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AIP Supplement for Singapore

**AIRAC AIP SUP****075/2021****Effective from 12 AUG 2021****PERM****Published on 03 JUN 2021**

REVISION TO MINIMUM SECTOR ALTITUDE (MSA) FOR EXISTING INSTRUMENT FLIGHT PROCEDURES (IFP)

1 INTRODUCTION

1.1 This AIP Supplement is to inform aircraft operators and pilots on the revised Minimum Sector Altitude (MSA) for existing instrument flight procedures (IFPs). The changes aim to standardise the reference point, sector orientation and the minimum altitude to enhance safety and efficiency for aircraft operating at Singapore Changi Airport.

1.2 The revision to the MSA is in accordance to the ICAO Procedures for Air Navigation Services — Aircraft Operations (Doc 8168, PANS-OPS) Volume II, effective from **12 August 2021 0000UTC**.

2 DETAILS OF CHANGE TO MSA

2.1 The details of the revised MSA of the following existing IFPs can be found in the respective Appendices to this AIP Supplement.

IFP	AIP Reference	AIP SUP Reference
ANITO 6E / ANITO 7F	AD-2-WSSS-SID-1	Appendix A-1
ANITO 6A / ANITO 7B	AD-2-WSSS-SID-2	Appendix A-2
ADMIM 1E / ADMIM 3F	AD-2-WSSS-SID-3	Appendix A-3
ADMIM 1A / ADMIM 3B	AD-2-WSSS-SID-4	Appendix A-4
TOMAN 2E / TOMAN 4F	AD-2-WSSS-SID-5	Appendix A-5
TOMAN 2A / TOMAN 4B	AD-2-WSSS-SID-6	Appendix A-6
BAVUS 1E / BAVUS 3F	AD-2-WSSS-SID-7	Appendix A-7
BAVUS 1A / BAVUS 3B	AD-2-WSSS-SID-8	Appendix A-8
AROSO 2E / AROSO 4F	AD-2-WSSS-SID-9	Appendix A-9
MASBO 2E / MASBO 4F	AD-2-WSSS-SID-10	Appendix A-10
AROSO 2A / AROSO 4B	AD-2-WSSS-SID-11	Appendix A-11
MASBO 2A / MASBO 4B	AD-2-WSSS-SID-12	Appendix A-12
VMR 5E / VMR 8F	AD-2-WSSS-SID-13	Appendix A-13
VMR 5A / VMR 8B	AD-2-WSSS-SID-14	Appendix A-14
VENIX 1A / VENIX 3B	AD-2-WSSS-SID-15	Appendix A-15
VENIX 1E / VENIX 3F	AD-2-WSSS-SID-16	Appendix A-16
KADAR 1A / KADAR 3B	AD-2-WSSS-SID-17	Appendix A-17
KADAR 1E / KADAR 3F	AD-2-WSSS-SID-18	Appendix A-18
CHA 1C / CHA 1D	AD-2-WSSS-SID-19	Appendix A-19
ARAMA 1A	AD-2-WSSS-STAR-1	Appendix A-20
ASUNA 1A	AD-2-WSSS-STAR-2	Appendix A-21
ARAMA 1B	AD-2-WSSS-STAR-3	Appendix A-22
ASUNA 1B	AD-2-WSSS-STAR-4	Appendix A-23
KARTO 1A	AD-2-WSSS-STAR-5	Appendix A-24

IFP	AIP Reference	AIP SUP Reference
OBDOS 1A	AD-2-WSSS-STAR-6	Appendix A-25
KARTO 1B	AD-2-WSSS-STAR-7	Appendix A-26
OBDOS 1B	AD-2-WSSS-STAR-8	Appendix A-27
LELIB 3B	AD-2-WSSS-STAR-9	Appendix A-28
MABAL 2A	AD-2-WSSS-STAR-11	Appendix A-29
MABAL 2B	AD-2-WSSS-STAR-13	Appendix A-30
LEBAR 2A	AD-2-WSSS-STAR-14	Appendix A-31
LEBAR 2B	AD-2-WSSS-STAR-15	Appendix A-32
REPOV 1A	AD-2-WSSS-STAR-16	Appendix A-33
SURGA 1A	AD-2-WSSS-STAR-17	Appendix A-34
REPOV 1B	AD-2-WSSS-STAR-18	Appendix A-35
SURGA 1B	AD-2-WSSS-STAR-19	Appendix A-36
ELALO 1A	AD-2-WSSS-STAR-20	Appendix A-37
ELALO 1B	AD-2-WSSS-STAR-21	Appendix A-38
ICW ILS/DME RWY 02L	AD-2-WSSS-IAC-1	Appendix A-39
ICE ILS/DME RWY 02C	AD-2-WSSS-IAC-2	Appendix A-40
ICH ILS/DME RWY 20R	AD-2-WSSS-IAC-5	Appendix A-41
ICC ILS/DME RWY 20C	AD-2-WSSS-IAC-6	Appendix A-42
VTK DVOR/DME RWY 20C	AD-2-WSSS-IAC-7	Appendix A-43
RNP RWY 02L	AD-2-WSSS-IAC-9	Appendix A-44
RNP RWY 02C	AD-2-WSSS-IAC-10	Appendix A-45
RNP RWY 20R	AD-2-WSSS-IAC-11	Appendix A-46
RNP RWY 20C	AD-2-WSSS-IAC-12	Appendix A-47
RNP RWY 02R	AD-2-WSSS-IAC-13	Appendix A-48
RNP RWY 20L	AD-2-WSSS-IAC-14	Appendix A-49

3 CANCELLATION

3.1 This AIP Supplement will remain current until the information is incorporated into AIP Singapore.

Charts

ANITO 6E / ANITO 7F	Appendix A-1
ANITO 6A / ANITO 7B	Appendix A-2
ADMIM 1E / ADMIM 3F	Appendix A-3
ADMIM 1A / ADMIM 3B	Appendix A-4
TOMAN 2E / TOMAN 4F	Appendix A-5
TOMAN 2A / TOMAN 4B	Appendix A-6
BAVUS 1E / BAVUS 3F	Appendix A-7
BAVUS 1A / BAVUS 3B	Appendix A-8
AROSO 2E / AROSO 4F	Appendix A-9
MASBO 2E / MASBO 4F	Appendix A-10
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MASBO 2A / MASBO 4B	Appendix A-12
VMR 5E / VMR 8F	Appendix A-13
VMR 5A / VMR 8B	Appendix A-14
VENIX 1A / VENIX 3B	Appendix A-15
VENIX 1E / VENIX 3F	Appendix A-16
KADAR 1A / KADAR 3B	Appendix A-17
KADAR 1E / KADAR 3F	Appendix A-18
CHA 1C / CHA 1D	Appendix A-19
ARAMA 1A	Appendix A-20
ASUNA 1A	Appendix A-21
ARAMA 1B	Appendix A-22
ASUNA 1B	Appendix A-23
KARTO 1A	Appendix A-24
OBDOS 1A	Appendix A-25
KARTO 1B	Appendix A-26
OBDOS 1B	Appendix A-27
LELIB 3B	Appendix A-28
MABAL 2A	Appendix A-29
MABAL 2B	Appendix A-30

LEBAR 2A	Appendix A-31
LEBAR 2B	Appendix A-32
REPOV 1A	Appendix A-33
SURGA 1A	Appendix A-34
REPOV 1B	Appendix A-35
SURGA 1B	Appendix A-36
ELALO 1A	Appendix A-37
ELALO 1B	Appendix A-38
ICW ILS/DME RWY 02L	Appendix A-39
ICE ILS/DME RWY 02C	Appendix A-40
ICH ILS/DME RWY 20R	Appendix A-41
ICC ILS/DME RWY 20C	Appendix A-42
VTK DVOR/DME RWY 20C	Appendix A-43
RNP RWY 02L	Appendix A-44
RNP RWY 02C	Appendix A-45
RNP RWY 20R	Appendix A-46
RNP RWY 20C	Appendix A-47
RNP RWY 02R	Appendix A-48
RNP RWY 20L	Appendix A-49

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STANDARD DEPARTURE CHART
RNAV (GNSS) -
INSTRUMENT (SID)

TWR 118.6
APP 120.3
124.05
ACC 134.4

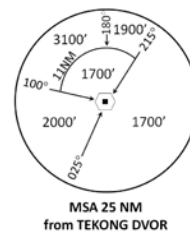
TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
ANITO DEPARTURES
ANITO 6E (R02L)
ANITO 7F (R20R)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM



NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTURING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
AS INSTRUCTED BY ATC,
REFER TO ENR 1.5, SECTION 3,
PARAGRAPH 3.2 [A] - FOR RWY 02L MINIMUM CLIMB GRADIENT AND
PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES

GENERAL INFORMATION

**INITIAL CLIMB
3000FT**

ON INITIAL CONTACT WHEN REQUESTING ATC,
INFORM ATC OF THE FLIGHT LEVEL AIRCRAFT
CAN CROSS ANITO

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

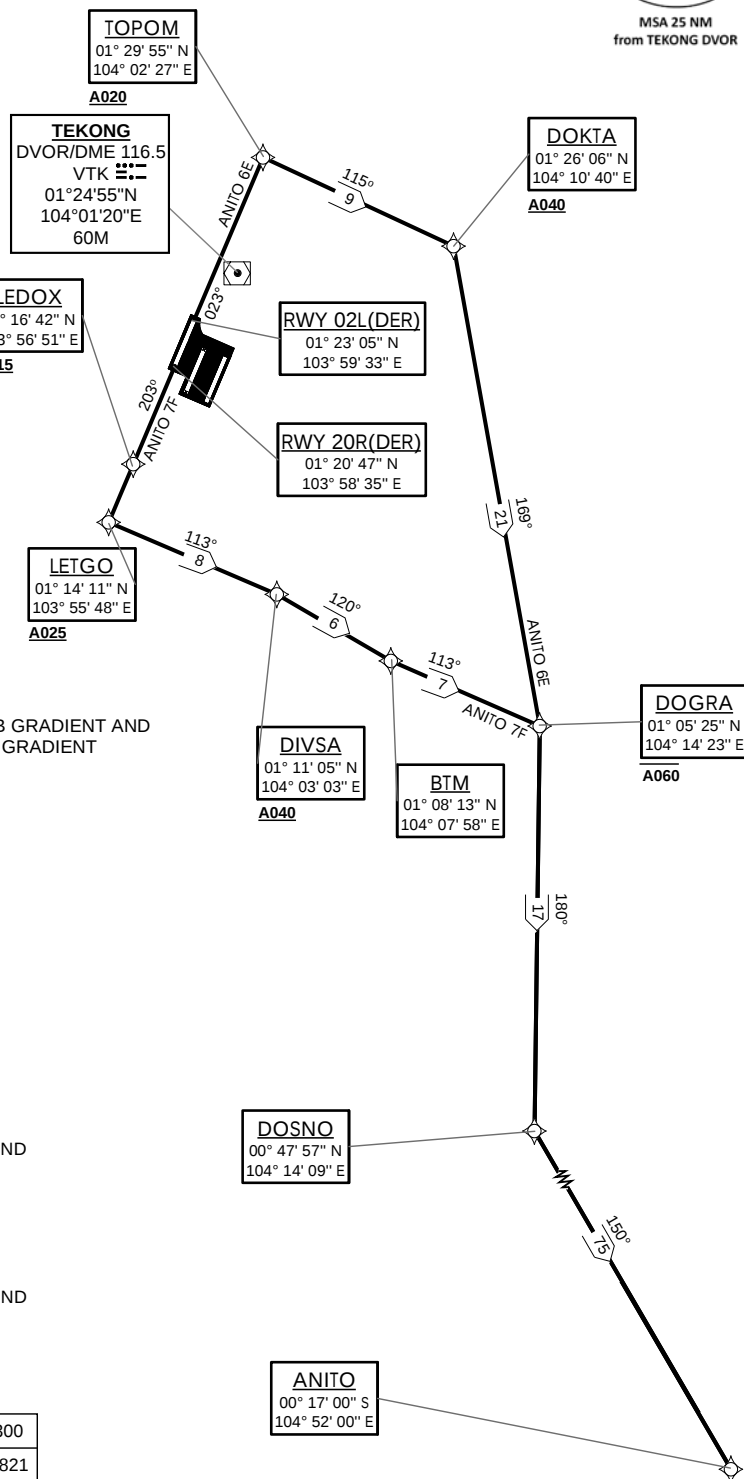
RWY 02L

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

RWY 20R

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 6%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
6% V/V (fpm)	456	608	911	1215	1518	1821
3.3% V/V (fpm)	251	334	501	668	835	1003



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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6 / 118.25
APP 120.3
124.05
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi RWY 02C/20C ANITO DEPARTURES ANITO 6A (R02C) ANITO 7B (R20C)

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: CLOSE-IN OBSTACLES (AIRCRAFT UP TO 80FT)
EXIST ON TAXIWAYS WEST OF RUNWAY 02C

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTERING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
AS INSTRUCTED BY ATC,
REFER TO ENR 1.5, SECTION 3,
PARAGRAPH 3.3 [A] - FOR RWY 02C MINIMUM CLIMB GRADIENT AND
PARAGRAPH 3.4.1 - FOR RWY 20C MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM



GENERAL INFORMATION

INITIAL CLIMB 3000FT

ON INITIAL CONTACT WHEN REQUESTING ATC,
INFORM ATC OF THE FLIGHT LEVEL AIRCRAFT
CAN CROSS ANITO

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

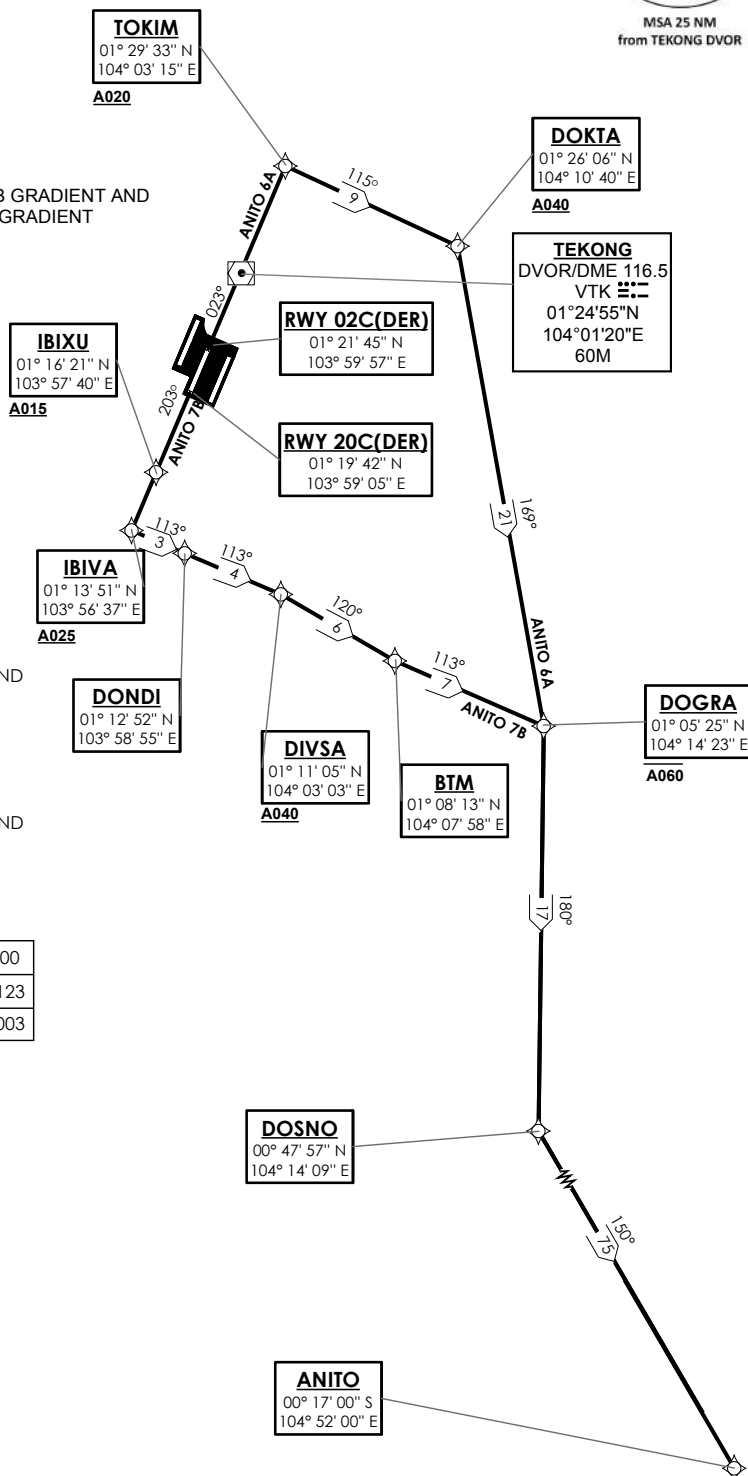
RWY 02C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
7% V/V (fpm)	532	709	1062	1416	1769	2123
3.3% V/V (fpm)	251	334	501	668	835	1003



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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6 / 118.25
APP 120.3
124.05
ACC 133.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02C/20C
ADMIM DEPARTURES
ADMIM 1A (R02C)
ADMIM 3B (R20C)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: CLOSE-IN OBSTACLES (AIRCRAFT UP TO 80FT)
EXIST ON TAXIWAYS WEST OF RUNWAY 02C

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTORING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
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PARAGRAPH 3.4.1 - FOR RWY 20C MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
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- RADIO COM FAILURE PROCEDURES

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

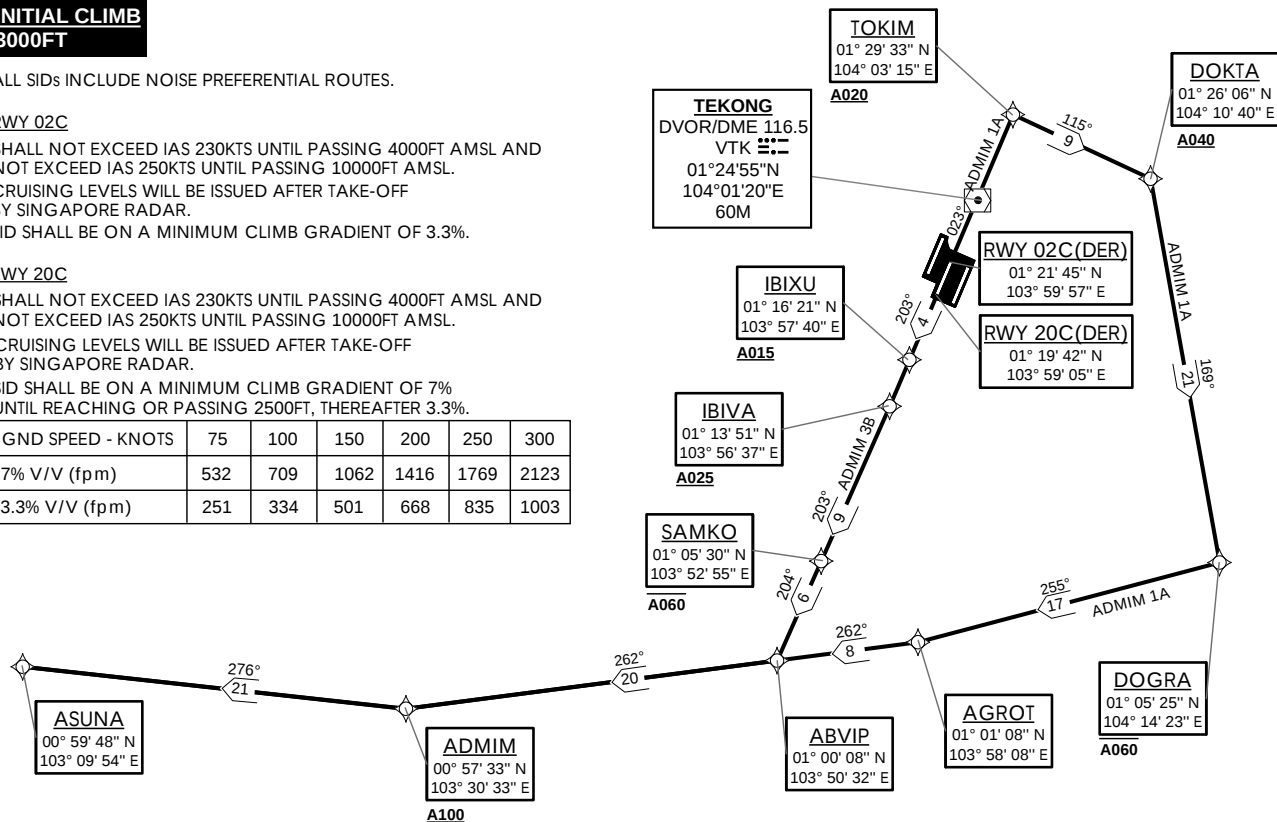
RWY 02C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
7% V/V (fpm)	532	709	1062	1416	1769	2123
3.3% V/V (fpm)	251	334	501	668	835	1003



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STANDARD DEPARTURE CHART

RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6
APP 120.3
124.05
ACC 134.2

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
TOMAN DEPARTURES
TOMAN 2E (R02L)
TOMAN 4F (R20R)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

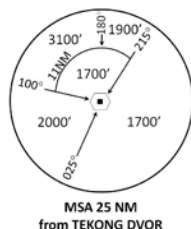
NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: ACFT UNABLE TO FLY THE SID
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IF NECESSARY

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PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
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- RADIO COM FAILURE PROCEDURES



GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

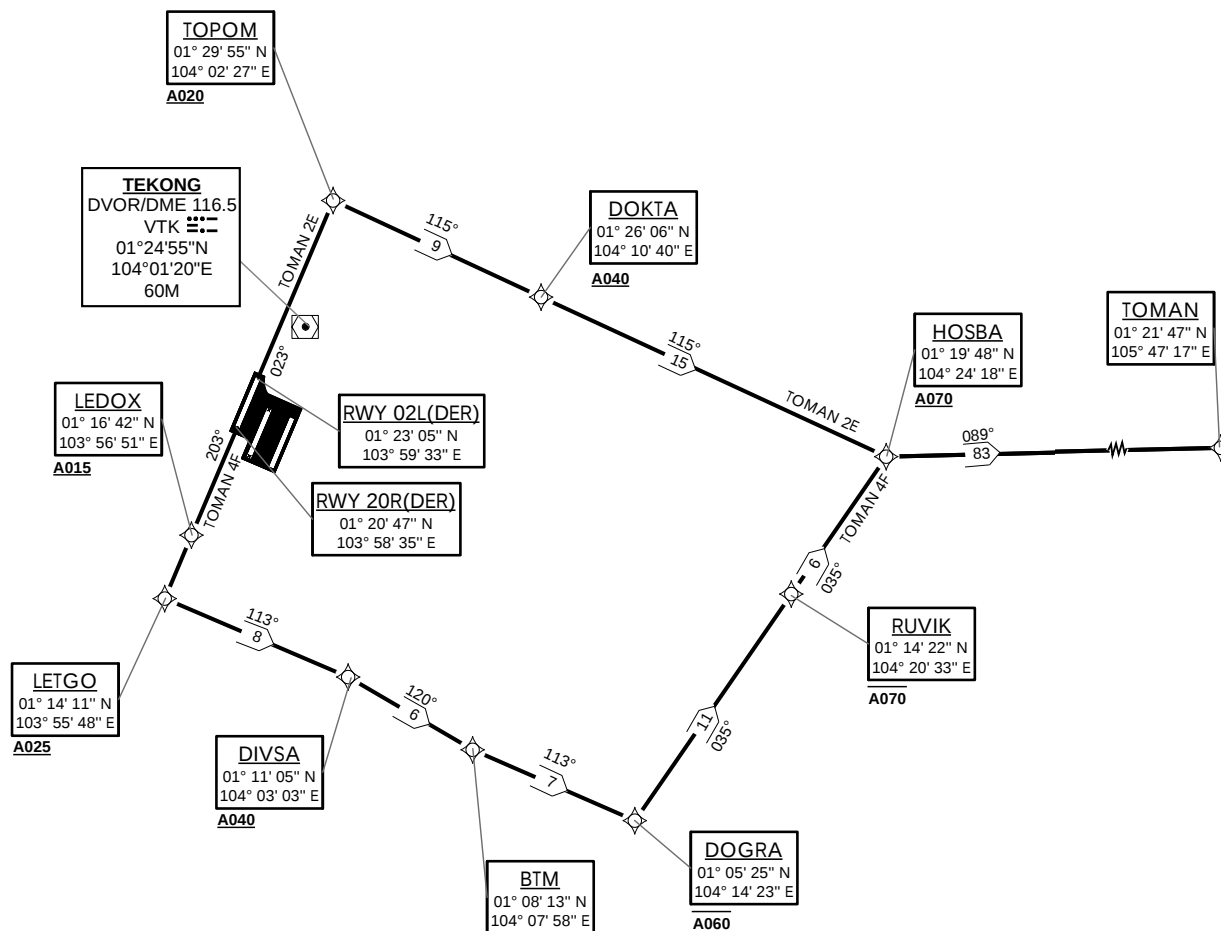
RWY 02L

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

RWY 20R

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 6%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
6% V/V (fp.m)	456	608	911	1215	1518	1821
3.3% V/V (fp.m)	251	334	501	668	835	1003



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STANDARD DEPARTURE CHART

RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6 / 118.25
APP 120.3
124.05
ACC 134.2

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02C/20C
TOMAN DEPARTURES
TOMAN 2A (R02C)
TOMAN 4B (R20C)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

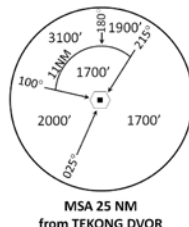
NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: CLOSE-IN OBSTACLES (AIRCRAFT UP TO 80FT)
EXIST ON TAXIWAYS WEST OF RUNWAY 02C

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
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IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
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PARAGRAPH 3.4.1 - FOR RWY 20C MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
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- RADIO COM FAILURE PROCEDURES



GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.

CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
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SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

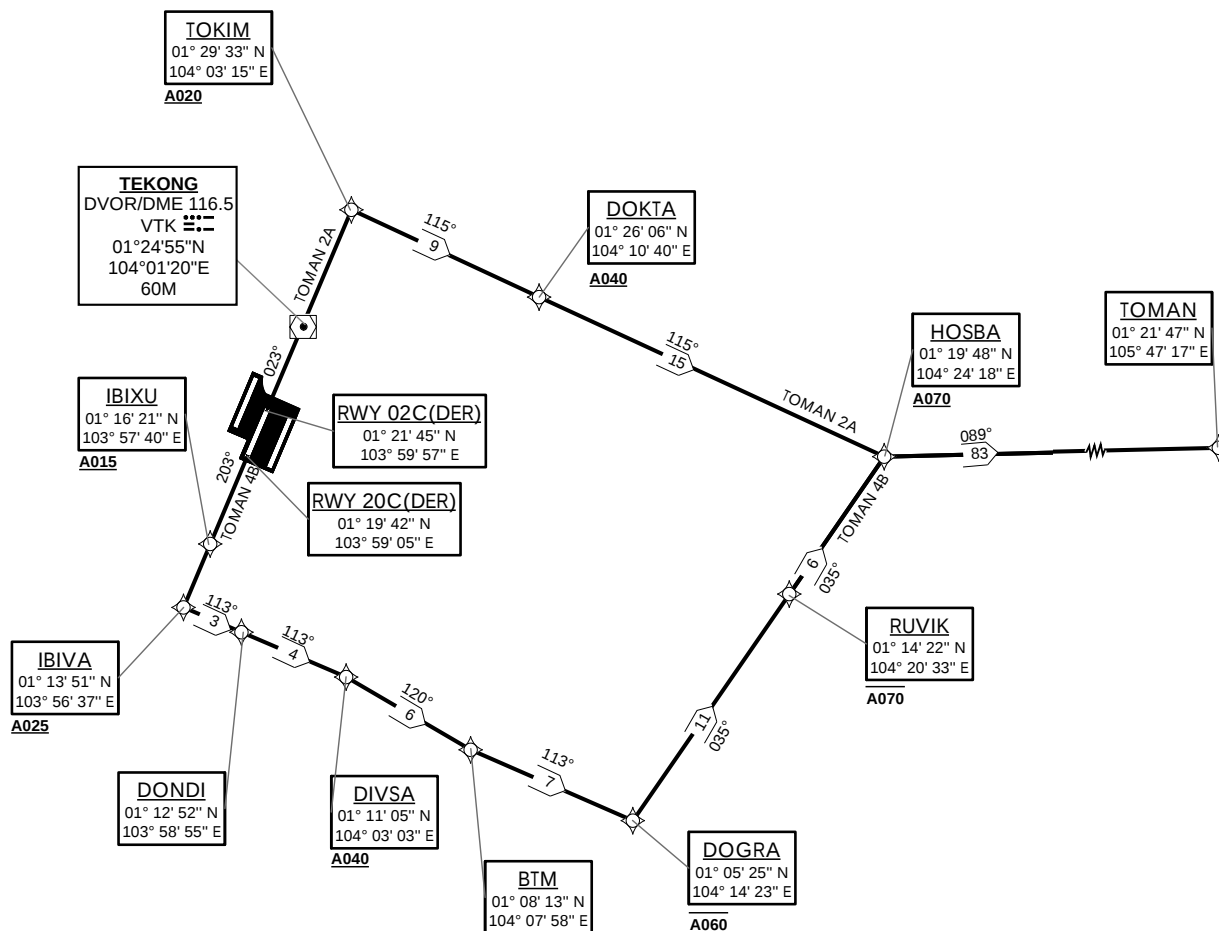
RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
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CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.

SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
7% V/V (fpm)	532	709	1062	1416	1769	2123
3.3% V/V (fpm)	251	334	501	668	835	1003



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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6
APP 120.3
124.05
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
BAVUS DEPARTURES
BAVUS 1E (R02L)
BAVUS 3F (R20R)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

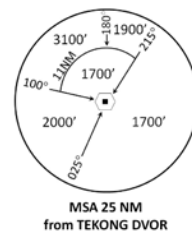
NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: ACFT UNABLE TO FLY THE SID
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PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTORING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
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PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
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- RADIO COM FAILURE PROCEDURES



GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

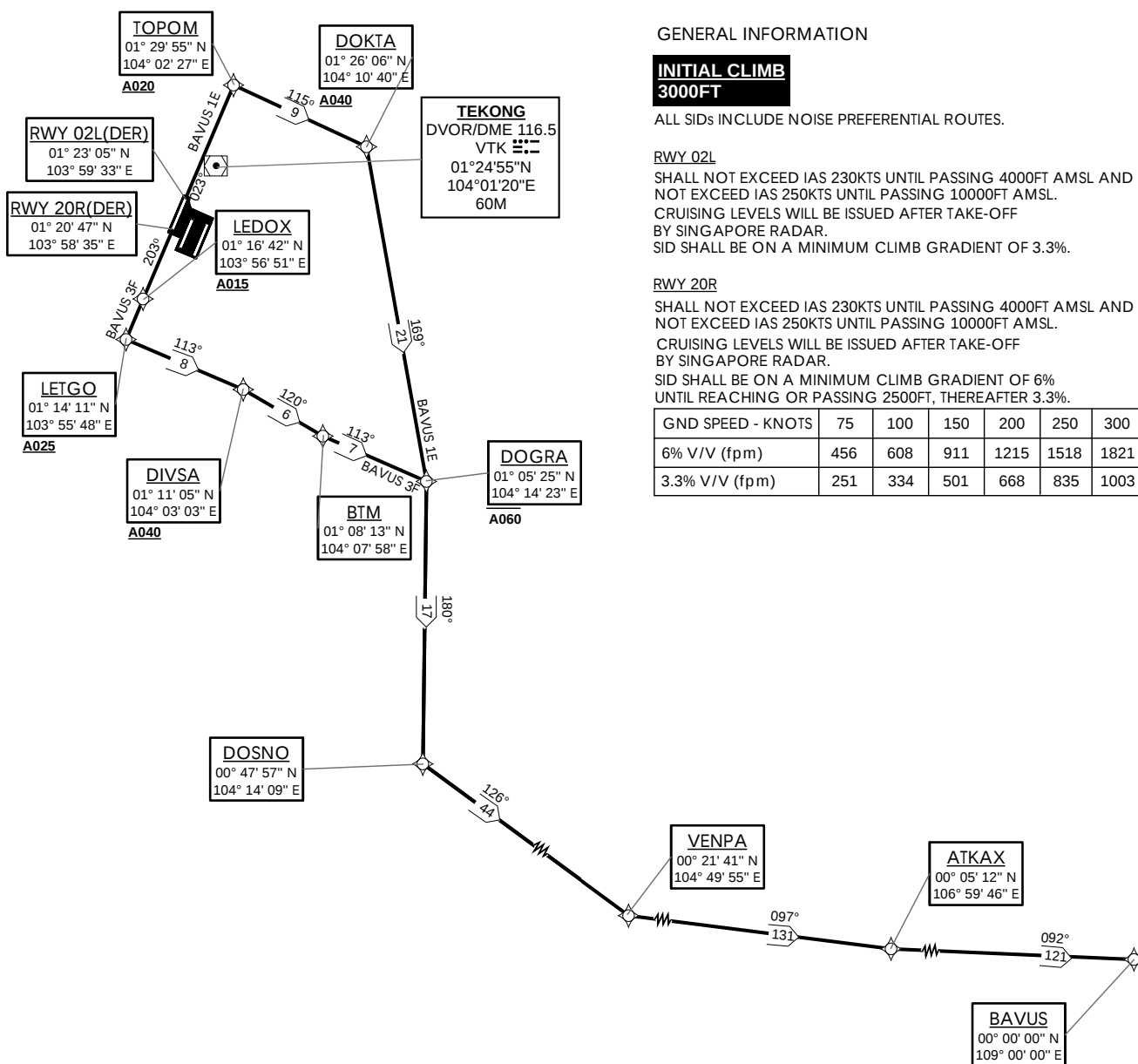
RWY 02L

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
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RWY 20R

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 6%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
6% V/V (fpm)	456	608	911	1215	1518	1821
3.3% V/V (fpm)	251	334	501	668	835	1003



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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6 / 118.25
APP 120.3
124.05
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02C/20C
BAVUS DEPARTURES
BAVUS 1A (R02C)
BAVUS 3B (R20C)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

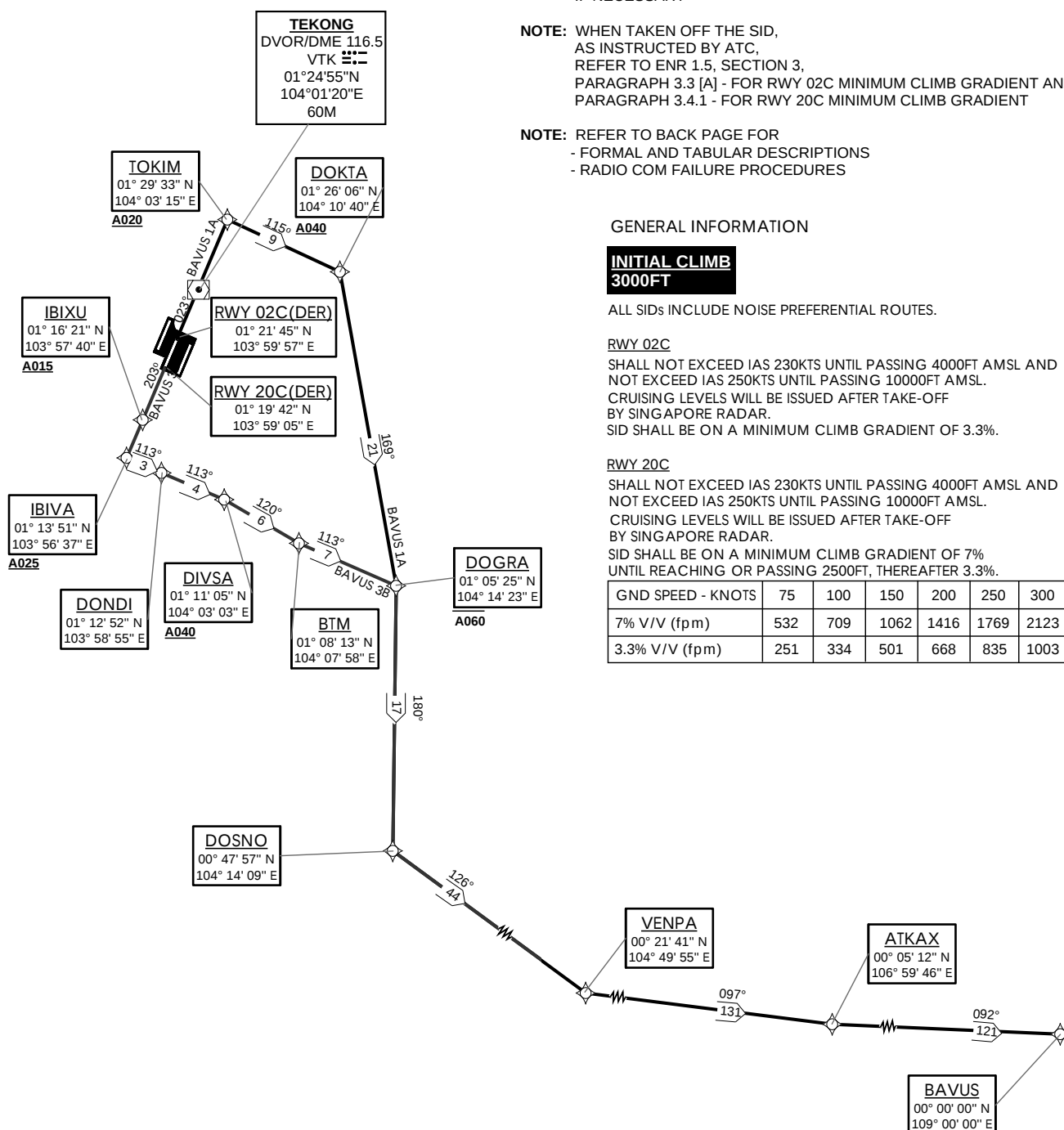
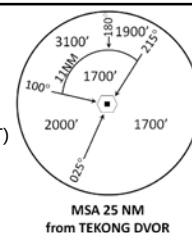
NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: CLOSE-IN OBSTACLES (AIRCRAFT UP TO 80FT)
EXIST ON TAXIWAYS WEST OF RUNWAY 02C

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTORING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
AS INSTRUCTED BY ATC,
REFER TO ENR 1.5, SECTION 3,
PARAGRAPH 3.3 [A] - FOR RWY 02C MINIMUM CLIMB GRADIENT AND
PARAGRAPH 3.4.1 - FOR RWY 20C MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
7% V/V (fpm)	532	709	1062	1416	1769	2123
3.3% V/V (fpm)	251	334	501	668	835	1003

NOT TO SCALE

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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6
APP 120.3
124.05
ACC 133.25

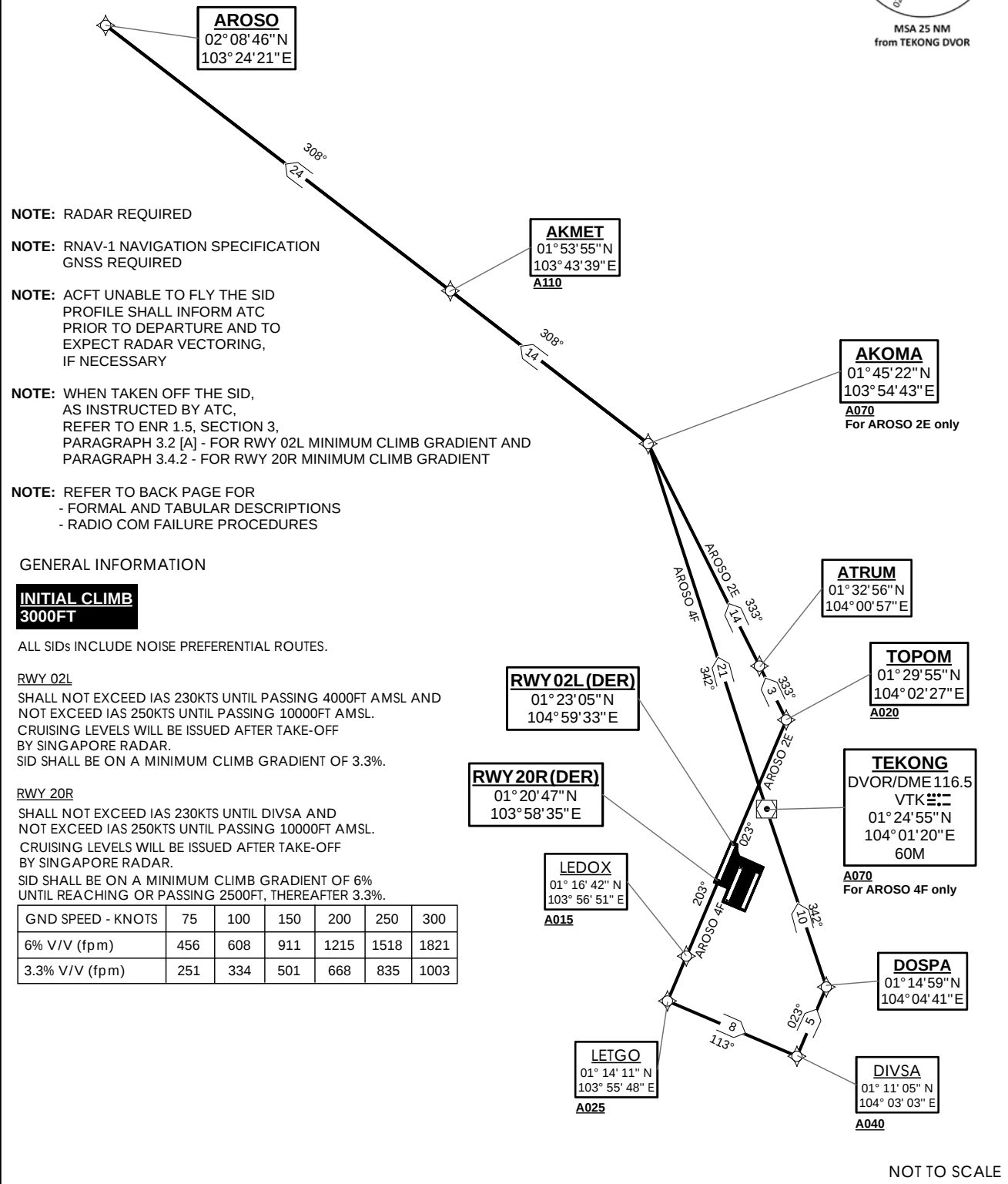
TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
AROSO DEPARTURES
AROSO 2E (R02L)
AROSO 4F (R20R)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM



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STANDARD DEPARTURE CHART

RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6
APP 120.3
124.05
ACC 133.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
MASBO DEPARTURES
MASBO 2E (R02L)
MASBO 4F (R20R)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

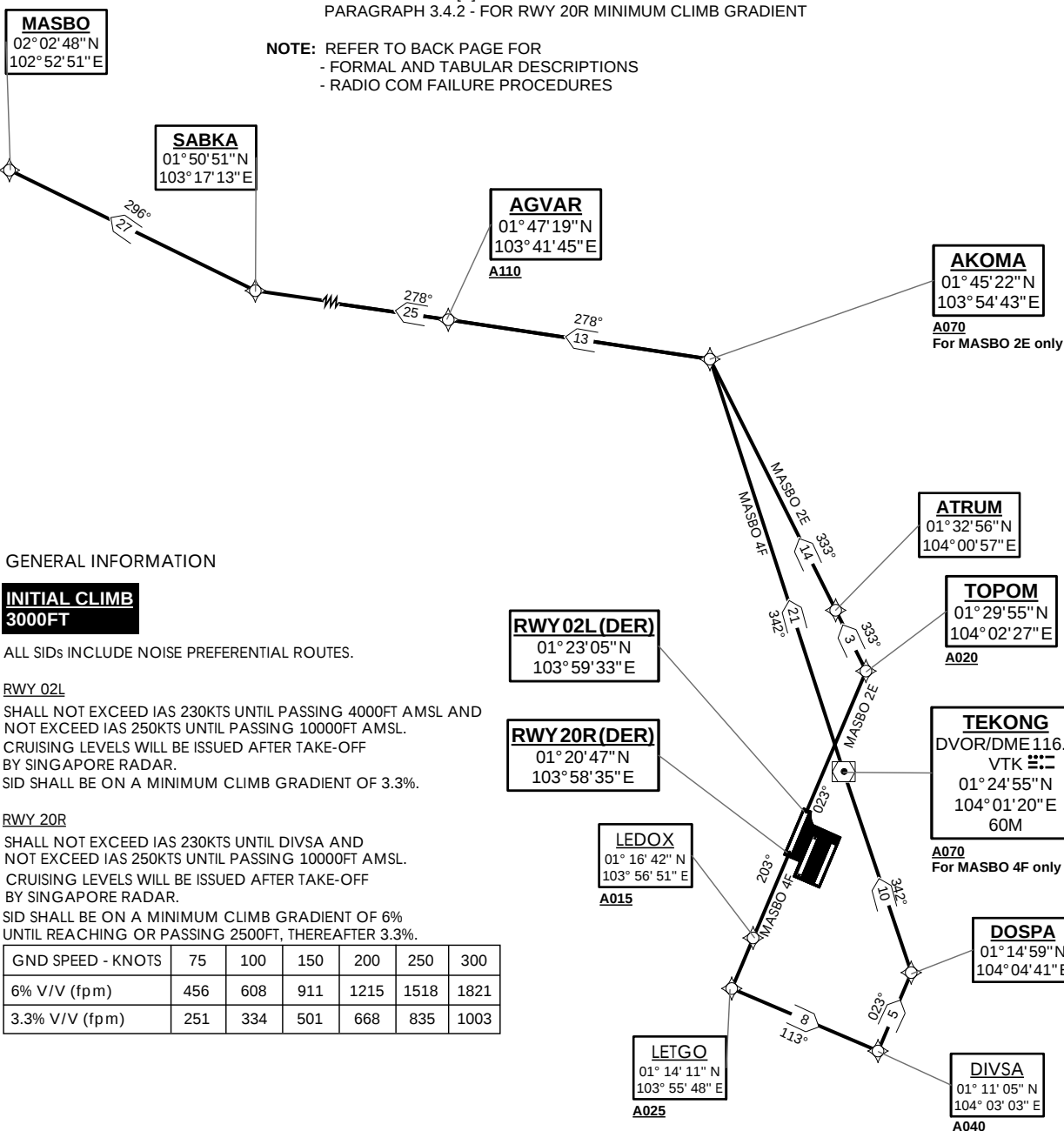
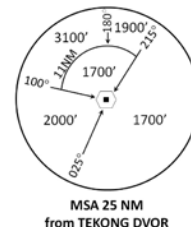
NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTORING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
AS INSTRUCTED BY ATC,
REFER TO ENR 1.5, SECTION 3,
PARAGRAPH 3.2 [A] - FOR RWY 02L MINIMUM CLIMB GRADIENT AND
PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



NOT TO SCALE

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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6 / 118.25
APP 120.3
124.05
ACC 133.25

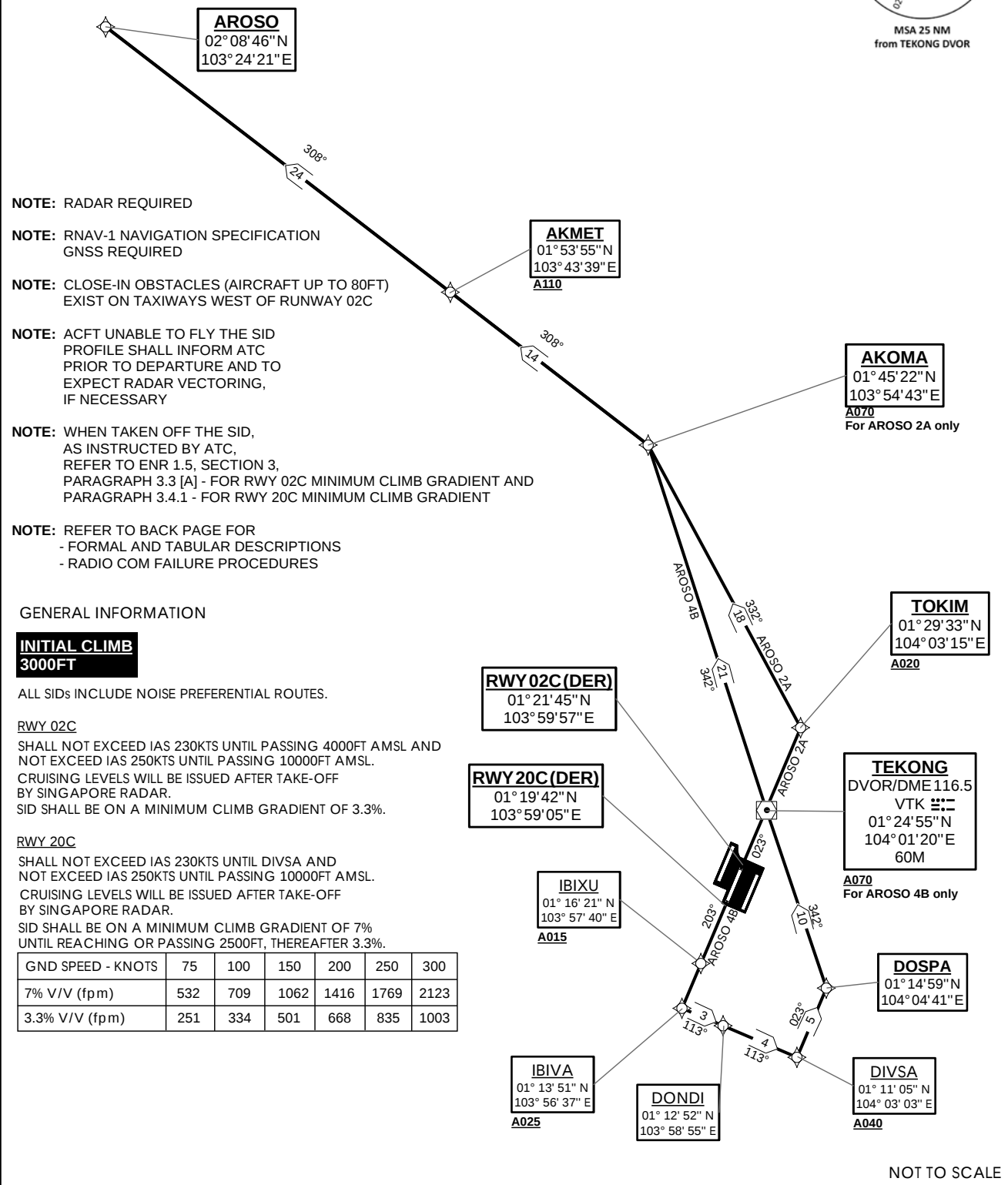
TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02C/20C
AROSO DEPARTURES
AROSO 2A (R02C)
AROSO 4B (R20C)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM



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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6 / 118.25
APP 120.3
124.05
ACC 133.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02C/20C
MASBO DEPARTURES
MASBO 2A (R02C)
MASBO 4B (R20C)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

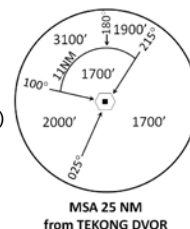
NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: CLOSE-IN OBSTACLES (AIRCRAFT UP TO 80FT)
EXIST ON TAXIWAYS WEST OF RUNWAY 02C

