114°05'18.39"E
SUDVA		22°04'25.14"N	114°21'33.87"E
TUNNA	NLG R156° DME 49.7	21°47'25.0"N	113°57'54.0"E
VEDVO		22°04'38.19"N	114°15'43.05"E
XEMEK		21°38'16.17"N	114°59'43.04"E

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET AND /OR (METERS / m)
DISTANCES IN NAUTICAL MILES



AIRAC AMDT 03/25

AD2-VMMC-59
30 OCT 2025

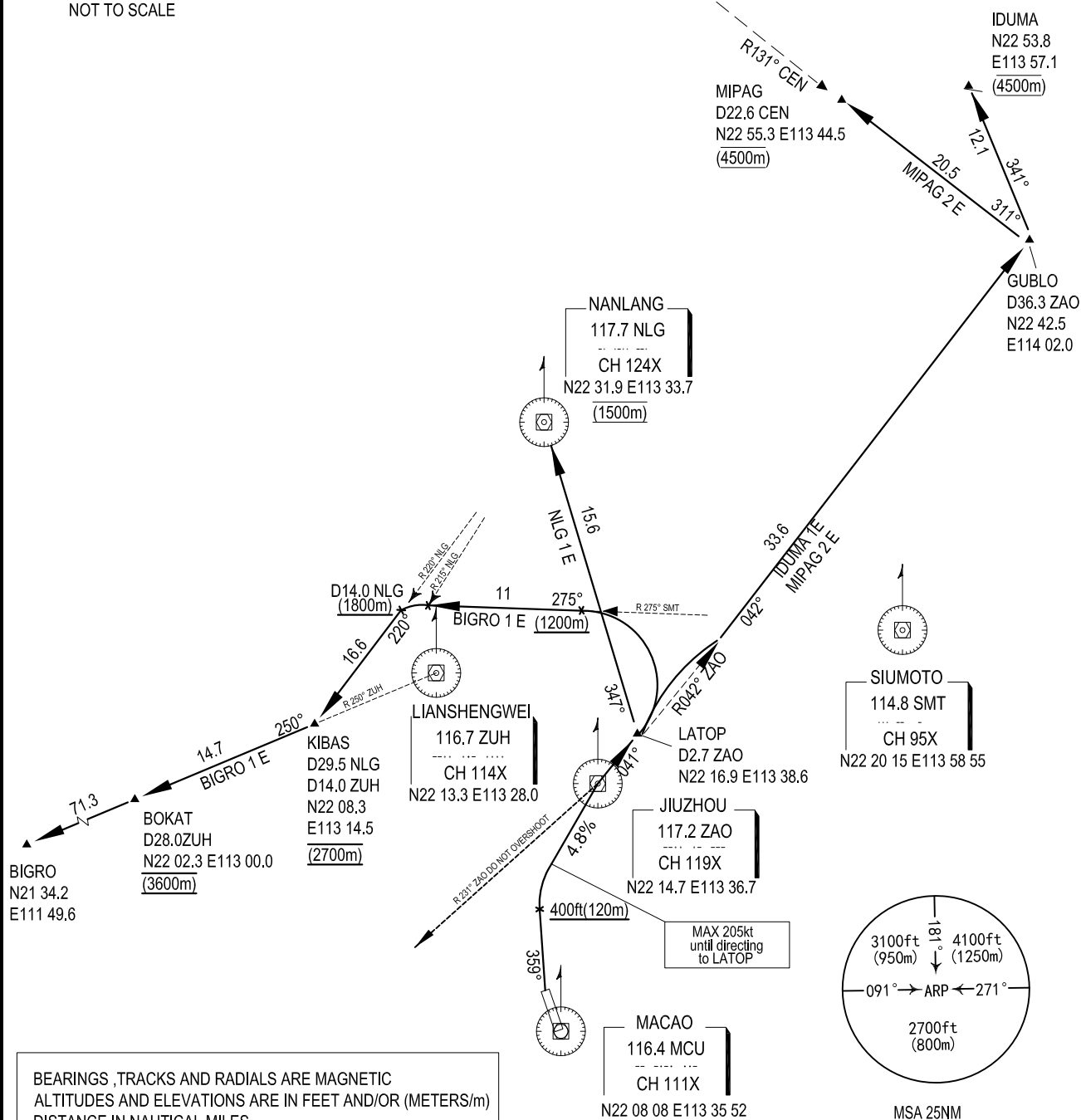
GUANG ZHOU FIR - HONG KONG FIR
SID MACAO RWY 34
(BIGRO 1 E, MIPAG 2 E, NLG 1 E, IDUMA 1E)
CAT A, B, C, D

AIP MACAO

TWR : MACAO Tower 118.0
APP : Zhuhai Approach 119.025 / 125.525 (1)
APP : HONG KONG Radar 123.95 / 132.225 (2)
ATIS : MACAO 126.4
MAX DEP TURNING SPEED :205kt IAS
TA 9000ft(2700m)

CENCUN
114.6 CEN
CH 93X
N23 09.1 E113 25.0

VAR 3°W (2016)
NOT TO SCALE



Radio Failure Procedure : Squawk A / 7600

BIGRO 1 E (minimum climb gradient of 4.8% required until leaving 1800 m)

Depart on track 359°M and climb to at or above 400 ft (120 m). Then turn right and continue climb to ZAO. Leave ZAO on R041°. Turn left at LATOP to intercept SMT R275° at or above 1200 m. Then continue climbing, at NLG R215° turn left to intercept NLG R220° at or above 1800 m. To KIBAS at 2700 m, turn right at KIBAS on ZUH 250°M, to BOKAT at 3600 m, to BIGRO.

If ZAO is unserviceable, depart on track 359°M, at MCU DME 3.3NM turn right on track 041°M and continue climbing. Turn left at MCU DME 9.0NM to intercept SMT 275°M at or above 1200m. Then join original procedure.

MIPAG 2 E (minimum climb gradient of 4.8% required until leaving 4500m)

Depart on track 359°M and climb to at or above 400 ft (120 m). Then turn right and continue climb to ZAO. Leave ZAO on R041°. At LATOP turn right to proceed on ZAO R042° and continue climbing to 4500 m and maintain. At ZAO DME 36.3NM (GUBLO) turn left to establish on CEN R131° to MIPAG at 4500m.

NLG 1 E (minimum climb gradient of 4.8% required until reaching 1500 m)

Depart on track 359°M and climb to at or above 400 ft (120 m). Then turn right and continue climb to ZAO. Leave ZAO on R041°. At LATOP turn left to establish on NLG R167° and reach 1500m by NLG.

If ZAO is unserviceable, depart on track 359°M, at MCU DME 3.3NM turn right on track 041°M and continue climbing. At MCU DME 9.0NM turn left to establish on NLG R167°M. Then join original procedure.

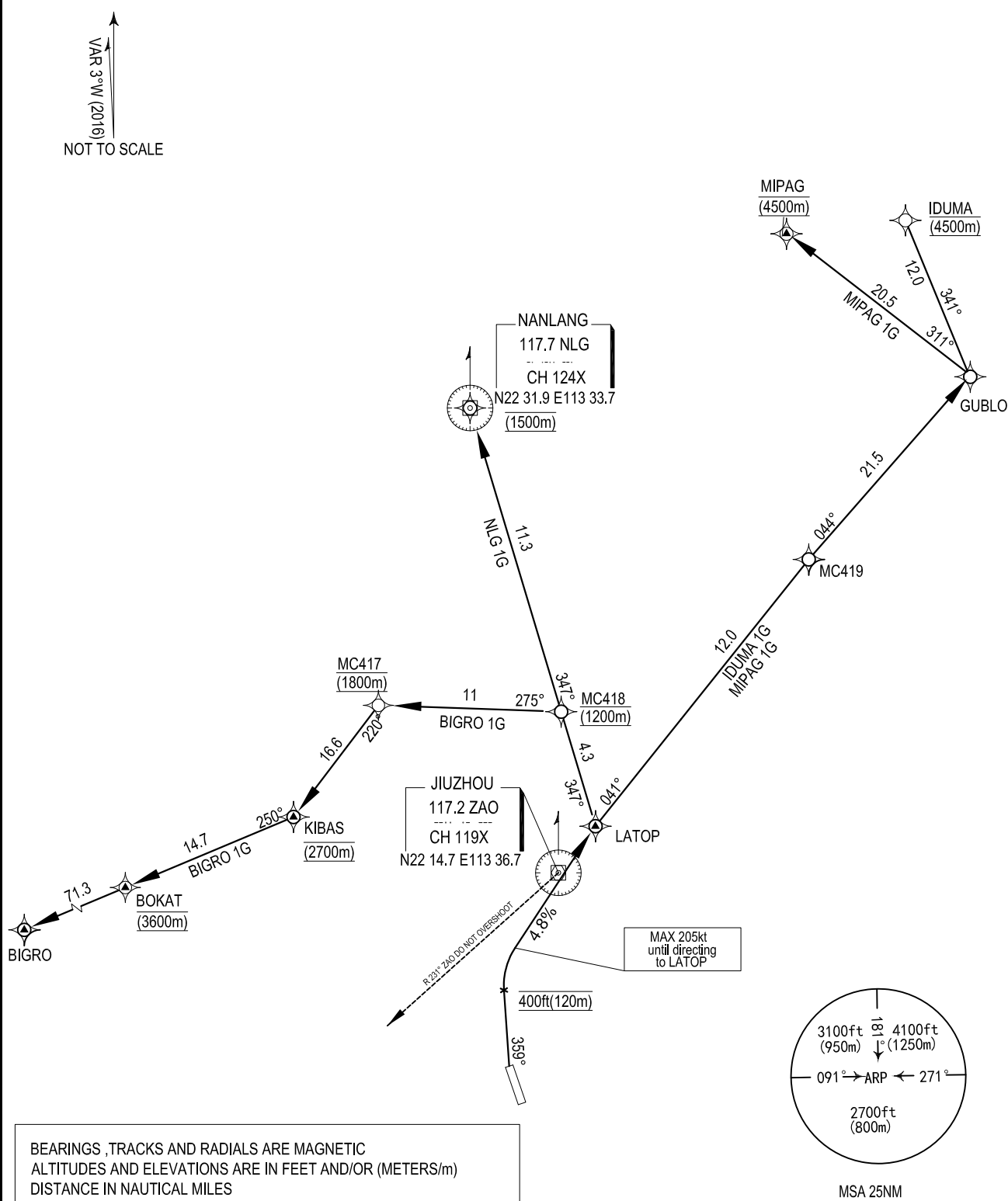
IDUMA 1 E (minimum climb gradient of 4.8% required until leaving 4500m)

Depart on track 359°M and climb to 400 ft (120 m). Then turn right and continue climb to ZAO. Leave ZAO on R041°. At LATOP turn right to proceed on ZAO R042° and continue climbing to 4500 m and maintain. At ZAO DME 36.3NM (GUBLO) turn left on track 341°M to IDUMA at 4500m.

REMARK:

- (1) Aircraft are NOT TO OVERSHOOT JIUZHOU DVOR (ZAO 117.2 MHz) R231° which defines the northern limit for flights taking off RWY 34 due to NOISE ABATEMENT for Zhuhai City.
- (2) Aircraft unable to comply with the minimum climb gradient must inform Macao ground control at first contact to allow special coordination.
- (3) Maximum departure turning speed: 205 kt IAS.
- (4) Owing to the proximity of the Hong Kong international airport, any deviation from the standard SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded the need to follow the standard SID track until LATOP unless deviation is approved by ATC in advance.

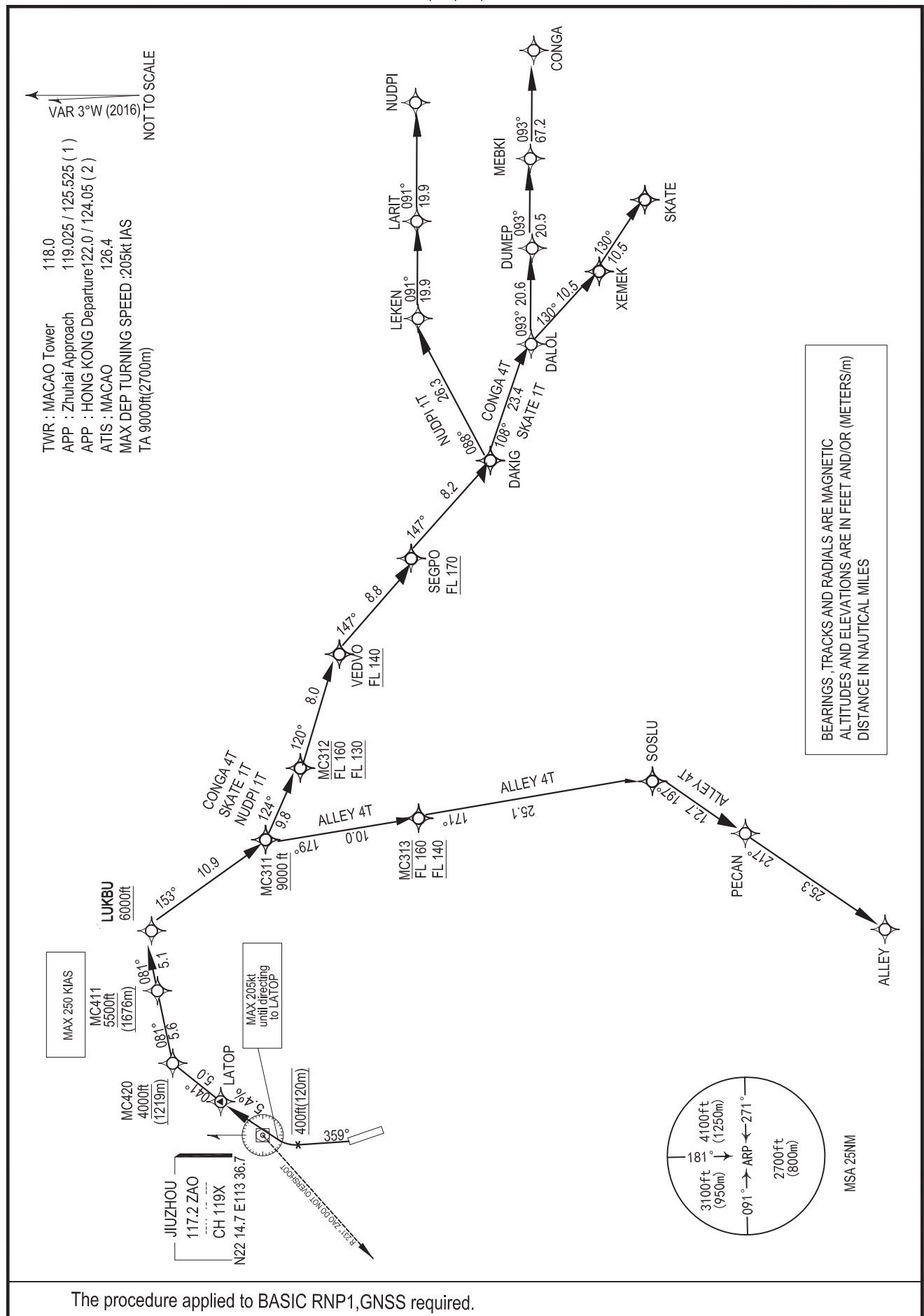
TWR : MACAO Tower	118.0
APP : Zhuhai Approach	119.025 / 125.525 (1)
APP : HONG KONG Radar	123.95 / 132.225 (2)
ATIS : MACAO	126.4
MAX DEP TURNING SPEED :	:205kt IAS
TA 9000ft(2700m)	



The procedure applied to BASIC RNP1, GNSS required.

Waypoint Coordinates

Waypoint Name	Coordinates (WGS84)	
LATOP	22°16.9'N	113°38.6'E
MC418	22°20'59.43"N	113°37'16.98"E
MC417	22°21'22.48"N	113°25'20.13"E
KIBAS	22°08.3'N	113°14.5'E
BOKAT	22°02.3'N	113°00.0'E
NLG	22°31.9'N	113°33.7'E
MC419	22°26'25.37"N	113°46'47.49"E
MIPAG	22°55.3'N	113°44.5'E
GUBLO	22°42.5'N	114°02.0'E
IDUMA	22°53.8'N	113°57.1'E
SHL	23°05.5'N	113°51.0'E



ALLEY 4 T (minimum climb gradient of 5.4% required until leaving 5500 ft)

Climb on track 359°M, at 400 ft (120 m) turn right. Direct to LATOP, turn right to MC420 at or above 4000 ft (1219m), to MC411 at or above 5500 ft (1676m), to LUKBU at or above 6000 ft. Further climb when instructed by ATC. To MC311 at or above 9000 ft, to MC313 between FL140 and FL160, to SOSLU, PECAN and ALLEY. Continue on Terminal Transition Routes published in Hong Kong AIP.

CONGA 4 T (minimum climb gradient of 5.4% required until leaving 5500 ft)

Climb on track 359°M, at 400 ft (120 m) turn right. Direct to LATOP, turn right to MC420 at or above 4000 ft (1219m), to MC411 at or above 5500 ft (1676m), to LUKBU at or above 6000 ft. Further climb when instructed by ATC. To MC311 at or above 9000 ft, to MC312 between FL130 and FL160, to VEDVO at or above FL140, to SEGPO at or above FL170, to DAKIG, DALOL, DUMEP, MEBKI and CONGA. Continue on Terminal Transition Routes published in Hong Kong AIP.

SKATE 1 T (minimum climb gradient of 5.4% required until leaving 5500 ft)

Climb on track 359°M, at 400 ft (120 m) turn right. Direct to LATOP, turn right to MC420 at or above 4000 ft (1219m), to MC411 at or above 5500 ft (1676m), to LUKBU at or above 6000 ft. Further climb when instructed by ATC. To MC311 at or above 9000 ft, to MC312 between FL130 and FL160, to VEDVO at or above FL140, to SEGPO at or above FL170, to DAKIG, DALOL, XEMEK and SKATE. Continue on Terminal Transition Routes published in Hong Kong AIP.

NUDPI 1 T (minimum climb gradient of 5.4% required until leaving 5500 ft)

Climb on track 359°M, at 400 ft (120 m) turn right. Direct to LATOP, turn right to MC420 at or above 4000 ft (1219m), to MC411 at or above 5500 ft (1676m), to LUKBU at or above 6000 ft. Further climb when instructed by ATC. To MC311 at or above 9000 ft, to MC312 between FL130 and FL160, to VEDVO at or above FL140, to SEGPO at or above FL170, to DAKIG, LEKEN, LARIT and NUDPI. Continue on Terminal Transition Routes published in Hong Kong AIP.

REMARK:

- (1) For RNAV_(GNSS) SID aircraft must be approved by State of Registry in accordance with ICAO RNP1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
- (2) Aircraft that do not have approval or whose RNP1/ P-RNAV capability has been degraded before departure shall use the Conventional Departure Procedure:

*Depart on track 359°M and climb to 400 ft (120 m). Then turn right and continue climb to ZAO. Leave ZAO on R041°. Cross MCU 12.5 NM at or above 1200 m (3937 ft) and turn right to track 081°M to MC411. From MC411 continue in accordance with the procedures as per HK AIP or expect radar vectors by Hong Kong ATC to **ALLEY, CONGA, SKATE** or **NUDPI**.*

*If ZAO is unserviceable, depart on track 359°M, at MCU DME 3.3 turn right on track 041°M. Cross MCU 13.1 NM at or above 1200 m (3937 ft) and turn right to track 081°M to MC411. From MC411 continue in accordance with the procedures as per HK AIP or expect radar vectors by Hong Kong ATC to **ALLEY, CONGA, SKATE** or **NUDPI**.*

- (3) Aircraft are NOT TO OVERSHOOT ZAO DVOR R231° which defines the northern limit for flights taking off RWY 34 due to NOISE ABATEMENT for Zhuhai City.
- (4) Procedure Design Gradient based only on airspace restriction.
- (5) Aircraft unable to comply with the minimum climb gradient must inform MACAO ground control at first contact to allow special coordination.
- (6) Maximum departure turning speed: 205 kt IAS until directing to LATOP.
- (7) Aircraft shall fly at 250 kt or less below FL 110 transiting Hong Kong Airspace
- (8) In the event of loss of communication, aircraft shall comply with the last acknowledged clearance up to the next reporting point in the SID, then climb to the flight planned cruising level and follow the flight planned route to join the appropriate airway.
- (9) Owing to the proximity of the Hong Kong International Airport, any deviation from the standard SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded the need to follow the standard SID track until LUKBU unless deviation is approved by ATC in advance.

