



# **AERODROME OBSTACLE CHART-ICAO**

TYPE A (OPERATING LIMITATIONS)



# AERODROME OBSTACLE CHART-ICAO TYPE B (OPERATING LIMITATIONS)



# PRECISION APPROACH TERRAIN CHART-ICAO

PRICISION APPROACH TERRAIN CHART



RJOA / HIROSHIMA SID

### HONGO REVERSAL FOUR DEPARTURE

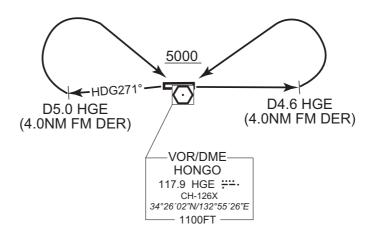
RWY 10: Climb RWY HDG to HGE 4.6DME(4.0NM FM DER), turn left...., RWY 28: Climb on HDG 271° to HGE 5.0DME(4.0NM FM DER), turn right...., ....direct to HGE VOR/DME. Cross HGE VOR/DME at or above 5000FT.

Note: RWY10: 3.8% climb gradient required up to 2300FT.

OBST ALT 2002FT located at 088°/5.7NM FM DER.

RWY28: 3.8% climb gradient required up to 1600FT.

OBST ALT 2559FT located at 338°/7.7NM FM DER.



RJOA / HIROSHIMA **RNAV SID** Basic RNP1 MARCO TWO DEPARTURE Note GNSS required. VAR 8°W (2022) OA811 OA021 342540.3N 1324923.3E <u>16</u>00 1500 342609.6N 1325900.8E HDG278° HDG098 BU VOR/DME HONGO TACAN 117.9 HGE CH–126X **∺ ∵** · KUGA 1177 IWT CH-90X <u>:-</u>-<u>11000</u> 34°26′02″N/132°55′26″E 34°04′48″N/132°08′51″E 2100FT, 1100FT LEMON 341328.9N 1322748.9E MARCO 340446.0N 1320850.2E  $\approx$ 

RWY10 : Climb on HDG098° at or above 1500FT, direct to OA021, turn right direct to LEMON at or above 11000FT, to MARCO.

RWY28 : Climb on HDG278° at or above 1600FT, direct to <u>OA811</u>, turn left direct to LEMON at or above 11000FT, to MARCO.

NOTE RWY10: 5.0% climb gradient required up to 1500FT. RWY28: 3.6% climb gradient required up to 1600FT.

#### RWY10

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	_	_	098 (090.0)	-8.1	_	_	+1500	_	_	Basic RNP1
002	DF	OA021	Υ	_	-8.1	_	_	_	_	_	Basic RNP1
003	DF	LEMON	_	_	-8.1	_	R	+11000	_	_	Basic RNP1
004	TF	MARCO	_	249 (241.1)	-8.1	18.0	_	_	_	_	Basic RNP1

#### RWY28

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	_	_	278 (270.0)	-8.1	_	_	+1600	_	_	Basic RNP1
002	DF	OA811	Υ	_	-8.1	_	_	_	1	_	Basic RNP1
003	DF	LEMON	_	_	-8.1	_	L	+11000	_	_	Basic RNP1
004	TF	MARCO	_	249 (241.1)	-8.1	18.0	_	_	_	_	Basic RNP1

# RJOA / HIROSHIMA RNAV SID and TRANSITION KIJYY THREE DEPARTURE Basic RNP1 Note GNSS required. VAR 8°W (2022) **TOZAN TRANSITION** MIYAZU (YME) 352850.5N CHANGE: PROC renamed(KIJYY THREE DEPARTURE). VAR. Navigation specification. Sensor for RNAV 1350813.3E TOZAN 351615.4N 1342904.2E VOR/DME KIJYY KIJYY THREE DEPARTURE MIYAZU 350901.8N 112.6 YME 1340554.9E CH-73X =:-35°28′50″N/135°08′13″E 2400FT TOJYO 12000 345255.5N 1331648.6E 1600 1500 ŶOA021 OA811 342609.6N 342540.3N 1325900.8E 1324923.3E HDG278 HDG098° VOR/DME HONGO 117.9 HGE CH-126X :: ---34°26′02″N/132°55′26″E 1100FT KIJYY THREE DEPARTURE RWY10: Climb on HDG098° at or above 1500FT, direct to OA021, turn left direct to TOJYO at or above RWY28: Climb on HDG278° at or above 1600FT, direct to OA811, turn right direct to TOJYO at or above 12000FT, to KIJYY. NOTE RWY10: 5.0% climb gradient required up to 1600FT. OBST ALT 2090FT located at 5.74NM 087° FM end of RWY10. RWY28: 3.6% climb gradient required up to 2700FT. OBST ALT 2570FT located at 7.71NM 337° FM end of RWY28. **TOZAN TRANSITION** From KIJYY, to TOZAN, to YME.