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTURING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
AS INSTRUCTED BY ATC,
REFER TO ENR 1.5, SECTION 3,
PARAGRAPH 3.3 [A] - FOR RWY 02C MINIMUM CLIMB GRADIENT AND
PARAGRAPH 3.4.1 - FOR RWY 20C MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



MASBO
02° 02' 48" N
102° 52' 51" E

SABKA
01° 50' 51" N
103° 17' 13" E

AGVAR
01° 47' 19" N
103° 41' 45" E
A110

AKOMA
01° 45' 22" N
103° 54' 43" E
A070
For MASBO 2A only

TOKIM
01° 29' 33" N
104° 03' 15" E
A020

TEKONG
DVOR/DME 116.5
VTK
01° 24' 55" N
104° 01' 20" E
60M
A070
For MASBO 4B only

DOSPA
01° 14' 59" N
104° 04' 41" E

DIVSA
01° 11' 05" N
104° 03' 03" E
A040

DONDI
01° 12' 52" N
103° 58' 55" E

IBIXU
01° 16' 21" N
103° 57' 40" E
A015

IBIVA
01° 13' 51" N
103° 56' 37" E
A025

RWY 02C (DER)
01° 21' 45" N
103° 59' 57" E

RWY 20C (DER)
01° 19' 42" N
103° 59' 05" E

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL DIVSA AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
7% V/V (fpm)	532	709	1062	1416	1769	2123
3.3% V/V (fpm)	251	334	501	668	835	1003

NOT TO SCALE

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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6
APP 120.3
124.05
ACC 133.8

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
MERSING DEPARTURES
VMR 5E (R02L)
VMR 8F (R20R)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

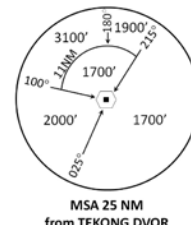
NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTURING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
AS INSTRUCTED BY ATC,
REFER TO ENR 1.5, SECTION 3,
PARAGRAPH 3.2 [A] - FOR RWY 02L MINIMUM CLIMB GRADIENT AND
PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



GENERAL INFORMATION

**INITIAL CLIMB
3000FT**

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02L

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

RWY 20R

SHALL NOT EXCEED IAS 230KTS UNTIL DIVSA AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 6%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
6% V/V (fpm)	456	608	911	1215	1518	1821
3.3% V/V (fpm)	251	334	501	668	835	1003

RWY 02L (DER)
01° 23' 05" N
103° 59' 33" E

RWY 20R (DER)
01° 20' 47" N
103° 58' 35" E

LEDOX
01° 16' 42" N
103° 56' 51" E
A015

LETGO
01° 14' 11" N
103° 55' 48" E
A025

AKOMA
01° 45' 22" N
103° 54' 43" E
A070
For VMR 5E only

ATRUM
01° 32' 56" N
104° 00' 57" E

TOPOM
01° 29' 55" N
104° 02' 27" E
A020

TEKONG
DVOR/DME 116.5
VTK
01° 24' 55" N
104° 01' 20" E
60M
A070
For VMR 8F only

DOSPA
01° 14' 59" N
104° 04' 41" E

DIVSA
01° 11' 05" N
104° 03' 03" E
A040

NOT TO SCALE

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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6 / 118.25
APP 120.3
124.05
ACC 133.8

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02C/20C
MERSING DEPARTURES
VMR 5A (R02C)
VMR 8B (R20C)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: CLOSE-IN OBSTACLES (AIRCRAFT UP TO 80FT)
EXIST ON TAXIWAYS WEST OF RUNWAY 02C

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTURING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
AS INSTRUCTED BY ATC,
REFER TO ENR 1.5, SECTION 3,
PARAGRAPH 3.3 [A] - FOR RWY 02C MINIMUM CLIMB GRADIENT AND
PARAGRAPH 3.4.1 - FOR RWY 20C MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL DIVSA AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
7% V/V (fpm)	532	709	1062	1416	1769	2123
3.3% V/V (fpm)	251	334	501	668	835	1003

RWY 02C (DER)
01° 21' 45" N
103° 59' 57" E

RWY 20C (DER)
01° 19' 42" N
103° 59' 05" E

IBIXU
01° 16' 21" N
103° 57' 40" E
A015

IBIVA
01° 13' 51" N
103° 56' 37" E
A025

DONDI
01° 12' 52" N
103° 58' 55" E

AKOMA
01° 45' 22" N
103° 54' 43" E
A070
For VMR 5A only

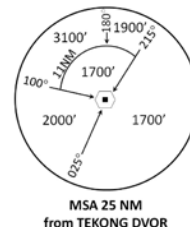
TOKIM
01° 29' 33" N
104° 03' 15" E
A020

TEKONG
DVOR/DME 116.5
VTK
01° 24' 55" N
104° 01' 20" E
60M
A070
For VMR 8B only

DOSPA
01° 14' 59" N
104° 04' 41" E

DIVSA
01° 11' 05" N
104° 03' 03" E
A040

NOT TO SCALE



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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6 / 118.25
APP 120.3
124.05
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02C/20C
VENIX DEPARTURES
VENIX 1A (R02C)
VENIX 3B (R20C)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

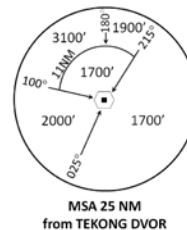
NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: CLOSE-IN OBSTACLES (AIRCRAFT UP TO 80FT)
EXIST ON TAXIWAYS WEST OF RUNWAY 02C

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTORING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
AS INSTRUCTED BY ATC,
REFER TO ENR 1.5, SECTION 3,
PARAGRAPH 3.3 [A] - FOR RWY 02C MINIMUM CLIMB GRADIENT AND
PARAGRAPH 3.4.1 - FOR RWY 20C MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

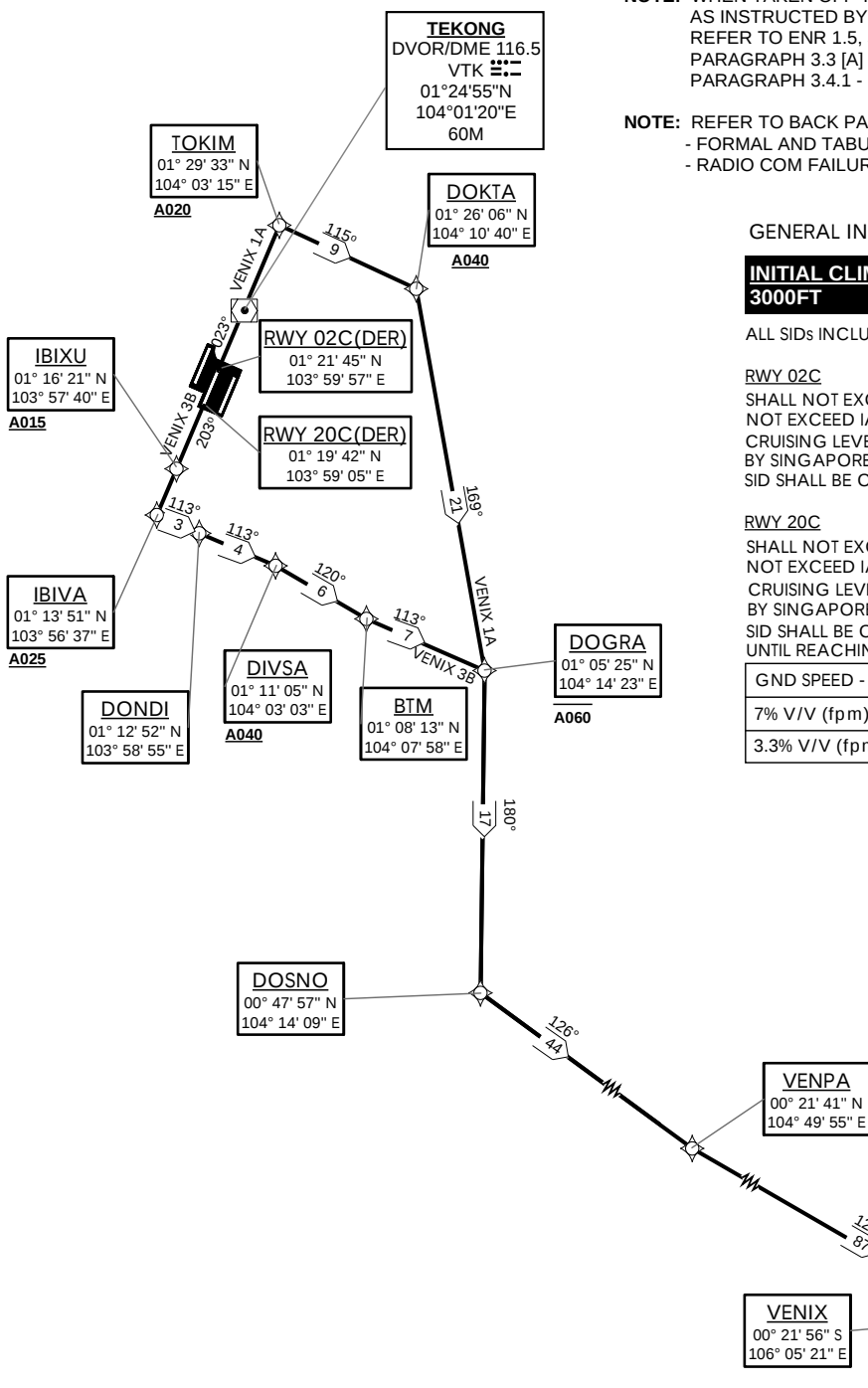
RWY 02C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
7% V/V (fpm)	532	709	1062	1416	1769	2123
3.3% V/V (fpm)	251	334	501	668	835	1003



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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6
APP 120.3
124.05
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
VENIX DEPARTURES
VENIX 1E (R02L)
VENIX 3F (R20R)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

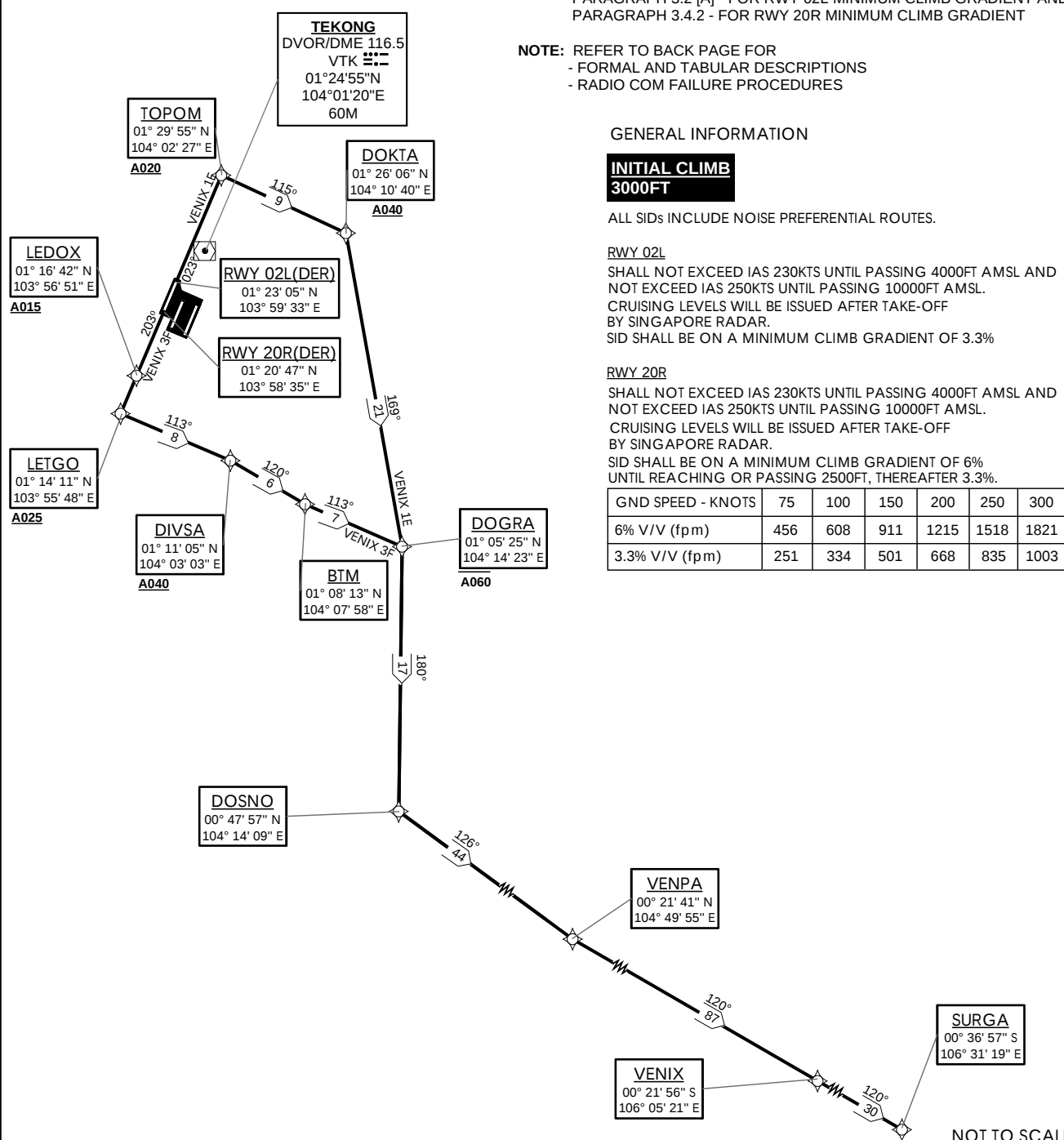
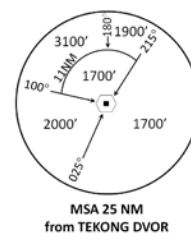
NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTURING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
AS INSTRUCTED BY ATC,
REFER TO ENR 1.5, SECTION 3,
PARAGRAPH 3.2 [A] - FOR RWY 02L MINIMUM CLIMB GRADIENT AND
PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6 / 118.25
APP 120.3
124.05
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02C/20C
KADAR DEPARTURES
KADAR 1A (R02C)
KADAR 3B (R20C)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

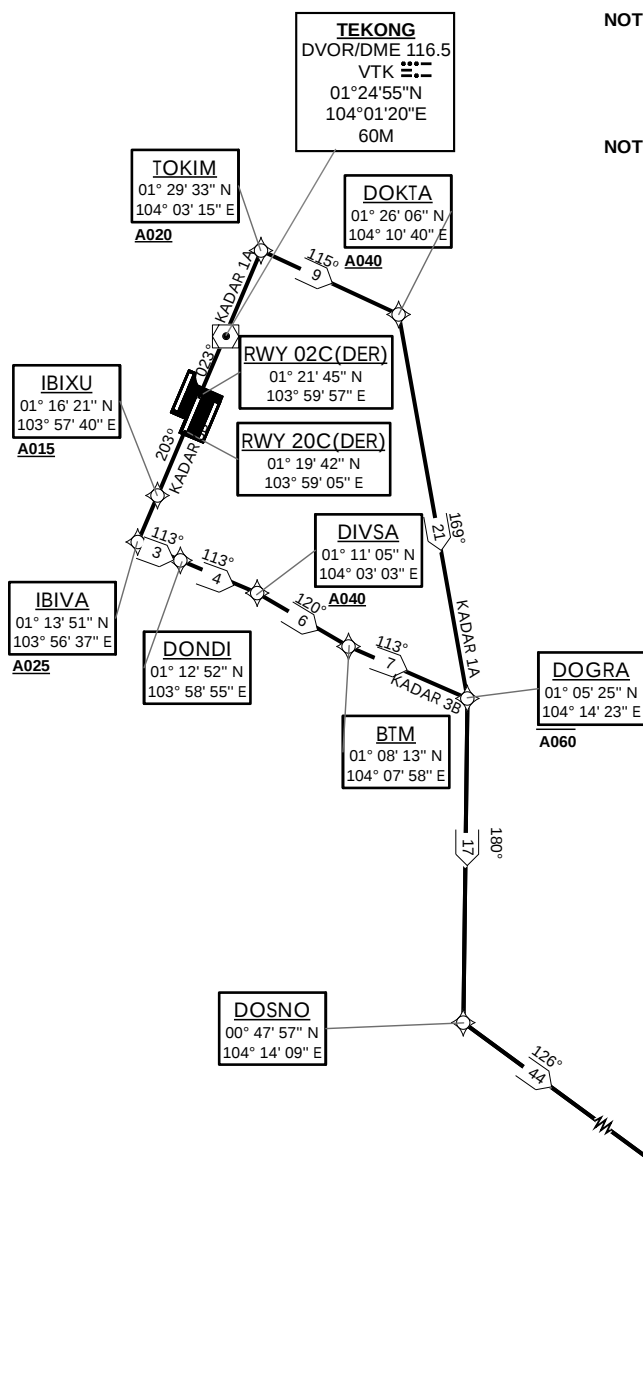
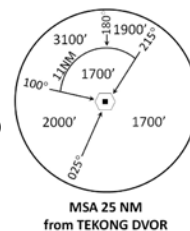
NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: CLOSE-IN OBSTACLES (AIRCRAFT UP TO 80FT)
EXIST ON TAXIWAYS WEST OF RUNWAY 02C

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTORING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
AS INSTRUCTED BY ATC,
REFER TO ENR 1.5, SECTION 3,
PARAGRAPH 3.3 [A] - FOR RWY 02C MINIMUM CLIMB GRADIENT AND
PARAGRAPH 3.4.1 - FOR RWY 20C MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

RWY 02C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

RWY 20C

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 7%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
7% V/V (fpm)	532	709	1062	1416	1769	2123
3.3% V/V (fpm)	251	334	501	668	835	1003

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STANDARD DEPARTURE CHART RNAV (GNSS) - INSTRUMENT (SID)

TWR 118.6
APP 120.3
124.05
ACC 134.4

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02L/20R
KADAR DEPARTURES
KADAR 1E (R02L)
KADAR 3F (R20R)

ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 23°E (2020)

DISTANCES IN NM

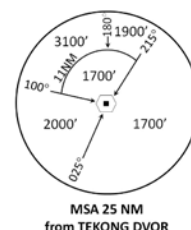
NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION
GNSS REQUIRED

NOTE: ACFT UNABLE TO FLY THE SID
PROFILE SHALL INFORM ATC
PRIOR TO DEPARTURE AND TO
EXPECT RADAR VECTORING,
IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID,
AS INSTRUCTED BY ATC,
REFER TO ENR 1.5, SECTION 3,
PARAGRAPH 3.2 [A] - FOR RWY 02L MINIMUM CLIMB GRADIENT AND
PARAGRAPH 3.4.2 - FOR RWY 20R MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



GENERAL INFORMATION

INITIAL CLIMB 3000FT

ALL SIDs INCLUDE NOISE PREFERENTIAL ROUTES.

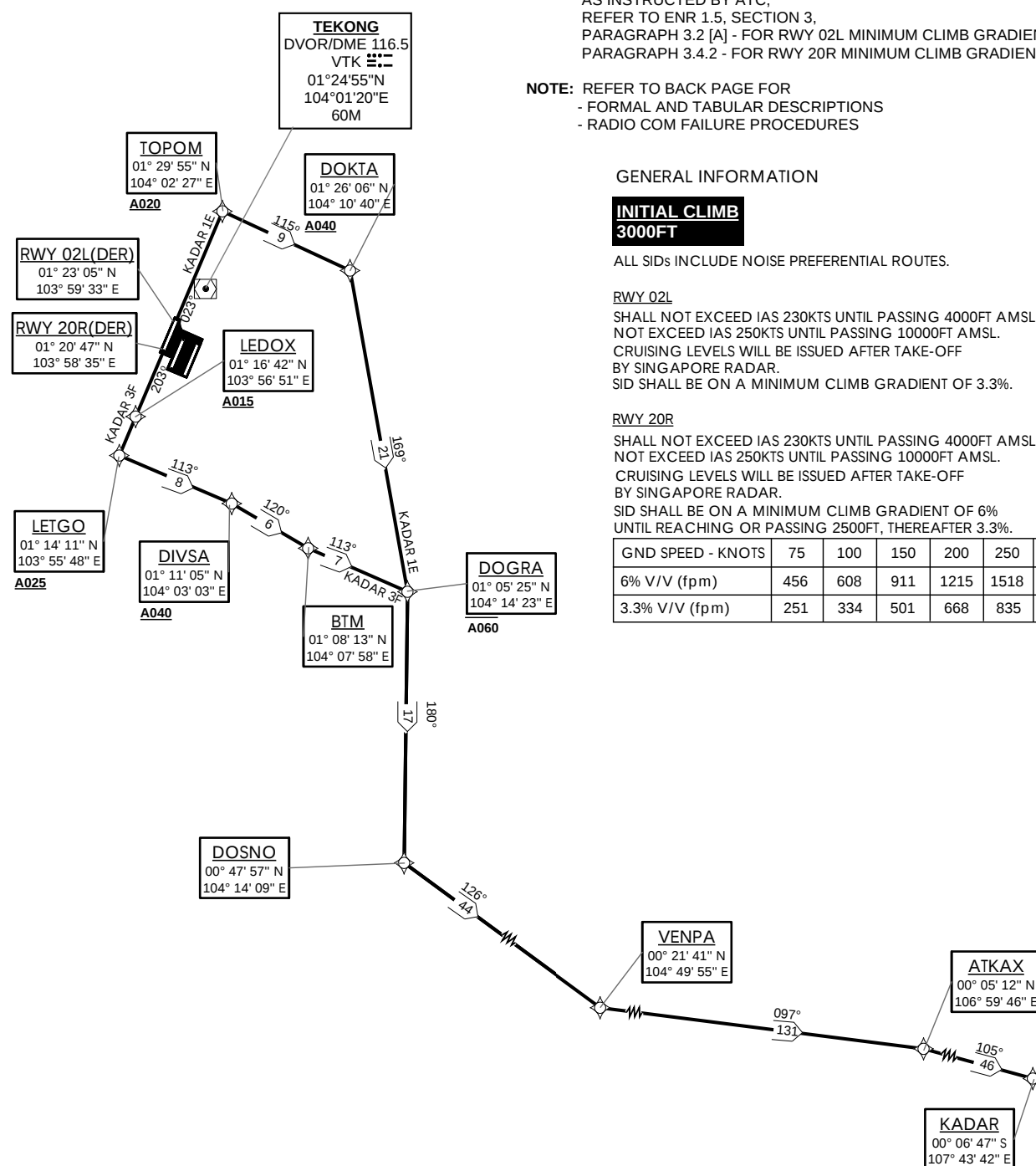
RWY 02L

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 3.3%.

RWY 20R

SHALL NOT EXCEED IAS 230KTS UNTIL PASSING 4000FT AMSL AND
NOT EXCEED IAS 250KTS UNTIL PASSING 10000FT AMSL.
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.
SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 6%
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
6% V/V (fpm)	456	608	911	1215	1518	1821
3.3% V/V (fpm)	251	334	501	668	835	1003



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STANDARD INSTRUMENT DEPARTURES (SID) CHART

TWR 131.4
APP 120.3
ACC 133.8/134.4/133.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.6

SINGAPORE/Singapore Changi
RWY 02R/20L
CHANGI DEPARTURE (RADAR)
CHA 1C (R02R)
CHA 1D (R20L)

ELEV, ALT IN FEET

BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: ACFT UNABLE TO COMPLY WITH CLIMB GRADIENT
RESTRICTION SHALL INFORM ATC DURING THE TIME
ACFT COMMENCES TAXIING TO HOLDING POINT FOR
DEPARTURE

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES

GENERAL INFORMATION

INITIAL CLIMB 3000FT

ACFT ON DEPARTURE SHALL NOT EXCEED IAS 230KTS
UNTIL PASSING 4000FT AMSL AND NOT EXCEED IAS 250KTS
UNTIL PASSING 10000FT AMSL.

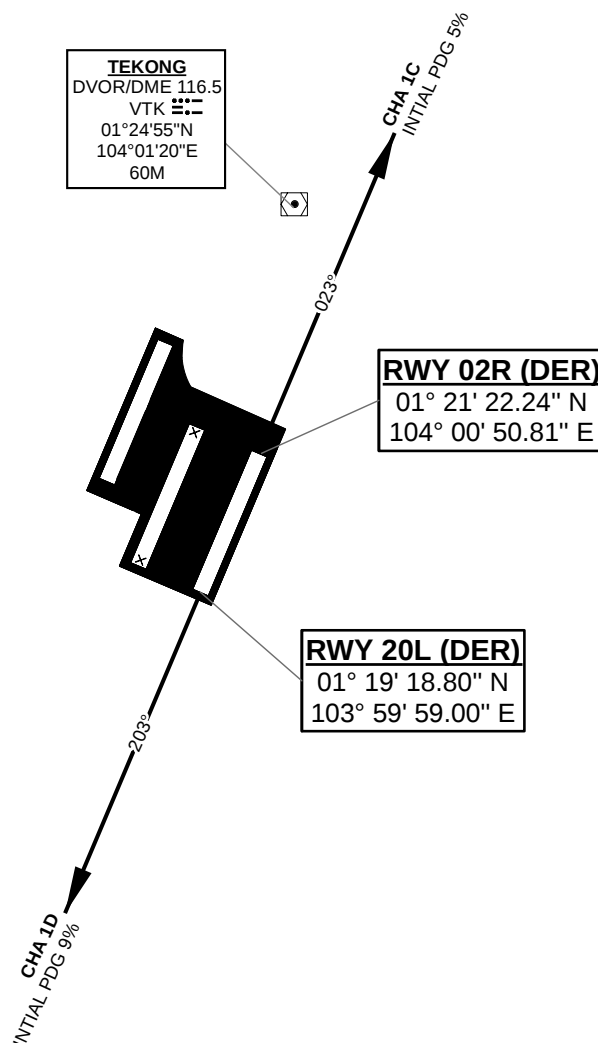
CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF
BY SINGAPORE RADAR.

