

RJSI / HANAMAKI SID

NIIGATA SIX DEPARTURE

RWY 02: Climb RWY HDG to HPE 3.5 DME, turn right... RWY 20: Climb RWY HDG to HPE 3.5 DME, turn left...

...proceed to HPE VOR/DME, via HPE R236 to HPE 50.0DME(GTC 79.6DME),

via GTC R055 to GTC.

Cross HPE VOR/DME at or above 2200 FT, cross HPE R236/50.0DME

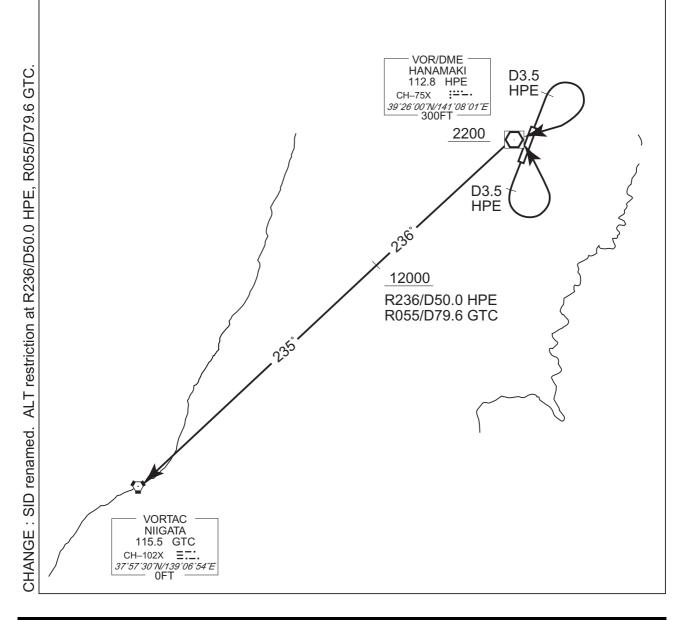
(GTC R055/79.6DME) at or above 12000 FT.

Note RWY02: 4.5% climb gradient required up to 2400FT.

OBST ALT 1641FT located at 4.1NM 091° FM end of RWY02.

RWY20: 3.9% climb gradient required up to 1100FT.

OBST ALT 722FT located at 2.8NM 166° FM end of RWY20.



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HANAMAKI REVERSAL THREE DEPARTURE

RWY 02: Climb RWY HDG to 700FT, via HPE R022 to 6.0 DME, turn right...

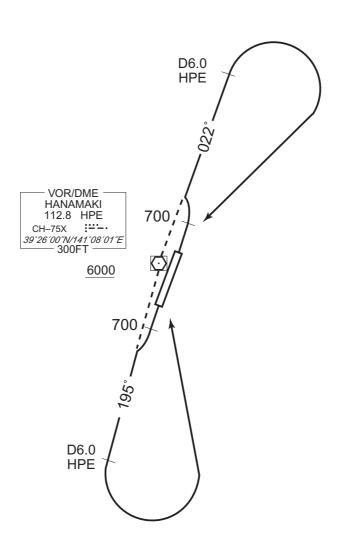
RWY 20: Climb RWY HDG to 700FT, via HPE R195 to 6.0 DME, turn left...

...direct to HPE VOR/DME.

Cross HPE VOR/DME at or above 6000FT.

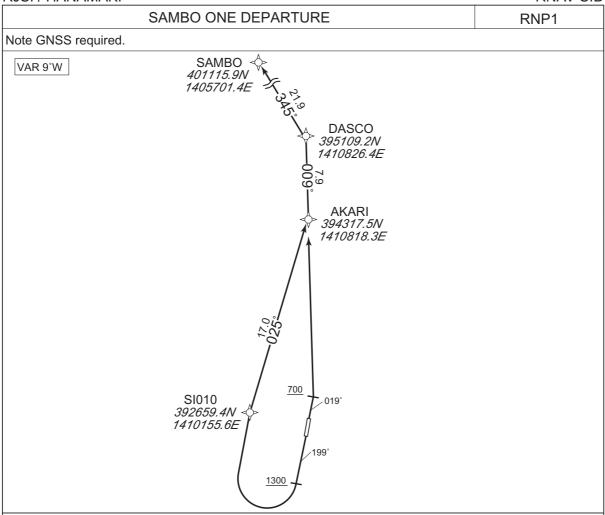
Note RWY02: 5.0% climb gradient required up to 3200FT.

OBST ALT 2691FT located at 9.1NM 058° FM end of RWY02.



CHANGE: PROC renamed. PROC course.

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RWY02 : Climb on HDG 019° at or above 700FT, direct to AKARI, to DASCO to SAMBO.

RWY20: Climb on HDG 199° at or above 1300FT, turn right direct to SI010, to AKARI, to DASCO to SAMBO.

Note RWY02: 4.0% climb gradient required up to 700FT.

OBST ALT 318FT located at 0.2NM 061° FM end of RWY02.

RWY20: 4.0% climb gradient required up to 2700FT.

OBST ALT 3117FT located at 10.7NM 351° FM end of RWY20.