FMC Database Coding Reference for RNAV_(GNSS) SIDs

ALLEY 4 T (RWY34 SID)

Sequence Number	Path Terminator	Waypoint	Fly-Over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	CA	—	—	359 (356)	—	—	@ 400	-205
002	DF	LATOP	—	—	—	R	—	-205
003	TF	MC420	—	041(038)	5.0	—	+4000	—
004	TF	MC411	—	081(078)	5.6	—	+5500	-250
005	TF	LUKBU	—	081(078)	5.1	—	+ 6000	—
006	TF	MC311	—	153(150)	10.9	—	+9000	—
007	TF	MC313	—	179(176)	10.0	—	-FL 160 +FL 140	—
008	TF	SOSLU	—	171(168)	25.1	—	—	—
009	TF	PECAN	—	197(194)	12.7	—	—	—
010	TF	ALLEY	—	217(214)	25.3	—	—	—

CONGA 4T (RWY34 SID)

Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	CA	—	—	359 (356)	—	—	@ 400	-205
002	DF	LATOP	—	—	—	R	—	-205
003	TF	MC420	—	041(038)	5.0	—	+4000	—
004	TF	MC411	—	081(078)	5.6	—	+5500	-250
005	TF	LUKBU	—	081(078)	5.1	—	+6000	—
006	TF	MC311	—	153(150)	10.9	—	+9000	—
007	TF	MC312	—	124(121)	9.8	—	-FL160 +FL130	—
008	TF	VEDVO	—	120(117)	8.0	—	+FL140	—
009	TF	SEGPO	—	147(144)	8.8	—	+FL170	—
010	TF	DAKIG	—	147(144)	8.2	—	—	—
011	TF	DALOL	—	108(105)	23.4	—	—	—
012	TF	DUMEP	—	093(090)	20.6	—	—	—
013	TF	MEBKI	—	093(090)	20.5	—	—	—
014	TF	CONGA	—	093(090)	67.2	—	—	—

SKATE 1 T (RWY34 SID)

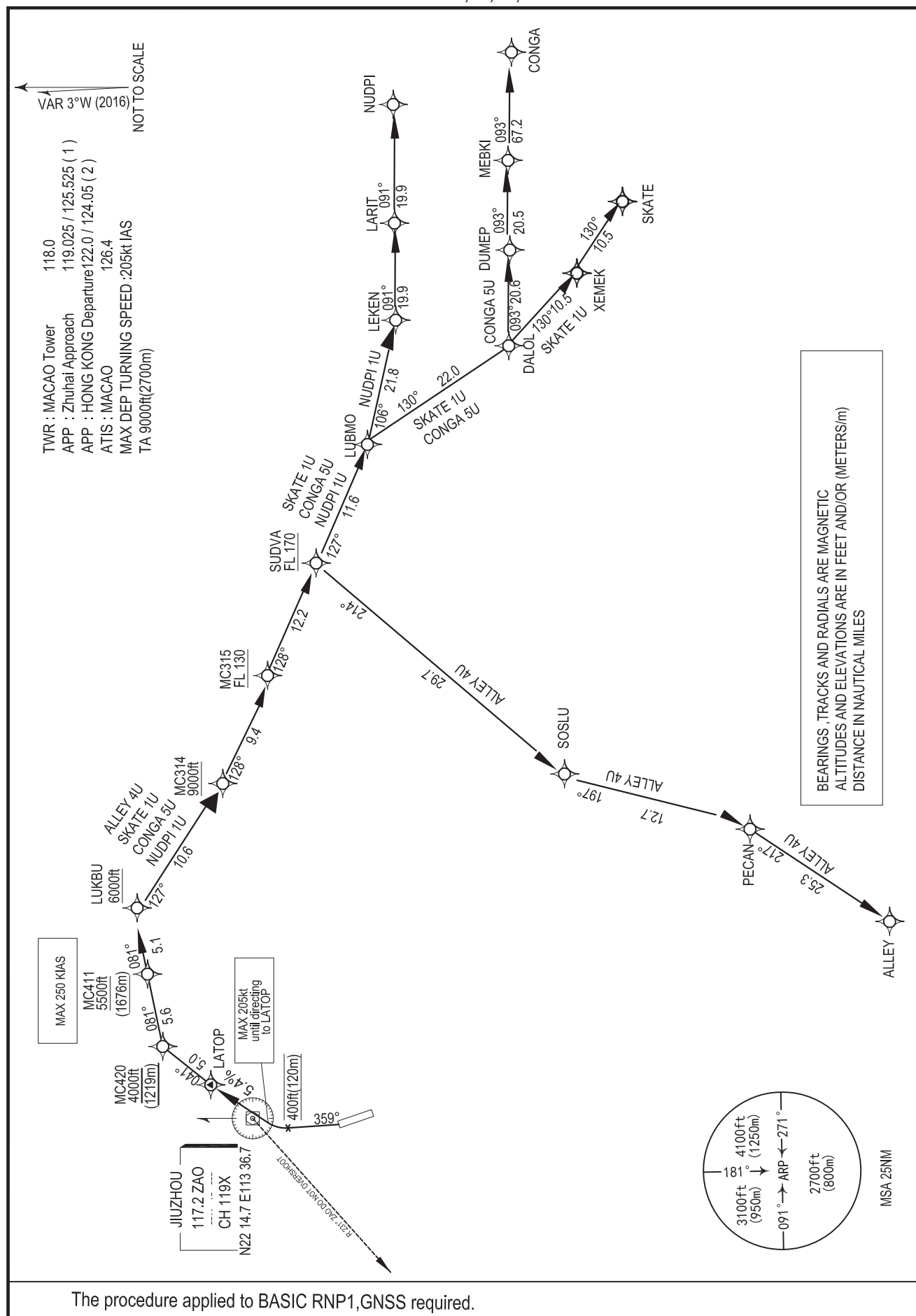
Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	CA	—	—	359 (356)	—	—	@ 400	-205
002	DF	LATOP	—	—	—	R	—	-205
003	TF	MC420	—	041(038)	5.0	—	+4000	—
004	TF	MC411	—	081(078)	5.6	—	+5500	-250
005	TF	LUKBU	—	081(078)	5.1	—	+6000	—
006	TF	MC311	—	153(150)	10.9	—	+9000	—
007	TF	MC312	—	124(121)	9.8	—	-FL160 +FL130	—
008	TF	VEDVO	—	120(117)	8.0	—	+FL140	—
009	TF	SEGPO	—	147(144)	8.8	—	+FL170	—
010	TF	DAKIG	—	147(144)	8.2	—	—	—
011	TF	DALOL	—	108(105)	23.4	—	—	—
012	TF	XEMEK	—	130(127)	10.5	—	—	—
013	TF	SKATE	—	130(127)	10.5	—	—	—

NUDPI 1 T (RWY34 SID)

Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	CA	—	—	359 (356)	—	—	@ 400	-205
002	DF	LATOP	—	—	—	R	—	-205
003	TF	MC420	—	041(038)	5.0	—	+4000	—
004	TF	MC411	—	081(078)	5.6	—	+5500	-250
005	TF	LUKBU	—	081(078)	5.1	—	+6000	—
006	TF	MC311	—	153(150)	10.9	—	+9000	—
007	TF	MC312	—	124(121)	9.8	—	-FL160 +FL130	—
008	TF	VEDVO	—	120(117)	8.0	—	+FL140	—
009	TF	SEGPO	—	147(144)	8.8	—	+FL170	—
010	TF	DAKIG	—	147(144)	8.2	—	—	—
011	TF	LEKEN	—	088(085)	26.3	—	—	—
012	TF	LARIT	—	091(088)	19.9	—	—	—
013	TF	NUDPI	—	091(088)	19.9	—	—	—

Waypoint Coordinates

Waypoint Name	Coordinates (WGS84)	
LATOP	22°16.9'N	113°38.6'E
MC420	22°20'32.29"N	113°41'43.59"E
MC411	22°21'41.20"N	113°47'37.58"E
LUKBU	22°22'44.12"N	113°53'01.50"E
MC311	22°13'18.51"N	113°58'56.18"E
MC313	22°03'18.39"N	113°59'36.70"E
MC312	22°08'16.69"N	114°08'02.37"E
VEDVO	22°04'38.19"N	114°15'43.05"E
SEGPO	21°57'32.77"N	114°21'18.59"E
DAKIG	21°50'52.90"N	114°26'33.33"E
DALOL	21°44'36.90"N	114°50'45.34"E
DUMEP	21°44'36.30"N	115°12'49.87"E
MEBKI	21°44'32.75"N	115°34'54.24"E
CONGA	21°44'02.50"N	116°47'05.90"E
XEMEK	21°38'16.17"N	114°59'43.04"E
SKATE	21°31'54.99"N	115°08'39.94"E
SOSLU	21°38'44.03"N	114°05'18.39"E
PECAN	21°26'20.19"N	114°02'05.64"E
ALLEY	21°05'11.15"N	113°47'09.50"E
LEKEN	21°53'01.06"N	114°54'44.95"E
LARIT	21°53'41.37"N	115°16'06.56"E
NUDPI	21°54'18.90"N	115°37'28.21"E



ALLEY 4 U (minimum climb gradient of 5.4% required until leaving 5500 ft)

Climb on track 359°M, at 400 ft (120 m) turn right. Direct to LATOP, turn right to MC420 at or above 4000 ft (1219m), to MC411 at or above 5500 ft (1676m), to LUKBU at or above 6000 ft. Further climb when instructed by ATC. To MC314 at or above 9000 ft, to MC315 at or above FL130, to SUDVA at or above FL170, to SOSLU, PECAN and ALLEY. Continue on Terminal Transition Routes published on Hong Kong AIP.

CONGA 5 U (minimum climb gradient of 5.4% required until leaving 5500 ft)

Climb on track 359°M, at 400 ft (120 m) turn right. Direct to LATOP, turn right to MC420 at or above 4000 ft (1219m), to MC411 at or above 5500 ft (1676m), to LUKBU at or above 6000 ft. Further climb when instructed by ATC. To MC314 at or above 9000 ft, to MC315 at or above FL130, to SUDVA at or above FL170, to LUBMO, DALOL, DUMEP, MEBKI and CONGA. Continue on Terminal Transition Routes published on Hong Kong AIP.

SKATE 1 U (minimum climb gradient of 5.4% required until leaving 5500 ft)

Climb on track 359°M, at 400 ft (120 m) turn right. Direct to LATOP, turn right to MC420 at or above 4000 ft (1219m), to MC411 at or above 5500 ft (1676m), to LUKBU at or above 6000 ft. Further climb when instructed by ATC. To MC314 at or above 9000 ft, to MC315 at or above FL130, to SUDVA at or above FL170, to LUBMO, DALOL, XEMEK and SKATE. Continue on Terminal Transition Routes published in Hong Kong AIP.

NUDPI 1 U (minimum climb gradient of 5.4% required until leaving 5500 ft)

Climb on track 359°M, at 400 ft (120 m) turn right. Direct to LATOP, turn right to MC420 at or above 4000 ft (1219m), to MC411 at or above 5500 ft (1676m), to LUKBU at or above 6000 ft. Further climb when instructed by ATC. To MC314 at or above 9000 ft, to MC315 at or above FL130, to SUDVA at or above FL170, to LUBMO, LEKEN, LARIT and NUDPI. Continue on Terminal Transition Routes published in Hong Kong AIP.

REMARK:

- (1) For RNAV_(GNSS) SID aircraft must be approved by State of Registry in accordance with ICAO RNP1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
- (2) Aircraft that do not have approval or whose RNP1/ P-RNAV capability has been degraded before departure shall use the Conventional Departure Procedure:

*Depart on track 359°M and climb to 400 ft (120 m). Then turn right and continue climb to ZAO. Leave ZAO on R041°. Cross MCU 12.5 NM at or above 1200 m (3937 ft) and turn right to track 081°M to MC411. From MC411 continue in accordance with the procedures as per HK AIP or expect radar vectors by Hong Kong ATC to **ALLEY, CONGA, SKATE** or **NUDPI**.*

*If ZAO is unserviceable, depart on track 359°M, at MCU DME 3.3 turn right on track 041°M. Cross MCU 13.1 NM at or above 1200 m (3937 ft) and turn right to track 081°M to MC411. From MC411 continue in accordance with the procedures as per HK AIP or expect radar vectors by Hong Kong ATC to **ALLEY, CONGA, SKATE** or **NUDPI**.*

- (3) Aircraft are NOT TO OVERSHOOT ZAO DVOR R231° which defines the northern limit for flights taking off RWY 34 due to NOISE ABATEMENT for Zhuhai City.
- (4) Procedure Design Gradient based only on airspace restriction.
- (5) Aircraft unable to comply with the minimum climb gradient must inform MACAO ground control at first contact to allow special coordination.
- (6) Maximum departure turning speed: 205 kt IAS until directing to LATOP.
- (7) Aircraft shall fly at 250 kt or less below FL 110 transiting Hong Kong Airspace
- (8) In the event of loss of communication, aircraft shall comply with the last acknowledged clearance up to the next reporting point in the SID, then climb to the flight planned cruising level and follow the flight planned route to join the appropriate airway.
- (9) Owing to the proximity of the Hong Kong International Airport, any deviation from the standard SID track could result in direct conflict with Hong Kong traffic. Pilots departing on RWY 34 are reminded the need to follow the standard SID track until LUKBU unless deviation is approved by ATC in advance.

FMC Database Coding Reference for RNAV_(GNSS) SIDs**ALLEY 4 U (RWY34 SID)**

Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	CA	—	—	359 (356)	—	R	@ 400	-205
002	DF	LATOP	—	—	—	R	—	-205
003	TF	MC420	—	041 (038)	5.0	—	+4000	—
004	TF	MC411	—	081 (078)	5.6	—	+5500	-250
005	TF	LUKBU	—	081 (078)	5.1	—	+6000	—
006	TF	MC314	—	127 (124)	10.6	—	+9000	—
007	TF	MC315	—	128 (125)	9.4	—	+FL130	—
008	TF	SUDVA	—	128 (125)	12.2	—	+FL170	—
009	TF	SOSLU	—	214 (211)	29.7	—	—	—
010	TF	PECAN	—	197 (194)	12.7	—	—	—
011	TF	ALLEY	—	217 (214)	25.3	—	—	—

CONGA 5U (RWY34 SID)

Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	CA	—	—	359(356)	—	R	@ 400	-205
002	DF	LATOP	—	—	—	R	—	-205
003	TF	MC420	—	041(038)	5.0	—	+4000	—
004	TF	MC411	—	081(078)	5.6	—	+5500	-250
005	TF	LUKBU	—	081(078)	5.1	—	+6000	—
006	TF	MC314	—	127(124)	10.6	—	+9000	—
007	TF	MC315	—	128(125)	9.4	—	+FL130	—
008	TF	SUDVA	—	128(125)	12.2	—	+FL170	—
009	TF	LUBMO	—	127(124)	11.6	—	—	—
010	TF	DALOL	—	130(127)	22.0	—	—	—
011	TF	DUMEP	—	093(090)	20.6	—	—	—
012	TF	MEBKI	—	093(090)	20.5	—	—	—
013	TF	CONGA	—	093(090)	67.2	—	—	—

SKATE 1U (RWY34 SID)

Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	CA	—	—	359(356)	—	R	@ 400	-205
002	DF	LATOP	—	—	—	R	—	-205
003	TF	MC420	—	041(038)	5.0	—	+4000	—
004	TF	MC411	—	081(078)	5.6	—	+5500	-250
005	TF	LUKBU	—	081(078)	5.1	—	+6000	—
006	TF	MC314	—	127(124)	10.6	—	+9000	—
007	TF	MC315	—	128(125)	9.4	—	+FL130	—
008	TF	SUDVA	—	128(125)	12.2	—	+FL170	—
009	TF	LUBMO	—	127(124)	11.6	—	—	—
010	TF	DALOL	—	130(127)	22.0	—	—	—
011	TF	XEMEK	—	130(127)	10.5	—	—	—
012	TF	SKATE	—	130(127)	10.5	—	—	—

NUDPI 1U (RWY34 SID)

Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	CA	—	—	359 (356)	—	R	@ 400	-205
002	DF	LATOP	—	—	—	R	—	-205
003	TF	MC420	—	041 (038)	5.0	—	+4000	—
004	TF	MC411	—	081 (078)	5.6	—	+5500	-250
005	TF	LUKB	—	081 (078)	5.1	—	+6000	—
006	TF	MC314	—	127 (124)	10.6	—	+9000	—
007	TF	MC315	—	128 (125)	9.4	—	+FL130	—
008	TF	SUDVA	—	128 (125)	12.2	—	+FL170	—
009	TF	LUBMO	—	127(124)	11.6	—	—	—
010	TF	LEKEN	—	106(103)	21.8	—	—	—
011	TF	LARIT	—	091(088)	19.9	—	—	—
012	TF	NUDPI	—	091(088)	19.9	—	—	—

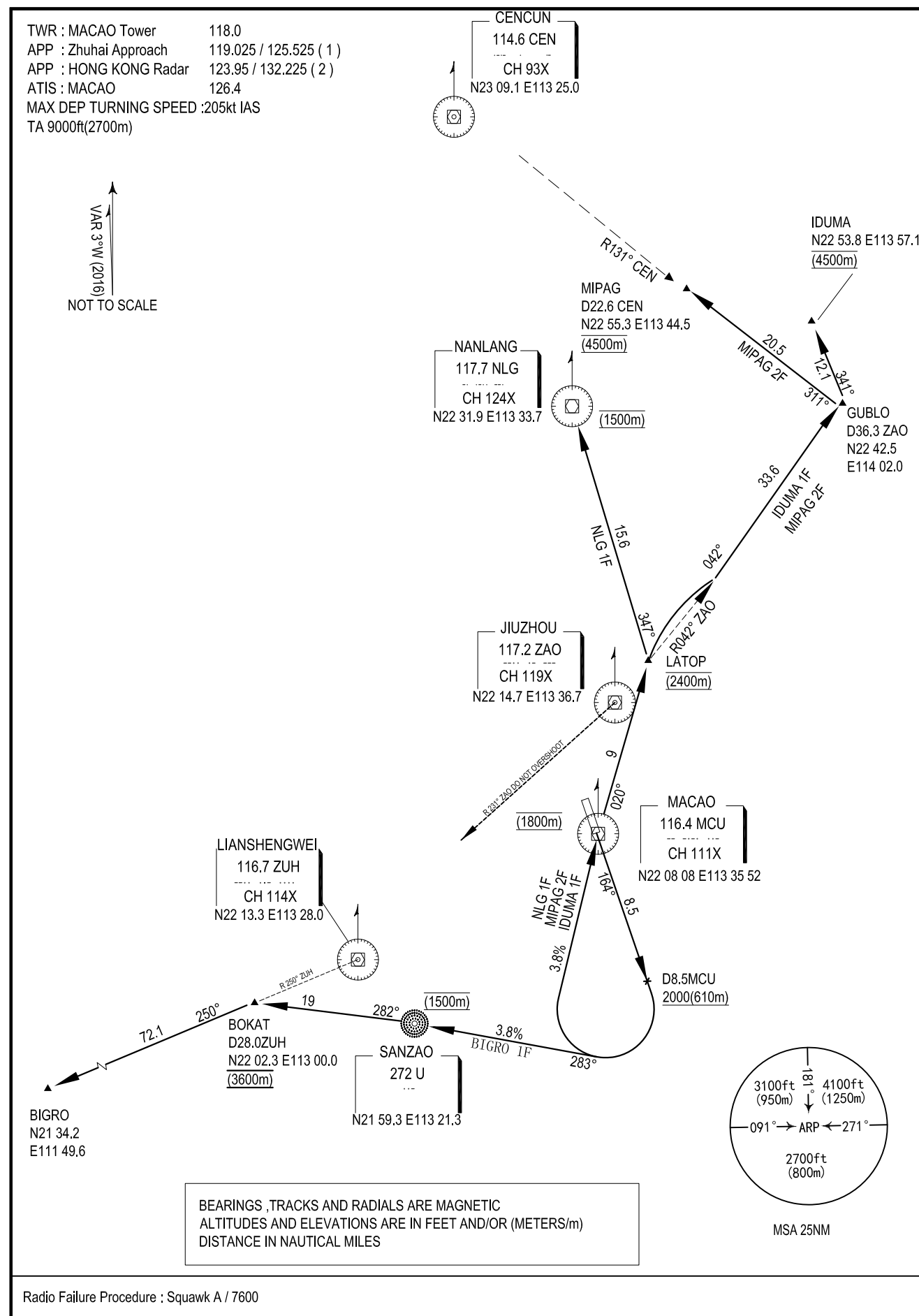
Waypoint Coordinates

Waypoint Name	Coordinates (WGS84)	
LATOP	22°16.9'N	113°38.6'E
MC420	22°20'32.29"N	113°41'43.59"E
MC411	22°21'41.20"N	113°47'37.58"E
LUKB	22°22'44.12"N	113°53'01.50"E
MC314	22°16'42.35"N	114°02'26.88"E
MC315	22°11'21.09"N	114°10'47.55"E
LUBMO	21°57'55.24"N	114°31'52.98"E
DALOL	21°44'36.90"N	114°50'45.34"E
DUMEP	21°44'36.30"N	115°12'49.87"E
MEBKI	21°44'32.75"N	115°34'54.24"E
CONGA	21°44'02.50"N	116°47'05.90"E
XEMEK	21°38'16.17"N	114°59'43.04"E
SKATE	21°31'54.99"N	115°08'39.94"E
SUDVA	22°04'25.14"N	114°21'33.87"E
SOSLU	21°38'44.03"N	114°05'18.39"E
PECAN	21°26'20.19"N	114°02'05.64"E
ALLEY	21°05'11.15"N	113°47'09.50"E
LEKEN	21°53'01.06"N	114°54'44.95"E
LARIT	21°53'41.37"N	115°16'06.56"E
NUDPI	21°54'18.90"N	115°37'28.21"E

AD2-VMMC-63
30 OCT 2025

GUANG ZHOU FIR - HONG KONG FIR
SID MACAO RWY 16
(BIGRO 1 F, MIPAG 2 F, NLG 1 F, IDUMA 1 F)
CAT A, B, C, D

AIP MACAO



BIGRO 1 F (minimum climb gradient of 3.8% required until leaving 1500 m)

Climb straight ahead to cross MCU DME 8.5 at 2000 ft (610 m) or above, then turn right on track 283°M, continue climbing and pass Sanzao beacon (U 272 kHz) at 1500 m. Climb on track 282°M and establish on ZUH R250° towards BIGRO, pass BOKAT at 3600 m.