ACFT ON DEPARTURE 02R SHALL BE ON A MINIMUM CLIMB GRADIENT
OF 5% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
5% V/V (fpm)	380	506	760	1013	1266	1519
3.3% V/V (fpm)	251	334	501	668	835	1003

ACFT ON DEPARTURE 20L SHALL BE ON A MINIMUM CLIMB GRADIENT
OF 9% UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

GND SPEED - KNOTS	75	100	150	200	250	300
9% V/V (fpm)	684	911	1367	1823	2279	2734
3.3% V/V (fpm)	251	334	501	668	835	1003



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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 133.25
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
ARR 128.025

SINGAPORE/Singapore Changi
RWY 02L/C/R
ARAMA ONE ALPHA ARRIVAL
ARAMA 1A

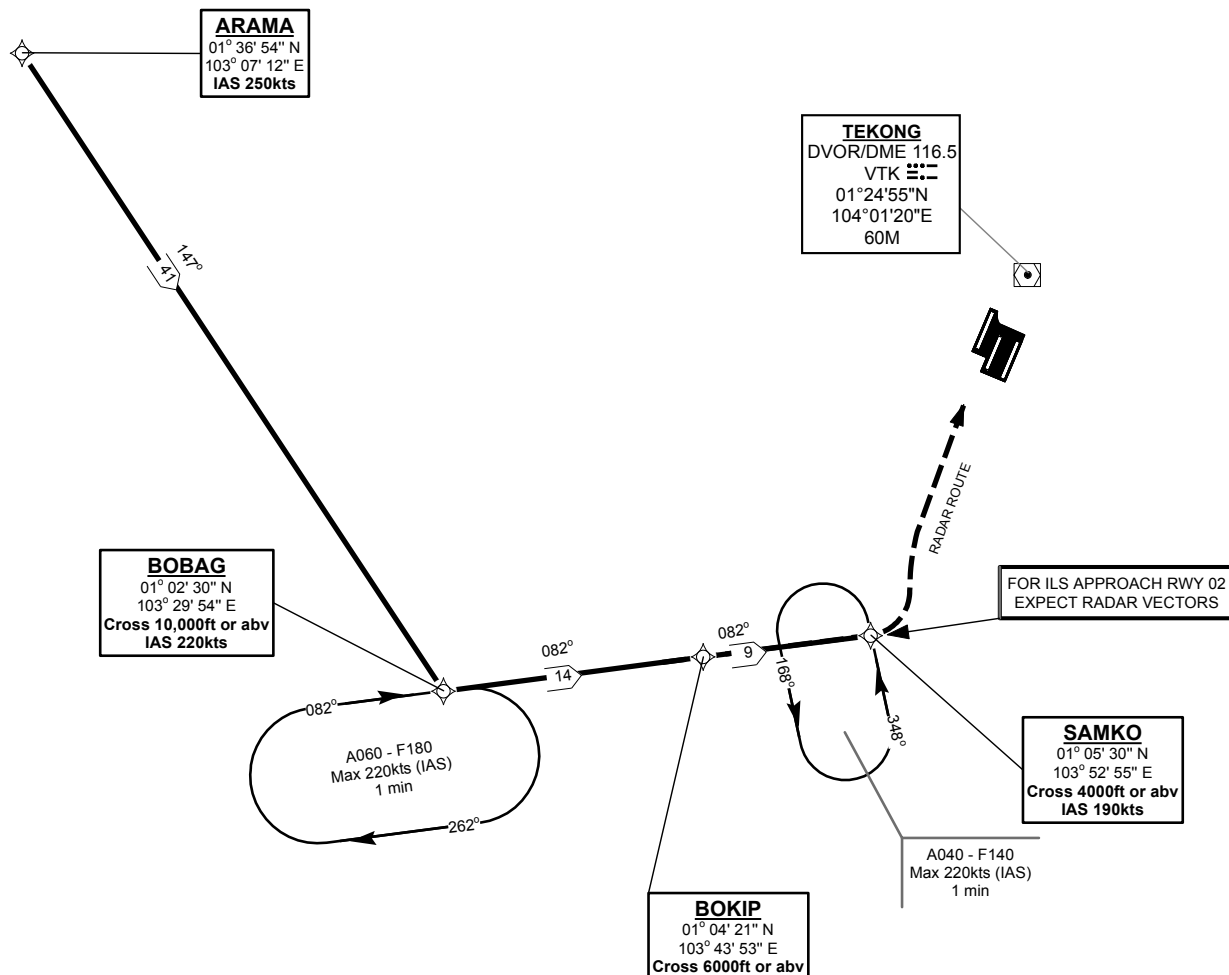
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 133.25
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi
RWY 02L/C/R
ASUNA ONE ALPHA ARRIVAL
ASUNA 1A

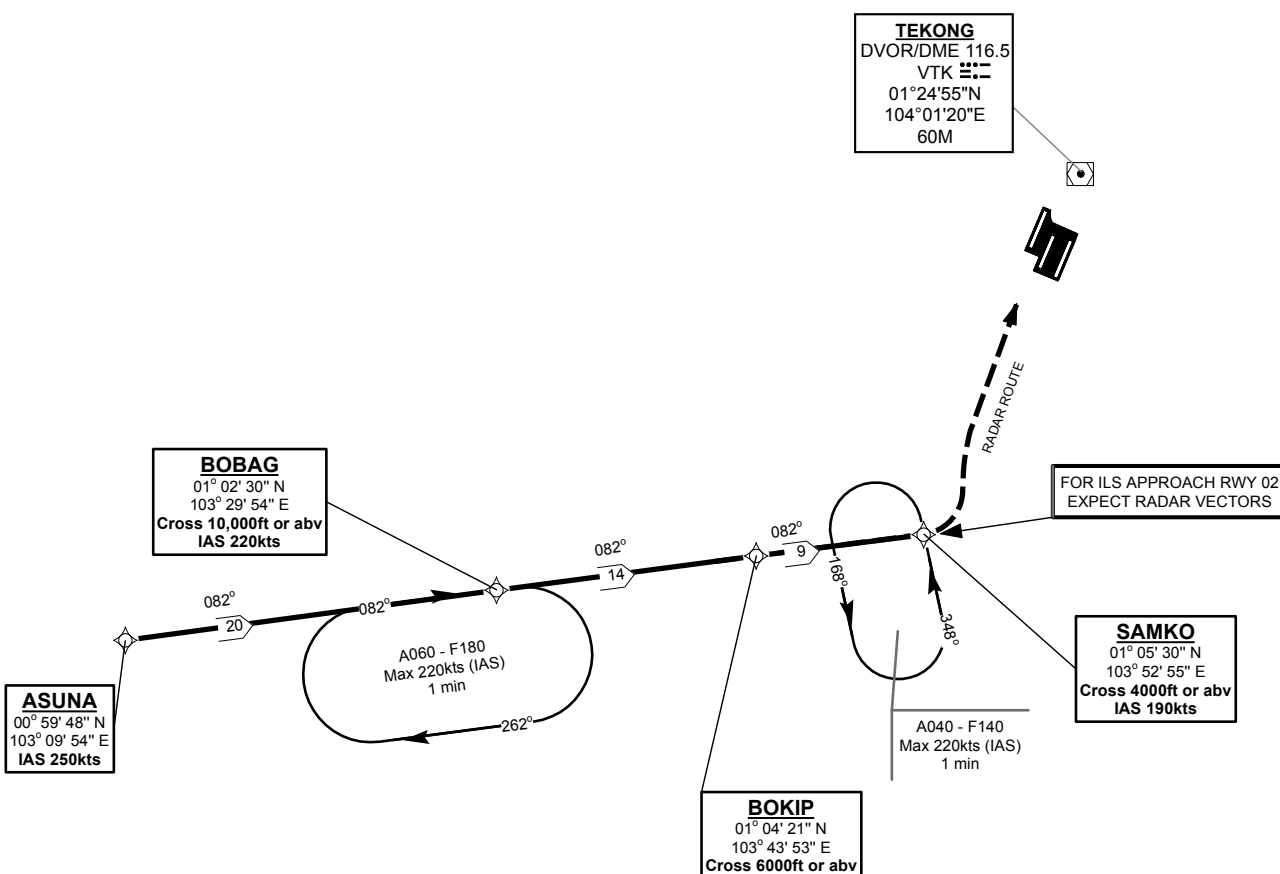
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 133.25
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi RWY 20R/C/L ARAMA ONE BRAVO ARRIVAL ARAMA 1B

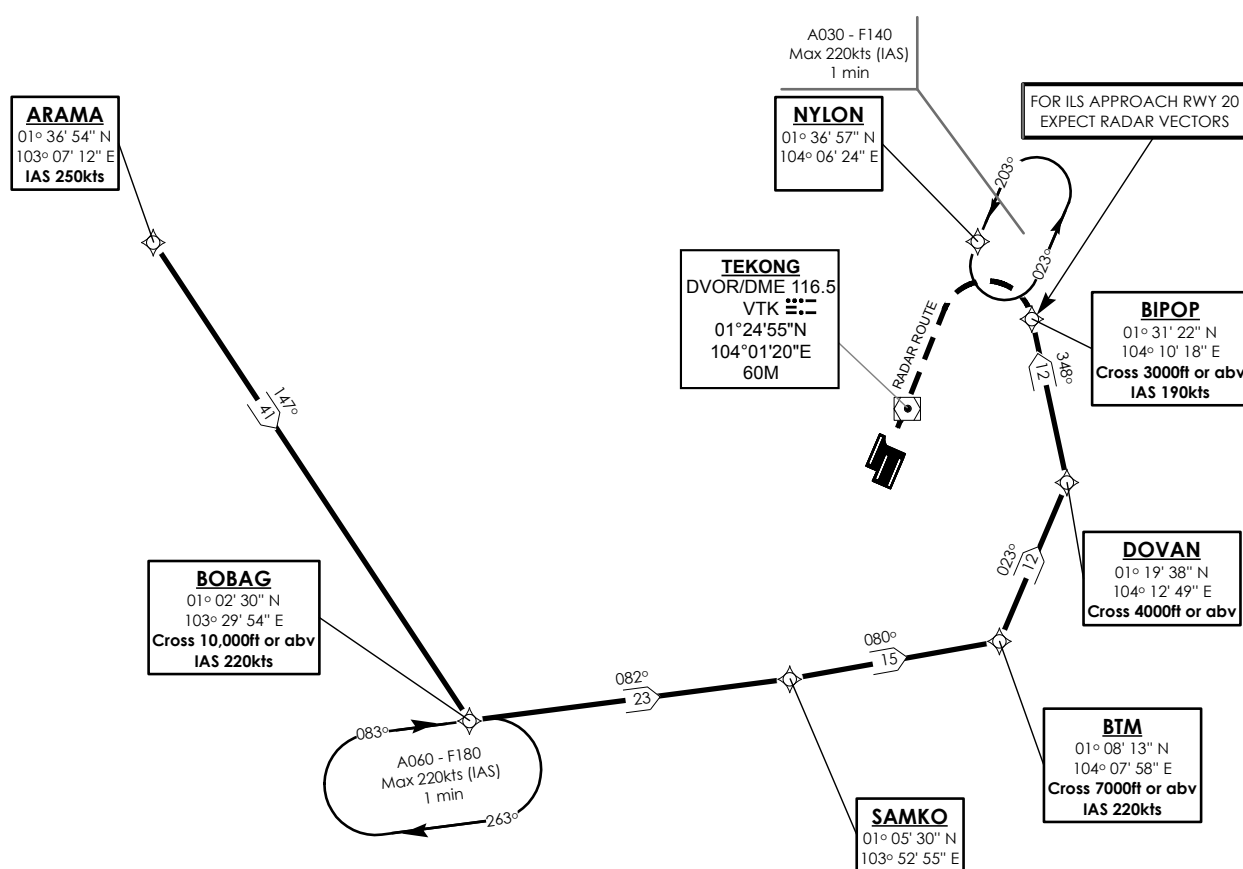
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 133.25
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi RWY 20R/C/L ASUNA ONE BRAVO ARRIVAL ASUNA 1B

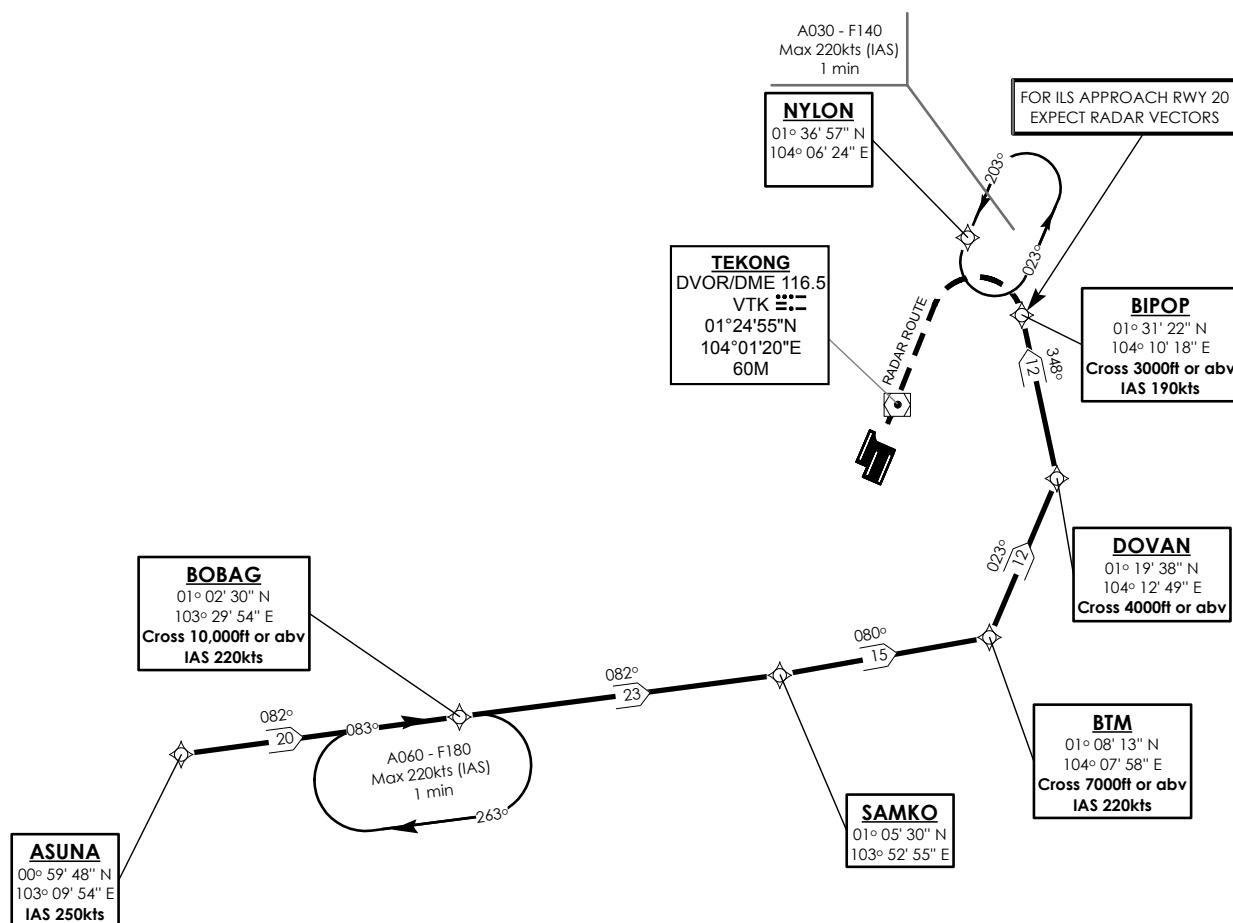
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



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STANDARD ARRIVAL CHART
RNAV (GNSS) -
INSTRUMENT (STAR)

ACC 134.2
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi
RWY 02L/C/R
KARTO ONE ALPHA ARRIVAL
KARTO 1A

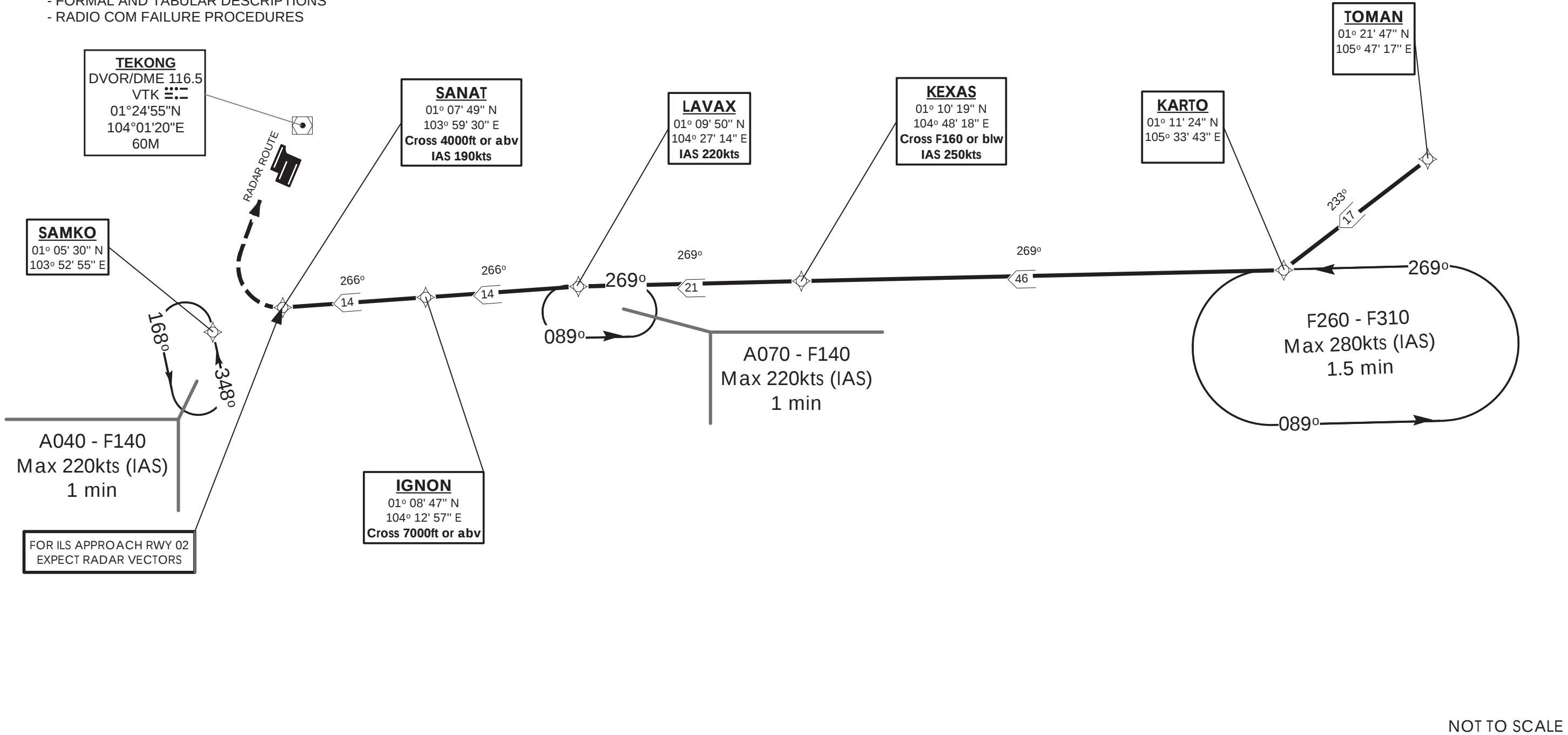
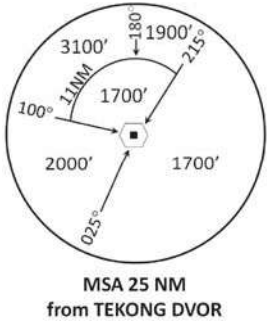
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



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STANDARD ARRIVAL CHART
RNAV (GNSS) -
INSTRUMENT (STAR)

ACC 134.4
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi
RWY 02L/C/R
OBDOS ONE ALPHA ARRIVAL
OBDOS 1A

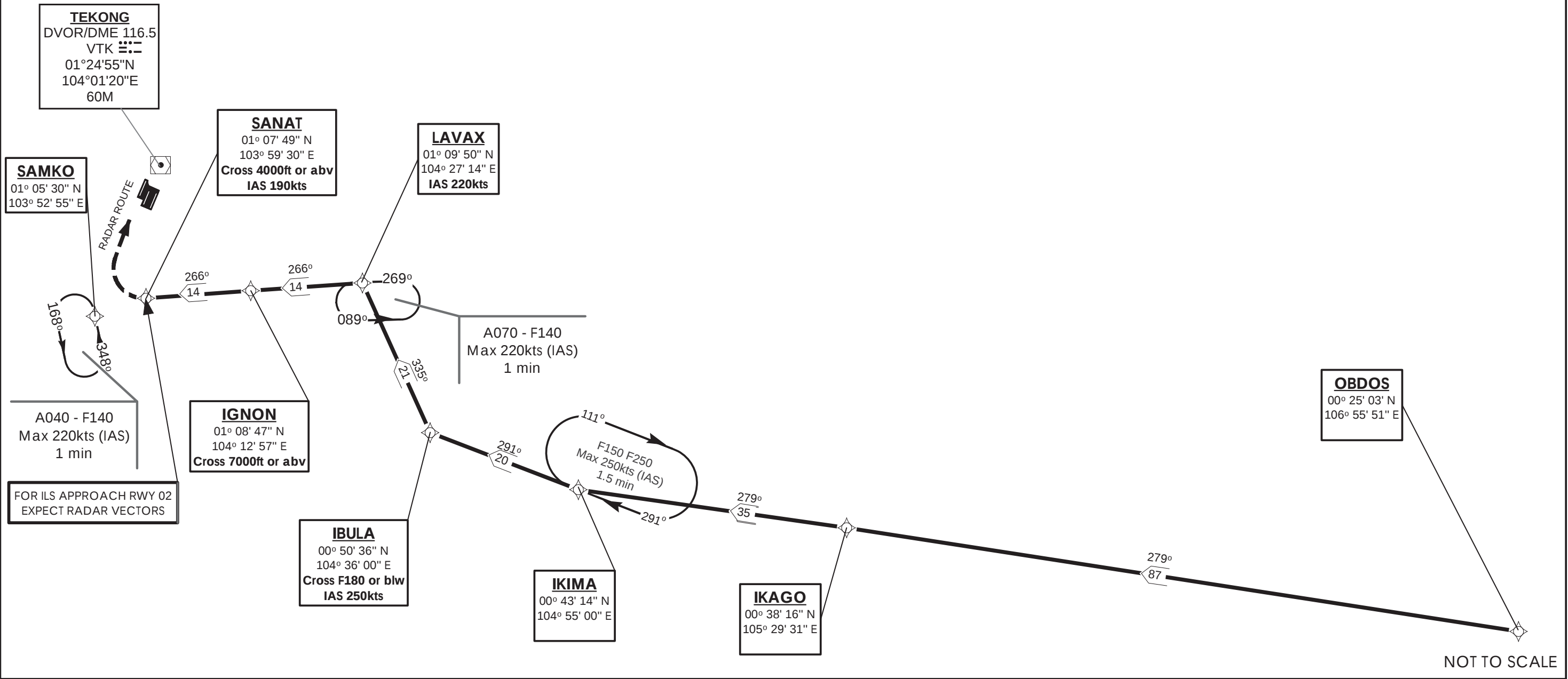
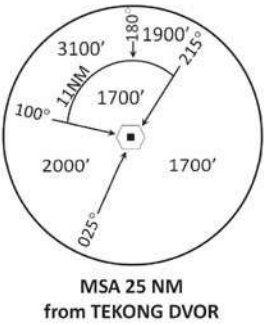
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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- RADIO COM FAILURE PROCEDURES



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STANDARD ARRIVAL CHART
RNAV (GNSS) -
INSTRUMENT (STAR)

ACC 134.2
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi
RWY 20R/C/L
KARTO ONE BRAVO ARRIVAL
KARTO 1B