RWY02

1 (7 7 1 0 2	_										
Serial	Path	Waypoint	Fly	Course	Magnetic	Distance	Turn	Altitude	Speed	Vertical	Navigation
Number	Descriptor	Identifier	Over	°M(°T)	Variation	(NM)	Direction	(FT)	(KIAS)	Angle	Specification
001	VA	_	_	019 (010.7)	-8.7	_	_	+700	_	_	RNP1
002	DF	AKARI	_	_	-8.7	_	_	_	_	_	RNP1
003	TF	DASCO	_	009 (000.8)	-8.7	7.9	_	_	_	_	RNP1
004	TF	SAMBO	_	345 (336.6)	-8.7	21.9	_	_	_	_	RNP1

RWY20

П	1111120											
	Serial	Path	Waypoint	Fly	Course	Magnetic	Distance	1 01111	Altitude	Speed	Vertical	Navigation
ı	Number	Descriptor	Identifier	Over	°M(°T)	Variation	(NM)	Direction	(FT)	(KIAS)	Angle	Specification
1	001	VA	_	_	199 (190.7)	-8.7	_	1	+1300	_	_	RNP1
	002	DF	SI010	_		-8.7	_	R	_	_	_	RNP1
	003	TF	AKARI	_	025 (016.7)	-8.7	17.0	1	_	_	_	RNP1
	004	TF	DASCO	_	009 (000.8)	-8.7	7.9	-	_	_	_	RNP1
	005	TF	SAMBO	_	345 (336.6)	-8.7	21.9	ı	-	_	_	RNP1
П												

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HANKA ONE DEPARTURE

RNP1

Note GNSS required

VAR 9'W

1600
019'
199'
800

RWY02 : Climb on HDG 019° at or above 1600FT, turn left direct to HANKA, at or above 11000FT. RWY20 : Climb on HDG 199° at or above 800FT, turn right direct to HANKA, at or above 11000FT.

Note RWY02: 5.0% climb gradient required up to 3600FT.

11000

OBST ALT 1936FT located at 5.5NM 340° FM end of RWY02. OBST ALT 3018FT located at 8.2NM 310° FM end of RWY02.

RWY20: 5.0% climb gradient required up to 5400FT.

OBST ALT 4593FT located at 18.2NM 227° FM end of RWY20. OBST ALT 5151FT located at 20.8NM 232° FM end of RWY20.

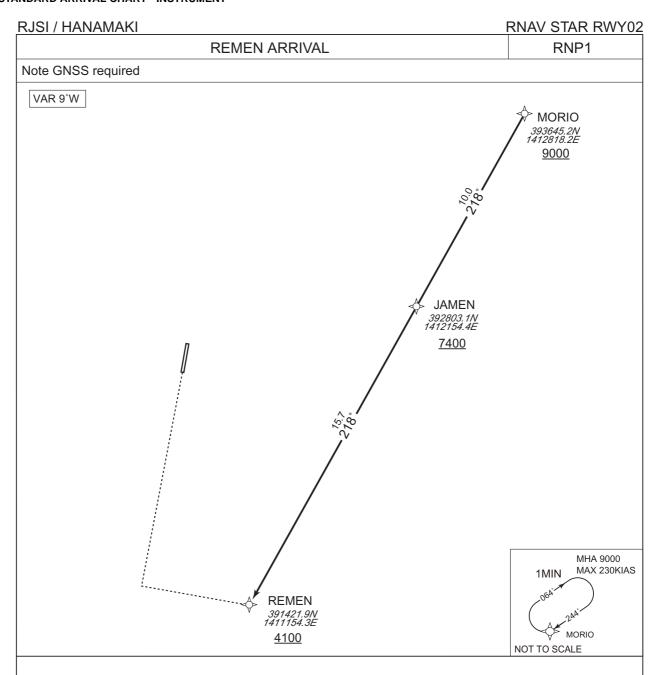
RWY02

Serial	Path	Waypoint	Fly	Course	Magnetic	Distance	Turn	Altitude	Speed	Vertical	Navigation
Number	Descriptor	Identifier	Over	°M(°T)	Variation	(NM)	Direction	(FT)	(KIAS)	Angle	Specification
001	VA	_	_	019 (010.7)	-8.7	_	_	+1600	-	_	RNP1
002	DF	HANKA	_	_	-8.7	_	L	+11000	_	_	RNP1

RWY20

Serial	Path	Waypoint	Fly	Course	Magnetic	Distance	Turn	Altitude	Speed	Vertical	Navigation
Numbe	Descriptor	Identifier	Over	°M(°T)	Variation	(NM)	Direction	(FT)	(KIAS)	Angle	Specification
001	VA	_	_	199 (190.7)	-8.7	_	_	+800	_	_	RNP1
002	DF	HANKA	_	_	-8.7	_	R	+11000	_	_	RNP1