If MCU is unserviceable, climb straight ahead to cross ZAO DME 14.8 NM at 2000 ft (610 m) or above then turn right on track 283°M. Then join original procedure.

MIPAG 2 F (minimum climb gradient of 3.8% required until leaving 2400 m)

Climb straight ahead to cross MCU DME 8.5 at 2000 ft (610 m) or above, then turn right to MCU via MCU R197° and cross MCU at 1800 m. Leave MCU on R020° and continue climbing to 2400 m, at LATOP turn right to establish on ZAO R042°. Continue climbing on ZAO R042° to 4500 m and maintain. At ZAO DME 36.3NM (GUBLO) turn left to establish on CEN R131° to MIPAG at 4500m.

If MCU is unserviceable, climb straight ahead to cross ZAO DME 14.8 NM at 2000 ft (610 m) or above then turn right to ZAO via ZAO R195°M and cross ZAO DME 6.7 NM at 1800 m, leave ZAO on R041°M and cross 2400 m by LATOP. Then join original procedure.

NLG 1 F (minimum climb gradient of 3.8% required until reaching 2400 m)

Climb straight ahead to cross MCU DME 8.5 at 2000 ft (610 m) or above, then turn right to MCU via MCU R197° and cross MCU at 1800 m. Leave MCU on R020° and reach 2400 m by LATOP. At LATOP turn left to establish NLG R167° and descend to reach 1500m by NLG.

If MCU is unserviceable, climb straight ahead to cross ZAO DME 14.8 NM at 2000 ft (610 m) or above then turn right to ZAO via ZAO R195°M and cross ZAO DME 6.7 NM at 1800 m, leave ZAO on R041°M and cross 2400 m by LATOP. Then join original procedure.

IDUMA 1 F (minimum climb gradient of 3.8% required until leaving 2400 m)

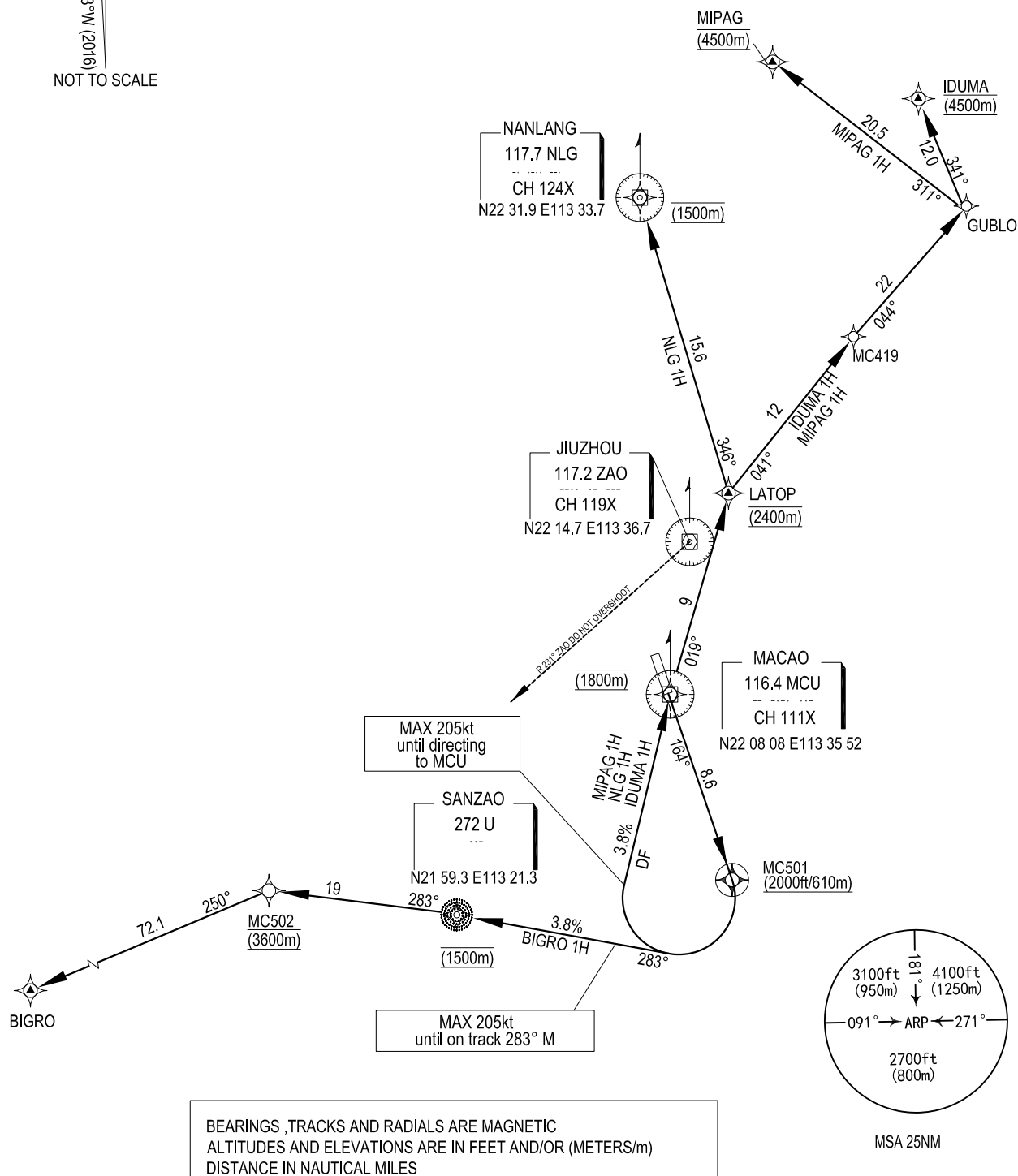
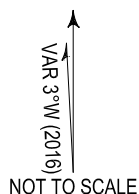
Climb straight ahead to cross MCU DME 8.5 at 2000 ft (610 m) or above, then turn right to MCU via MCU R197° and cross MCU at 1800 m. Leave MCU on R020° and continue climbing to 2400 m, at LATOP turn right to establish on ZAO R042°. Continue climbing on ZAO R042° to 4500 m and maintain. At ZAO DME 36.3NM (GUBLO) turn left on track 341°M to IDUMA at 4500m.

If MCU is unserviceable, climb straight ahead to cross ZAO DME 14.8 NM at 2000 ft (610 m) or above then turn right to ZAO via ZAO R195°M and cross ZAO DME 6.7 NM at 1800 m, leave ZAO on R041°M and cross 2400 m by LATOP. Then join original procedure.

REMARK:

- (1) Aircraft unable to comply with the minimum climb gradient must inform MACAO ground control at first contact to allow special coordination.
- (2) Maximum departure turning speed: 205 kt IAS.

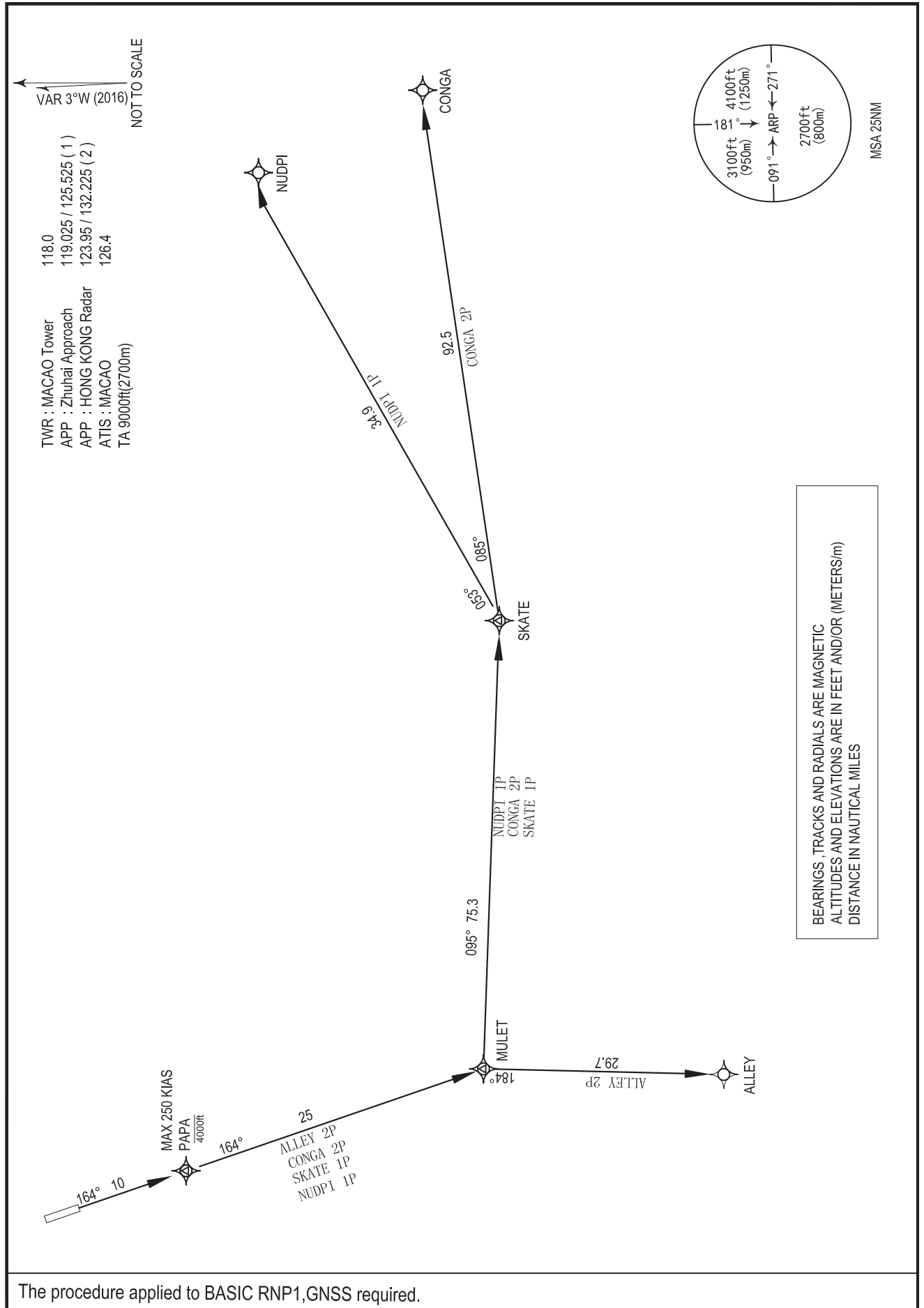
TWR : MACAO Tower 118.0
APP : Zhuhai Approach 119.025 / 125.525 (1)
APP : HONG KONG Radar 123.95 / 132.225 (2)
ATIS : MACAO 126.4
MAX DEP TURNING SPEED :205kt IAS
TA 9000ft(2700m)



The procedure applied to BASIC RNP1,GNSS required.

Waypoint Coordinates

Waypoint Name	Coordinates (WGS84)	
MC501	22°00'03.00"N	113°38'45.76"E
U	21°59.3'N	113°21.3'E
MC502	22°02'43.76"N	113°00'50.39"E
BIGRO	21°34.2'N	111°49.6'E
LATOP	22°16.9'N	113°38.6'E
NLG	22°31.9'N	113°33.7'E
MC419	22°26'25.37"N	113°46'47.49"E
GUBLO	22°42.5'N	114°02.0'E
IDUMA	22°53.8'N	113°57.1'E
SHL	23°05.5'N	113°51.0'E
MIPAG	22°55.3'N	113°44.5'E



ALLEY 2 P

Climb on track 164°M to PAPA at or below 4000 ft. Expect further climb when instructed by ATC. To MULET and ALLEY. Continue on Terminal Transition route published in Hong Kong AIP.

CONGA 2 P

Climb on track 164°M to PAPA at or below 4000 ft. Expect further climb when instructed by ATC. To MULET, SKATE and CONGA. Continue on Terminal Transition Routes published in Hong Kong AIP.

SKATE 1 P

Climb on track 164°M to PAPA at or below 4000 ft. Expect further climb when instructed by ATC. To MULET and SKATE. Continue on Terminal Transition Routes published in Hong Kong AIP.

NUDPI 1 P

Climb on track 164°M to PAPA at or below 4000 ft. Expect further climb when instructed by ATC. To MULET, SKATE and NUDPI. Continue on Terminal Transition Routes published in Hong Kong AIP.

REMARK:

- (1) For RNAV_(GNSS) SID aircraft must be approved by State of Registry in accordance with ICAO RNP1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
- (2) Aircraft that do not have approval or whose RNP1/ P-RNAV capability has been degraded before departure shall use the Conventional Departure Procedure:

*Proceed on MCU R164° to PAPA at or below 4000 ft. Further climb when instructed by ATC. From PAPA continue in accordance with the procedures as per HK AIP or expect radar vectors to **ALLEY, CONGA, SKATE** or **NUDPI**.*

*If MCU is unserviceable, Climb straight ahead at or below 4000 ft, track direct to MULET and continue in accordance with the procedures as per HK AIP or expect radar vectors to **ALLEY, CONGA, SKATE** or **NUDPI**.*

- (3) Aircraft are NOT TO OVERSHOOT JIUZHOU DVOR (ZAO 117.2 MHz) R231° which defines the northern limit for flights taking off RWY 34 due to NOISE ABATEMENT for Zhuhai City.
- (4) Aircraft unable to comply with the minimum climb gradient must inform MACAO ground control at first contact to allow special coordination.
- (5) Aircraft shall fly at 250 kt or less below FL 110 transiting Hong Kong Airspace
- (6) In the event of loss of communication, aircraft shall comply with the last acknowledged clearance up to the next reporting point in the SID, then climb to the flight planned cruising level and follow the flight planned route to join the appropriate airway.

FMC Database Coding Reference for RNAV_(GNSS) SIDs**ALLEY 2 P (RWY16 SID)**

Sequence Number	Path Terminator	Waypoint	Fly-over	Track $\mathcal{M}$ (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	CA		—	164 (161)		—	+420	—
002	CF	PAPA	—	164 (161)	10.0	—	-4000	-250
003	TF	MULET	—	164 (161)	25.0	—	—	—
004	TF	ALLEY	—	184 (181)	29.7	—	—	—

NUDPI 1 P (RWY16 SID)

Sequence Number	Path Terminator	Waypoint	Fly-over	Track $\mathcal{M}$ (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	CA		—	164 (161)		—	+420	—
002	CF	PAPA	—	164 (161)	10.0	—	-4000	-250
003	TF	MULET	—	164 (161)	25.0	—	—	—
004	TF	SKATE	—	095 (092)	75.3	—	—	—
005	TF	NUDPI	—	053 (050)	34.9	—	—	—

CONGA 2 P (RWY16 SID)

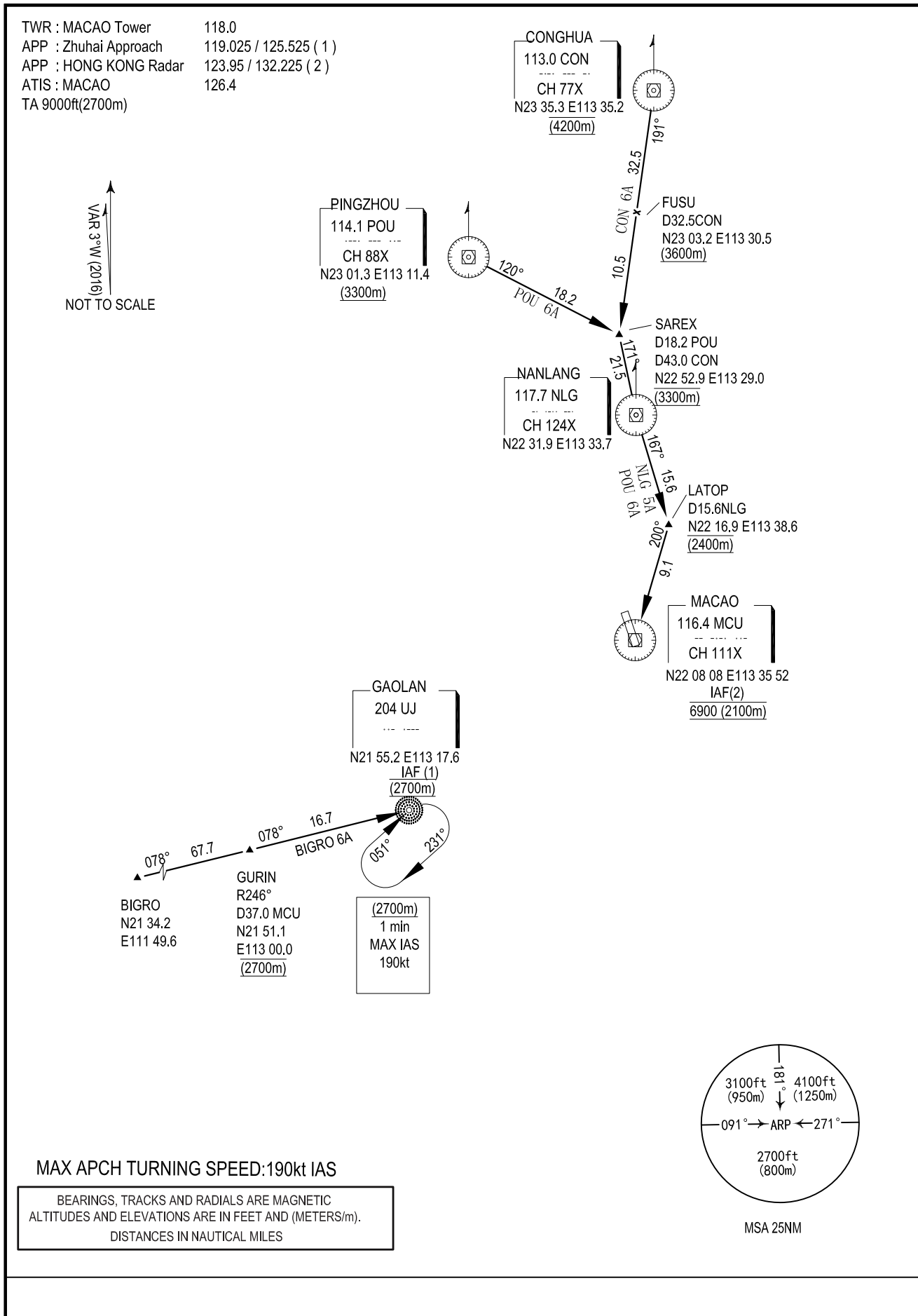
Sequence Number	Path Terminator	Waypoint	Fly-over	Track $\mathcal{M}$ (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	CA		—	164 (161)		—	+420	—
002	CF	PAPA	—	164 (161)	10.0	—	-4000	-250
003	TF	MULET	—	164(161)	25.0	—	—	—
004	TF	SKATE	—	095(092)	75.3	—	—	—
005	TF	CONGA	—	085(082)	92.5	—	—	—

SKATE 1 P (RWY16 SID)

Sequence Number	Path Terminator	Waypoint	Fly-over	Track $\mathcal{M}$ (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	CA		—	164 (161)		—	+420	—
002	CF	PAPA	—	164 (161)	10.0	—	-4000	-250
003	TF	MULET	—	164 (161)	25.0	—	—	—
004	TF	SKATE	—	095 (092)	75.3	—	—	—

Waypoint Coordinates

Waypoint Name	Coordinates (WGS84)	
PAPA	21°58'39.0"N	113°39'22.0"E
MULET	21°35'01.95"N	113°47'51.87"E
ALLEY	21°05'11.15"	113°47'09.50"E
SKATE	21°31'54.99"N	115°08'39.94"E
NUDPI	21°54'18.90"N	115°37'28.21"E
CONGA	21°44'02.5"N	116°47'05.9"E



BIGRO 6 A

Proceed from BIGRO to UJ. Cross GURIN at 2700 m and cross UJ at 2700 m.

CON 6 A

Descend on CON 191°M and cross FUSU at 3600 m or above, cross SAREX at 3300 m. At SAREX turn left to establish on NLG R351° to cross NLG. Leave NLG at NLG R167° to cross LATOP at 2400 m, then proceed on MCU R020° to cross MCU at 2100 m.

If MCU is unserviceable, from original procedure, to NLG. Leave NLG at R174°M to ZAO, track on ZAO R184°M, cross ZAO DME 6.7 NM at 2100m.

NLG 5 A

Leave NLG on NLG R167° to cross LATOP at 2400 m, then proceed on MCU R020° to cross MCU at 2100 m.

If MCU is unserviceable, leave NLG at R174°M to ZAO, track on ZAO R184°M, cross ZAO DME 6.7 NM at 2100m.

POU 6 A

Descend on POU R120° to cross SAREX at 3300 m. At SAREX turn right to establish on NLG R351° to cross NLG. Leave NLG at NLG R167° to cross LATOP at 2400 m, then proceed on MCU R020° to cross MCU at 2100 m.

If MCU is unserviceable, from original procedure, to NLG. Leave NLG at R174°M to ZAO, track on ZAO R184°M, cross ZAO DME 6.7 NM at 2100m.