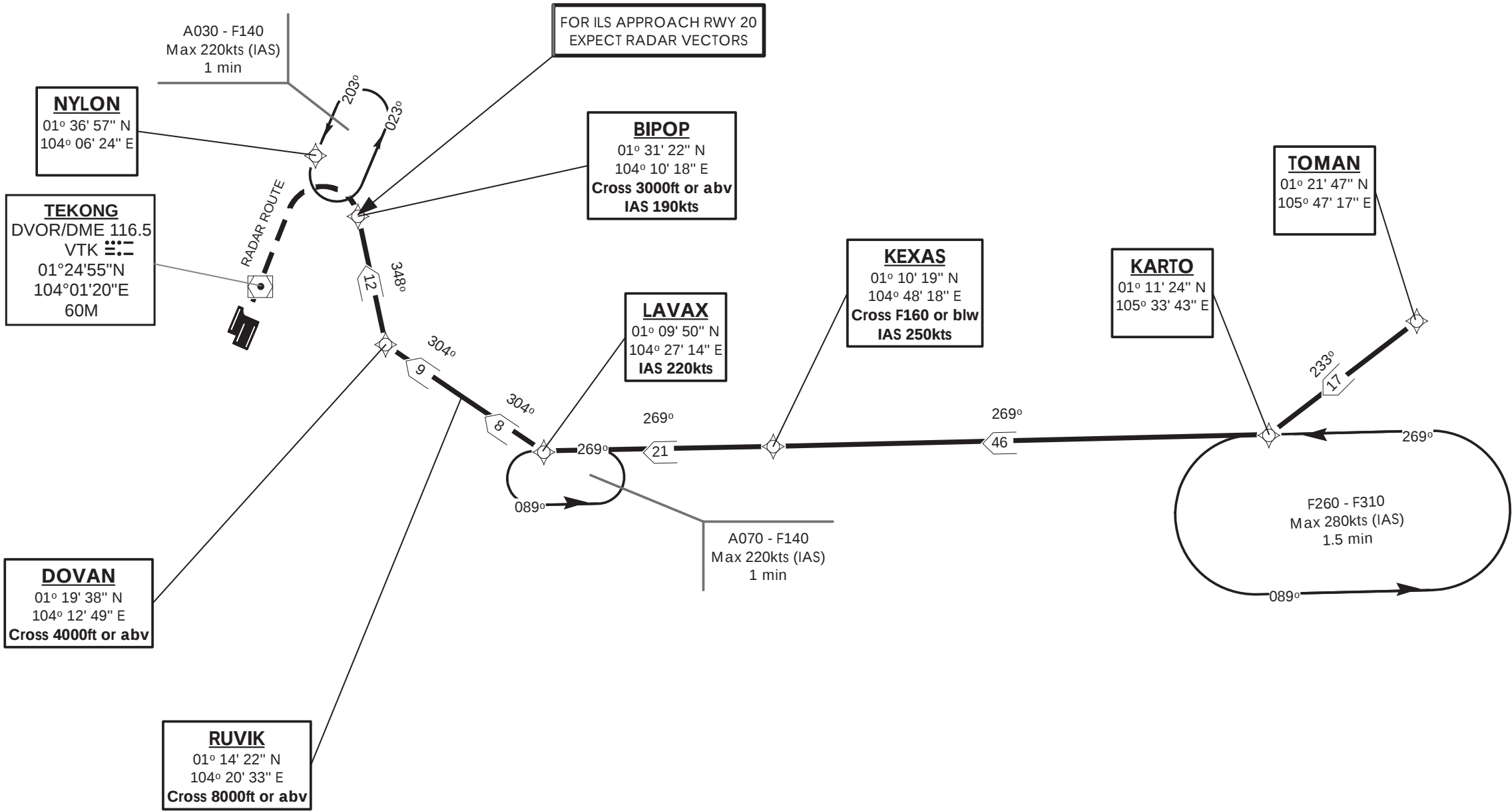
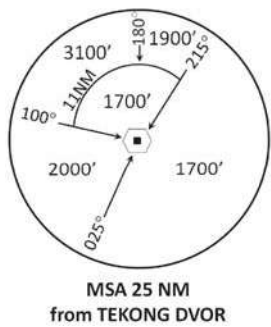
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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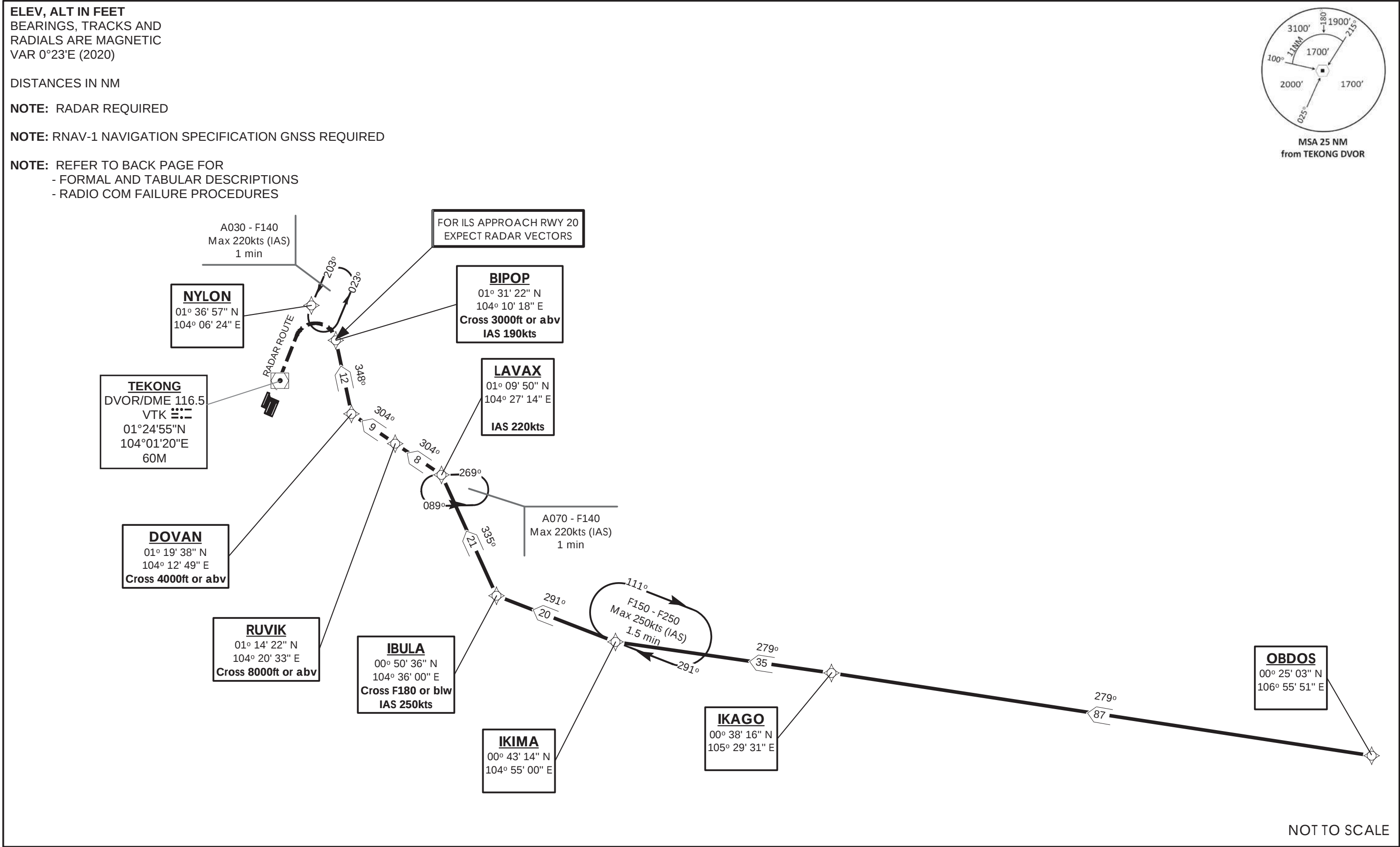
STANDARD ARRIVAL CHART
RNAV (GNSS) -
INSTRUMENT (STAR)

ACC 134.4
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi
RWY 20R/C/L
OBDOS ONE BRAVO ARRIVAL
OBDOS 1B



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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 133.25
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi RWY 20R/C/L LELIB THREE BRAVO ARRIVAL LELIB 3B

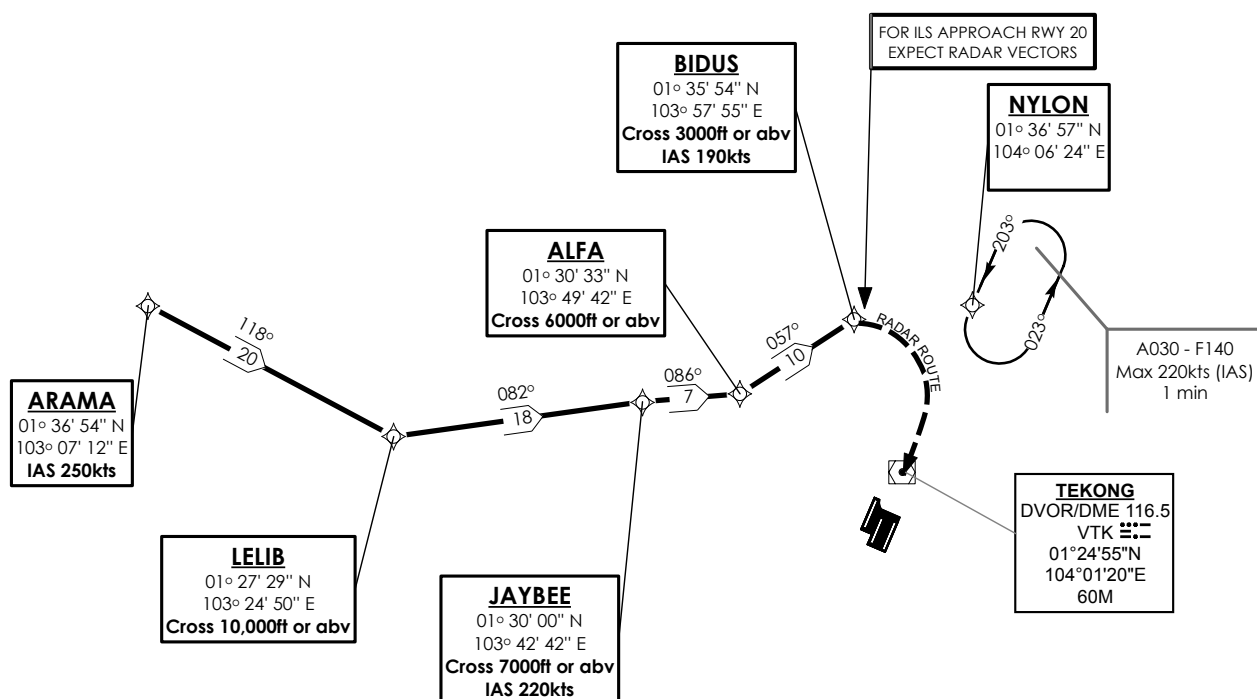
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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- RADIO COM FAILURE PROCEDURES



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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 133.8
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi RWY 02L/C/R MABAL TWO ALPHA ARRIVAL MABAL 2A

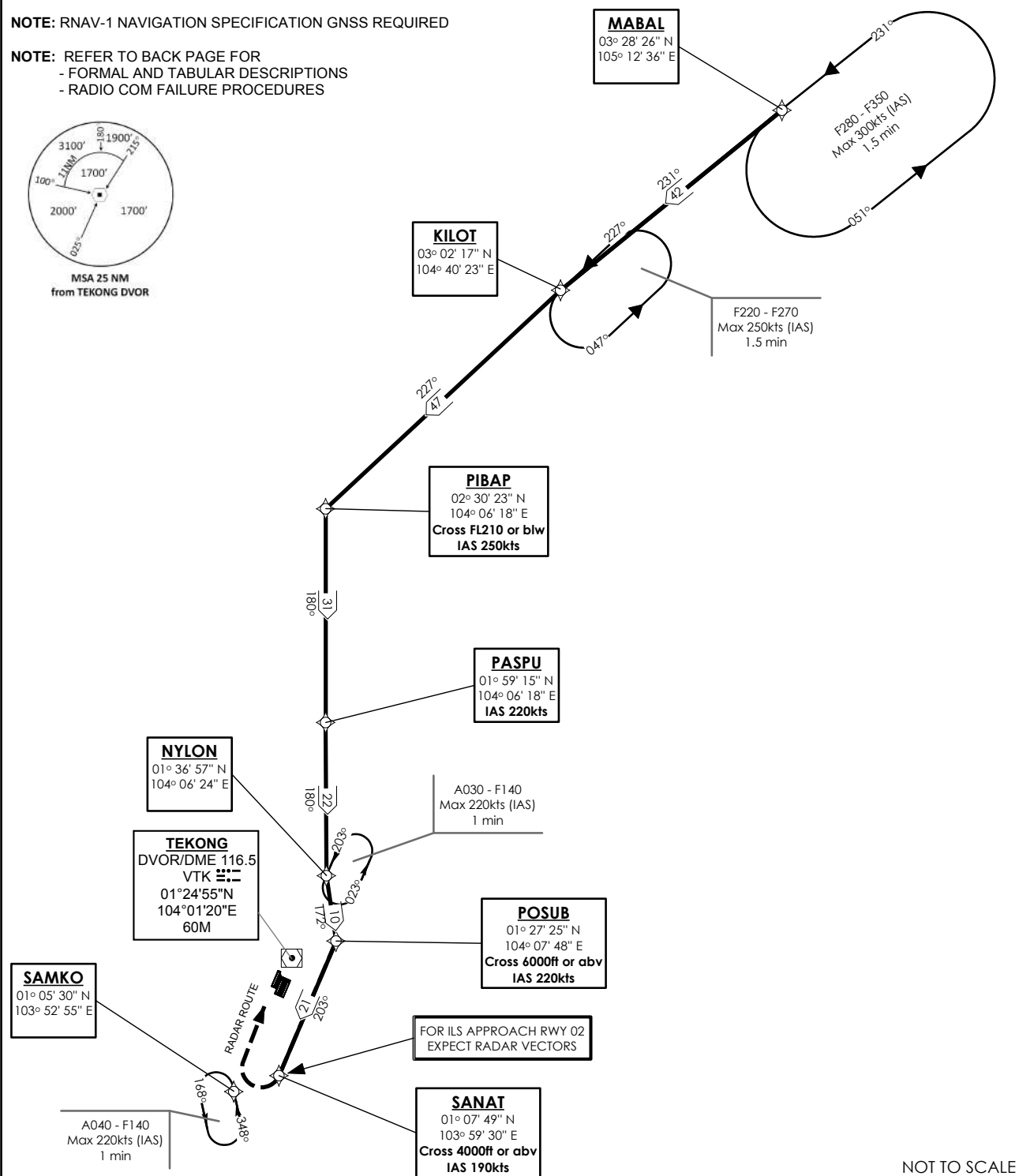
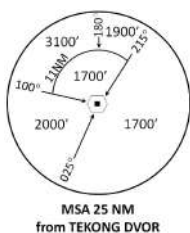
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 133.8
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi
RWY 20R/C/L
MABAL TWO BRAVO ARRIVAL
MABAL 2B

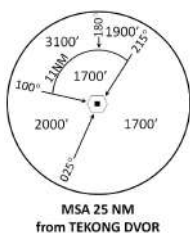
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: REFER TO BACK PAGE FOR
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- RADIO COM FAILURE PROCEDURES



FOR ILS APPROACH RWY 20
EXPECT RADAR VECTORS

TEKONG
DVOR/DME 116.5
VTK
01°24'55"N
104°01'20"E
60M



KILOT
03° 02' 17" N
104° 40' 23" E

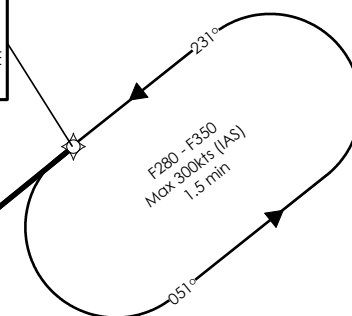
PIBAP
02° 30' 23" N
104° 06' 18" E
Cross FL210 or blw
IAS 250kts

PASPU
01° 59' 15" N
104° 06' 18" E
Cross 6000ft or abv
IAS 220kts

A030 - F140
Max 220kts (IAS)
1 min

NYLON
01° 36' 57" N
104° 06' 24" E
Cross 3000ft or abv
IAS 190kts

MABAL
03° 28' 26" N
105° 12' 36" E



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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 133.8
APP 124.05
119.3
TWR 118.6

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi
RWY 02L/C/R
LEBAR TWO ALPHA ARRIVAL
LEBAR 2A

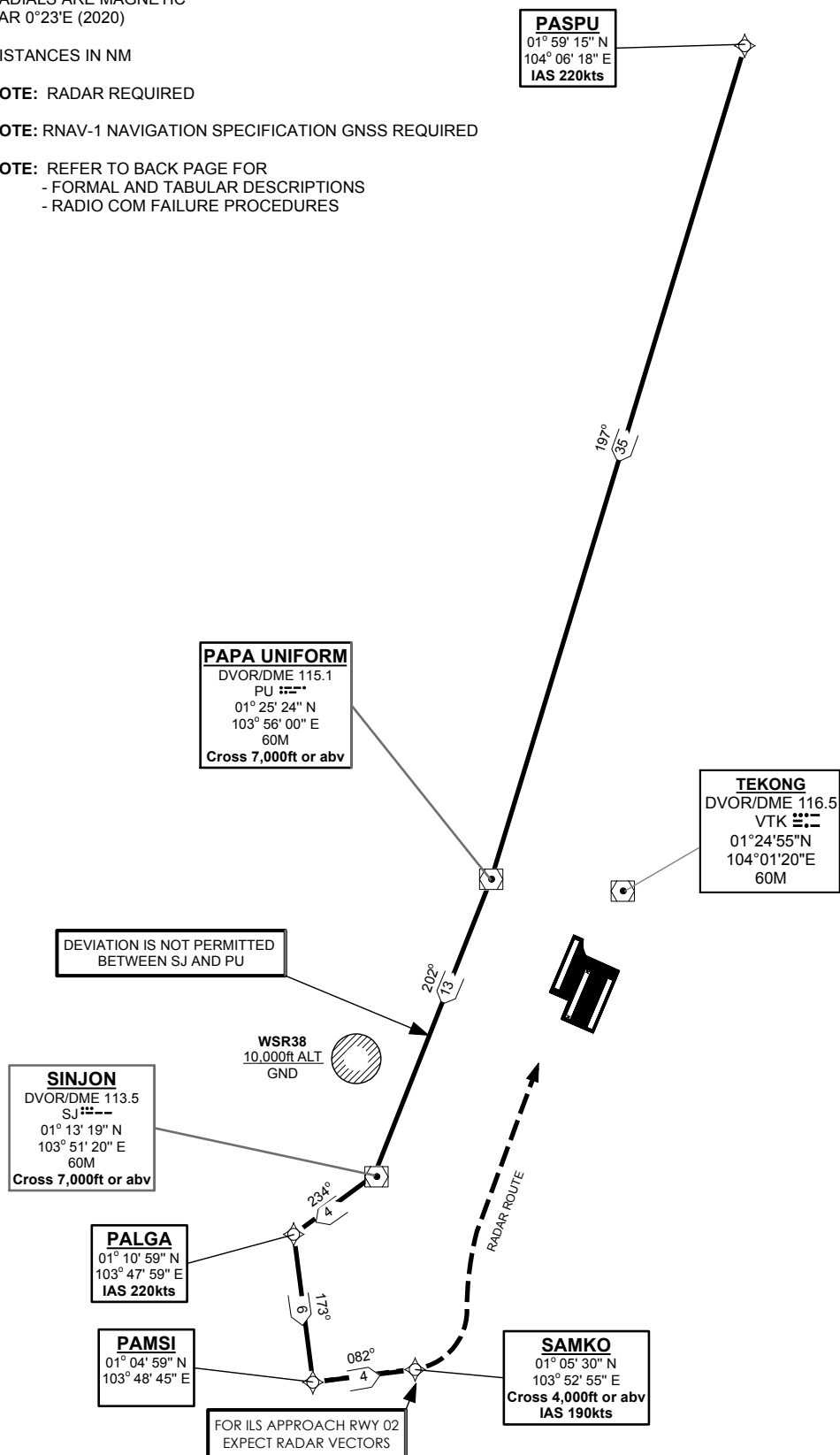
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: REFER TO BACK PAGE FOR
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- RADIO COM FAILURE PROCEDURES



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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 133.25 / 134.4
APP 124.05
119.3
TWR 118.6

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi
RWY 20R/C/L
LEBAR TWO BRAVO ARRIVAL
LEBAR 2B

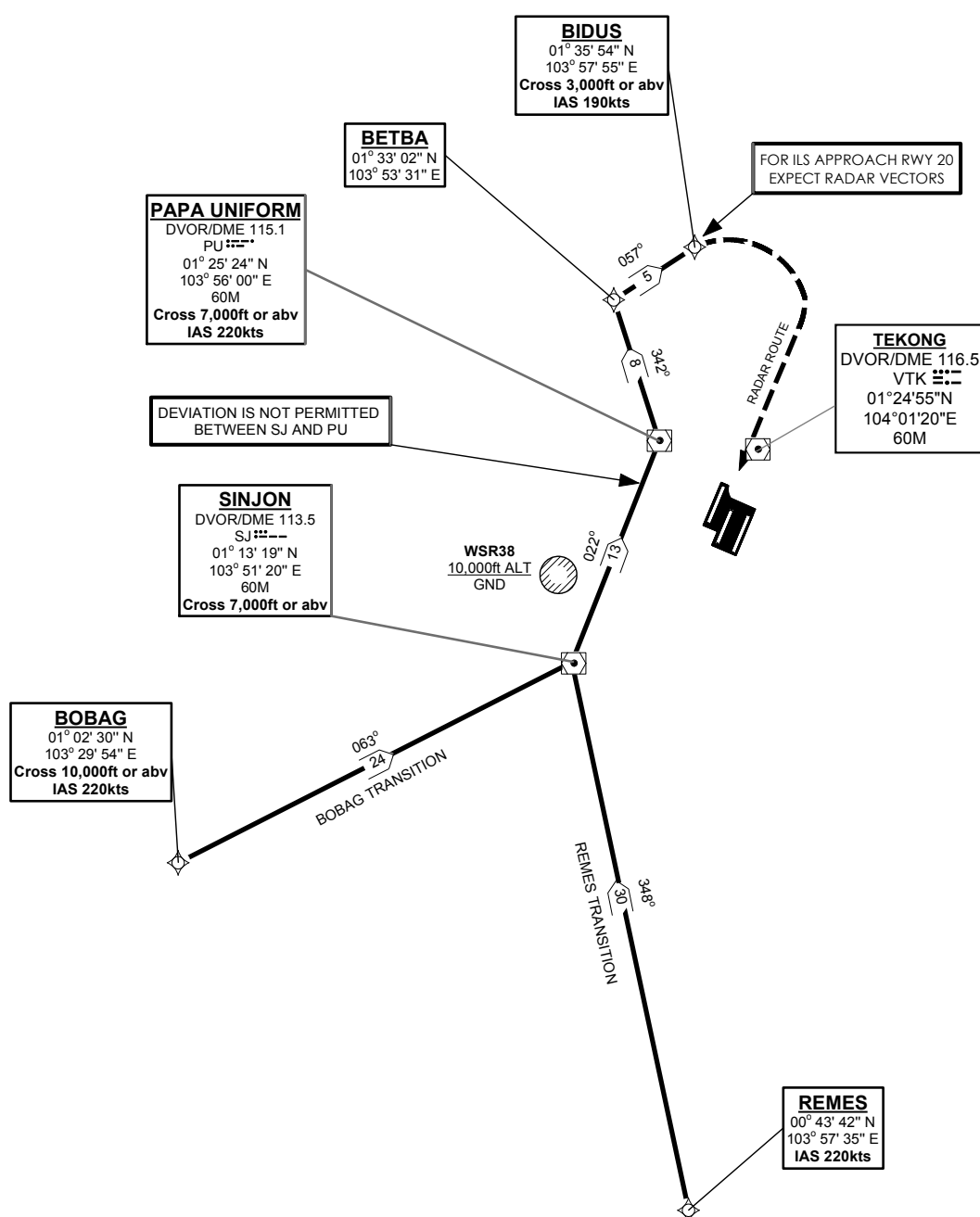
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: REFER TO BACK PAGE FOR
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- RADIO COM FAILURE PROCEDURES



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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 134.4
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi
RWY 02L/C/R
REPOV ONE ALPHA ARRIVAL
REPOV 1A

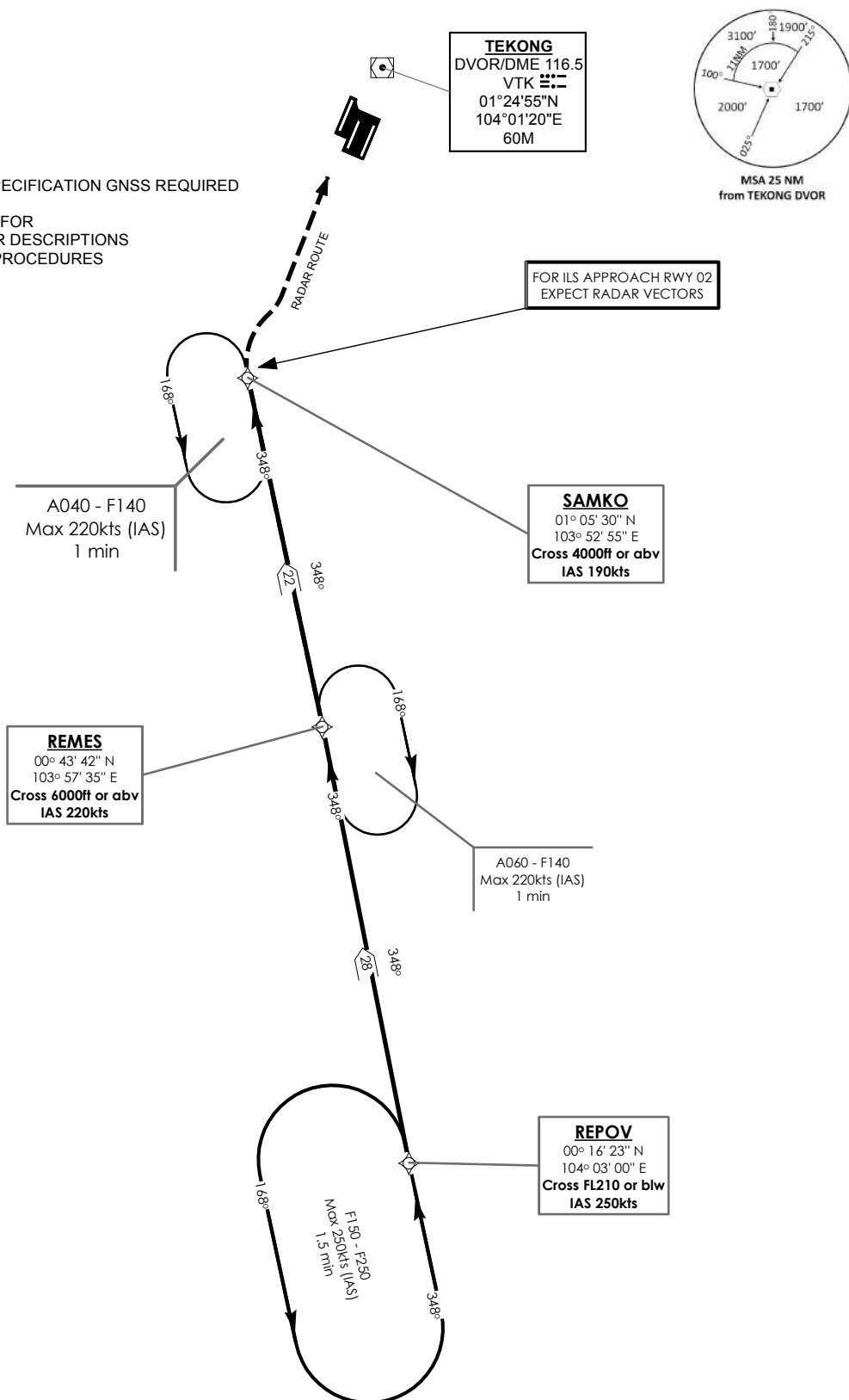
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: REFER TO BACK PAGE FOR
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- RADIO COM FAILURE PROCEDURES