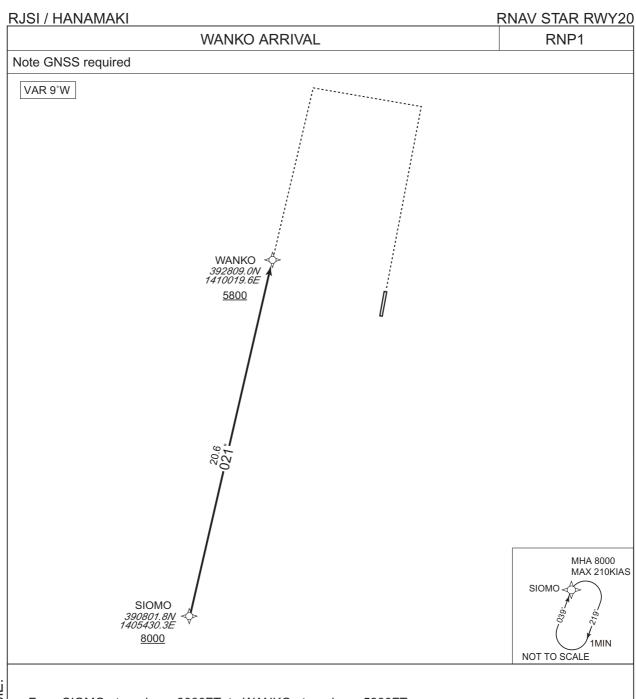




From MORIO at or above 9000FT, to JAMEN at or above 7400FT, to REMEN at or above 4100FT.

Serial	Path	Waypoint	Fly	Course	Magnetic	Distance	Turn	Altitude	Speed	Vertical	Navigation
Number	Descriptor	Identifier	Over	°M(°T)	Variation	(NM)	Direction	(FT)	(KIAS)	Angle	Specification
001	IF	MORIO	_	_	-8.8	_	-	+9000	_	_	RNP1
002	TF	JAMEN	_	218 (209.6)	-8.8	10.0	_	+7400	_	-	RNP1
003	TF	REMEN	_	218 (209.5)	-8.8	15.7	_	+4100	_	_	RNP1

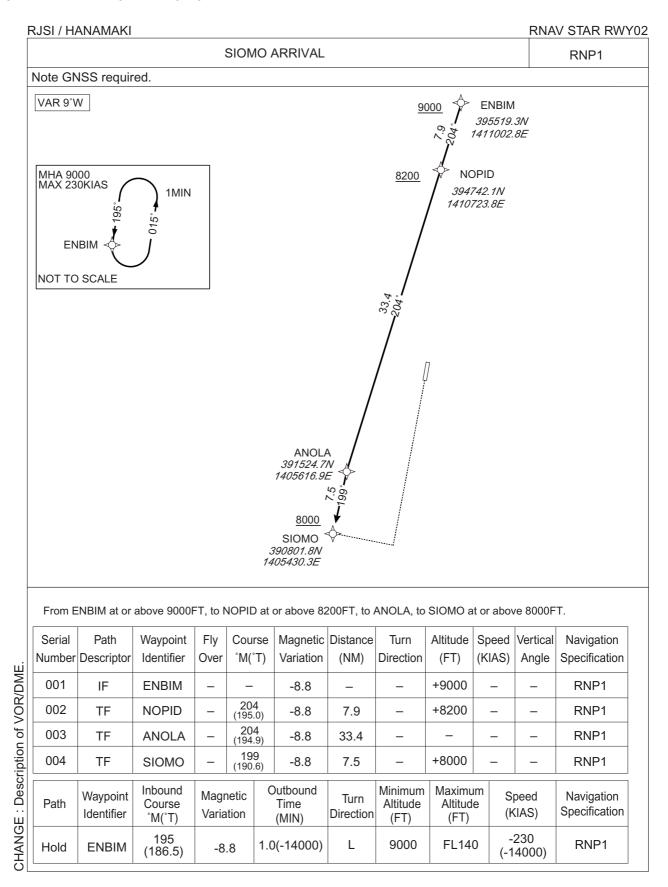
Path	Waypoint Identifier	Inbound Course °M(°T)	Magnetic Variation	Outbound Time (MIN)	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FT)	Speed (KIAS)	Navigation Specification
Hold	MORIO	244 (235.7)	-8.8	1.0(-14000)	R	9000	FL140	-230(-14000)	RNP1



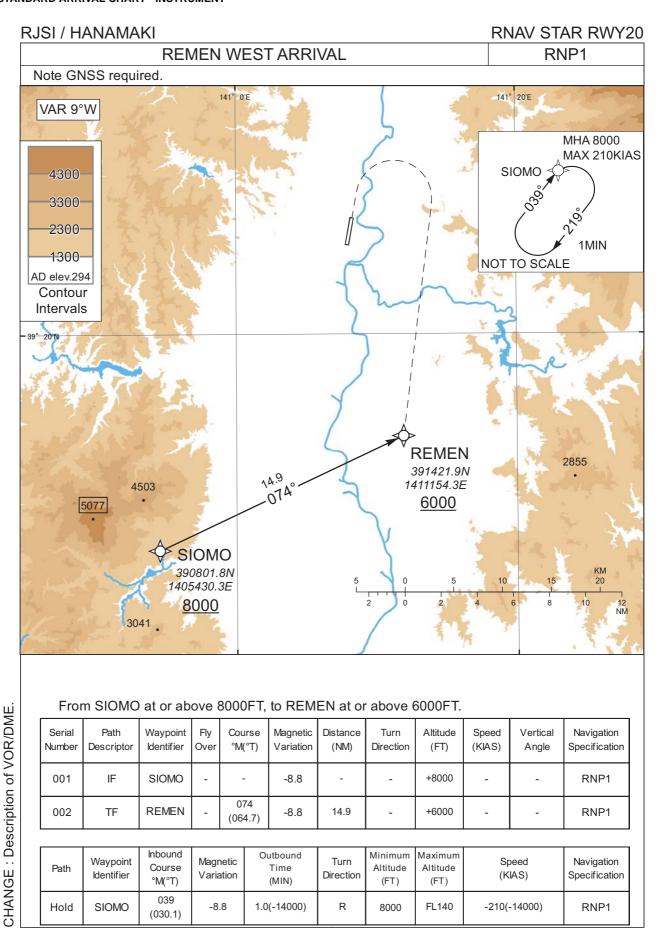
From SIOMO at or above 8000FT, to WANKO at or above 5800FT.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation		Turn Direction		· '		Navigation Specification
001	IF	SIOMO	_	_	-8.8	_	_	+8000	_	_	RNP1
002	TF	WANKO	_	021 (012.6)	-8.8	20.6	_	+5800	_	_	RNP1