REMARK :

- (1) Maximum approach turning speed: 190 kt IAS
- (2) Standard Arrival Routes (STARS) to MIA Transiting Hong Kong Airspace

Speed control

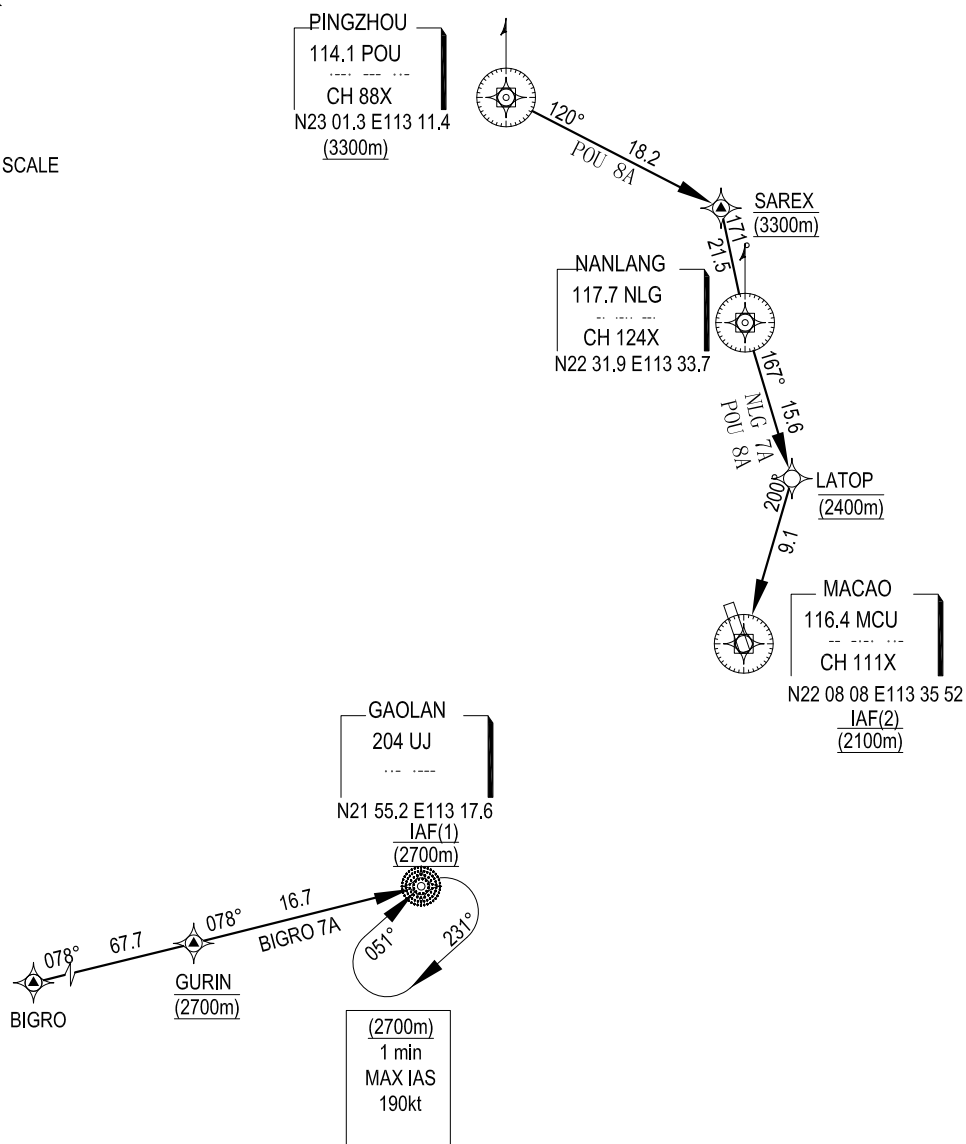
- (a) Speed control shall be in force unless other wise advised.
- (b) Aircraft on STAR clearance shall fly at not more than 250 kt IAS whilst they are below FL 110.

Loss of communication

In the event of loss of communication, aircraft shall comply with the specified STAR procedure, then join the ILS approach to Macao RWY 34.

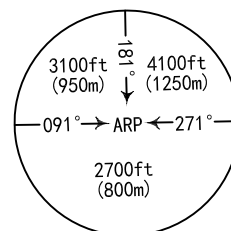
TWR : MACAO Tower 118.0
APP : Zhuhai Approach 119.025 / 125.525 (1)
APP : HONG KONG Radar 123.95 / 132.225 (2)
ATIS : MACAO 126.4
TA 9000ft(2700m)

VAR 3°W (2016)
NOT TO SCALE



MAX APCH TURNING SPEED:190kt IAS

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET AND (METERS/m).
DISTANCES IN NAUTICAL MILES



The procedure applied to BASIC RNP1,GNSS required.

BIGRO 7 A

From BIGRO to GURIN at 2700 m, to UJ at 2700 m.

NLG 7 A

From NLG to LATOP at 2400 m, to MCU at 2100 m.

POU 8 A

From POU to SAREX at 3300 m, to NLG, then to LATOP at 2400 m, to MCU at 2100 m.

REMARK :

- (1) For RNAV_(GNSS) STAR aircraft must be approved by State of Registry in accordance with ICAO RNP1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
- (2) Aircraft that do not have approval or whose RNP1/ P-RNAV capability has been degraded shall use the Conventional Procedure: BIGRO 6 A, NLG 5 A, POU 6 A.
- (3) Maximum approach turning speed: 190 kt IAS
- (4) Loss of communication
 In the event of loss of communication, aircraft shall comply with the specified STAR procedure, then join the Macao RWY 34 approach.

FMC Database Coding Reference for RNAV_(GNSS) STARS**BIGRO 7A**

Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	IF	BIGRO	—	—	—	—	—	—
002	TF	GURIN	—	078(075)	67.7	—	@ 8900	—
003	TF	UJ	—	078(075)	16.7	—	@ 8900	—

NLG 7A (RWY34 STAR)

Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	IF	NLG	—	—	—	—	—	—
002	TF	LATOP	—	167(164)	15.6	—	@ 7900	—
003	TF	MCU	—	200(197)	9.1	—	@ 6900	—

POU 8A

Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	IF	POU	—	—	—	—	+10800	—
002	TF	SAREX	—	120(117)	18.2	—	@10800	—
003	TF	NLG	—	171(168)	21.5	—	—	—
004	TF	LATOP	—	167(164)	15.6	—	@ 7900	—
005	TF	MCU	—	200(197)	9.1	—	@ 6900	—

Waypoint Coordinates

Waypoint Name	Coordinates (WGS84)	
BIGRO	21°34.2'N	111°49.6'E
GURIN	21°51.1'N	113°00.0'E
UJ	21°55.2'N	113°17.6'E
POU	23°01.3'N	113°11.4'E
SAREX	22°52.9'N	113°29.0'E
NLG	22°31.9'N	113°33.7'E
LATOP	22°16.9'N	113°38.6'E
MCU	22°08'08"N	113°35'52"E

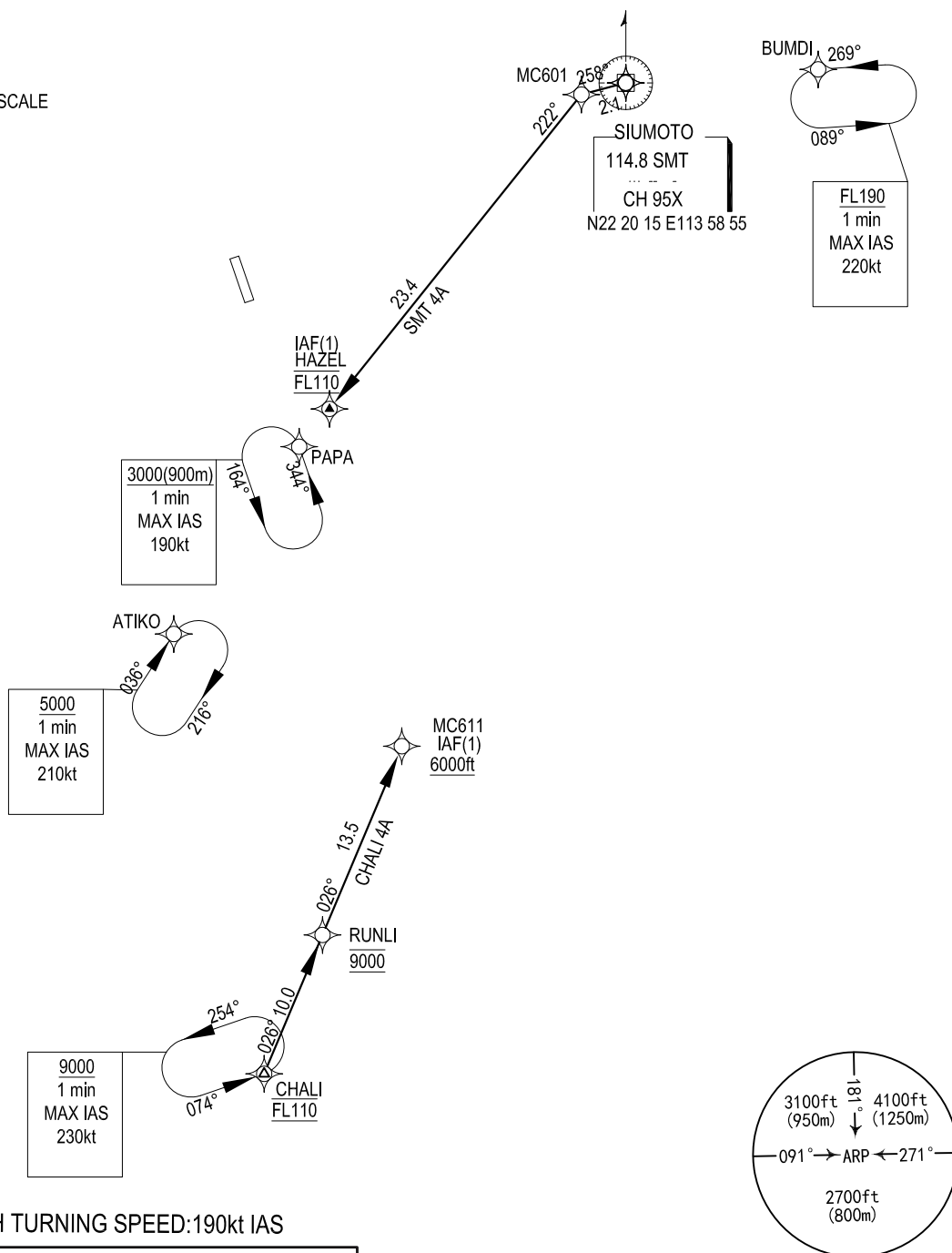
AD2-VMMC-66 C
30 OCT 2025

GUANG ZHOU FIR - HONG KONG FIR
RNAV(GNSS) STAR MACAO RWY 34
(CHALI 4 A, SMT 4 A)
CAT A, B, C, D

AIP MACAO

TWR : MACAO Tower 118.0
APP : Zhuhai Approach 119.025 / 125.525 (1)
APP : HONG KONG Radar 123.95 / 132.225 (2)
ATIS : MACAO 126.4
TA 9000ft(2700m)

VAR 3°W (2016)
NOT TO SCALE



The procedure applied to BASIC RNP1,GNSS required.

CHALI 4 A

Leave CHALI at FL 110, Turn left to RUNLI at 9000 ft, to MC611 at or above 6000 ft descending to 3000ft. **DO NOT DESCEND WITHOUT ATC CLEARANCE.**

Note:

Conventional procedure decommissioned. Aircraft that do not have approval or whose RNP1/ P-RNAV capability has been degraded shall report to HK ATC and expect radar vector from HK ATC.

SMT 4 A

Leave SMT to MC601, turn left to HAZEL at FL 110. **DO NOT DESCEND WITHOUT ATC CLEARANCE.**

Conventional Procedure

Leave SMT on R258°. At SMT DME 2.1 turn left track direct to HAZEL. Cross HAZEL at FL 110.

REMARK :

- (1) For RNAV_(GNSS) STAR aircraft must be approved by State of Registry in accordance with ICAO RNP1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
- (2) Aircraft that do not have approval or whose RNP1/ P-RNAV capability has been degraded shall use the Conventional Procedure.
- (3) Maximum approach turning speed: 190 kt IAS
- (4) Standard Arrival Routes (STARS) to MIA Transiting Hong Kong Airspace

Speed control

Speed control shall be in force unless otherwise advised. Aircraft on STAR clearance shall fly at not more than 250 kt IAS whilst they are below FL 110.

Loss of communication

In the event of loss of communication, aircraft shall comply with the specified STAR procedure, then join the Macao RWY 34 approach.

Holding

The holding patterns for CHALI STAR are established at CHALI, PAPA and ATIKO. The holding patterns for SMT STAR are established at BUMDI, PAPA and ATIKO. In the event of holding, each flight will be instructed individually. In order to provide traffic management flexibility, traffic may be instructed to hold at other terminal holding (see HK AIP) as directed by ATC.

FMC Database Coding Reference for RNAV_(GNSS) STARS**CHALI 4 A**

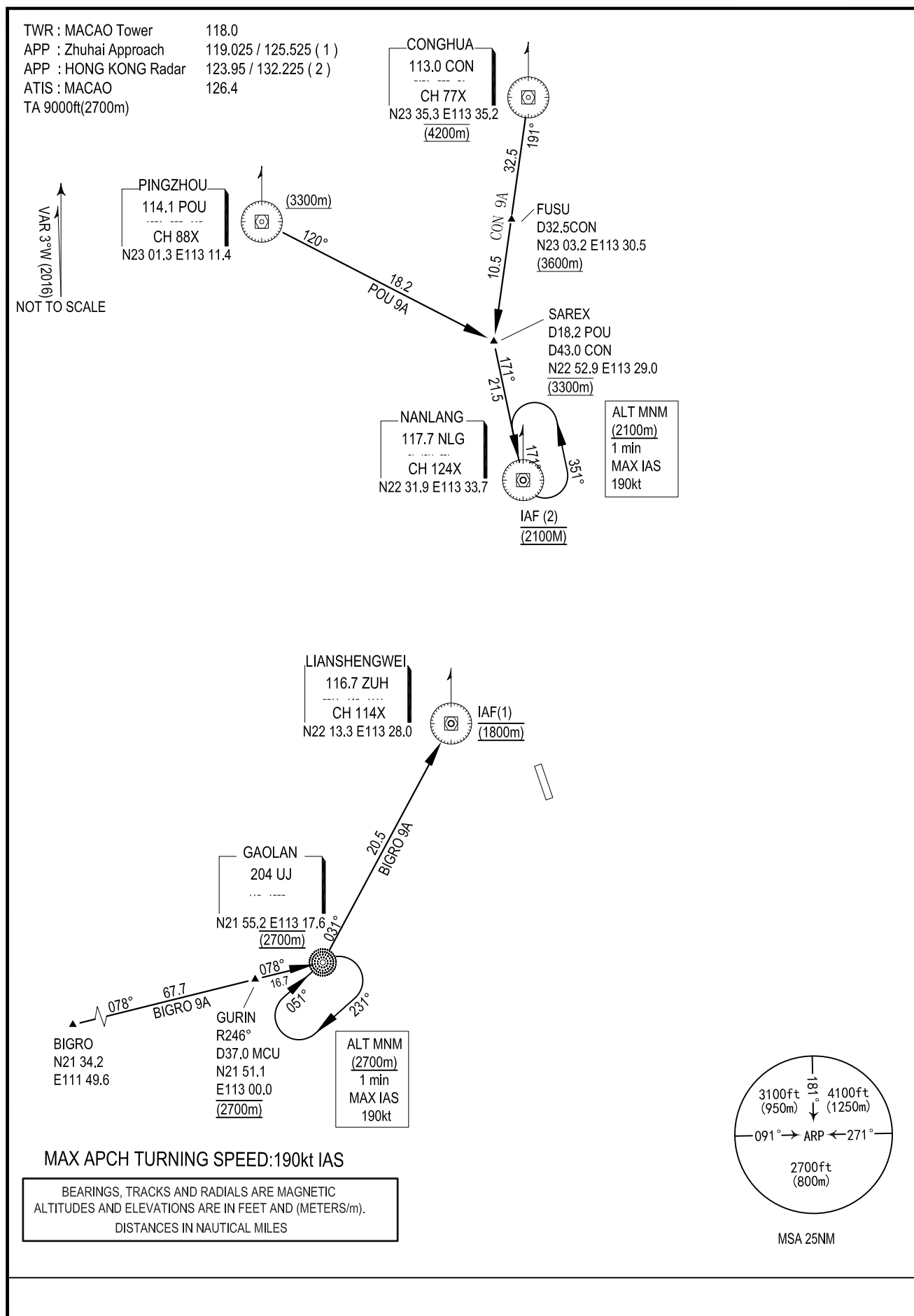
Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	IF	CHALI	—	—	—	—	@FL110	—
002	TF	RUNLI	—	026(023)	10.0	—	@9000	—
003	TF	MC611	—	026(023)	13.5	—	+6000	—

SMT 4 A

Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	IF	SMT	—	—	—	—	—	—
002	TF	MC601	—	258(255)	2.1	—	—	—
003	TF	HAZEL	—	222(219)	23.4	L	@FL110	—

Waypoint Coordinates

Waypoint Name	Coordinates (WGS84)		Waypoint Name	Coordinates (WGS84)	
CHALI	21°17'45.00"N	113°36'41.00"E	HAZEL	22°01'26.49"N	113°40'56.63"E
RUNLI	21°26'59.72"N	113°40'51.00"E	ATIKO	21°48'29.56"N	113°32'26.04"E
MC611	21°39'36.00"N	113°46'30.00"E	BUMDI	22°21'39.62"N	114°18'52.61"E
SMT	22°20'15.43"N	113°58'55.46"E	PAPA	21°58'39"N	113°39'22"E
MC601	22°19'43.55"N	113°56'43.60"E			



BIGRO 9 A

Proceed from BIGRO to UJ and cross GURIN at 2700 m. Leave UJ at 2700 m and turn left to establish on ZUH R211° to cross ZUH at 1800 m.

CON 9 A

Descend on CON 191°M and cross FUSU at 3600 m or above, cross SAREX at 3300 m. At SAREX turn left to establish on NLG R351° to cross NLG at 2100 m.

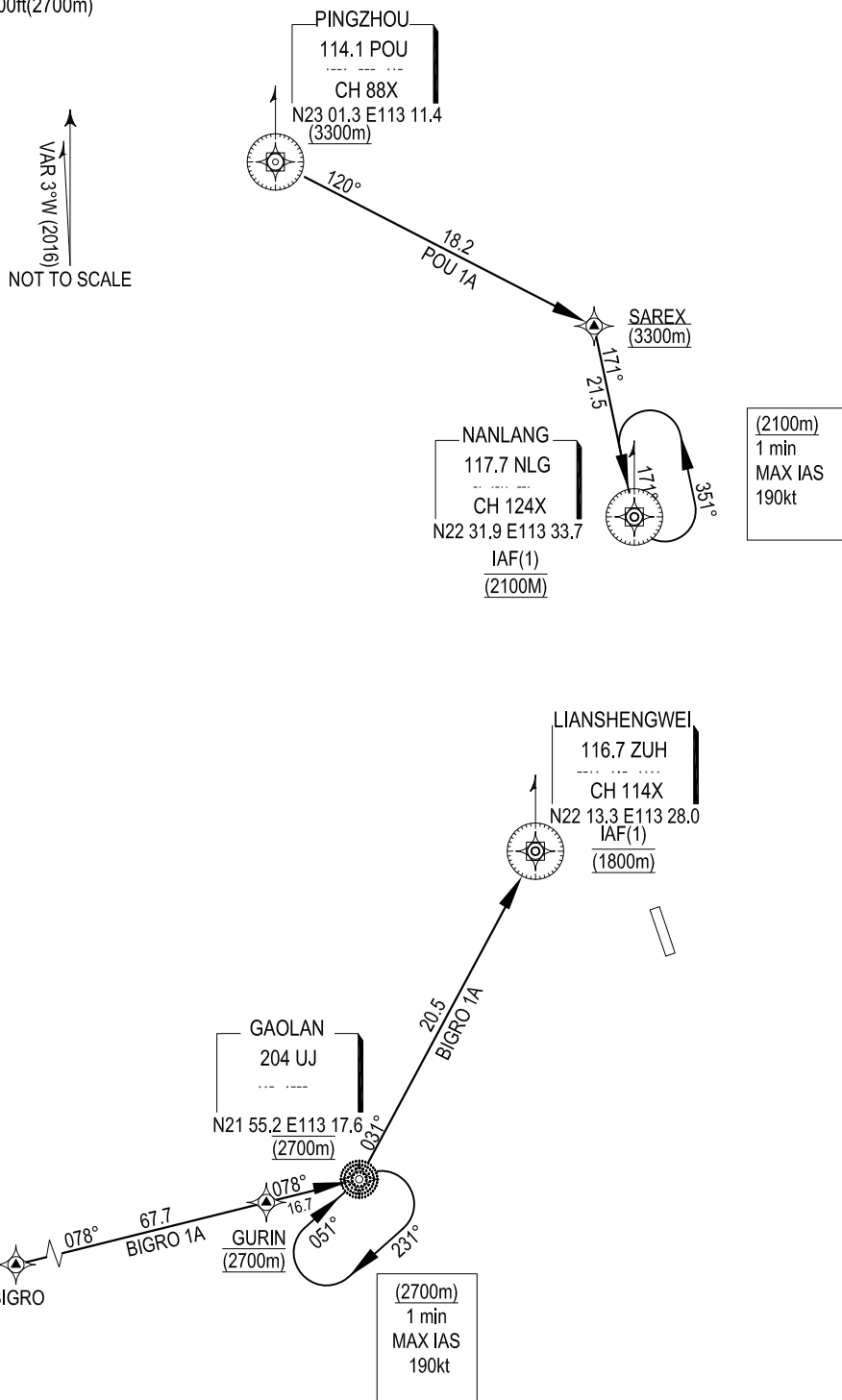
POU 9 A

Descend on POU R120° to cross SAREX at 3300 m. At SAREX turn right to establish on NLG R351° to cross NLG at 2100 m.