# RJOA / HIROSHIMA

# **RNAV SID and TRANSITION**

# KIJYY THREE DEPARTURE

### RWY10

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	_	_	098 (090.0)	-8.1	_	_	+1500	_	_	Basic RNP1
002	DF	OA021	Υ	_	-8.1	_	_	_	-	_	Basic RNP1
003	DF	TOJYO	_	_	-8.1	_	L	+12000	_	_	Basic RNP1
004	TF	KIJYY	_	076 (067.9)	-8.1	43.4	_	_	_	_	Basic RNP1

#### RWY28

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	_	_	278 (270.0)	-8.1	_	_	+1600	_	_	Basic RNP1
002	DF	OA811	Υ	_	-8.1	_	_	_	_	_	Basic RNP1
003	DF	TOJYO	_	_	-8.1	_	R	+12000	_	_	Basic RNP1
004	TF	KIJYY	_	076 (067.9)	-8.1	43.4	_	_	_	_	Basic RNP1

# **TOZAN TRANSITION**

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation		Turn Direction	Altitude (FT)			Navigation Specification
001	IF	KIJYY	_	_	-8.1	_	_	_	_	_	Basic RNP1
002	TF	TOZAN	_	077 (069.0)	-8.1	20.3	_	_	_	_	Basic RNP1
003	TF	YME	_	076 (068.3)	-8.1	34.3	_	_	_	_	Basic RNP1

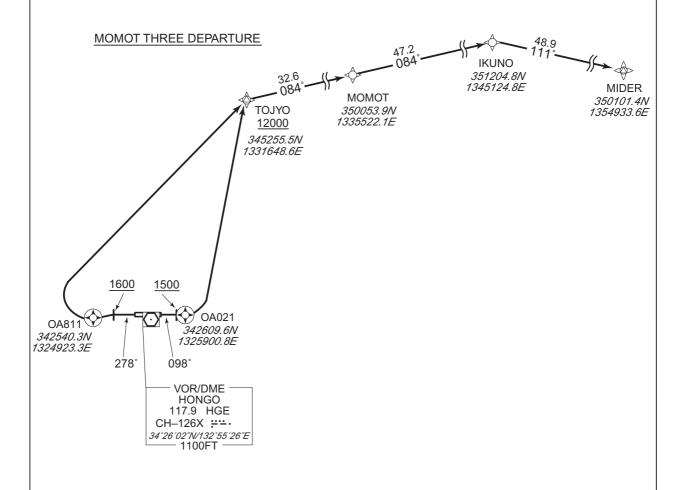
### RJOA / HIROSHIMA

### RNAV SID and TRANSITION

MOMOT THREE	DEPARTURE		RNAV1
Note 1 ) DME/DME/IRU or GNSS required.  **The aircraft equipped with only DME/DME/IRU	Critical DME	HGE: OA021 ~ 27N TZT: OA021 ~ 24NM OKT: 25NM to IKUNO	to TOJYO
must be able to update its position without delay at the starting point of take-off roll.  2) RADAR service required.	DMECAD	RWY10 : DER – OA021 RWY28 : DER – 2NM to	
2) IVADAIX Service required.	Inappropriate Navaids	See AD1.1.6.10.3. Inapp	propriate NAVAIDs for RNAV1

#### VAR 8°W (2020)

#### **IKUNO TRANSITION**



#### MOMOT THREE DEPARTURE

RWY10 : Climb on HDG098° at or above 1500FT, direct to <u>OA021</u>, turn left direct to TOJYO at or above 12000FT, to MOMOT.

RWY28: Climb on HDG278° at or above 1600FT, direct to OA811, turn right direct to TOJYO at or above 12000FT, to MOMOT.

NOTE RWY10: 5.0% climb gradient required up to 1600FT.

OBST ALT 2090FT located at 5.74NM 087° FM end of RWY10.

RWY28: 3.6% climb gradient required up to 2700FT.

OBST ALT 2570FT located at 7.71NM 337° FM end of RWY28.

#### **IKUNO TRANSITION**

From MOMOT, to IKUNO, to MIDER.