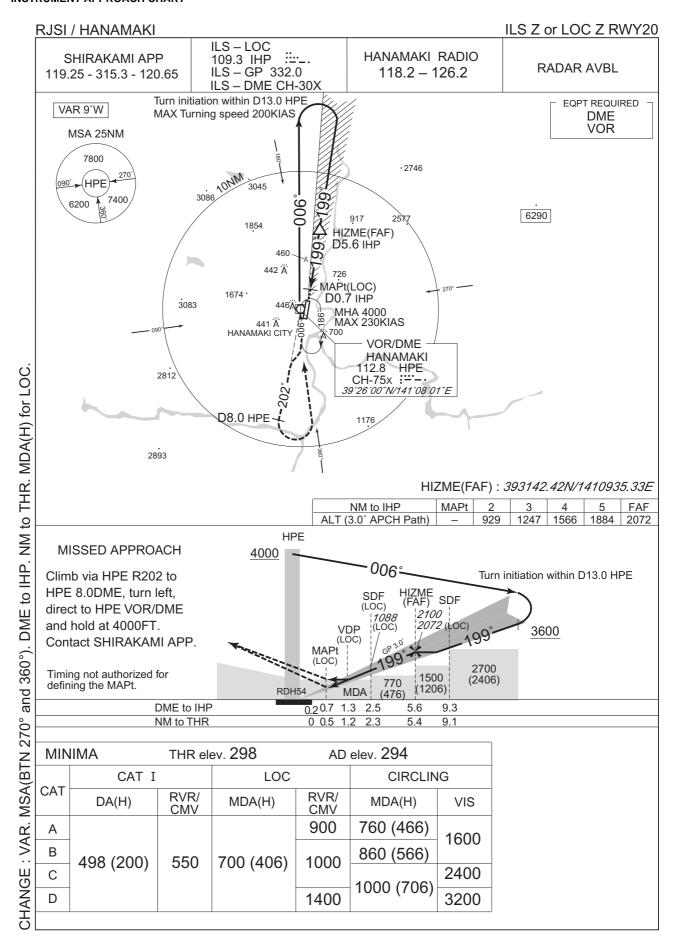
Path	Waypoint Identifier	Inbound Course °M(°T)	Magnetic Variation	Outbound Time (MIN)	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FT)	Speed (KIAS)	Navigation Specification
Hold	SIOMO	039 (030.1)	-8.8	1.0(-14000)	R	8000	FL140	-210(-14000)	RNP1