REMARK :

(1) Maximum approach turning speed: 190 kt IAS

TWR : MACAO Tower 118.0
APP : Zhuhai Approach 119.025 / 125.525 (1)
APP : HONG KONG Radar 123.95/ 132.225 (2)
ATIS : MACAO 126.4
TA 9000ft(2700m)



MAX APCH TURNING SPEED:190kt IAS

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET AND (METERS/m).
DISTANCES IN NAUTICAL MILES

The procedure applied to BASIC RNP1,GNSS required.

BIGRO 1 A

From BIGRO to GURIN at 2700 m., to UJ at 2700 m and to ZUH at 1800 m .

POU 1 A

From POU to SAREX 3300 m, to NLG at 2100 m.

REMARK :

- (1) For RNAV_(GNSS) STAR aircraft must be approved by State of Registry in accordance with ICAO RNP1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
- (2) Aircraft that do not have approval or whose RNP1/ P-RNAV capability has been degraded shall use the Conventional Procedure: BIGRO 9 A or POU 9 A.
- (3) Maximum approach turning speed: 190 kt IAS
- (4) Loss of communication:
 In the event of loss of communication, aircraft shall comply with the specified STAR procedure, then join the Macao RWY 16 approach.

FMC Database Coding Reference for RNAV_(GNSS) STARs**BIGRO 1A**

Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	IF	BIGRO	—	—	—	—	—	—
002	TF	GURIN	—	078(075)	67.7	—	@8900	—
003	TF	UJ	—	078(075)	16.7	—	@8900	—
004	TF	ZUH	—	031(028)	20.5	—	@5900	—

POU 1A

Sequence Number	Path Terminator	Waypoint	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)
001	IF	POU	—	—	—	—	+10800	—
002	TF	SAREX	—	120(117)	18.2	—	@10800	—
003	TF	NLG	—	171(168)	21.5	—	@6900	—

Waypoint Coordinates

Waypoint Name	Coordinates (WGS84)	
POU	23°01.3'N	113°11.4'E
SAREX	22°52.9'N	113°29.0'E
NLG	22°31.9'N	113°33.7'E
BIGRO	21°34.2'N	111°49.6'E
GURIN	21°51.1'N	113°00.0'E
UJ	21°55.2'N	113°17.6'E
ZUH	22°13.3'N	113°28.0'E

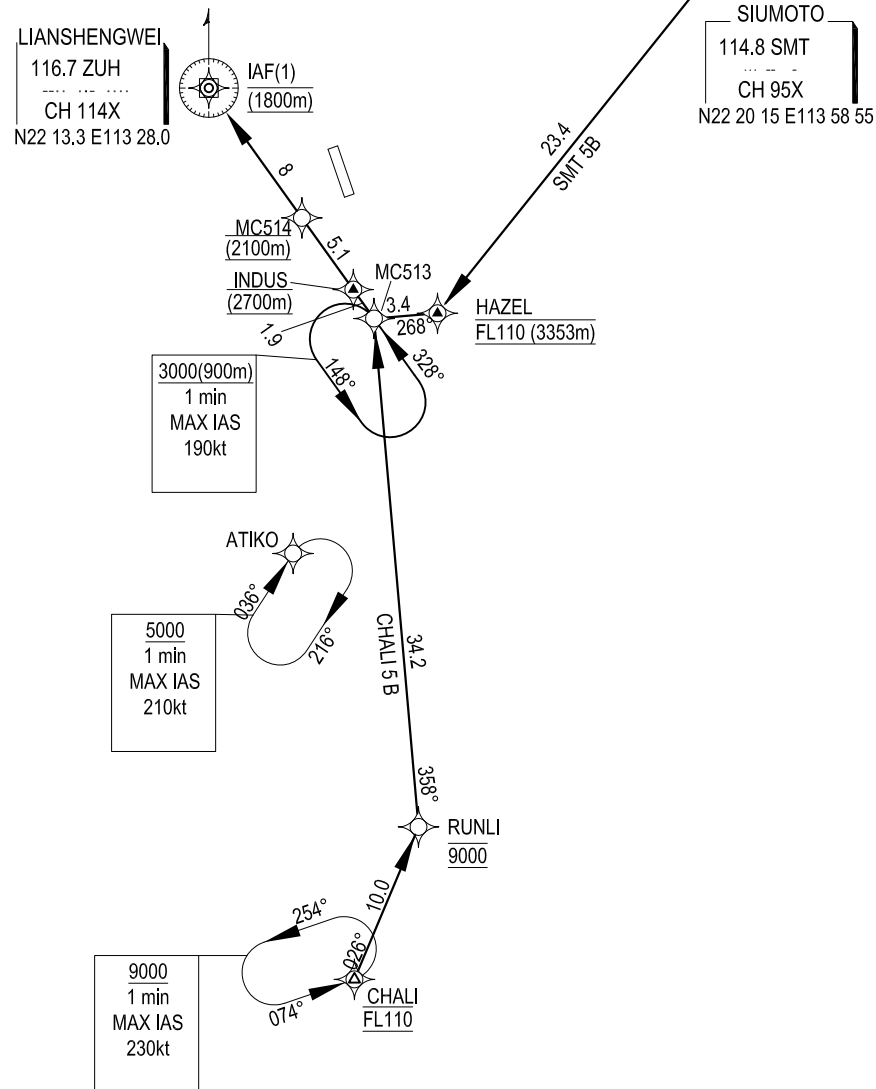
AD2-VMMC-68 C
30 OCT 2025

GUANG ZHOU FIR - HONG KONG FIR
RNAV(GNSS) STAR MACAO RWY 16
(CHALI 5 B, SMT 5 B)
CAT A, B, C, D

AIP MACAO

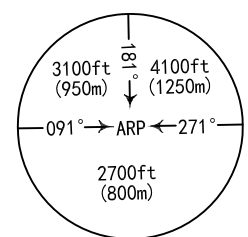
TWR : MACAO Tower 118.0
APP : Zhuhai Approach 119.025 / 125.525 (1)
APP : HONG KONG Radar 123.95 / 132.225 (2)
ATIS : MACAO 126.4
TA 9000ft(2700m)

VAR 3°W (2016)
NOT TO SCALE



MAX APCH TURNING SPEED:190kt IAS

BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET AND (METERS/m).
DISTANCES IN NAUTICAL MILES



The procedure applied to BASIC RNP1,GNSS required.

INSTRUMENT
APPROACH
CHART - ICAO

HEIGHTS RELATED TO
AD. ELEV 20 (1 hPa)

ATIS MACAO : 126.4
APP : ZHUHAI Approach 119.025 / 125.525 (1)
HONG KONG Radar 123.95 / 132.225(2)
TWR : MACAO Tower 118.0
MACAO Ground 121.725 / 121.975

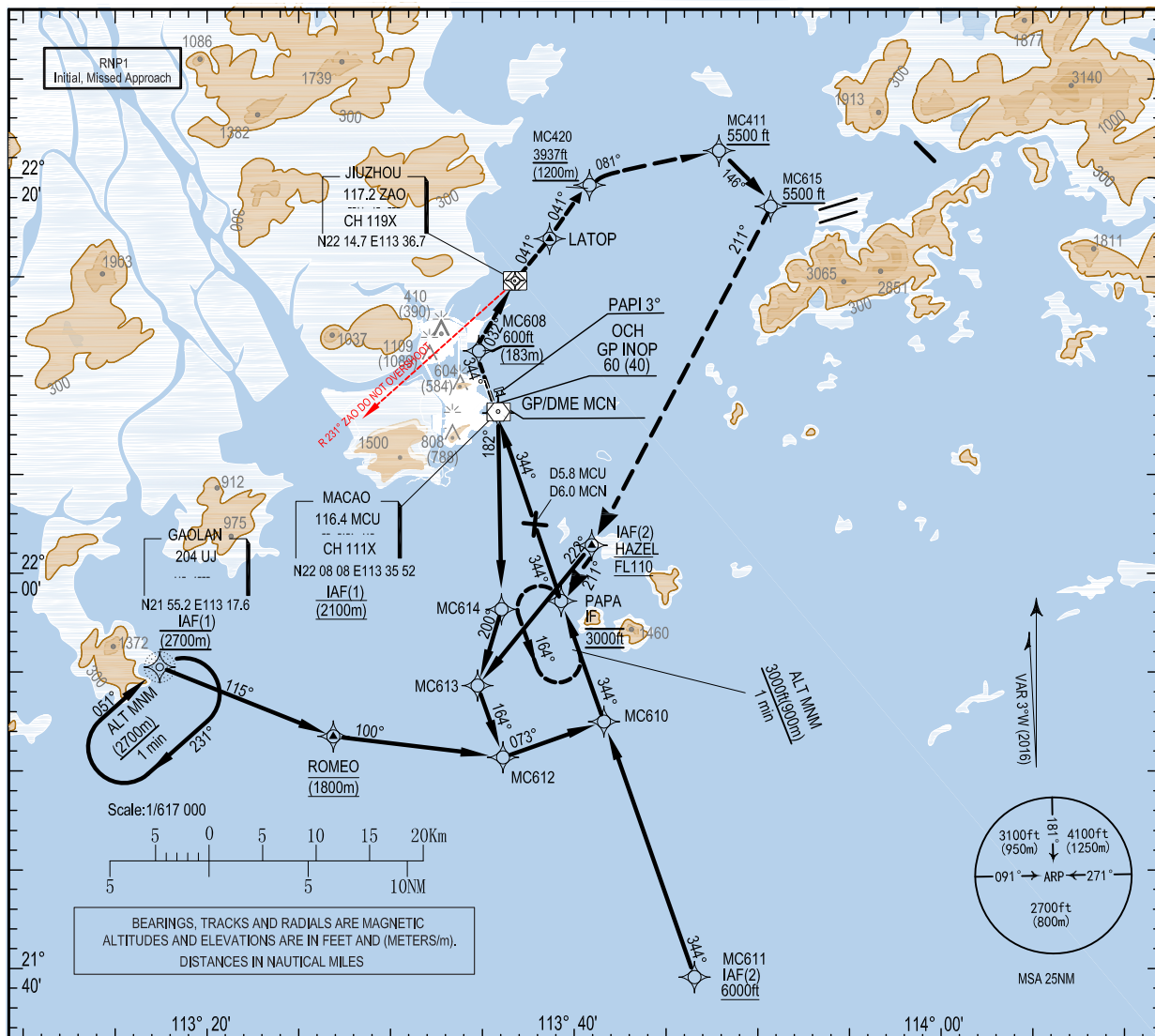
AD 2 - VMMC - 69
ILS z RWY 34 RNAV(GNSS)

ILS
MCN 109.7
RDH: 54

PROTECTED
FOR A B C D CAT

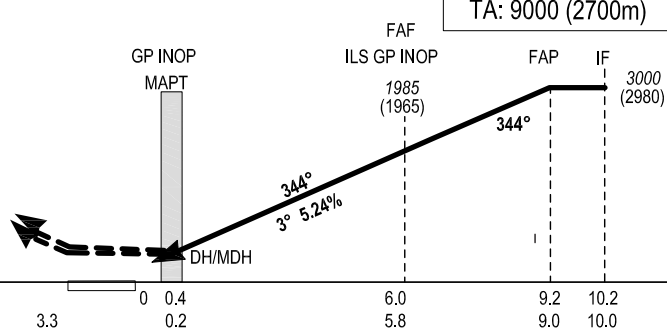
30 OCT 2025

MAX APCH TURNING SPEED : 190 kt IAS
MAX MISSED APCH TURNING SPEED : 185 kt IAS



MISSED APPROACH (2): (MNM climb gradient 5.4% required until passing 5500 ft) Climb to MC608 at 600ft (183m) or above, turn right track to ZAO, LATOP, MC420 at or above 1200m (3937ft). Track to MC411 at or above 5500ft and continue climb to 6000ft or as instructed by ATC. Then fly by MC615 on track 211°M to HAZEL, PAPA. When requested, join the holding pattern at PAPA at 3000ft or above, or proceed as directed by ATC.

Note: If unable RNP1 during missed approach, continue on the published missed approach track, climb and pass MSA 4100ft as soon as practicable.



MCN/DME(4) ← (NM)										0		0.4		6.0		9.2		10.2	
VOR/DME ← (NM)										3.3		0.2		5.8		9.0		10.0	
Standard MNM : vertical distances in feet, horizontal visibility in meters.														REF HEIGHT : ALT SDE.					
CAT	ILS CAT I		ILS CAT II		GP INOP OCH : 316		CIRCLING		OCH CAT I	OCH CAT II	GP/DME MCN								
	DA(DH)	HV(RVR)	DA(DH)	RVR	MDH	HV	MDH	HV											
A	220(200)		120(100)	350	320	1500	SEE CHART AD 2 - VMMC - 72		A : 141	A : 49	NM								
B	220(200)	800	120(100)	350	320	1500			B : 150	B : 62	ALT								
C	220(200)	800	120(100)	350	320	1500			C : 164	C : 76	(HEIGHT)								
D	220(200)	800	120(100)	350	320	1600			D : 171	D : 89	(2283) (1965) (1646) (1328) (1009) (691) (372)								
Remarks : (3) OCH ILS CAT I (CAT A, B, C, D) AND CAT II (CAT D) - CAT II (CAT A, B, C) ground plane. (4) MCN/DME is provided from the displaced threshold																			
FAF - Displaced THR			6.0 NM		70 kt 5 min 09		85 kt 4 min 14		100 kt 3 min 36		115 kt 3 min 08		130 kt 2 min 46		160 kt 2 min 15		185 kt 1 min 57		

FMC Database Coding Reference for ILS z RWY 34

Seq. Nr.	Path Terminator	Waypoint	FAF MAP	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)	VPA/TCH	Navigation Specification
001	CF	MC608	—	—	344(341)	3.1	—	+600	-185	—	RNP APCH
002	TF	ZAO	—	—	032(029)	4.0	—	—	-185	—	RNP APCH
003	TF	LATOP	—	—	041(038)	2.7	—	—	—	—	RNP APCH
004	TF	MC420	—	—	041(038)	4.7	R	+3900	—	—	RNP APCH
005	TF	MC411	—	—	081(078)	5.6	—	+5500	—	—	RNP APCH
006	TF	MC615	—	—	146(143)	4.4	—	+5500	—	—	RNP APCH
007	TF	HAZEL	—	—	211(208)	18.9	—	—	—	—	RNP APCH
008	TF	PAPA	—	—	211(208)	3.1	—	—	—	—	RNP APCH
009	HM	PAPA	—	Y	344(341)	—	—	+3000	-185	—	RNP APCH
001	IF	MCU	—	—	—	—	—	@6900	—	—	RNP APCH
002	TF	MC614	—	—	182(179)	9.9	—	—	—	—	RNP APCH
003	TF	MC613	—	—	200(197)	4.0	—	—	—	—	RNP APCH
004	TF	MC612	—	—	164(161)	3.8	—	—	—	—	RNP APCH
005	TF	MC610	—	—	073(070)	5.4	—	—	—	—	RNP APCH
006	TF	PAPA	—	—	344(341)	6.5	—	@3000	-190	—	RNP APCH
001	IF	MC611	—	—	—	—	—	+6000	—	—	RNP APCH
002	TF	MC610	—	—	344(341)	13.7	—	—	—	—	RNP APCH
003	TF	PAPA	—	—	344(341)	6.5	—	@3000	-190	—	RNP APCH
001	IF	UJ	—	—	—	—	—	@8900	—	—	RNP APCH
002	TF	ROMEO	—	—	115(112)	9.4	—	@5900	—	—	RNP APCH
003	TF	MC612	—	—	100(097)	8.6	—	—	—	—	RNP APCH
004	TF	MC610	—	—	073(070)	5.4	—	—	—	—	RNP APCH
005	TF	PAPA	—	—	344(341)	6.5	—	@3000	-190	—	RNP APCH
001	IF	HAZEL	—	—	—	—	—	@FL110	—	—	RNP APCH
002	TF	MC613	—	—	222(219)	9.1	—	—	—	—	RNP APCH
003	TF	MC612	—	—	164(161)	3.8	—	—	—	—	RNP APCH
004	TF	MC610	—	—	073(070)	5.4	—	—	—	—	RNP APCH
005	TF	PAPA	—	—	344(341)	6.5	—	@3000	-190	—	RNP APCH

Waypoint Coordinates

Waypoint Name	Coordinates (WGS84)	
HAZEL	22°01'26.49"N	113°40'56.63"E
LATOP	22°16.9"N	113°38.6"E
MC411	22°21'41.20"N	113°47'37.58"E
MC420	22°20'32.29"N	113°41'43.59"E
MC608	22°11'14.42"N	113°34'38.75"E
MC610	21°52'31.46"N	113°41'36.15"E
MC611	21°39'36.00"N	113°46'30.00"E
MC612	21°50'42.92"N	113°36'08.19"E
MC613	21°54'20.84"N	113°34'45.32"E
MC614	21°58'12.27"N	113°36'03.19"E
MC615	22°18'12.10"N	113°50'26.77"E
MCU	22°08'08"N	113°35'52"E
PAPA	21°58'39"N	113°39'22"E
ROMEO	21°51.8"N	113°26.9"E
UJ	21°55.2"N	113°17.6"E
ZAO	22°14.7"N	113°36.7"E

ILS
MCN 109.7
RDH: 54
MAX APCH TURNING SPEED : 190 kt IAS
MAX MISSED APCH TURNING SPEED : 185 kt IAS



INSTRUMENT
APPROACH
CHART - ICAO

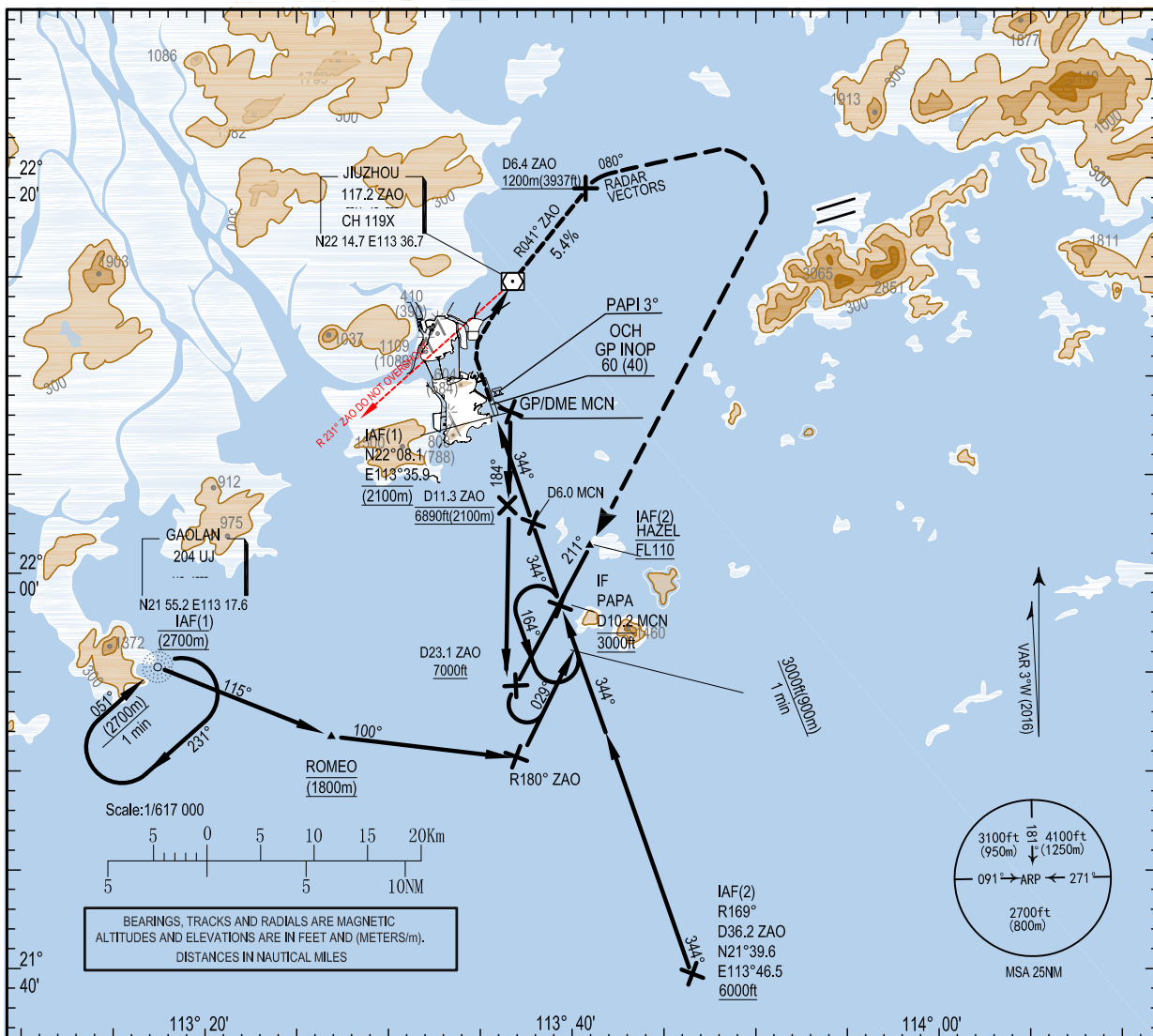
HEIGHTS RELATED TO
AD. ELEV 20 (1 hPa)

ATIS MACAO : 126.4
APP : ZHUHAI Approach 119.025 / 125.525 (1)
HONG KONG Radar 123.95 / 132.225(2)
TWR : MACAO Tower 118.0
MACAO Ground 121.725 / 121.975

AD 2 - VMMC - 69C
ILS x RWY 34
(MCU Unserviceable)
ILS
MCN 109.7
RDH: 54
MAX APCH TURNING SPEED : 190 kt IAS
MAX MISSED APCH TURNING SPEED : 185 kt IAS

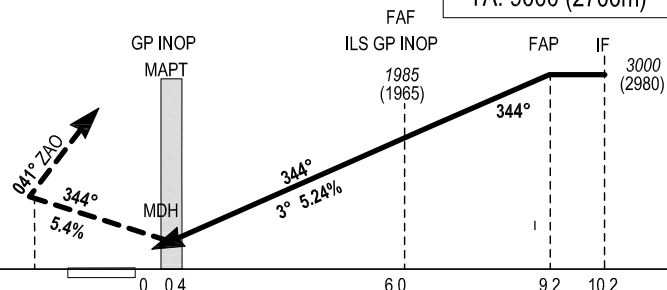
PROTECTED
FOR A B C D CAT

30 OCT 2025



MISSED APPROACH(2):(MNM climb gradient 5.4% required until passing 5500 ft) Climb on runway heading to 600 ft (183m) turn right (MAX IAS 185kt) to ZAO, leave ZAO on ZAO R041°. Cross ZAO 6.4NM at or above 1200m(3937 ft) and turn right to track 080°M, continue climbing to 6000 ft (1829m). Expect radar vectors by Hong Kong ATC to HAZEL.