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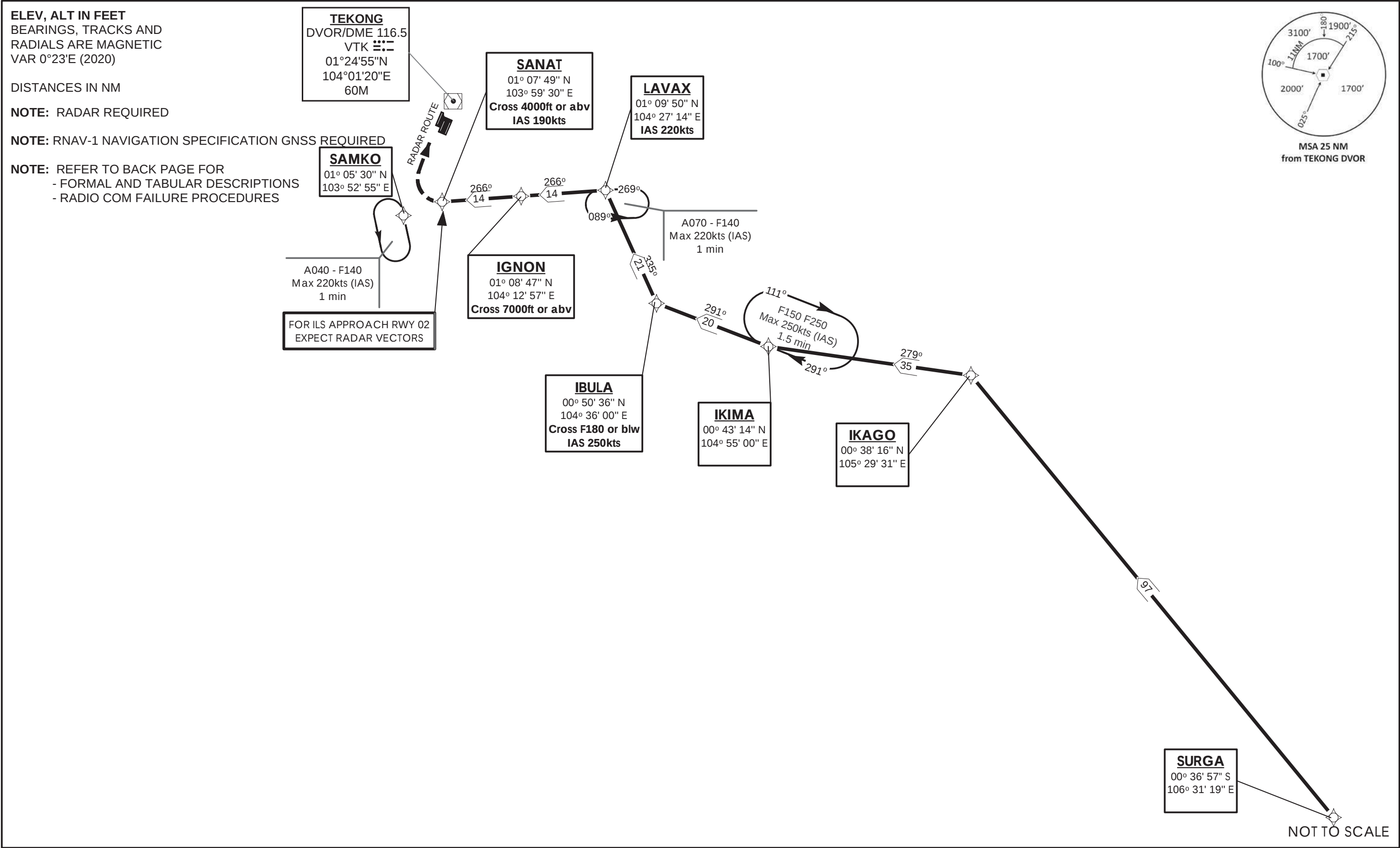
STANDARD ARRIVAL CHART
RNAV (GNSS) -
INSTRUMENT (STAR)

ACC 134.4
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi
RWY 02L/C/R
SURGA ONE ALPHA ARRIVAL
SURGA 1A



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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 134.4
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi RWY 20R/C/L REPOV ONE BRAVO ARRIVAL REPOV 1B

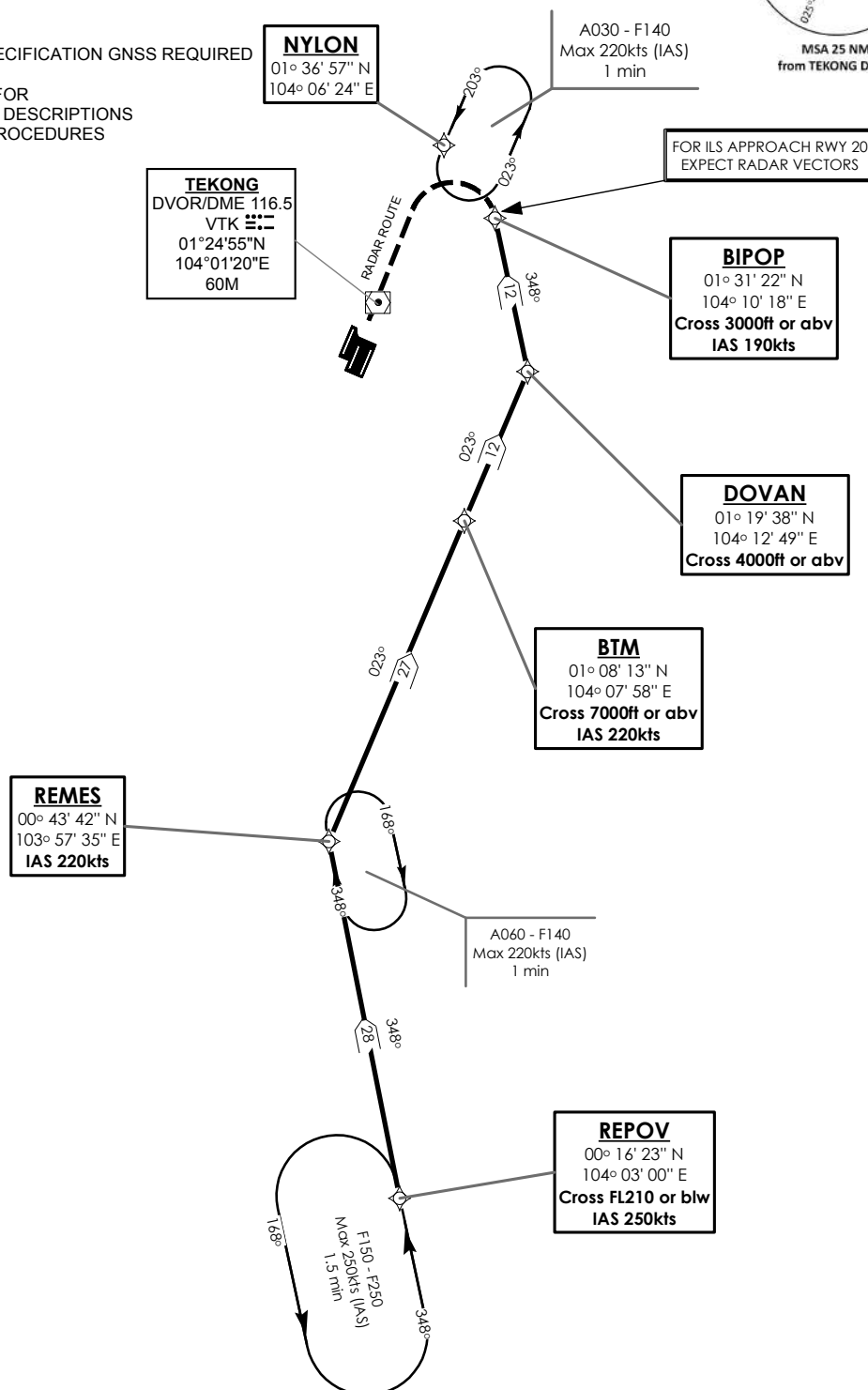
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



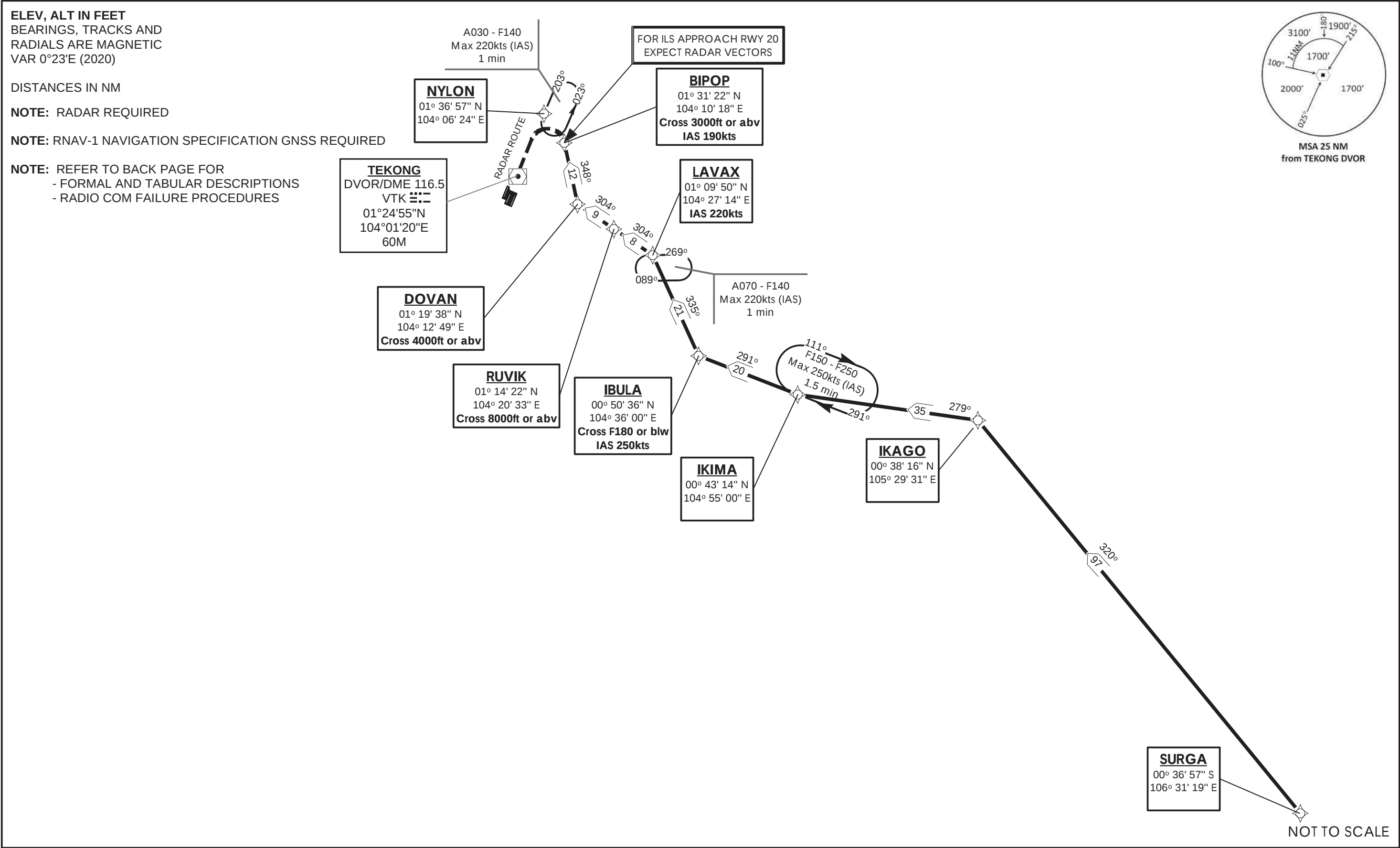
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STANDARD ARRIVAL CHART
RNAV (GNSS) -
INSTRUMENT (STAR)

ACC 134.4 APP 124.05 119.3 TWR 118.6 / 118.25	TRANSITION ALTITUDE 11 000ft	D-ATIS AP ID-WSSS 128.025
--	---------------------------------	------------------------------

SINGAPORE/Singapore Changi
RWY 20R/C/L
SURGA ONE BRAVO ARRIVAL
SURGA 1B



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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 133.8
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi RWY 02L/C/R ELALO ONE ALPHA ARRIVAL ELALO 1A

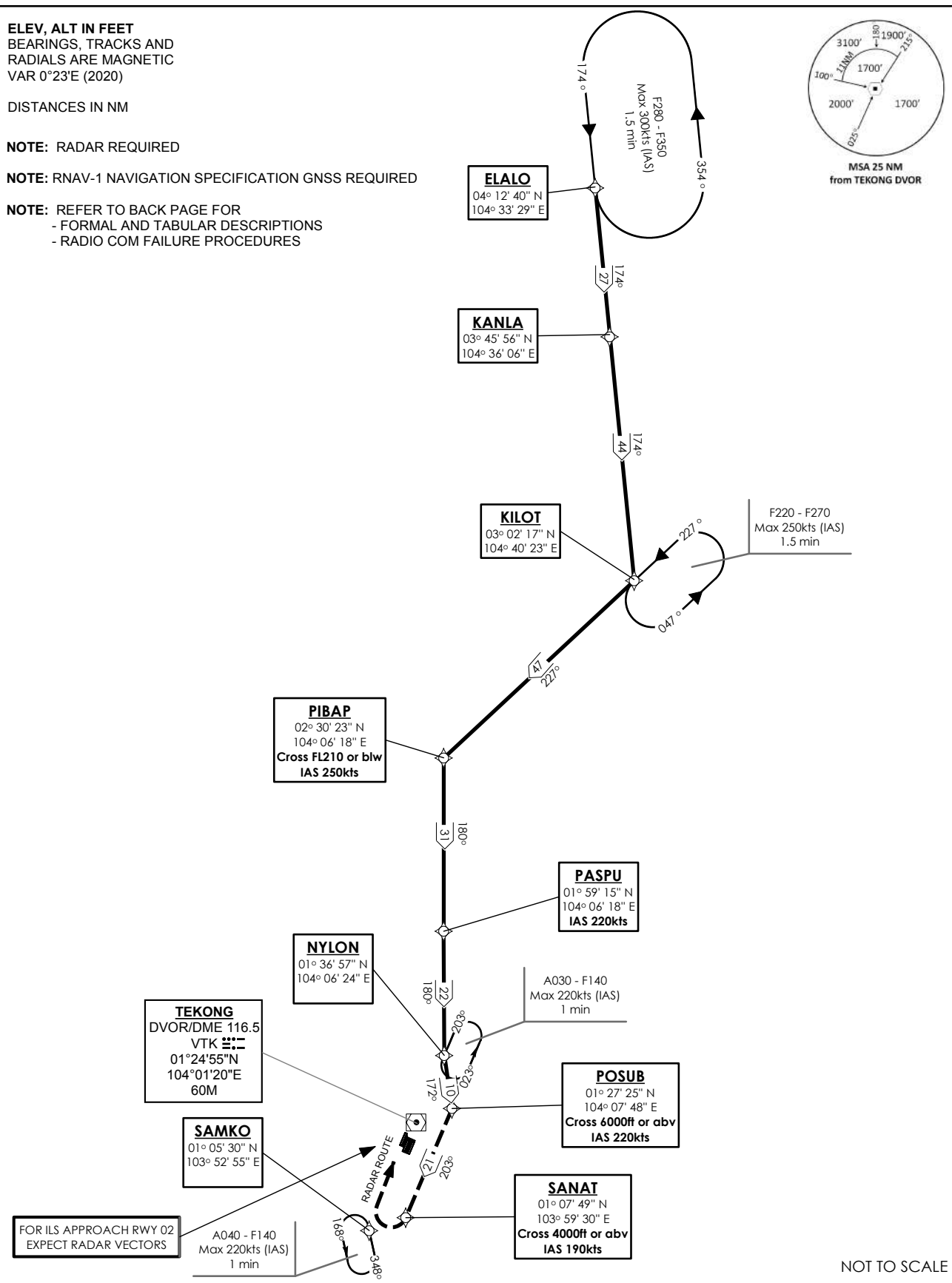
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: REFER TO BACK PAGE FOR
- FORMAL AND TABULAR DESCRIPTIONS
- RADIO COM FAILURE PROCEDURES



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STANDARD ARRIVAL CHART RNAV (GNSS) - INSTRUMENT (STAR)

ACC 133.8
APP 124.05
119.3
TWR 118.6 / 118.25

TRANSITION ALTITUDE
11 000ft

D-ATIS AP ID-WSSS
128.025

SINGAPORE/Singapore Changi RWY 20R/C/L ELALO ONE BRAVO ARRIVAL ELALO 1B

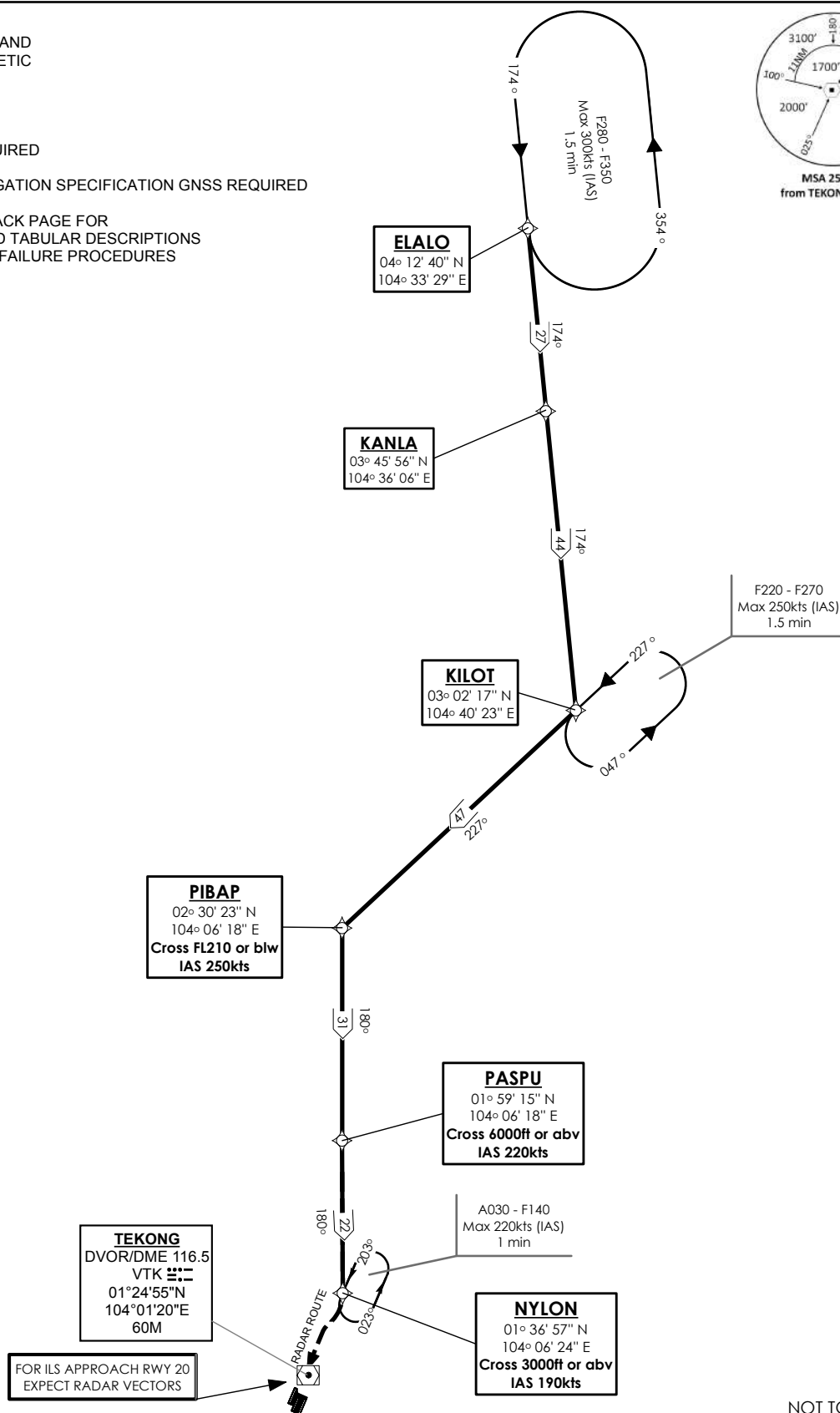
ELEV, ALT IN FEET
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
VAR 0°23'E (2020)

DISTANCES IN NM

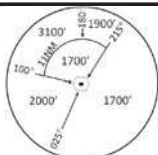
NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

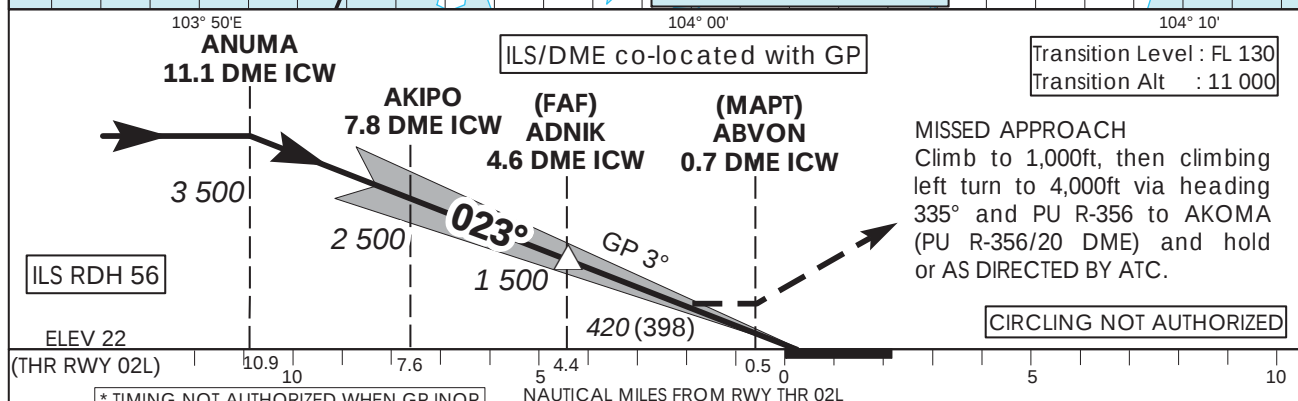
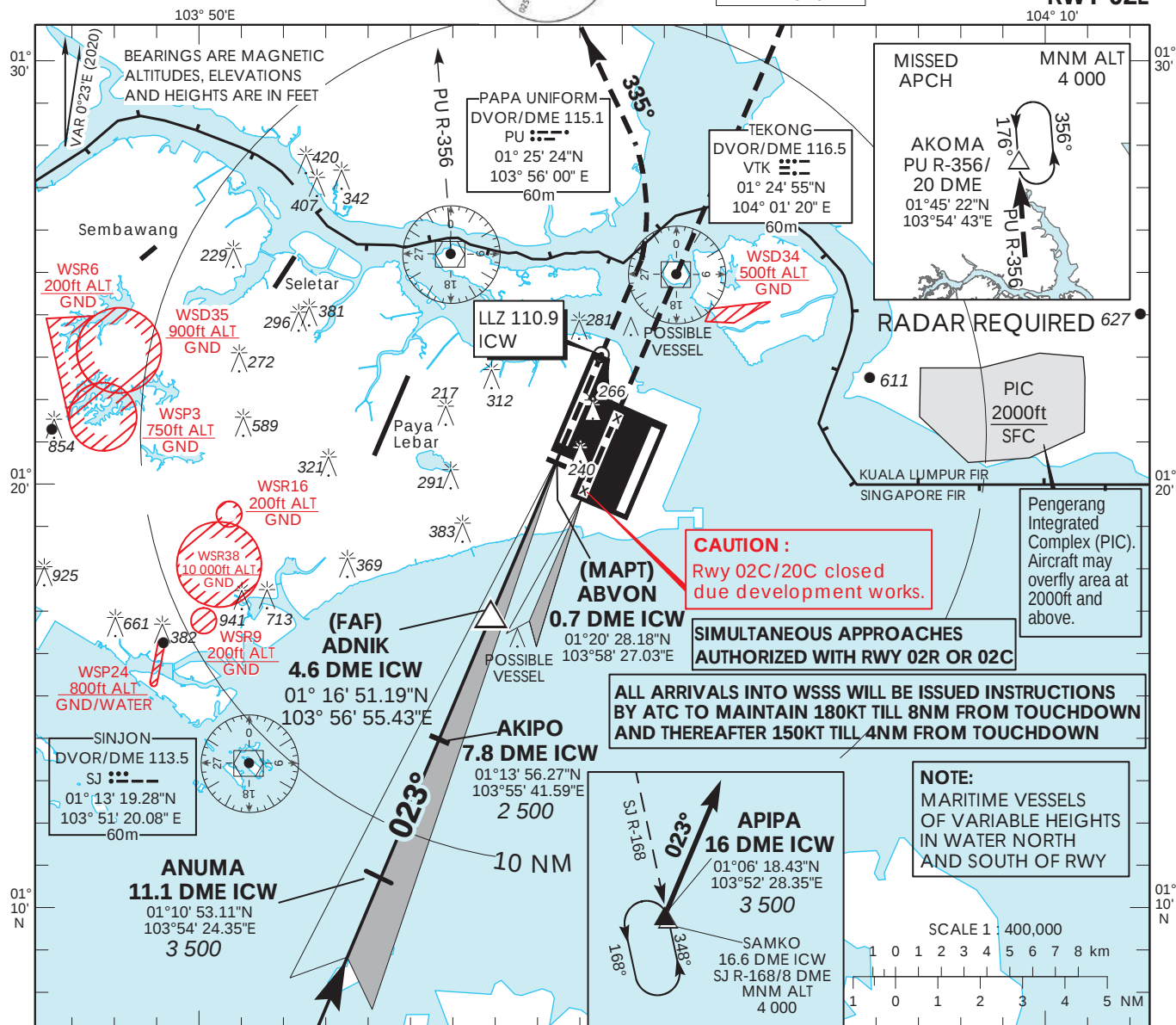
NOTE: REFER TO BACK PAGE FOR
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- RADIO COM FAILURE PROCEDURES