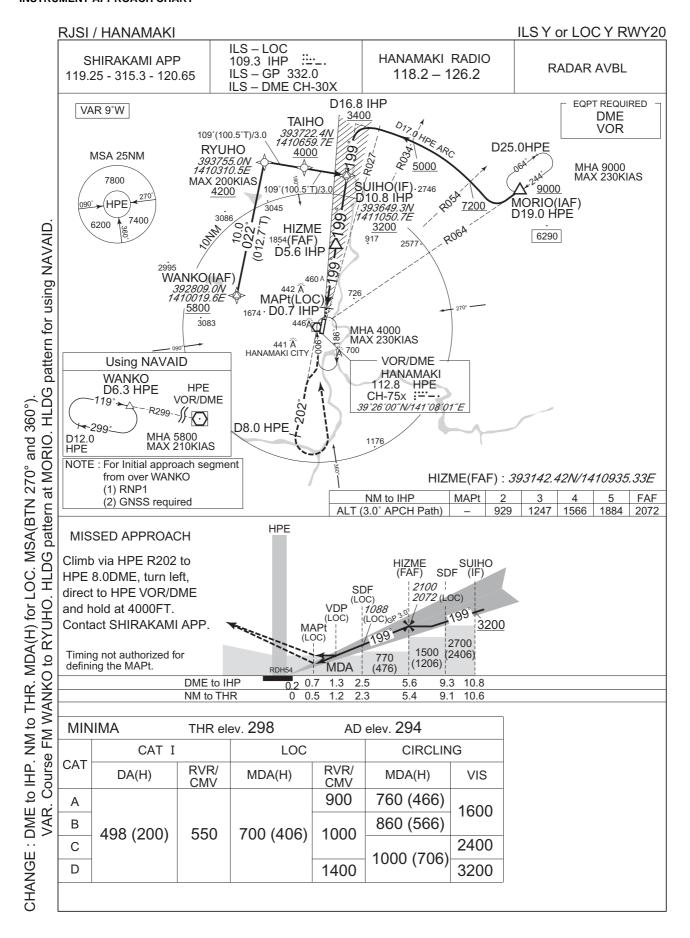


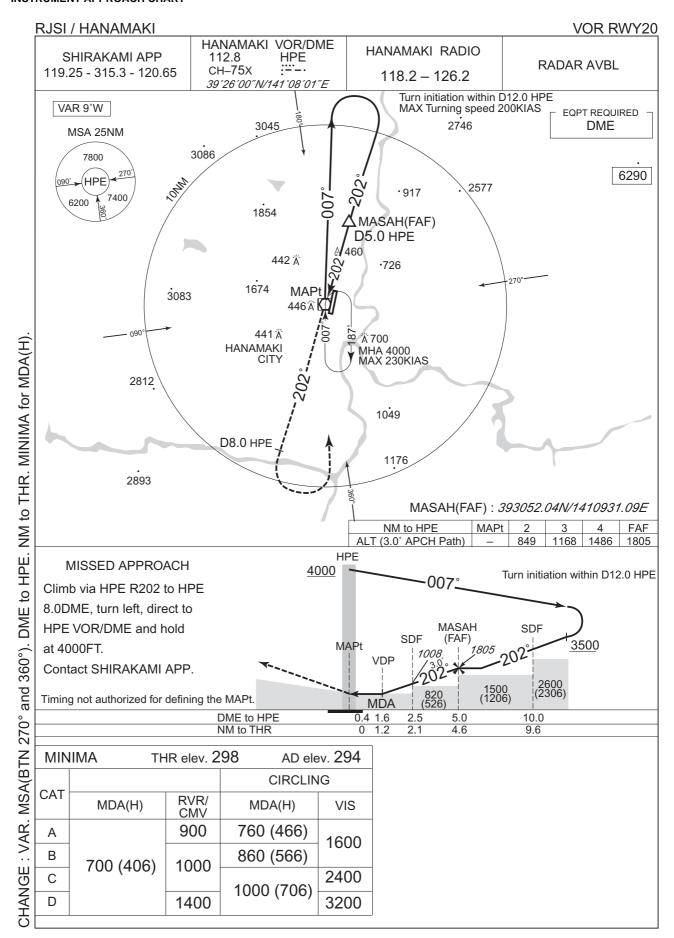
RJSI / HANAMAKI **RNAV STAR RWY20** SUIHO ARRIVAL RNP1 Note GNSS required. **ENBIM** VAR 9°W 9000 395519.3N 1411002.8E 187 **OMKOS** 4100 MHA 9000 MAX 230KIAS 394911.2N 1MIN 1411018.8E 12.4 **ENBIM** 87 NOT TO SCALE SUIHO 3200 💠 393649.3N 1411050.7E From ENBIM at or above 9000FT, to OMKOS at or above 4100FT, to SUIHO at or above 3200FT. Path Serial Waypoint Fly Course Magnetic Distance Turn Altitude Speed Vertical Navigation CHANGE: Description of VOR/DME. Angle Number Descriptor Identifier Over °M(°T) Variation (NM) Direction (FT) (KIAS) Specification 001 +9000 IF **ENBIM** -8.8 RNP1 187 (178.1) 002 +4100 TF **OMKOS** -8.8 RNP1 6.1 187 (178.1) 003 +3200 TF SUIHO -8.8 12.4 RNP1 Outbound Inbound Minimum Maximum Navigation Waypoint Magnetic Speed Turn Path Altitude Altitude Course Time Specification (KIAS) Identifier Direction Variation °M(°T) (FT) (FT) (MIN) 195 -230 9000 FL140 RNP1 1.0(-14000) L Hold **ENBIM** -8.8 (186.5)(-14000)