TA: 9000 (2700m)



MCN/DME(4) ← (NM)

Standard MNM : vertical distances in feet, horizontal visibility in meters.

REF HEIGHT : ALT SDE.

STANDARD WIDTH : VERTICAL DISTANCE IN FEET, HORIZONTAL VISIBILITY IN METERS.										REF. HEIGHT : REF. SDE:								
CAT	ILS CAT I		ILS CAT II		GP INOP OCH : 316		CIRCLING		OCH CAT I	OCH CAT II	GP/DME MCN							
	DA(DH)	HV(RVR)	DA(DH)	RVR	MDH	HV	MDH	HV			NM	7	6	5	4	3	2	1
A	220(200)	800	120(100)	350	320	1500	SEE CHART AD 2 - VMMC - 72		A : 141	A : 49	ALT	2303	1985	1666	1348	1029	711	392
B	220(200)	800	120(100)	350	320	1500			B : 150	B : 62	(HEIGHT)	(2283)	(1965)	(1646)	(1328)	(1009)	(691)	(372)
C	220(200)	800	120(100)	350	320	1500			C : 164	C : 76								
D	220(200)	800	120(100)	350	320	1600			D : 171	D : 89								

Remarks : (3) OCH ILS CAT I (CAT A, B, C, D) AND CAT II (CAT D) - CAT II (CAT A, B, C) ground plane. (4) MCN/DME is provided from the displaced threshold

FAF - Displaced THR	6.0 NM	70 kt 5 min 09	85 kt 4 min 14	100 kt 3 min 36	115 kt 3 min 08	130 kt 2 min 46	160 kt 2 min 15	185 kt 1 min 57
---------------------	--------	-------------------	-------------------	--------------------	--------------------	--------------------	--------------------	--------------------

INSTRUMENT
APPROACH
CHART - ICAO

HEIGHTS RELATED TO
AD. ELEV 20 (1 hPa)

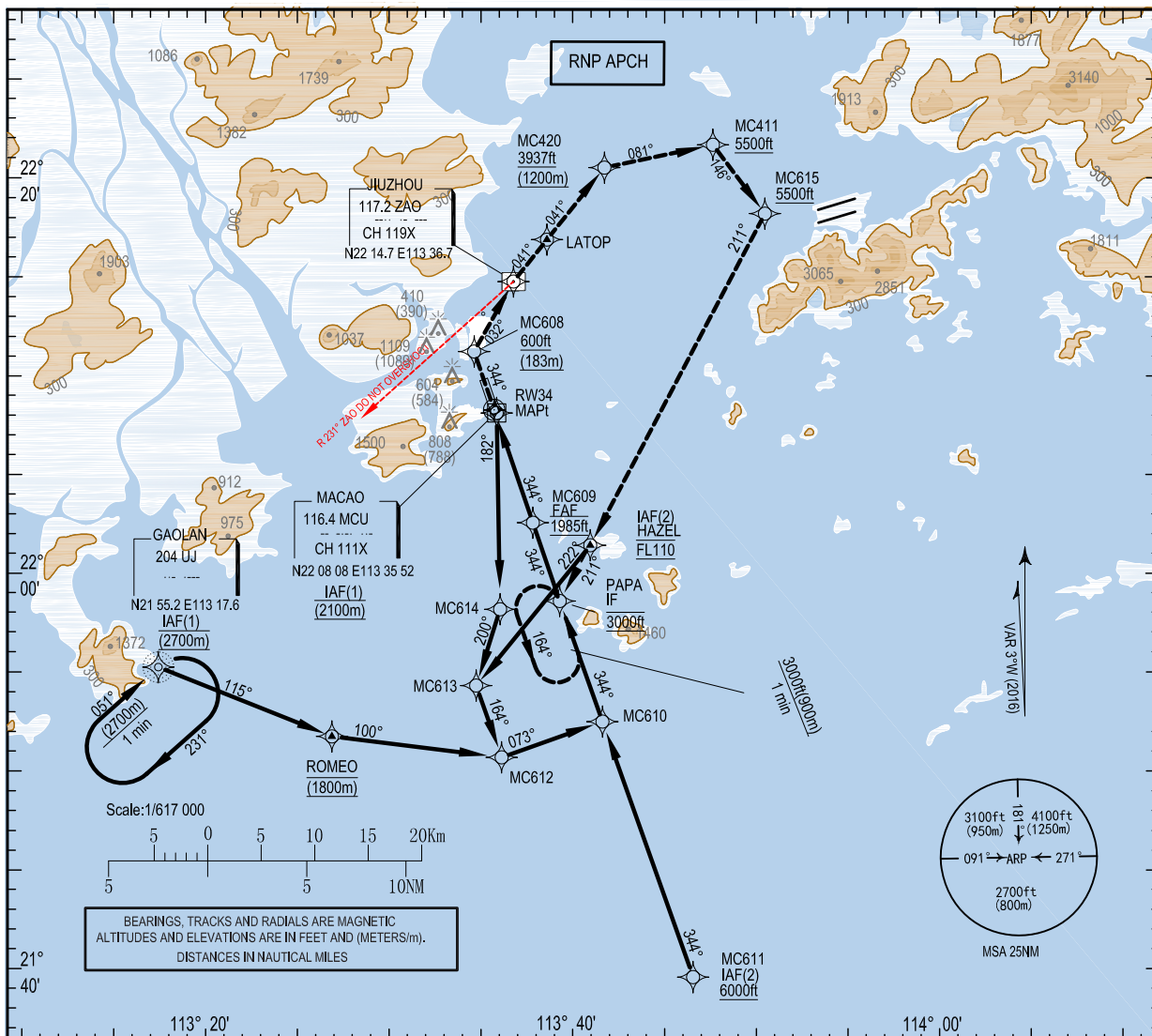
ATIS MACAO : 126.4
APP : ZHUHAI Approach 119.025 / 125.525 (1)
HONG KONG Radar 123.95 / 132.225(2)
TWR : MACAO Tower 118.0
MACAO Ground 121.725 / 121.975

AD 2 - VMMC - 69D
RNP RWY 34

PROTECTED
FOR A B C D CAT

30 OCT 2025

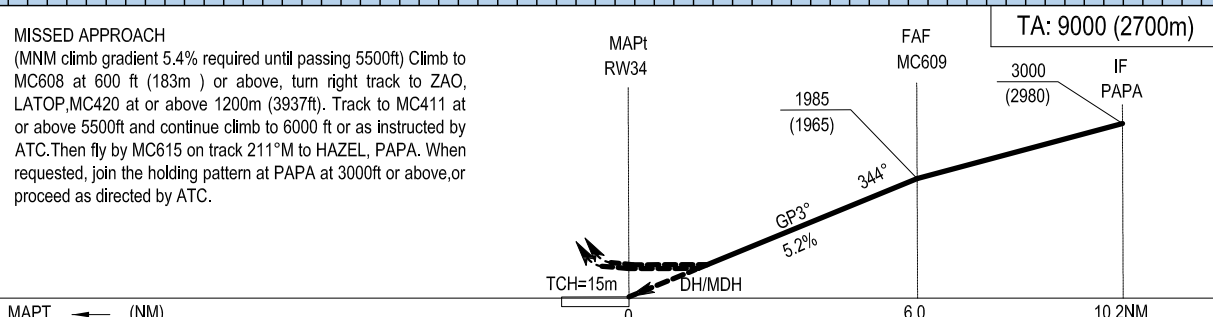
Minimum Temperature: +5°C
MAX APCH TURNING SPEED : 190 kt IAS
MAX MISSED APCH TURNING SPEED : 185 kt IAS



MISSED APPROACH

(MNM climb gradient 5.4% required until passing 5500ft) Climb to MC608 at 600 ft (183m) or above, turn right track to ZAO, LATOP, MC420 at or above 1200m (3937ft). Track to MC411 at or above 5500ft and continue climb to 6000 ft or as instructed by ATC. Then fly by MC615 on track 211°M to HAZEL, PAPA. When requested, join the holding pattern at PAPA at 3000ft or above, or proceed as directed by ATC.

TA: 9000 (2700m)



MAPT (NM)

Standard MNM: vertical distances in feet, horizontal visibility in meters.

CAT	VNAV/LNAV		LNAV		CIRCLING		MAPT(RW34)						
	DA/DH	HV	MDA/MDH	HV	MDA/MDH	HV	NM	6	5	4	3	2	1
A	540/520	2700	570/550	2900	SEE CHART AD2-VMMC-72		ALT	1985	1663	1344	1026	707	388
B	540/520	2700	570/550	2900			(HEIGHT)	(1965)	(1643)	(1324)	(1006)	(687)	(368)
C	540/520	2700	570/550	2900									
D	540/520	2700	570/550	2900									
FAF-MAPT		6.0NM	70kt	85kt	100kt	115kt	130kt	145kt	160kt	185kt			
			5 min 09	4 min 14	3 min 36	3 min 08	2 min 46	2 min 28	2 min 15	1 min 57			

FMC Database Coding Reference for RNP RWY34 APCH

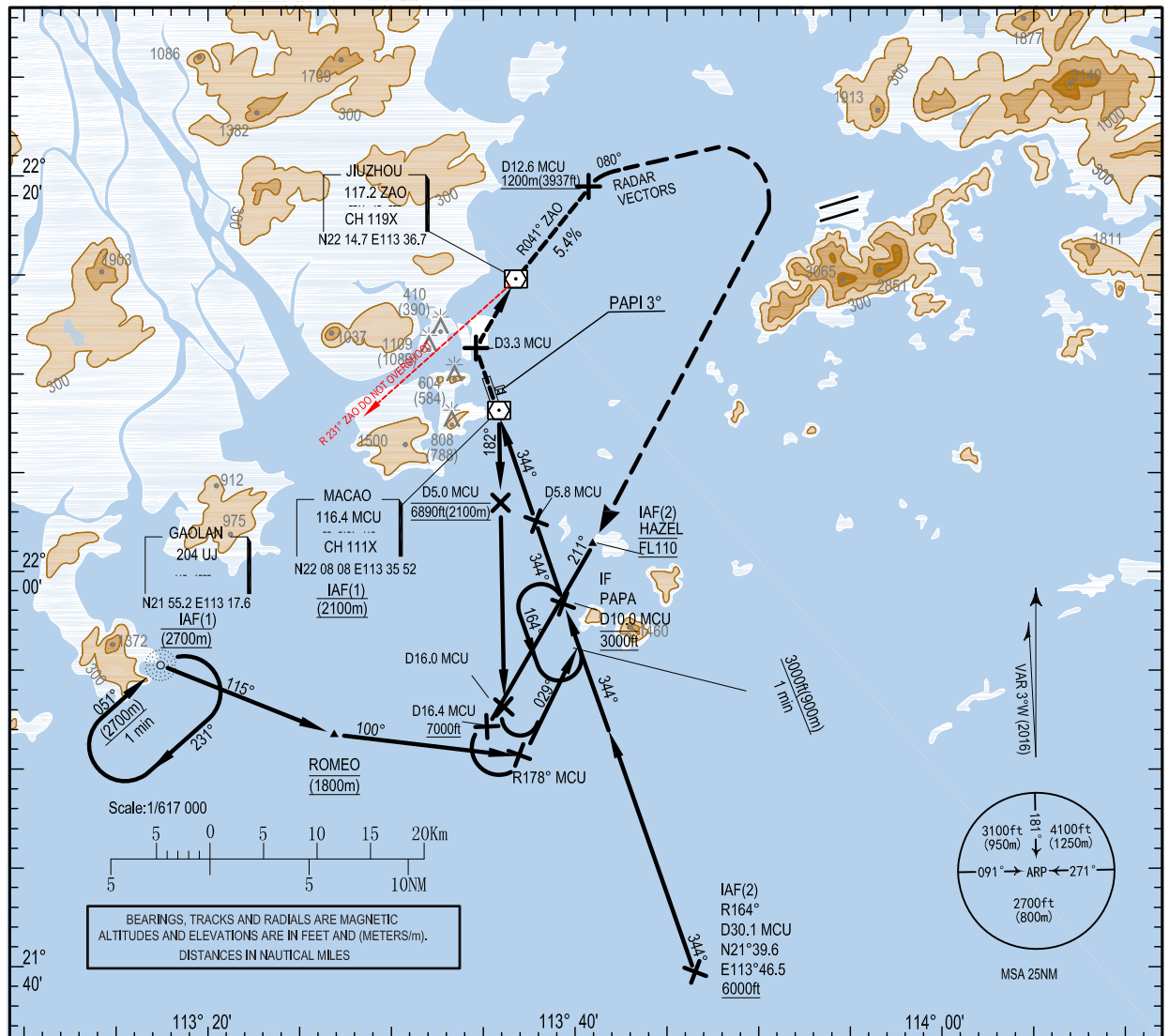
Seq. Nr.	Path Terminator	Waypoint	FAF MAP	Fly-over	Track °M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)	VPA/TCH	Navigation Specification
001	IF	PAPA	—	—	—	—	—	@3000	-190	—	RNP APCH
002	TF	MC609	F	—	344(341)	4.2	—	@1985	-190	3.00	RNP APCH
003	TF	RW34	M	Y	344(341)	6.0	—	+570	-185	3.00	RNP APCH
004	TF	MC608	—	—	344(341)	3.1	—	+600	-185	—	RNP APCH
005	TF	ZAO	—	—	032(029)	4.0	—	—	-185	—	RNP APCH
006	TF	LATOP	—	—	041(038)	2.7	—	—	—	—	RNP APCH
007	TF	MC420	—	—	041(038)	4.7	R	+3900	—	—	RNP APCH
008	TF	MC411	—	—	081(078)	5.6	—	+5500	—	—	RNP APCH
009	TF	MC615	—	—	146(143)	4.4	—	+5500	—	—	RNP APCH
010	TF	HAZEL	—	—	211(208)	18.9	—	—	—	—	RNP APCH
011	TF	PAPA	—	—	211(208)	3.1	—	—	—	—	RNP APCH
012	HM	PAPA	—	Y	344(341)	—	—	+3000	-185	—	RNP APCH
001	IF	MCU	—	—	—	—	—	@6900	—	—	RNP APCH
002	TF	MC614	—	—	182(179)	9.9	—	—	—	—	RNP APCH
003	TF	MC613	—	—	200(197)	4.0	—	—	—	—	RNP APCH
004	TF	MC612	—	—	164(161)	3.8	—	—	—	—	RNP APCH
005	TF	MC610	—	—	073(070)	5.4	—	—	—	—	RNP APCH
006	TF	PAPA	—	—	344(341)	6.5	—	@3000	-190	—	RNP APCH
001	IF	MC611	—	—	—	—	—	+6000	—	—	RNP APCH
002	TF	MC610	—	—	344(341)	13.7	—	—	—	—	RNP APCH
003	TF	PAPA	—	—	344(341)	6.5	—	@3000	-190	—	RNP APCH
001	IF	UJ	—	—	—	—	—	@8900	—	—	RNP APCH
002	TF	ROMEO	—	—	115(112)	9.4	—	@5900	—	—	RNP APCH
003	TF	MC612	—	—	100(097)	8.6	—	—	—	—	RNP APCH
004	TF	MC610	—	—	073(070)	5.4	—	—	—	—	RNP APCH
005	TF	PAPA	—	—	343(341)	6.5	—	@3000	-190	—	RNP APCH
001	IF	HAZEL	—	—	—	—	—	@FL110	—	—	RNP APCH
002	TF	MC613	—	—	222(219)	9.1	—	—	—	—	RNP APCH
003	TF	MC612	—	—	164(161)	3.8	—	—	—	—	RNP APCH
004	TF	MC610	—	—	073(070)	5.4	—	—	—	—	RNP APCH
005	TF	PAPA	—	—	344(341)	6.5	—	@3000	-190	—	RNP APCH

Waypoint Coordinates

Waypoint Name	Coordinates	(WGS84)	Waypoint Name	Coordinates	(WGS84)
HAZEL	22°01'26.49"N	113°40'56.63"E	MC613	21°54'20.84"N	113°34'45.32"E
LATOP	22°16.9"N	113°38.6"E	MC614	21°58'12.27"N	113°36'03.19"E
MC411	22°21'41.20"N	113°47'37.58"E	MC615	22°18'12.10"N	113°50'26.77"E
MC420	22°20'32.29"N	113°41'43.59"E	MCU	22°08'08"N	113°35'52"E
MC608	22°11'14.42"N	113°34'38.75"E	PAPA	21°58'39"N	113°39'22"E
MC609	22°02'35.07"N	113°37'49.87"E	ROMEO	21°51.8"N	113°26.9"E
MC610	21°52'31.46"N	113°41'36.15"E	RW34	22°08'17.46"N	113°35'43.91"E
MC611	21°39'36.00"N	113°46'30.00"E	UJ	21°55.2"N	113°17.6"E
MC612	21°50'42.92"N	113°36'08.19"E	ZAO	22°14.7"N	113°36.7"E

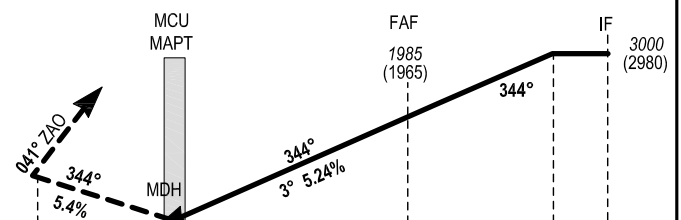
AD 2 - VMMC - 70
VOR/DME RWY 34

MAX APCH TURNING SPEED : 190 kt IAS
MAX MISSED APCH TURNING SPEED : 185 kt IAS



MISSED APPROACH(2):(MNM climb gradient 5.4% required until passing 5500 ft) Climb on runway heading to 600 ft (183m).At or before MCU 3.3NM turn right (MAX IAS 185kt) to ZAO, leave ZAO on ZAO R041°. Cross MCU 12.6 NM at or above 1200m(3937 ft) and turn right to track 080°M, continue climbing to 6000 ft (1829m). Expect radar vectors by Hong Kong ATC to HAZEL.

If ZAO is unserviceable.Climb on runway heading, at MCU 3.3 NM turn right (MAX IAS 185kt) on track 041°M, Cross MCU 13.1 NM at or above 1200m(3937 ft) and turn right to track 080°M, continue climbing to 6000 ft (1829m). Expect radar vectors by Hong Kong ATC to HAZEL.



VOR/DME ← (NM)

Standard MNM : vertical distances in feet, horizontal visibility in meters.