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**INSTRUMENT
APPROACH
CHART - ICAO**
AERODROME ELEV 22ft
 HEIGHT RELATED TO
 THR RWY 02L - ELEV 22ft
MSA 25 NM
from TEKONG DVOR

D-ATIS	AP ID WSSS
APP	128.025
	124.05
TWR	119.3
	118.6
	118.25

**SINGAPORE/
SINGAPORE CHANGI
ICW ILS/DME
RWY 02L**


* TIMING NOT AUTHORIZED WHEN GP INOP

NAUTICAL MILES FROM RWY THR 02L

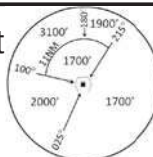
OCA (OCH)					
Category of Aircraft		A	B	C	D _L
Straight-in	CAT I ILS	173 (151)	187 (165)	203 (181)	216 (194)
	CAT II ILS	88 (66)	98 (76)	108 (86)	127 (105)
	GP INOP	420 (398)			
Distance	4 DME	3 DME	2 DME		
Altitude (Height)	1290 (1268)	970 (948)	660 (638)		
Speed	knots	70	120	150	185
FAF - MAPT 3.9nm	min : s *	3 : 21	1 : 57	1 : 34	1 : 16
Rate of descent/GS	ft/min	370	635	795	980

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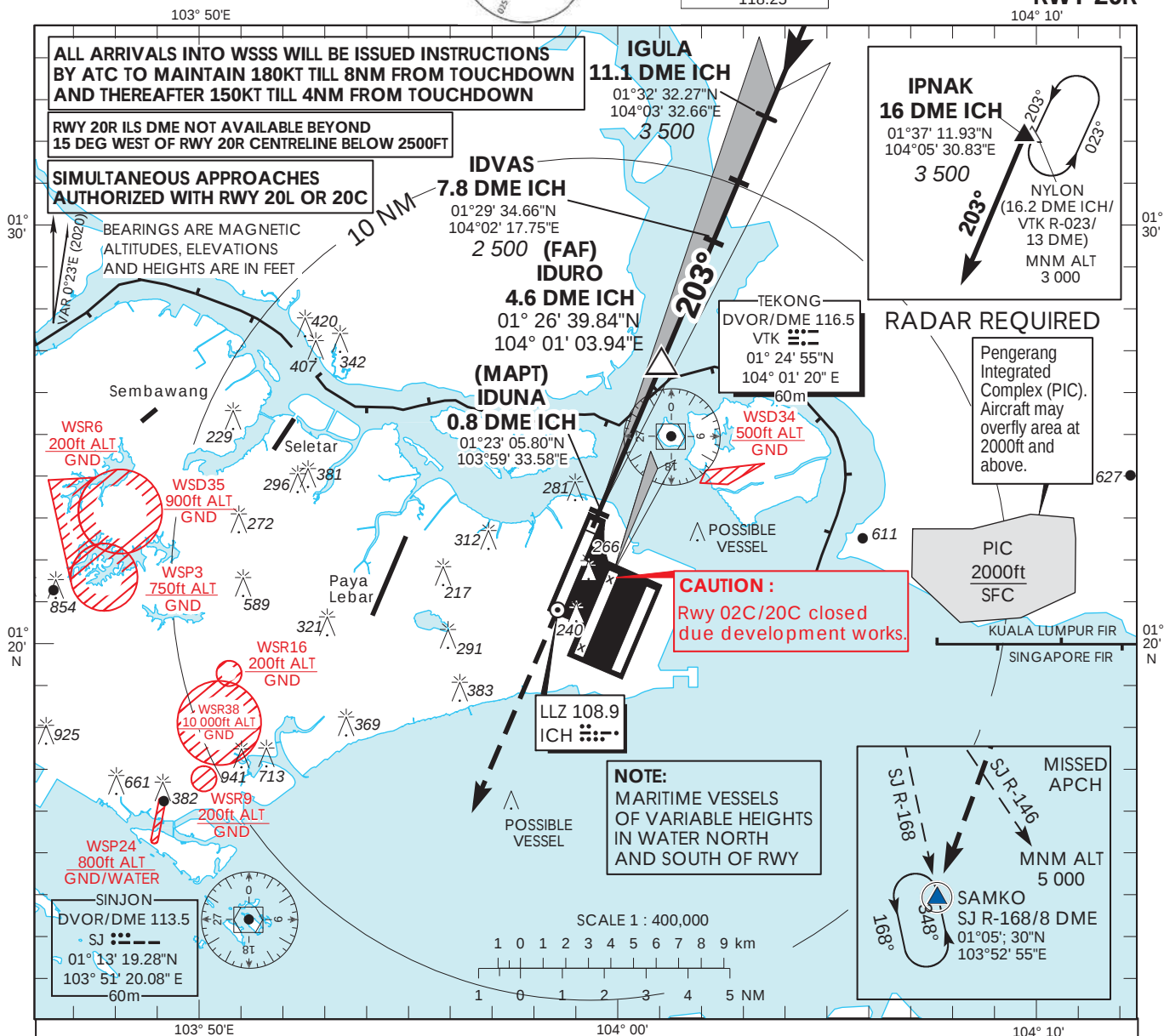
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**INSTRUMENT
APPROACH
CHART - ICAO**

AERODROME ELEV **22ft**
HEIGHT RELATED TO
DTHR RWY 20R - ELEV **13ft**

MSA 25 NM
from TEKONG DVOR

D-ATIS AP ID WSSS
128.025
APP 124.05
119.3
TWR 118.6
118.25

**SINGAPORE/
SINGAPORE CHANGI
ICH ILS/DME
RWY 20R**


This procedure requires a missed approach climb gradient of 3.7% (225 ft/NM) until passing 2,500ft.
For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the CAT I OCA (OCH) is 693ft (680ft).

MISSED APPROACH

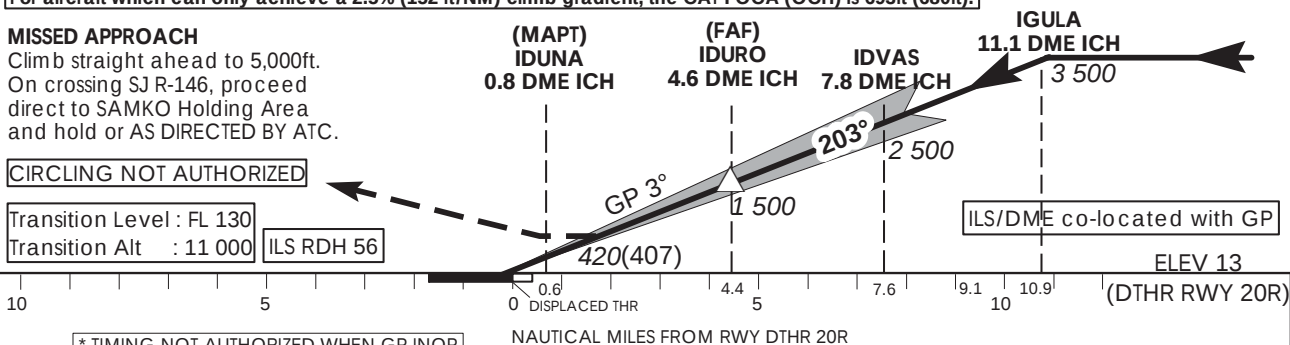
Climb straight ahead to 5,000ft.
On crossing SJ R-146, proceed direct to SAMKO Holding Area and hold or AS DIRECTED BY ATC.

CIRCLING NOT AUTHORIZED

Transition Level : FL 130

Transition Alt : 11 000

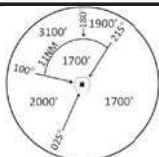
ILS RDH 56

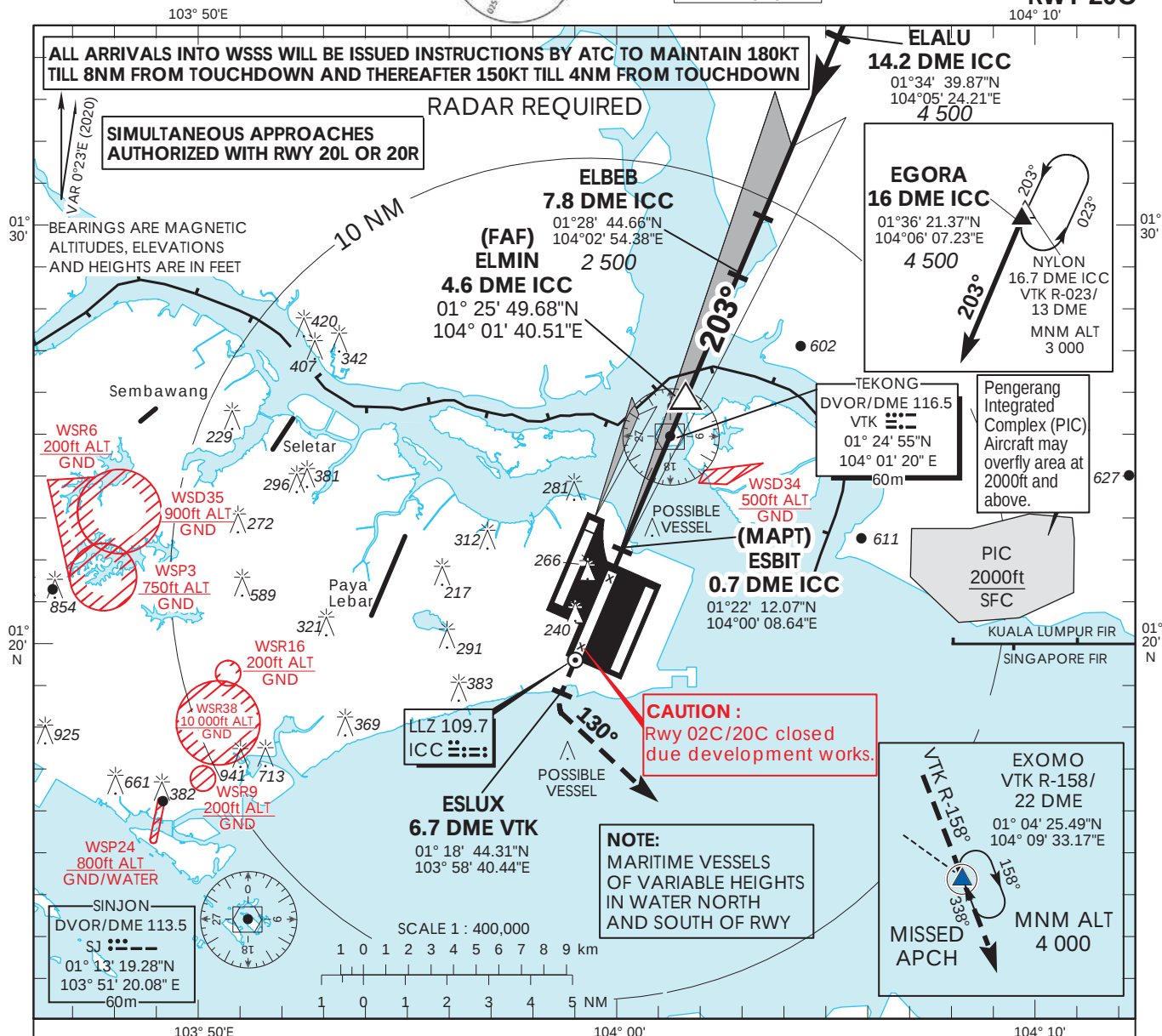


* TIMING NOT AUTHORIZED WHEN GP INOP

OCA (OCH)					
Category of Aircraft		A	B	C	D _L
Straight-in	CAT I ILS	152 (139)	159 (146)	179 (166)	192 (179)
	GP INOP	420 (407)			
Distance	4 DME	3 DME		2 DME	
Altitude (Height)	1290 (1277)	970 (957)		650 (637)	
Speed	knots	70	120	150	185
FAF - MAPT 3.9nm	min : s *	3 : 21	1 : 57	1 : 34	1 : 16
Rate of descent/GS	ft/min	370	635	795	980

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**INSTRUMENT
APPROACH
CHART - ICAO**
AERODROME ELEV 22ft
 HEIGHT RELATED TO
 THR RWY 20C - ELEV 15ft

 D-ATIS AP ID WSSS
 128.025
 APP 124.05
 119.3
 TWR 118.6
 118.25

**SINGAPORE/
SINGAPORE CHANGI
ICC ILS/DME
RWY 20C**


This procedure requires a missed approach climb gradient of 2.8% (171 ft/NM) until passing 2,000ft.
 For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the CAT I OCA (OCH) is 315ft (300ft).

MISSED APPROACH

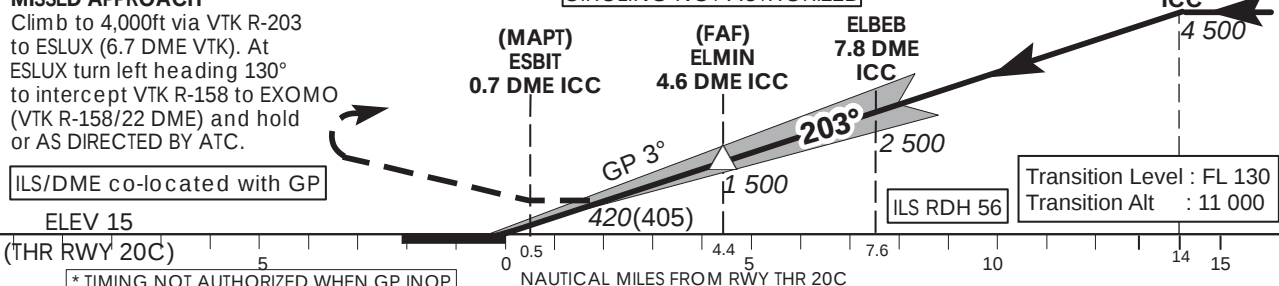
Climb to 4,000ft via VTK R-203 to ESLUX (6.7 DME VTK). At ESLUX turn left heading 130° to intercept VTK R-158 to EXOMO (VTK R-158/22 DME) and hold or AS DIRECTED BY ATC.

ILS/DME co-located with GP

ELEV 15
 (THR RWY 20C)

* TIMING NOT AUTHORIZED WHEN GP INOP

CIRCLING NOT AUTHORIZED



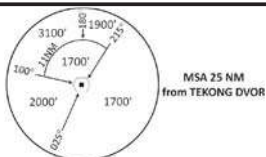
OCA (OCH)					
Category of Aircraft	A	B	C	D	D _L
Straight-in	CAT I ILS	166 (151)	180 (165)	196 (181)	209 (194)
	CAT II ILS	71 (56)	78 (63)	91 (76)	101 (86)
	GP INOP	420 (405)			
Distance	4 DME		3 DME		2 DME
Altitude (Height)	1290 (1275)		980 (965)		660 (645)
Speed	knots	70	120	150	185
FAF - MAPT 3.9nm	min : s *	3 : 21	1 : 57	1 : 34	1 : 16
Rate of descent/GS	ft/min	370	635	795	980

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**INSTRUMENT
APPROACH
CHART - ICAO**

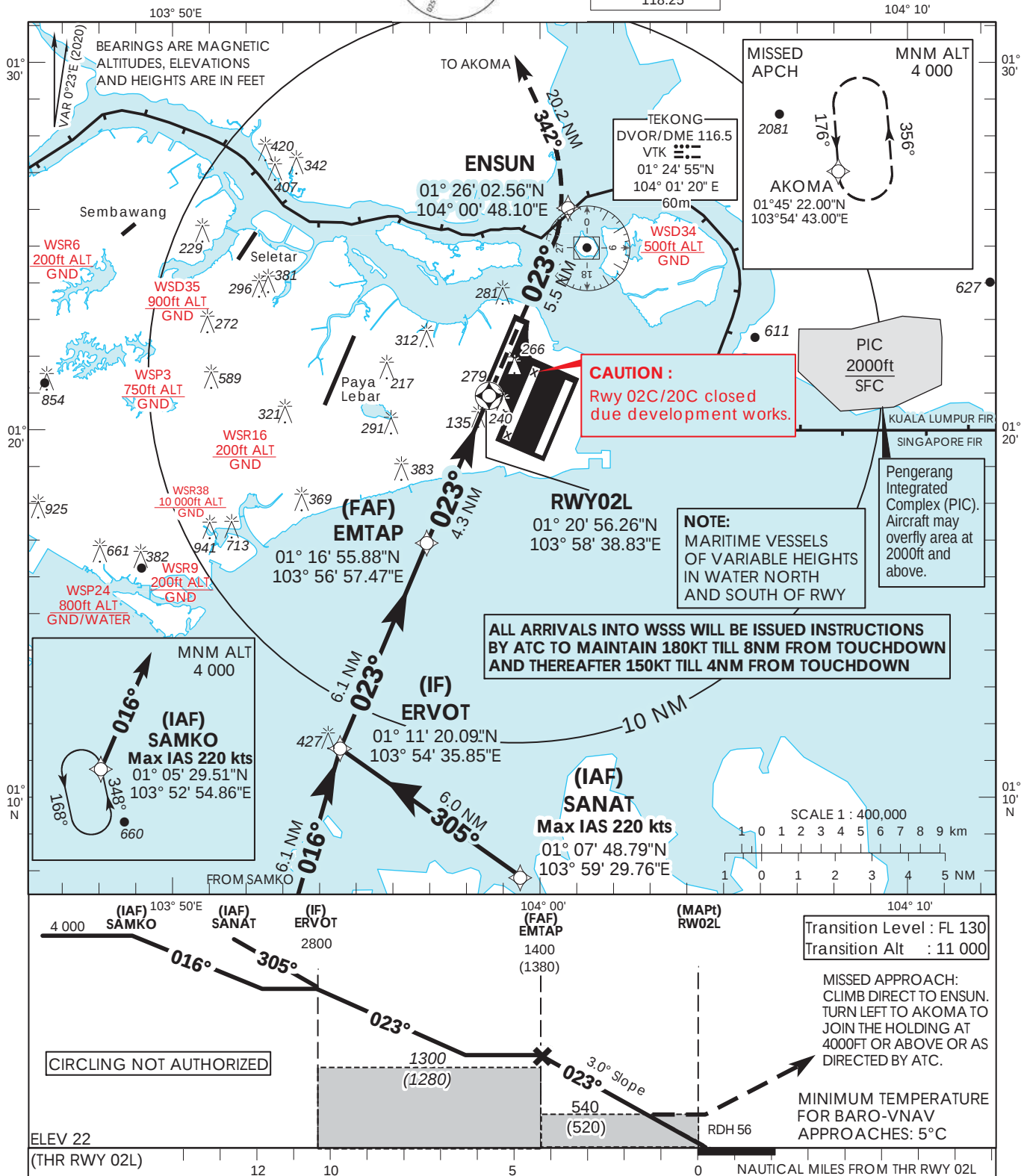
AERODROME ELEV 22ft
HEIGHT RELATED TO
THR RWY 02L - ELEV 22ft



D-ATIS AP ID WSSS
128.025
APP 124.05
119.3
TWR 118.6
118.25

**SINGAPORE/
SINGAPORE CHANGI
RNP RWY 02L**

104° 10'



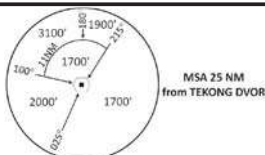
ELEV 22

(THR RWY 02L)

Category of Aircraft		OCA (OCH)					
		A	B		C		D
LNAV/VNAV	2.5%	450 (430)					
LNAV	2.5%	540 (520)					
Fix	SAMKO	SANAT	ERVOT	EMTAP	RW02L	ENSUN	AKOMA
Altitude (Height)	4000 (3978)	4000 (3978)	2800 (2778)	1400 (1378)	540 (518)	880 (858)	4000 (3978)
Speed	knots	80	100	120	140	160	180
FAF - MAPt 4.3nm	min : s	3 : 14	2 : 35	2 : 09	1 : 51	1 : 37	1 : 26
Rate of descent/GS	ft/min	424	530	637	743	849	955

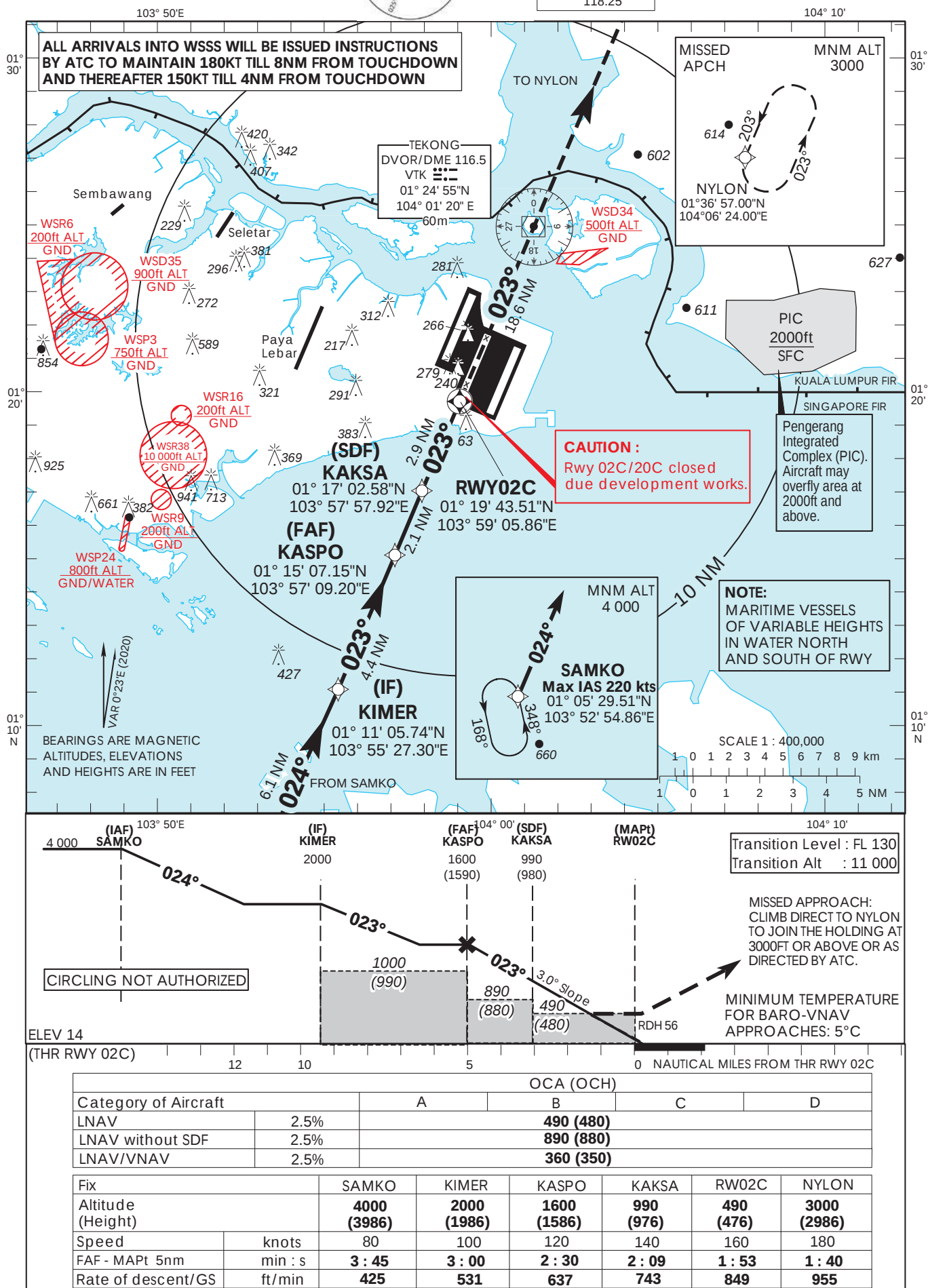
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INSTRUMENT APPROACH CHART - ICAO AERODROME ELEV 22ft
HEIGHT RELATED TO
THR RWY 02C - ELEV 14ft



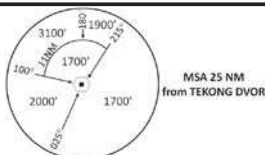
D-ATIS AP ID WSSS
128.025
APP 124.05
119.3
TWR 118.6
118.25