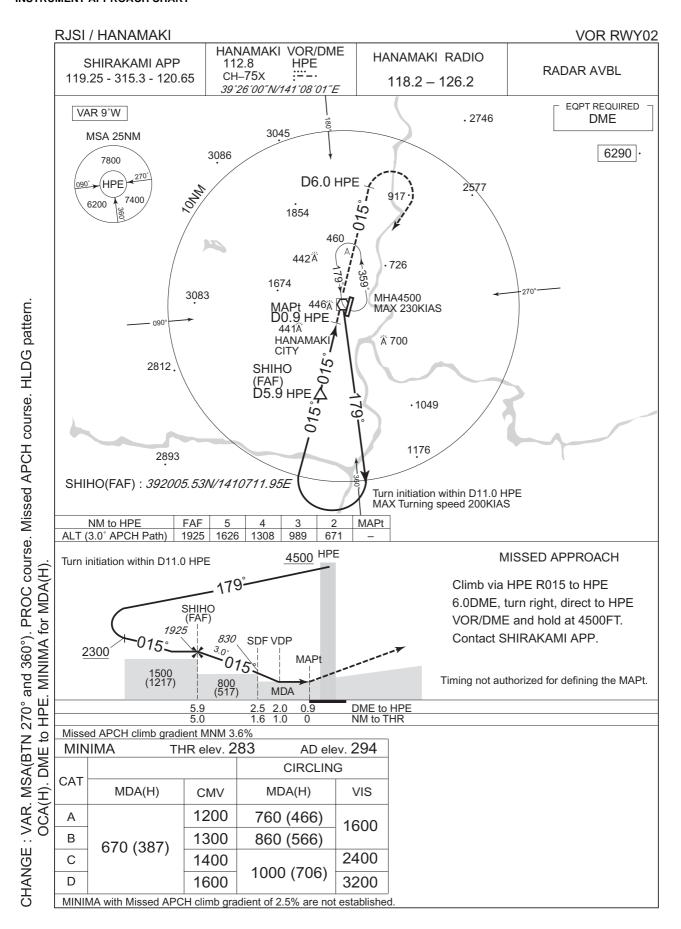


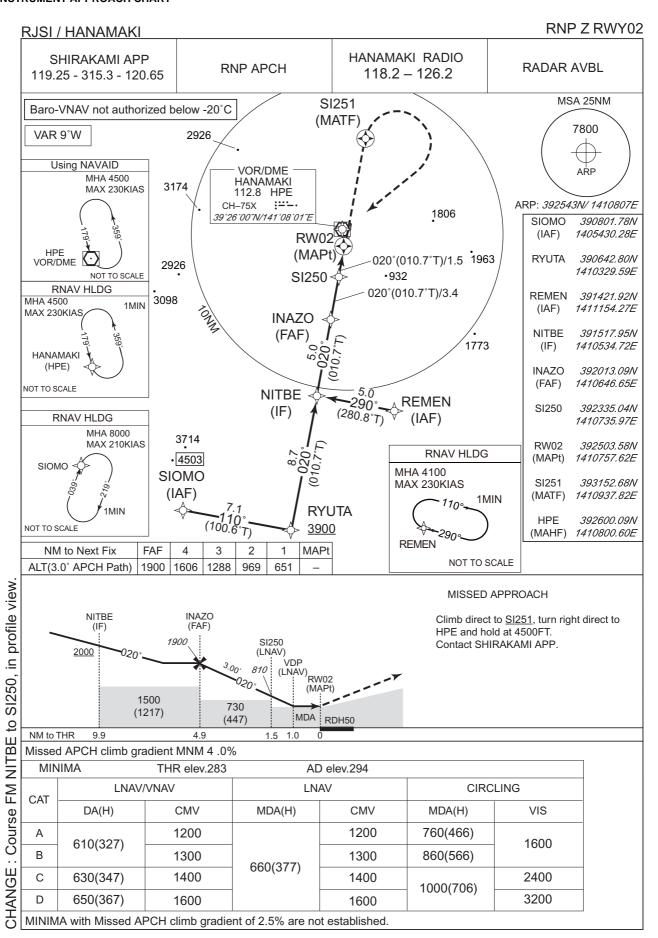


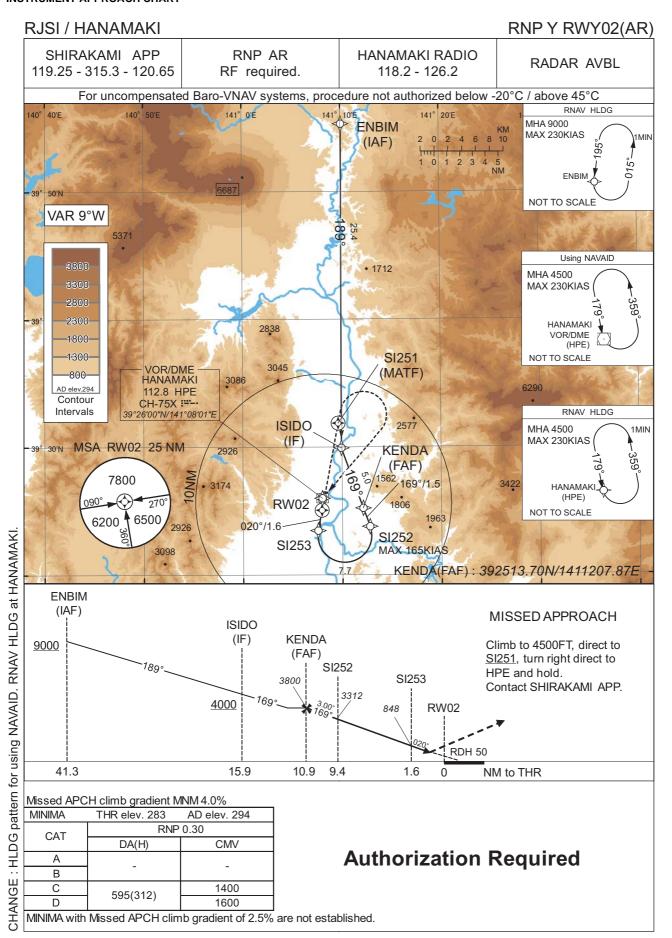












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RNP Y RWY02(AR)