REF HEIGHT : ALT AD

CAT	VOR/DME OCH : 522		CIRCLING		VOR/DME MCU						
	MDH	HV	MDH	HV	NM	7	6	5	4	3	2
A	530	2000	SEE CHART AD 2 - VMCC - 72		ALT	2362	2044	1725	1407	1088	770
B	530	2000			(HEIGHT)	(2342)	(2024)	(1705)	(1387)	(1068)	(750)
C	530	2400									
D	530	3200									
FAF - Displaced THR 5.8 NM					70 kt 4 min 58	85 kt 4 min 06	100 kt 3 min 29	115 kt 3 min 02	130 kt 2 min 41	160 kt 2 min 11	185 kt 1 min 53

INTENTIONALLY

LEFT

BLANK

INSTRUMENT
APPROACH
CHART - ICAO

HEIGHTS RELATED TO
AD. ELEV 20 (1 hPa)

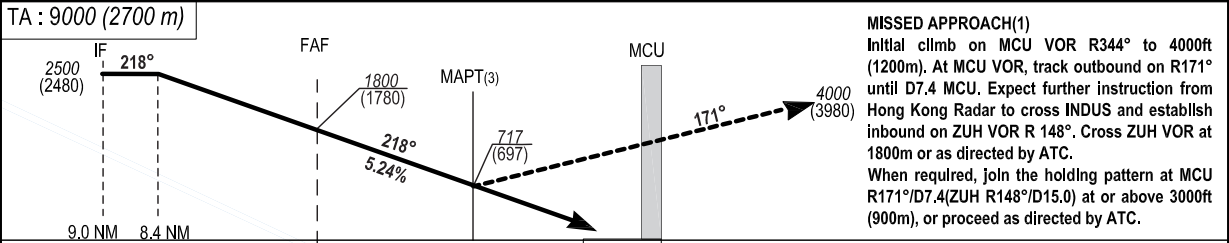
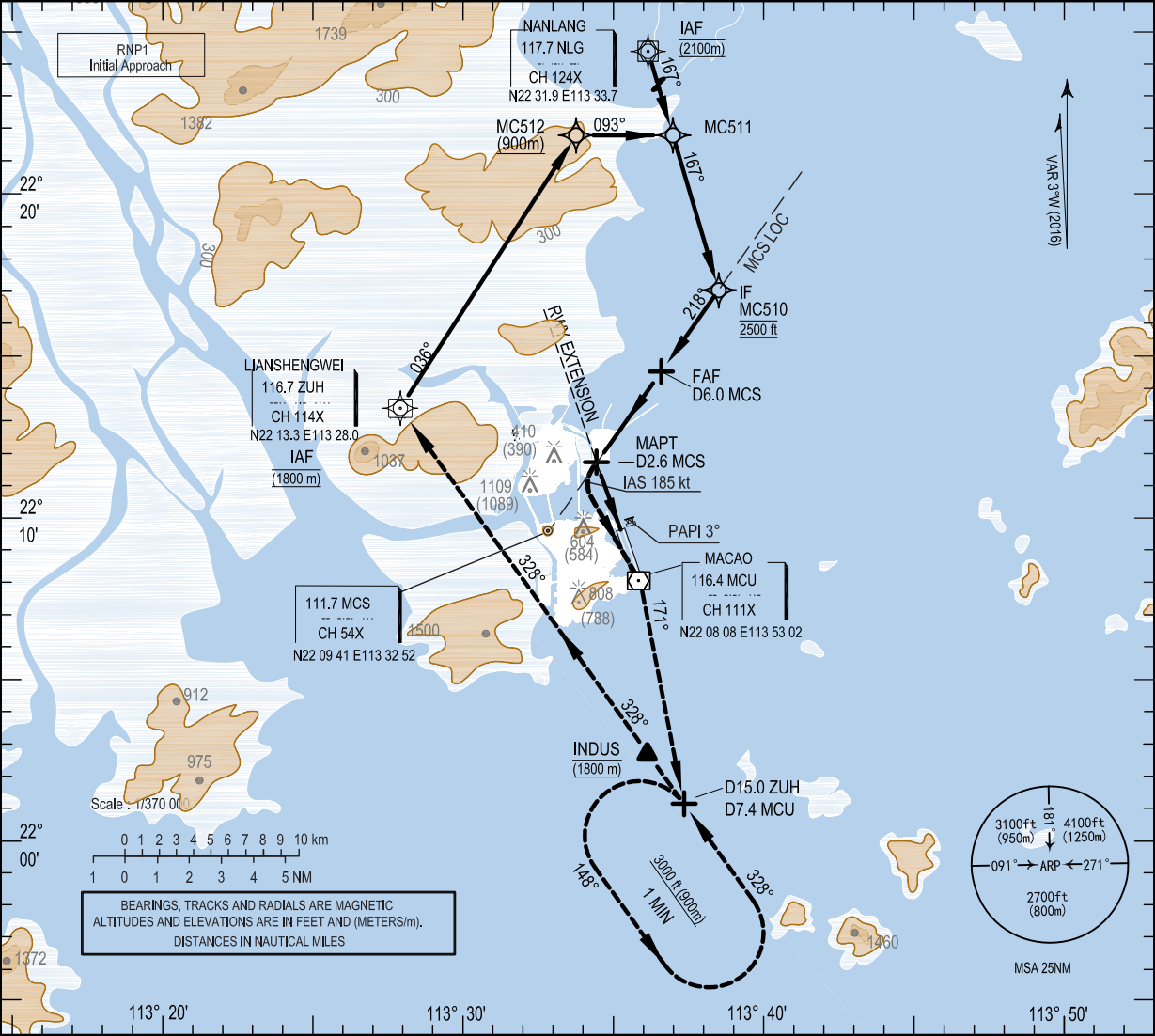
ATIS MACAO : 126.4
APP : ZHUHAI Approach 119.025 / 125.525 (1)
HONG KONG Radar 123.95 / 132.225(2)
TWR : MACAO Tower 118.0
MACAO Ground 121.725 / 121.975

AD 2 - VMMC - 71
LOC/DME z RWY 16
RNAV(GNSS)

PROTECTED
FOR A B C D CAT

30 OCT 2025

MAX APCH TURNING SPEED : 190 kt IAS
MAX MISSED APCH TURNING SPEED : 185 kt IAS



→ LOC/DME (NM)					6	2.6					
Standard MNM : vertical distances in feet, horizontal visibility in meters.										REF HEIGHT : ALT AD.	
CAT	LOC OCH : 700		CIRCLING		LOC/DME MCS					(3) The approach final segment is offset from landing direction by 054° On the approach final segment, and at pilot discretion, a visual left turn should be initiated in time to allow lining up with the runway, considering the aircraft type, approach speed.... before the MAPT. At MAPT (2.6 NM LOC/DME), even visual, the missed approach procedure is mandatory.	
	MDH	HV	MDH	HV	NM	6	5	4	3		
A	700	3600	Not Applicable		ALT	1800	1482	1163	845		
B	700	3600			(HEIGHT)	(1780)	(1462)	(1143)	(825)		
C	700	3600									
D	700	3600									
FAF - MAPT			3.4 NM	70 kt 2 min 55	85 kt 2 min 24	100 kt 2 min 03	115 kt 1 min 47	130 kt 1 min 34	160 kt 1 min 17	185 kt 1 min 06	

FMC Database Coding Reference for LOC/DME z RWY 16 APCH

Sequence Number	Path Terminator	Waypoint	FAF MAP	Fly-over	Track M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)	VPA/TCH	Navigation Specification
001	IF	ZUH	—	—	—	—	—	@5900	—	—	RNP APCH
002	TF	MC512	—	—	036(033)	10.0	—	+3000	-190	—	RNP APCH
003	TF	MC511	—	—	093(090)	3.0	—	—	-190	—	RNP APCH
004	TF	MC510	—	—	167(164)	5.0	—	@2500	-190	—	RNP APCH
001	IF	NLG	—	—	—	—	—	@6900	—	—	RNP APCH
002	TF	MC511	—	—	167(164)	10.4	—	—	—	—	RNP APCH
003	TF	MC510	—	—	167(164)	5.0	—	@2500	-190	—	RNP APCH

Waypoint Coordinates

Waypoint Name	Coordinates (WGS84)	
INDUS	22°02'41.0"N	113°36'01.0"E
MC510	22°17'02.13"N	113°38'29.61"E
MC511	22°21'49.23"N	113°36'58.39"E
MC512	22°21'49.25"N	113°33'45.41"E
MCU	22°08'08"N	113°35'52"E
NLG	22°31.9"N	113°33.7"E
ZUH	22°13.3"N	113°28.0"E

INSTRUMENT
APPROACH
CHART - ICAO

HEIGHTS RELATED TO
AD. ELEV 20 (1 hPa)

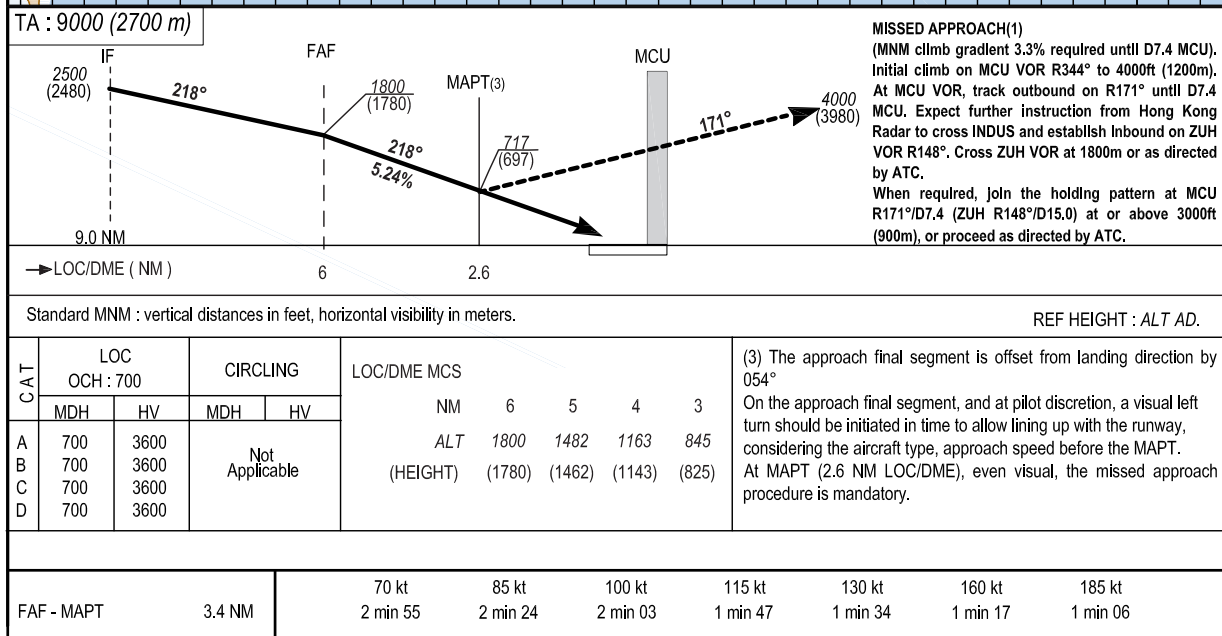
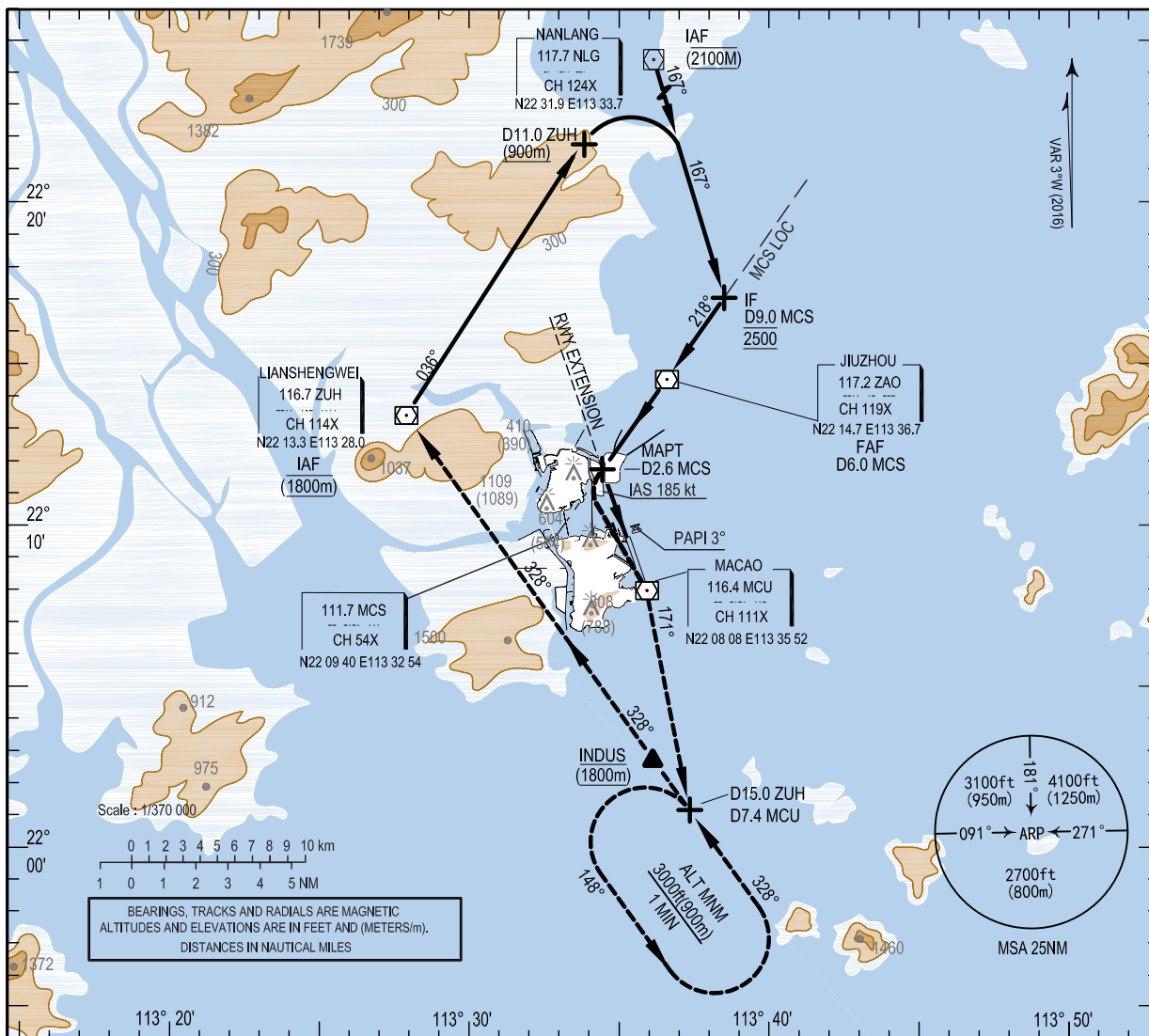
ATIS MACAO : 126.4
APP : ZHUHAI Approach 119.025 / 125.525 (1)
HONG KONG Radar 123.95 / 132.225(2)
TWR : MACAO Tower 118.0
MACAO Ground 121.725 / 121.975

AD 2 - VMMC - 71B
LOC/DME y RWY 16
LOC
MCS 111.7

PROTECTED
FOR A B C D CAT

30 OCT 2025

MAX APCH TURNING SPEED : 190 kt IAS
MAX MISSED APCH TURNING SPEED : 185 kt IAS



INTENTIONALLY

LEFT

BLANK

INSTRUMENT
APPROACH
CHART - ICAO

HEIGHTS RELATED TO
AD. ELEV 20 (1 hPa)

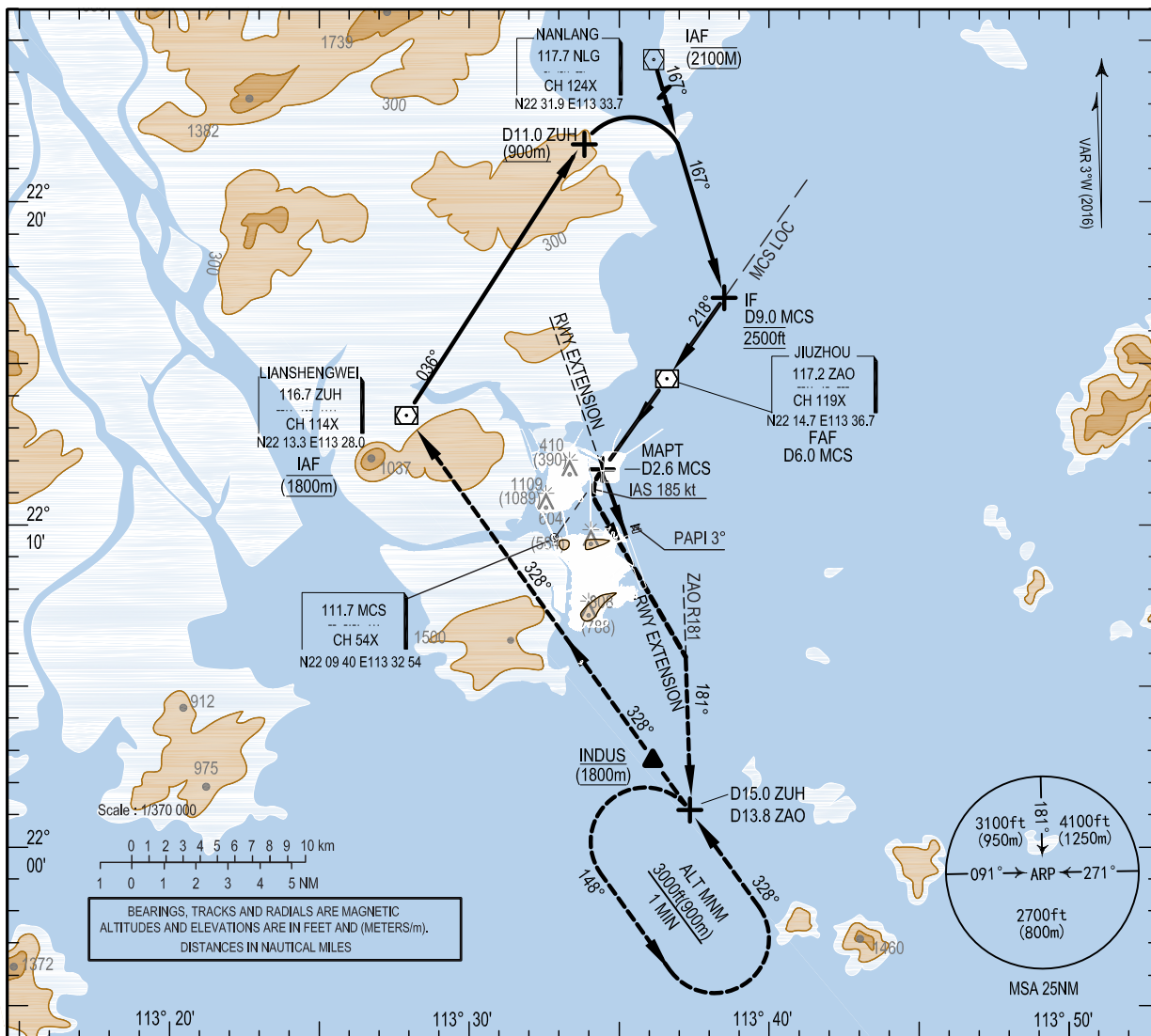
ATIS MACAO : 126.4
APP : ZHUHAI Approach 119.025 / 125.525 (1)
HONG KONG Radar 123.95 / 132.225(2)
TWR : MACAO Tower 118.0
MACAO Ground 121.725 / 121.975

AD 2 - VMMC - 71C
LOC/DME x RWY 16
(MCU Unserviceable)

PROTECTED
FOR A B C D CAT

30 OCT 2025

LOC
MCS 111.7
MAX APCH TURNING SPEED : 190 kt IAS
MAX MISSED APCH TURNING SPEED : 185 kt IAS



TA : 9000 (2700 m)		MISSED APPROACH(1) (MNM climb gradient 3.3% required until D13.8 ZAO) Turn left and initial climb to 4000ft(1200 m) on R181° until D13.8 ZAO and expect further instruction from Hong Kong Radar to cross INDUS and establish inbound on ZUH VOR R148°. Cross ZUH VOR at 1800m or as directed by ATC. When required, join the holding pattern at ZUH R148°/D15.0 at or above 3000ft(900 m), or proceed as directed by ATC.	
→ LOC/DME (NM)		REF HEIGHT : ALT AD.	
CAT	LOC	CIRCLING	
	OCH : 700	MDH	HV
	MDH	HV	LOC/DME MCS
	MDH	HV	NM 6 5 4 3
	MDH	HV	ALT 1800 1482 1163 845
A	700	3600	(HEIGHT) (1780) (1462) (1143) (825)
B	700	3600	
C	700	3600	
D	700	3600	
FAF - MAPT		3.4 NM	70 kt 2 min 55 85 kt 2 min 24 100 kt 2 min 03 115 kt 1 min 47 130 kt 1 min 34 160 kt 1 min 17 185 kt 1 min 06

INTENTIONALLY

LEFT

BLANK

INSTRUMENT
APPROACH
CHART - ICAO

HEIGHTS RELATED TO
AD. ELEV 20 (1 hPa)

ATIS MACAO : 126.4
APP : ZHUHAI Approach 119.025 / 125.525 (1)
HONG KONG Radar 123.95 / 132.225(2)
TWR : MACAO Tower 118.0
MACAO Ground 121.725 / 121.975

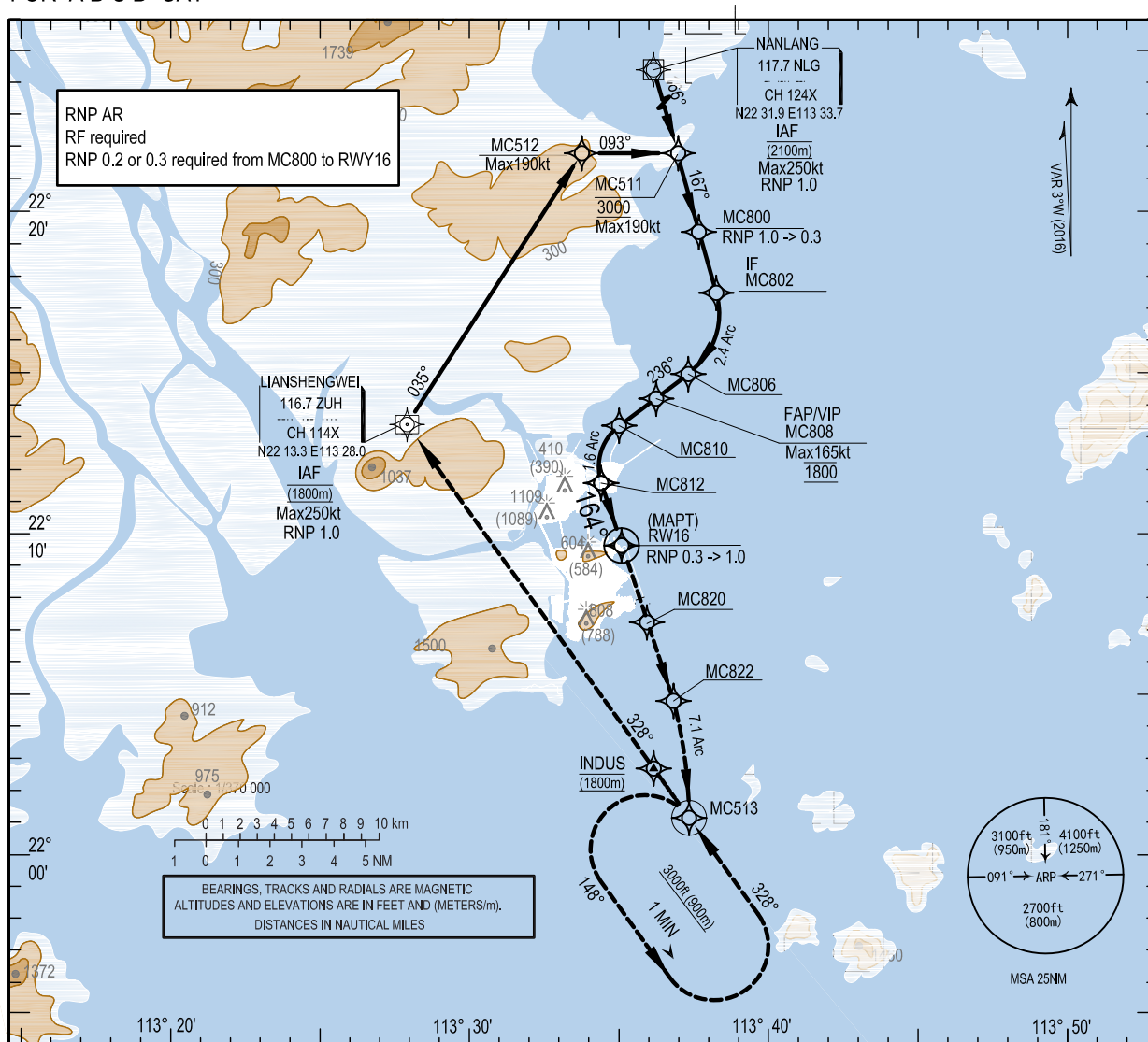
AD 2 - VMMC - 71D
RNP z RWY 16 (AR)

PROTECTED
FOR A B C D CAT

30 OCT 2025

Authorization required

TEMP RESTRICTION
MIN Temp 5°C



MISSED APPROACH

Initial climb to 4000ft(1200m) via the missed approach track to MC513 and expect further instruction from Hong Kong Radar to cross INDUS. Track to ZUH at 5900ft(1800m) or as directed by ATC.