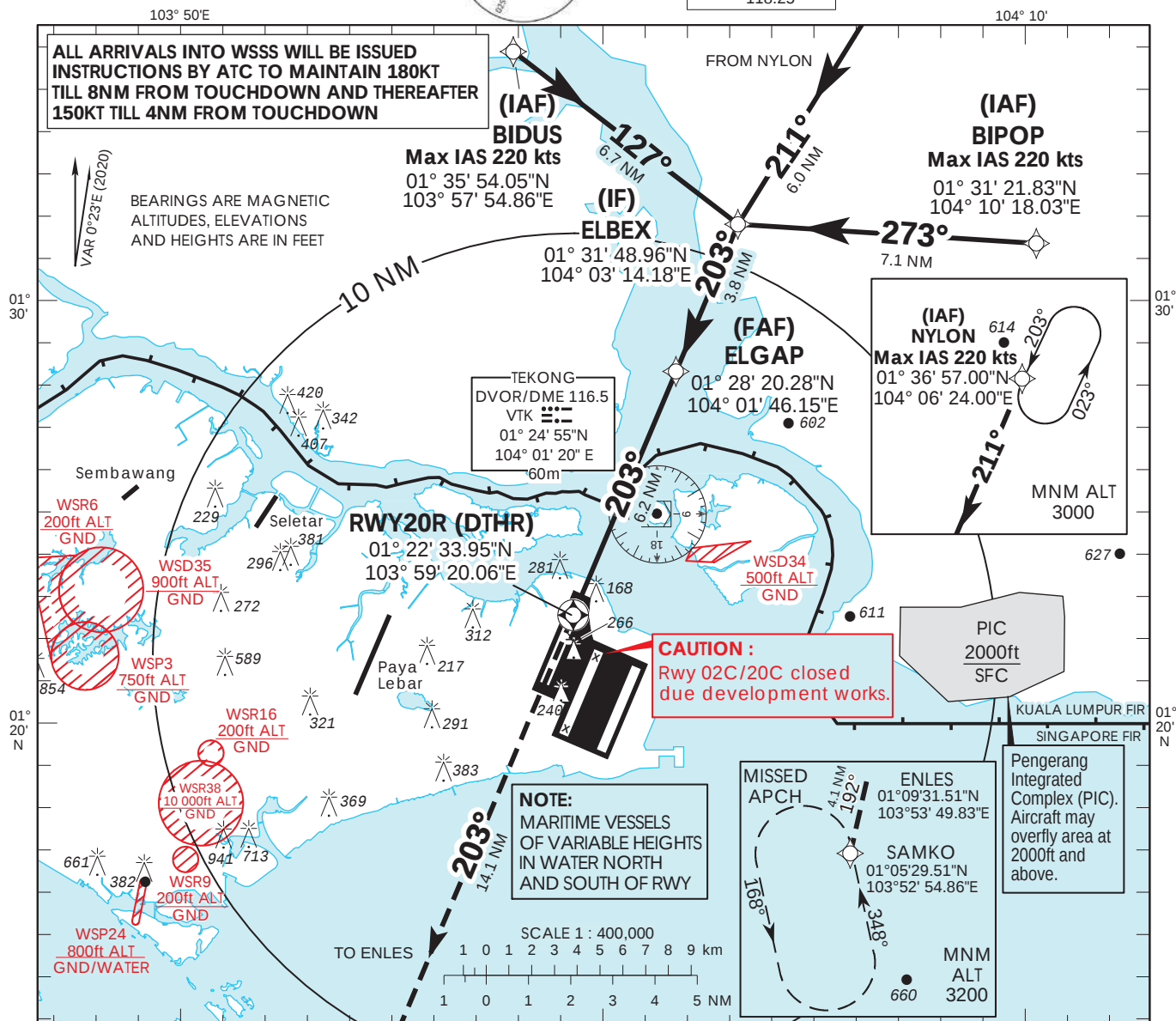
**SINGAPORE/
SINGAPORE CHANGI
RNP RWY 02C**



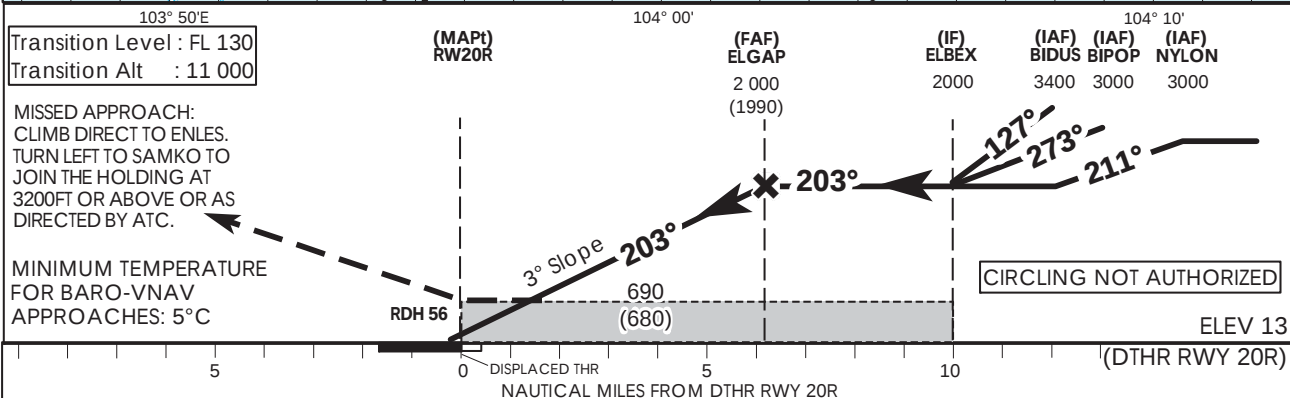
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**INSTRUMENT
APPROACH
CHART - ICAO**

 AERODROME ELEV **22ft**
 HEIGHT RELATED TO
 DTHR RWY 20R - ELEV **13ft**

 D-ATIS AP ID WSSS
 128.025
 APP 124.05
 119.3
 TWR 118.6
 118.25

**SINGAPORE/
SINGAPORE CHANGI
RNP RWY 20R**

 Transition Level : FL 130
 Transition Alt : 11 000

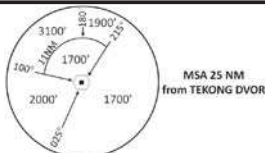
 MISSED APPROACH:
 CLIMB DIRECT TO ENLES.
 TURN LEFT TO SAMKO TO
 JOIN THE HOLDING AT
 3200FT OR ABOVE OR AS
 DIRECTED BY ATC.

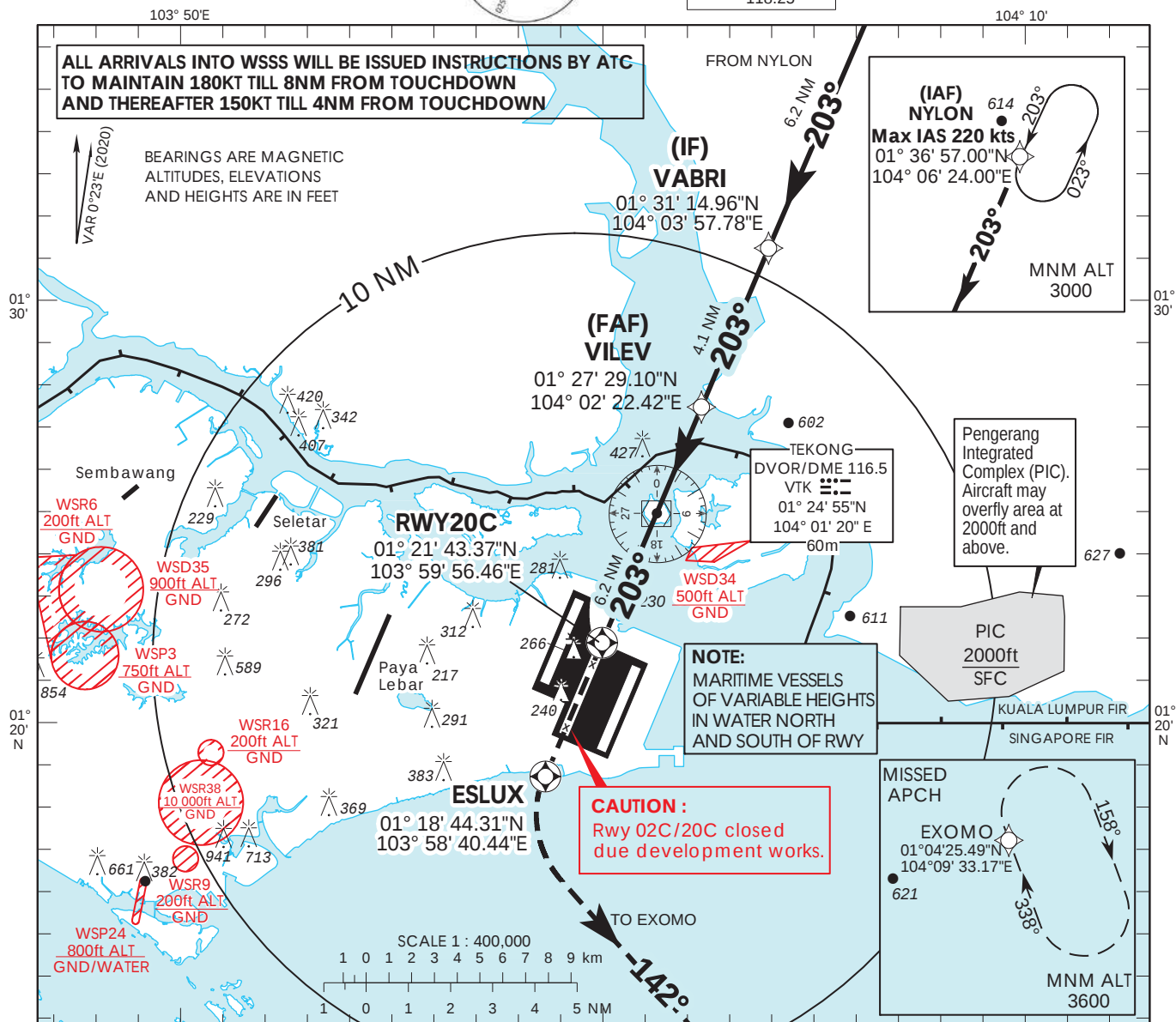
 MINIMUM TEMPERATURE
 FOR BARO-VNAV
 APPROACHES: 5°C


Category of Aircraft		OCA (OCH)						
		A	B	C	D			
LNAV/VNAV	2.5%	690 (680)						
LNAV	2.5%	690 (680)						
Fix		BIDUS	NYLON	BIPOP	ELBEX	ELGAP	RWY20R	ENLES
Altitude (Height)		3400 (3387)	3000 (2987)	3000 (2987)	2000 (1987)	2000 (1987)	690 (680)	2180 (2167)
Speed	knots	80	100	120	140	160	180	180
FAF - MAPt 6.2 nm	min : s	4 : 39	3 : 44	3 : 06	2 : 40	2 : 20	2 : 04	2 : 04
Rate of descent/GS	ft/min	425	531	637	743	849	955	955

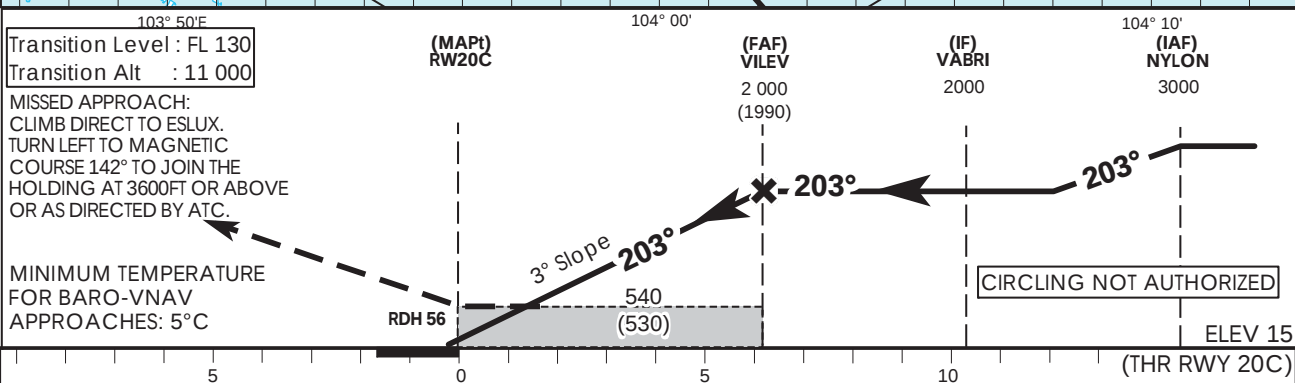
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**INSTRUMENT
APPROACH
CHART - ICAO**

 AERODROME ELEV **22ft**
 HEIGHT RELATED TO
 THR RWY 20C - ELEV **15ft**

 D-ATIS AP ID WSSS
 128.025
 APP 124.05
 119.3
 TWR 118.6
 118.25

**SINGAPORE/
SINGAPORE CHANGI
RNP RWY 20C**

 Transition Level : FL 130
 Transition Alt : 11 000

 MISSED APPROACH:
 CLIMB DIRECT TO ESLUX.
 TURN LEFT TO MAGNETIC
 COURSE 142° TO JOIN THE
 HOLDING AT 3600FT OR ABOVE
 OR AS DIRECTED BY ATC.

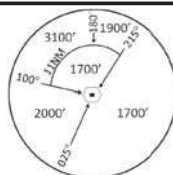
 MINIMUM TEMPERATURE
 FOR BARO-VNAV
 APPROACHES: 5°C


OCA (OCH)															
Category of Aircraft		A		B		C		D							
LNAV/VNAV		2.5%		490 (480)											
LNAV		2.5%		540 (530)											
Fix		NYLON		VABRI		VILEV		RW20C		ESLUX		EXOMO			
Altitude (Height)		3000 (2985)		2000 (1985)		2000 (1985)		540 (525)		540 (525)		3600 (3585)			
Speed		knots		80		100		120		140		160		180	
FAF - MAPt 6.2 nm		min : s		4 : 39		3 : 44		3 : 06		2 : 40		2 : 20		2 : 04	
Rate of descent/GS		ft/min		425		531		637		743		849		955	

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**INSTRUMENT
APPROACH
CHART**

AERODROME ELEV **22ft**
HEIGHT RELATED TO
THR RWY 02R - ELEV **16ft**

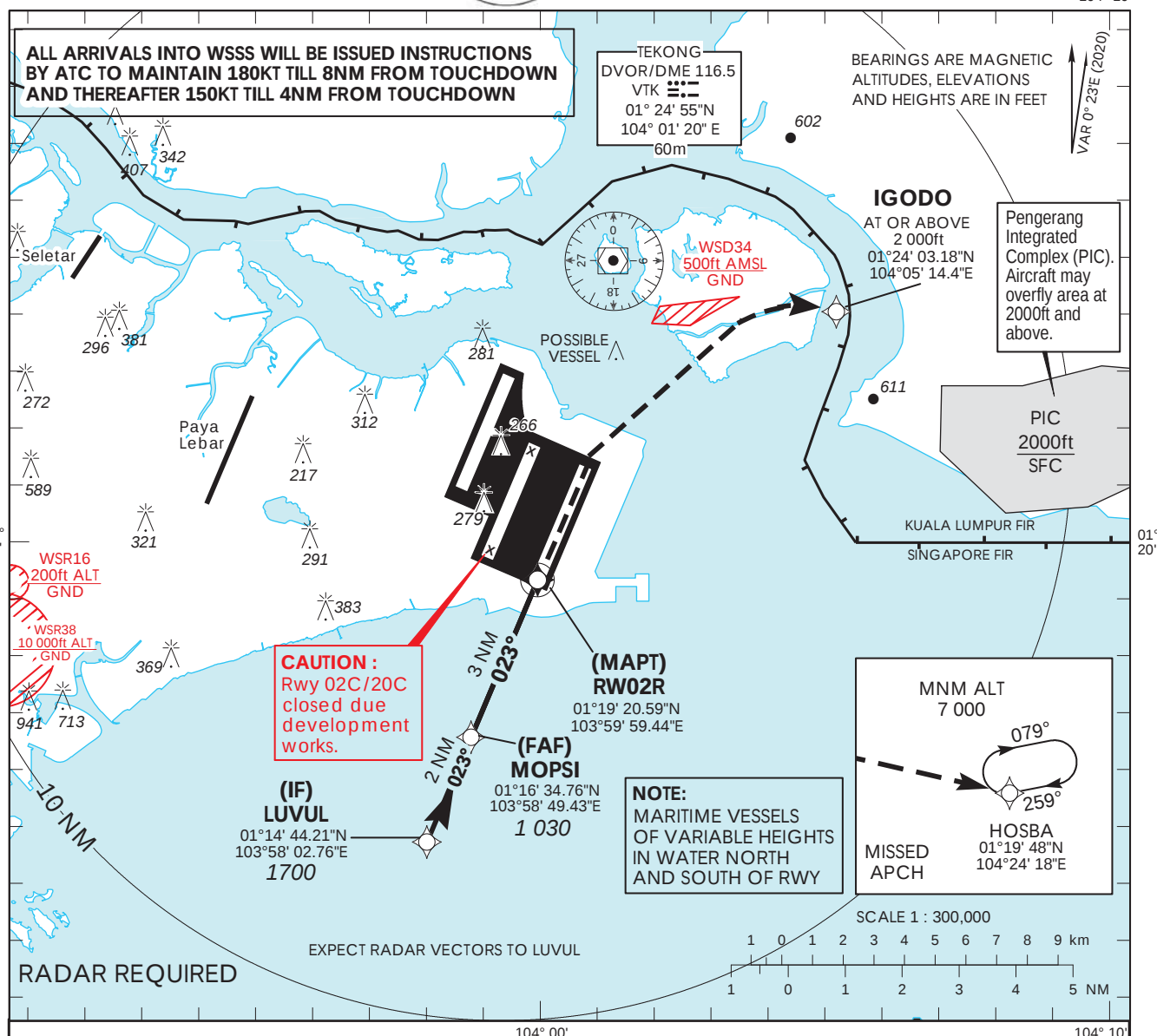


MSA 25 NM
from TEKONG DVOR

D-ATIS AP ID WSSS
128.025
APP 124.05
TWR 124.6
131.4

**SINGAPORE/
SINGAPORE CHANGI
RNP RWY 02R**

104° 10'



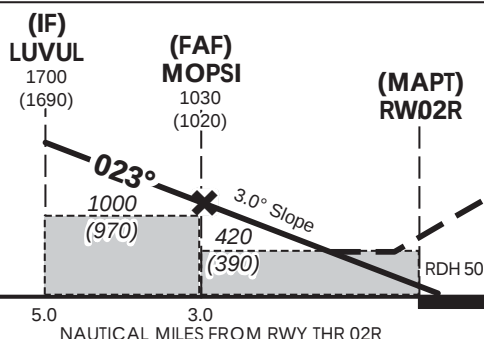
1. This procedure requires a missed approach climb gradient of 5% (304 ft/NM) until passing 2,000ft. MAX IAS 185kts during turning missed approach.
2. For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the CAT I OCA (OCH) is 820ft (800ft) and aircraft shall climb straight to 1200ft before commencing right turn climbing to 7000ft to HOSBA.

Transition Level : FL 130
Transition Alt : 11 000

MINIMUM TEMPERATURE
FOR BARO-VNAV
APPROACHES: 5°C

ELEV 16

(THR RWY 02R)



MISSED APPROACH
Climb direct to IGODO at 2 000ft or above. Thereafter, turn right climbing to 7 000ft to HOSBA. Hold at HOSBA or AS DIRECTED BY ATC.
No turn before MAPt.

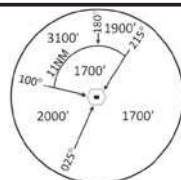
CIRCLING NOT AUTHORIZED

		OCA (OCH)			
Category of Aircraft		A	B	C	D
LNAV/VNAV	5%	330 (310)			
LNAV	5%	420 (390)			
		LUVUL		MOPSI	
Distance		1700 (1690)		1030 (1020)	
Altitude (Height)					
Speed	knots	70	120	150	185
FAF - MAPt 3.0nm	min : s *	2 : 34	1 : 30	1 : 12	0 : 58
Rate of descent/GS	ft/min	370	635	795	980

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INSTRUMENT APPROACH CHART

AERODROME ELEV 22ft
HEIGHT RELATED TO
THR RWY 20L - ELEV 16ft

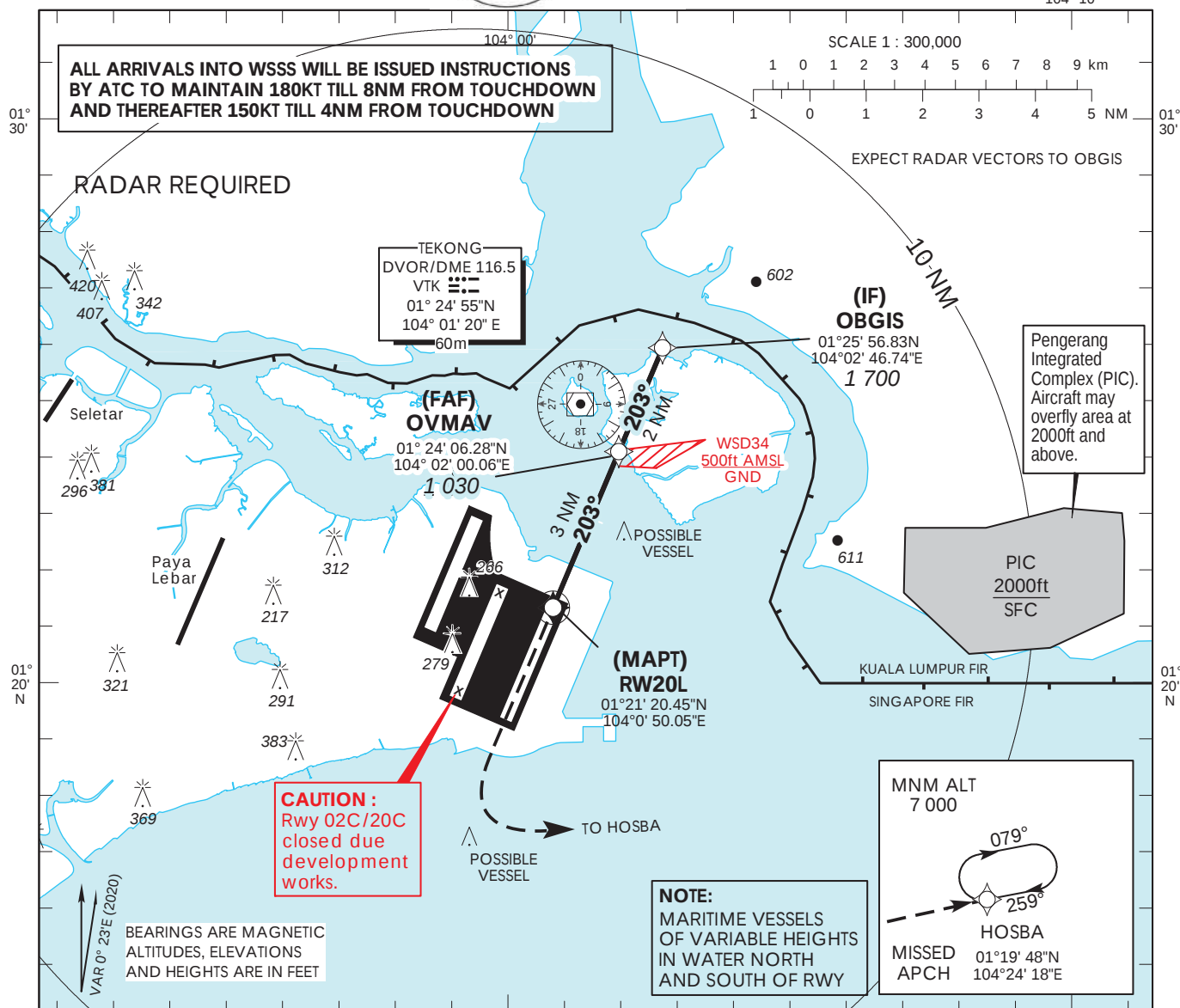


MSA 25 NM
from TEKONG DVOR

D-ATIS AP ID WSSS
128.6
APP 124.05
TWR 124.6
131.4

SINGAPORE/ SINGAPORE CHANGI RNP RWY 20L

104° 10'

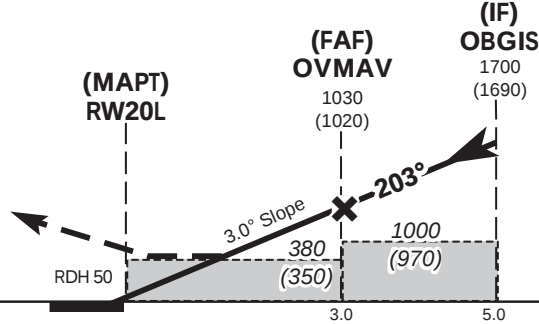


This procedure requires a missed approach climb gradient of 5% (304 ft/NM) until passing 3,000ft.
For aircraft which can only achieve a 2.5% (152 ft/NM) climb gradient, the CAT I OCA (OCH) is 1080ft (1050ft).

Transition Level : FL 130
Transition Alt : 11 000

MISSED APPROACH
Climb straight to 1 500ft, turn left climbing to 7 000ft to HOSBA.
Hold at HOSBA or AS DIRECTED BY ATC.
No turn before MAPt.

CIRCLING NOT AUTHORIZED



MINIMUM TEMPERATURE FOR BARO-VNAV APPROACHES: 5°C

ELEV 16
(THR RWY 20L)

		OCA (OCH)			
Category of Aircraft		A	B	C	D
LNAV/VNAV	5%	280 (260)			
LNAV	5%	380 (350)			
		OBGIS		OVMAV	
Distance		1700 (1690)		1030 (1020)	
Altitude (Height)					
Speed	knots	70	120	150	185
FAF - MAPt 3.0nm	min : s *	2 : 34	1 : 30	1 : 12	0 : 58
Rate of descent/GS	ft/min	370	635	795	980

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