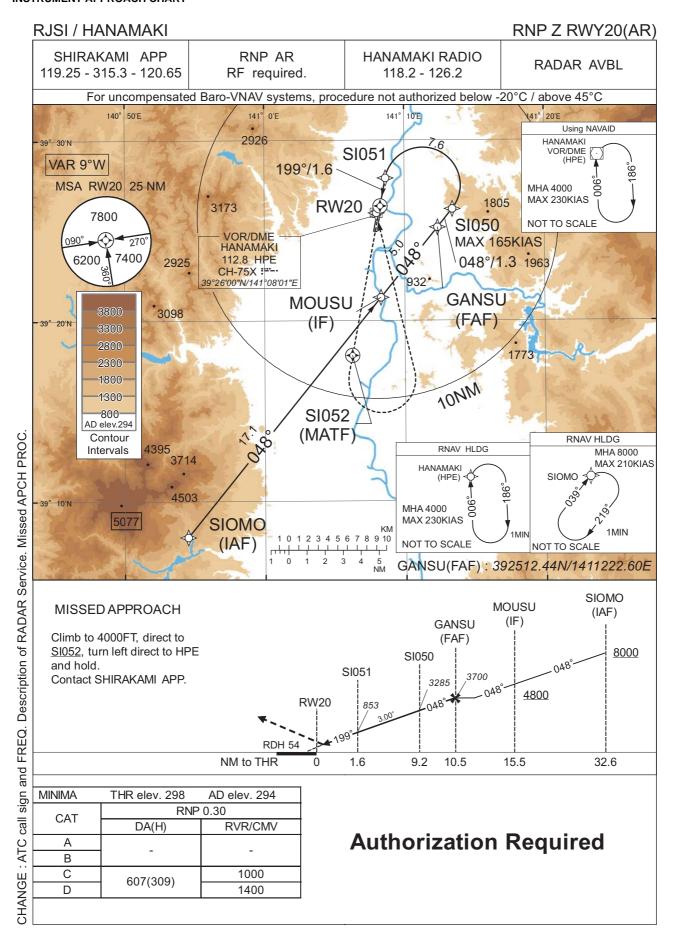
Coding Table

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	VPA/ RDH (°/FT)	RNP Value
001	IF	ENBIM	1	-	-8.8	1	-	+9000	-	-	-
002	TF	ISIDO	1	189 (180.2)	-8.8	25.4	-	+4000	-	-	1.0
003	TF	KENDA	1	169 (160.3)	-8.8	5.0	-	3800	-	-	1.0
004	TF	SI252	1	169 (160.4)	-8.8	1.5	-	3312	-165	-3.00	0.3
005	RF Center: SIRF1 r=2.10NM	SI253	1	-	-8.8	7.7	R	848	1	-3.00	0.3
006	TF	RW02	Υ	020 (010.7)	-8.8	1.6	1	333	1	-3.00/50	0.3
007	DF	SI251	Υ	ı	-8.8	-	1	-	-	ı	1.0
800	DF	HPE	1	-	-8.8	-	R	4500	-	-	1.0

Path	Waypoint Identifier	Inbound Course °M(°T)	Magnetic Variation	Outbound Time (MIN)	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FT)	Speed (KIAS)	RNP Value
Hold	ENBIM	195 (186.5)	-8.8	1.0 (-14000)	L	9000	FL140	-230 (-14000)	1.0
Hold	HPE	179 (169.7)	-8.9	1.0 (-14000)	L	4500	FL140	-230 (-14000)	1.0

Waypoint Coordinates

Waypoint Identifier	Coordinates	RF Arc Center Identifier	Coordinates
ENBIM	395519.34N / 1411002.82E	SIRF1	392304.37N / 1411014.42E
ISIDO	392956.45N / 1410957.05E		
KENDA	392513.70N / 1411207.87E		
SI252	392347.07N / 1411247.89E		
SI253	392327.97N / 1410734.24E		
RW02	392503.58N / 1410757.62E		
SI251	393152.68N / 1410937.82E		
HPE	392600.09N / 1410800.60E		
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RNP Z RWY20(AR)