When required, join the holding pattern at MC513 at or above 3000ft(900m), or proceed as directed by ATC.

MAPt (NM)

Standard MNM: vertical distances in feet, horizontal visibility in meters.

CAT	RNP 0.2 (a)		RNP 0.2 (b)		RNP 0.3 (a)		RNP 0.3 (b)		Note: RNP (LNAV/VNAV). (a) 3.0% MNM Climb Gradient. (b) 2.5% MNM Climb Gradient.
	OCA/OCH	HV	OCA/OCH	HV	OCA/OCH	HV	OCA/OCH	HV	
A	270/250	900	270/250	900	300/280	1100	310/290	1100	
B	270/250	900	270/250	900	310/290	1100	330/310	1300	
C	270/250	900	280/260	1000	330/310	1300	350/330	1400	
D	280/260	1000	300/280	1100	350/330	1400	370/350	1500	

FMC Database Coding Reference for RNP z RWY 16 (AR) APCH

Seq. Nr.	Path Terminator	Waypoint	Fix Role	Fly-over	Track M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)	VPA/TCH	Navigation Specification
001	IF	NLG	IAF	—	—	—	—	@6900	-250	—	RNP AR APCH
002	TF	MC511	—	—	166(163)	10.492	—	+3000	-190	—	RNP AR APCH
003	TF	MC800	—	—	167(164)	2.500	—	—	—	—	RNP AR APCH
004	TF	MC802	—	—	167(164)	1.968	—	—	—	—	RNP AR APCH
005	RF Centre: MCC80 r = 2.360NM	MC806	—	—	236(233)	2.842	R	—	—	—	RNP AR APCH
006	TF	MC808	—	—	236(233)	1.252	—	@1800	-165	—	RNP AR APCH
001	IF	ZUH	IAF	—	—	—	—	@5900	-250	—	RNP AR APCH
002	TF	MC512	—	—	035(032)	10.030	—	—	-190	—	RNP AR APCH
003	TF	MC511	—	—	093(090)	2.981	—	+3000	—	—	RNP AR APCH
004	TF	MC800	—	—	167(164)	2.500	—	—	—	—	RNP AR APCH
005	TF	MC802	—	—	167(164)	1.968	—	—	—	—	RNP AR APCH
006	RF Centre: MCC80 r = 2.360NM	MC806	—	—	236(233)	2.842	R	—	—	—	RNP AR APCH
007	TF	MC808	—	—	236(233)	1.252	—	@1800	-165	—	RNP AR APCH
001	IF	MC808	FAF	—	—	—	—	@1800	-165	—	RNP AR APCH
002	TF	MC810	—	—	236(233)	1.435	—	—	—	3.00	RNP AR APCH
003	RF Centre: MCC82 r = 1.600NM	MC812	—	—	164(161)	2.000	L	—	—	3.00	RNP AR APCH
004	TF	RW16	MAPT	Y	164(161)	2.000	—	+70	—	3.00	RNP AR APCH
005	TF	MC820	—	—	164(161)	2.559	—	—	—	—	RNP AR APCH
006	TF	MC822	—	—	164(161)	2.587	—	—	—	—	RNP AR APCH
007	RF Centre: MCC84 r = 7.179NM	MC513	—	—	193(190)	3.624	R	—	-185	—	RNP AR APCH
008	HM	MC513	—	Y	328(325)	—	L	+3000	-185	—	RNP AR APCH

Waypoint Coordinates

Waypoint Name	Coordinates (WGS84)		Waypoint Name	Coordinates (WGS84)	
NLG	22°31'54.0000"N	113°33'42.0000"E	MC808	22°14'12.4680"N	113°36'21.1390"E
ZUH	22°13'18.0000"N	113°28'00.0000"E	MC810	22°13'20.0870"N	113°35'07.3230"E
RW16	22°09'38.3100"N	113°35'14.1400"E	MC812	22°11'32.2130"N	113°34'32.1820"E
MC511	22°21'49.2300"N	113°36'58.3900"E	MC820	22°07'12.5500"N	113°36'07.8040"E
MC512	22°21'49.2500"N	113°33'45.4100"E	MC822	22°04'45.1840"N	113°37'02.0200"E
MC513	22°01'09.9500"N	113°37'20.0400"E			
MC800	22°19'24.7490"N	113°37'43.8130"E	MCC80	22°16'51.1470"N	113°35'53.0160"E
MC802	22°17'31.0330"N	113°38'19.5450"E	MCC82	22°12'03.4710"N	113°36'10.0330"E
MC806	22°14'58.1330"N	113°37'25.5250"E	MCC84	22°02'24.8370"N	113°29'43.4130"E

INSTRUMENT
APPROACH
CHART - ICAO

HEIGHTS RELATED TO
AD. ELEV 20 (1 hPa)

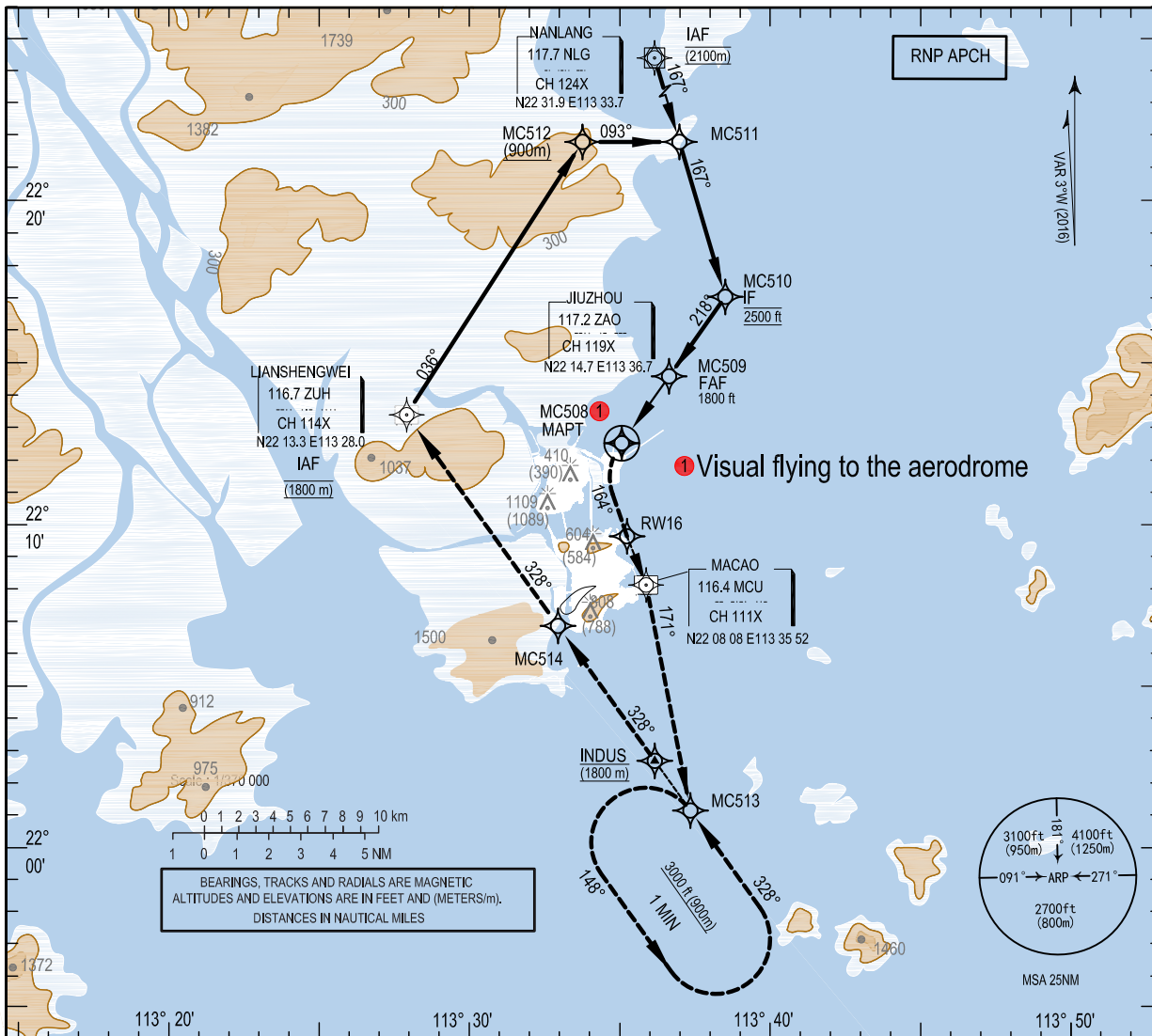
ATIS MACAO : 126.4
APP : ZHUHAI Approach 119.025 / 125.525 (1)
HONG KONG Radar 123.95 / 132.225(2)
TWR : MACAO Tower 118.0
MACAO Ground 121.725 / 121.975

AD 2 - VMMC - 71 F
RNP y RWY 16 (LNAV only)

PROTECTED
FOR A B C D CAT

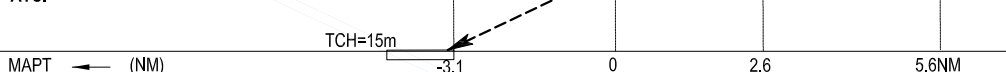
30 OCT 2025

Only for LNAV
MAX APCH TURNING SPEED : 190 kt IAS
MAX MISSED APCH TURNING SPEED : 185 kt IAS



MISSED APPROACH

(MNM climb gradient 3.0% required until passing 5500 ft) Turn left and climb on track 164°M to RW16, track to MCU and MC513. Initial climb to 4000ft(1200m) and expect further instruction from Hong Kong Radar to cross INDUS. Track to MC514 and ZUH, cross ZUH at 1800m or as directed by ATC. When required, join the holding pattern at MC513 at or above 3000ft(900m), or proceed as directed by ATC.



Standard MNM: vertical distances in feet, horizontal visibility in meters.

CAT	LNAV		CIRCLING		MAPT(MC508)		① On the approach final segment, and at pilot discretion, a visual left turn should be initiated in time to allow lining up with the runway, considering the aircraft type, approach speed before the MAPT. At MAPT(MC508), even visual, the missed approach procedure is mandatory.
	MDA/MDH	HV	MDA/MDH	HV			
A	970/950	5000	Not Applicable		NM	2 1	
B	970/950	5000			ALT	1602 1283	
C	970/950	5000			(HEIGHT)	(1582) (1263)	
D	970/950	5000					

FAF-MAPT 2.6NM		70kt	85kt	100kt	115kt	130kt	145kt	160kt	185kt
		2 min 14	1 min 50	1 min 34	1 min 21	1 min 12	1 min 05	0 min 59	0 min 51

FMC Database Coding Reference for RNP y RWY16 APCH

Sequence Number	Path Terminator	Waypoint	FAF MAP	Fly-over	Track M (°T)	Distance (NM)	Turn Dir	Altitude (ft)	Speed (knot)	VPA/TCH	Navigation Specification
001	IF	MC510	—	—	—	—	—	@2500	-190	—	RNP APCH
002	TF	MC509	F	—	218(215)	3.0	—	1800	-190	3.00	RNP APCH
003	TF	MC508	M	Y	218(215)	2.524	—	+1000	-185	3.00	RNP APCH
004	CF	RW16	—	—	164(160)	3.16	—	—	-185	—	RNP APCH
005	TF	MCU	—	—	162(159)	1.61	—	—	-185	—	RNP APCH
006	TF	MC513	—	—	171(168)	7.1	—	—	-185	—	RNP APCH
007	HM	MC513	—	Y	328(325)	—	L	+3000	-185	—	RNP APCH
008	TF	INDUS	-	-	328(325)	-	-	@5900	-	-	RNP APCH
009	TF	MC514	-	-	328(325)	-	-	@5900	-	-	RNP APCH
010	TF	ZUH	-	-	328(325)	-	-	@5900	-	-	RNP APCH
001	IF	ZUH	—	—	—	—	—	@5900	—	—	RNP APCH
002	TF	MC512	—	—	036(033)	10.0	—	+3000	-190	—	RNP APCH
003	TF	MC511	—	—	093(090)	3.0	—	—	-190	—	RNP APCH
004	TF	MC510	—	—	167(164)	5.0	—	@2500	-190	—	RNP APCH
001	IF	NLG	—	—	—	—	—	@6900	—	—	RNP APCH
002	TF	MC511	—	—	167(164)	10.4	—	—	—	—	RNP APCH
003	TF	MC510	—	—	167(164)	5.0	—	@2500	-190	—	RNP APCH

Waypoint Coordinates

Waypoint Name	Coordinates (WGS84)	
INDUS	22°02'41.0"N	113°36'01.0"E
MC508	22°12'25.79"N	113°34'59.76"E
MC509	22°14'34.78"N	113°36'37.67"E
MC510	22°17'02.13"N	113°38'29.61"E
MC511	22°21'49.23"N	113°36'58.39"E
MC512	22°21'49.25"N	113°33'45.41"E
MC513	22°01'09.95"N	113°37'20.04"E
MC514	22°06'52.19"N	113°32'56.82"E
MCU	22°08'08"N	113°35'52"E
NLG	22°31.9'N	113°33.7'E
RW16	22°09'38.31"N	113°35'14.14"E
ZUH	22°13.3'N	113°28.0'E

INSTRUMENT
APPROACH
CHART - ICAO

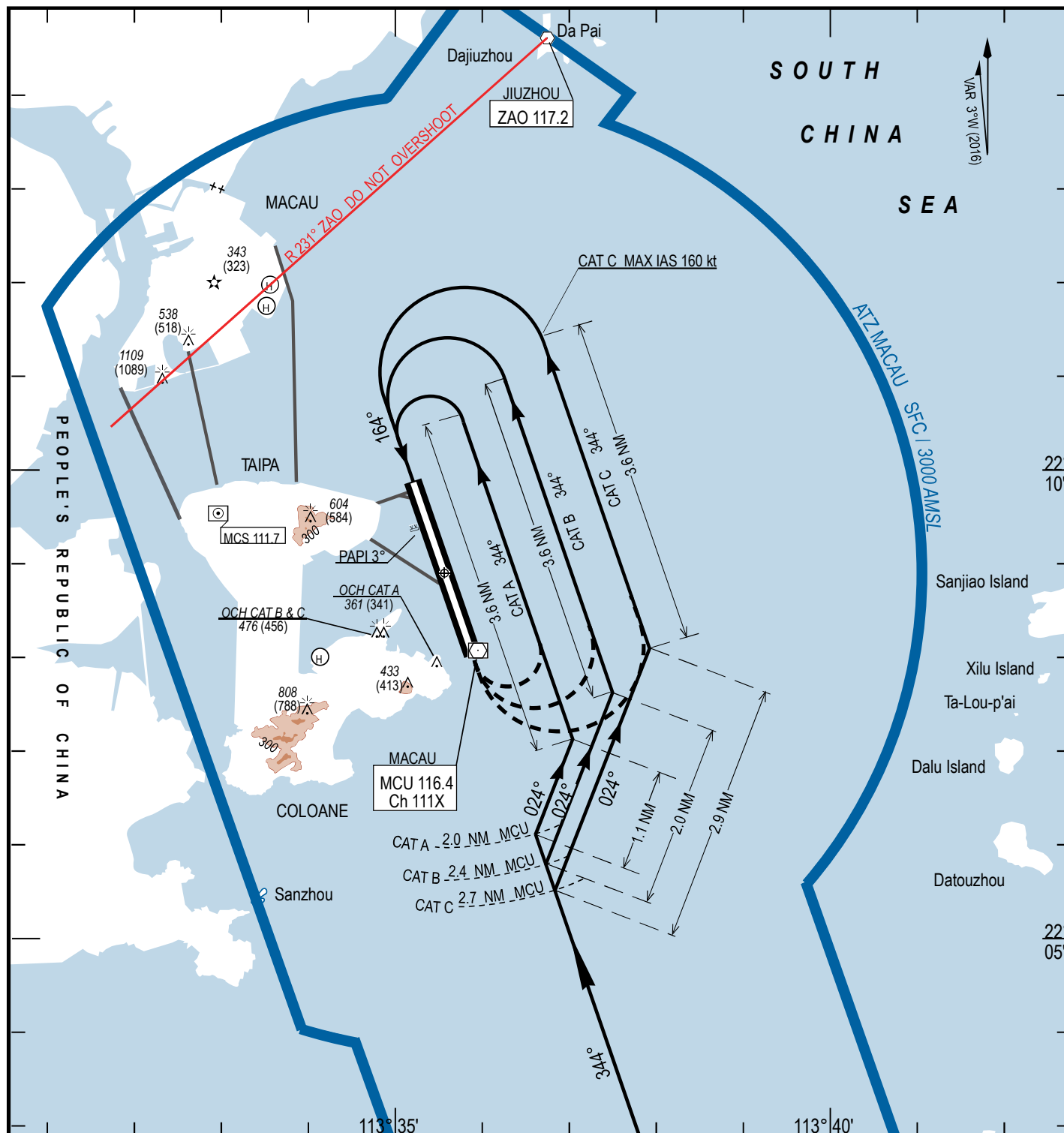
PROTECTED
FOR A B C CAT

HEIGHTS RELATED TO
AD. ELEV 20 (1 hPa)

ATIS MACAU : 126.4
APP : ZHUHAI Approach 119.025 / 125.525 (1)
HONG KONG Radar 123.95/ 132.225 (2)
TWR : MACAU Tower 118.0
MACAU Ground 121.725 121.975

AD 2 - VMMC - 72
CIRCLING TO LAND RWY 16

30 OCT 2025



Do not overshooting ZAO R231° which defines the northern limit for flights due to noise abatement for Zhuhai City

Standard MNM : vertical distances in feet, horizontal visibility in metres.

CAT	MAX. kt	After ILS, GP INOP or VOR/DME approach										
		MDA (MDH)	CEIL	HV	Distance(NM)	Speed / Time						
						100kt	110kt	120kt	130kt	140kt	150kt	160kt
A	100	660 (640)	1500	6000	1.1 (CAT A)	0 min 40						
B	135	770 (750)	1500	6000	2.0 (CAT B)	1 min 12	1 min 06	1 min 00	0 min 55			
C	160	870 (850)	1500	6000	2.9 (CAT C)	1 min 44	1 min 35	1 min 27	1 min 20	1 min 15	1 min 10	1 min 05
					3.6 (CAT A,B,C)	2 min 10	1 min 58	1 min 48	1 min 40	1 min 33	1 min 26	1 min 21

INTENTIONALLY

LEFT

BLANK