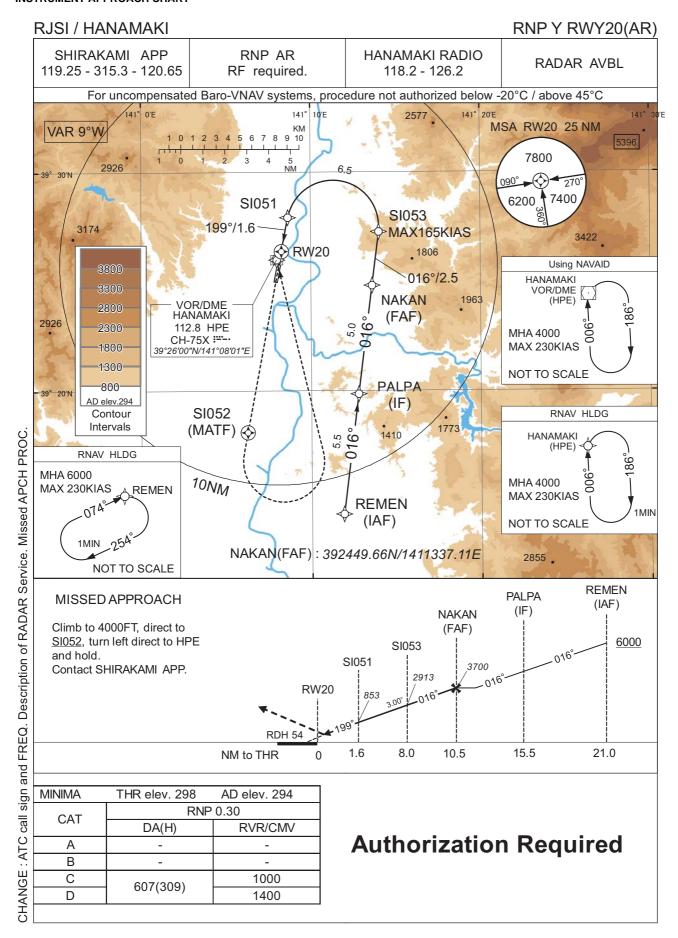
Coding Table

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	VPA/ RDH (°/FT)	RNP Value
001	IF	SIOMO	1	-	-8.8	-	-	+8000	-	-	-
002	TF	MOUSU	-	048 (038.8)	-8.8	17.1	-	+4800	1	-	1.0
003	TF	GANSU	1	048 (038.9)	-8.8	5.0	ı	3700	ı	-	1.0
004	TF	SI050	1	048 (038.9)	-8.8	1.3	-	3285	-165	-3.00	0.3
005	RF Center: SIRF2 r=2.10NM	SI051	-	-	-8.8	7.6	L	853	ı	-3.00	0.3
006	TF	RW20	Υ	199 (190.7)	-8.8	1.6	ı	352	-	-3.00/54	0.3
007	DF	SI052	Υ	-	-8.8	-	ı	1	-	-	1.0
008	DF	HPE	1	-	-8.8	-	L	4000	-	-	1.0

Path	Waypoint Identifier	Inbound Course °M(°T)	Magnetic Variation	Time	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FT)	Speed (KIAS)	RNP Value
Hold	SIOMO	039 (030.1)	-8.8	1.0 (-14000)	R	8000	FL140	-210 (-14000)	1.0
Hold	HPE	006 (357.5)	-8.8	1.0 (-14000)	R	4000	FL140	-230 (-14000)	1.0

Waypoint Coordinates

	Waypoint Identifier	Coordinates	RF Arc Center Identifier	Coordinates
	SIOMO	390801.78N / 1405430.28E	SIRF2	392732.73N / 1411119.82E
	MOUSU	392119.11N / 1410818.81E		
5	GANSU	392512.44N / 1411222.60E		
5	SI050	392613.23N / 1411326.21E		
5	SI051	392756.30N / 1410839.89E		
	RW20	392623.24N / 1410817.11E		
	SI052	391806.42N / 1410615.76E		
1	HPE	392600.09N / 1410800.60E		
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RNP Y RWY20(AR)

Coding Table

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	VPA/ RDH (°/FT)	RNP Value
001	IF	REMEN	1	-	-8.8	-	1	+6000	1	-	-
002	TF	PALPA	-	016 (007.2)	-8.8	5.5	-	ı	1	-	1.0
003	TF	NAKAN	1	016 (007.2)	-8.8	5.0	ı	3700	ı	ı	1.0
004	TF	SI053	1	016 (007.2)	-8.8	2.5	1	2913	-165	-3.00	0.3
005	RF Center: SIRF2 r=2.10NM	SI051	1	-	-8.8	6.5	L	853	-	-3.00	0.3
006	TF	RW20	Υ	199 (190.7)	-8.8	1.6	-	352	-	-3.00/54	0.3
007	DF	SI052	Υ	1	-8.8	ı		1		ı	1.0
800	DF	HPE	-	-	-8.8	-	L	4000	-	-	1.0

Path	Waypoint Identifier	Inbound Course °M(°T)	Magnetic Variation	lime	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FT)	Speed (KIAS)	RNP Value
Hold	REMEN	074 (065.0)	-8.8	1.0 (-14000)	R	6000	FL140	-230 (-14000)	1.0
Hold	HPE	006 (357.5)	-8.8	1.0 (-14000)	R	4000	FL140	-230 (-14000)	1.0

Waypoint Coordinates

	Waypoint Identifier	Coordinates	RF Arc Center Identifier	Coordinates
	REMEN	391421.92N / 1411154.27E	SIRF2	392732.73N / 1411119.82E
	PALPA	391951.68N / 1411248.23E		
	NAKAN	392449.66N / 1411337.11E		
	SI053	392716.81N / 1411401.29E		
	SI051	392756.30N / 1410839.89E		
	RW20	392623.24N / 1410817.11E		
	SI052	391806.42N / 1410615.76E		
	HPE	392600.09N / 1410800.60E		
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※図中に標高を示す数字がある場合、単位はメートル(m)である。The unit of measurement used to express elevation is meter(m).

Call sign	BRG / DIST from ARP	Remarks
盛岡 Morioka	360°T / 16.4NM	JR駅 JR Station
城山 Shiroyama	012°T / 8.4NM	城跡 The site of a castle
豊沢 Toyosawa	293°T / 8.1NM	豊沢ダム Dam
田瀬湖 Taseko	121°T / 10.0NM	田瀬ダム Dam
北上 Kitakami	184°T / 8.9NM	JR駅 JR Station
水沢 Mizusawa	178°T / 17.4NM	JR駅 JR Station