# RJOA / HIROSHIMA

# RNAV SID and TRANSITION

# MOMOT THREE DEPARTURE

### RWY10

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	_	_	098 (090.0)	-7.9	_	_	+1500	_	_	RNAV1
002	DF	OA021	Υ	_	-7.9	_	_	_	_	_	RNAV1
003	DF	TOJYO	_	_	-7.9	_	L	+12000	_	_	RNAV1
004	TF	момот	_	084 (075.7)	-7.9	32.6	_	_	_	_	RNAV1

### RWY28

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	_	_	278 (270.0)	-7.9	_	_	+1600	_	_	RNAV1
002	DF	OA811	Υ	_	-7.9	_	_	_	_	_	RNAV1
003	DF	TOJYO	_	_	-7.9	_	R	+12000	_	_	RNAV1
004	TF	MOMOT	_	084 (075.7)	-7.9	32.6	_	_	_	_	RNAV1

# **IKUNO TRANSITION**

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over		Magnetic Variation		Turn Direction			Vertical Angle	Navigation Specification
001	IF	МОМОТ	_	_	-7.9	_	_	_	_	_	RNAV1
002	TF	IKUNO	_	084 (076.0)	-7.9	47.2	_	_	_	_	RNAV1
003	TF	MIDER	_	111 (102.8)	-7.9	48.9	_	_	_	_	RNAV1

# RNAV SID and TRANSITION RJOA / HIROSHIMA SINFO THREE DEPARTURE Basic RNP1 Note GNSS required. VAR 8°W (2022) CHANGE: PROC renamed(SINFO THREE DEPARTURE). VAR. Course(FM AKANA TO STAGE). Navigation specification. Sensor for RNAV. **STAGE** 353451.7N 1324135.7E 23.2 359 STAGE TRANSITION SINFO 351200.6N 1324613.4E **AKANA** 11000 345748.5N 1324904.8E SINFO THREE DEPARTURE <u>16</u>00 1500 OA021 OA811 342609.6N VOR/DME 342540.3N **HONGO** 1325900.8E 1324923.3E 117.9 HGE HDG098° CH-126X ::--HDG278° 34°26′02″N/132°55′26″E 1100FT SINFO THREE DEPARTURE RWY10: Climb on HDG098° at or above 1500FT, direct to OA021, turn left direct to AKANA at or above 11000FT, to SINFO. RWY28: Climb on HDG278° at or above 1600FT, direct to OA811, turn right direct to AKANA at or above 11000FT, to SINFO. NOTE RWY10: 5.0% climb gradient required up to 1800FT. OBST ALT 1780FT located at 2.30NM 006° FM end of RWY10. RWY28: 3.8% climb gradient required up to 3700FT. OBST ALT 3150FT located at 11.02NM 322° FM end of RWY28. STAGE TRANSITION From SINFO, to STAGE.

# RJOA / HIROSHIMA

# **RNAV SID and TRANSITION**

# SINFO THREE DEPARTURE

### RWY10

Serial	Path	Waypoint	Fly	Course	Magnetic	Distance	Turn	Altitude	Speed	Vertical	
Number	Descriptor	Identifier	Over	°M(°T)	Variation	(NM)	Direction	(FT)	(KIAS)	Angle	Specification
001	VA	_	_	098 (090.0)	-8.1	_	_	+1500	_	_	Basic RNP1
002	DF	OA021	Υ	_	-8.1	_	_	_	_	_	Basic RNP1
003	DF	AKANA	_	_	-8.1	_	L	+11000	_	_	Basic RNP1
004	TF	SINFO	1	359 (350.7)	-8.1	14.4	ı	ı	1	_	Basic RNP1

### RWY28

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	VA	_	_	278 (270.0)	-8.1	_	_	+1600	_	_	Basic RNP1
002	DF	OA811	Υ	<u>(270.0)</u> –	-8.1	_	_	_	_	_	Basic RNP1
003	DF	AKANA	_	_	-8.1	_	R	+11000	_	_	Basic RNP1
004	TF	SINFO	_	359 (350.7)	-8.1	14.4	_	_	_	_	Basic RNP1

# STAGE TRANSITION

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	SINFO	_	_	-8.1	_	_	_	_	_	Basic RNP1
002	TF	STAGE	_	359 (350.6)	-8.1	23.2	ı	-	_	_	Basic RNP1

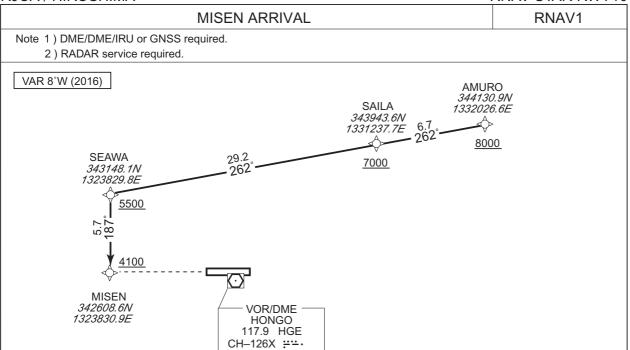
#### STANDARD ARRIVAL CHART -INSTRUMENT



#### STANDARD ARRIVAL CHART -INSTRUMENT

#### **RJOA / HIROSHIMA**

**RNAV STAR RWY10** 



From AMURO at or above 8000FT, to SAILA at or above 7000FT, to SEAWA at or above 5500FT, to MISEN at or above 4100FT.

34°26′02″N/132°55′26″E 1100FT

Critical DME	_
DME GAP	-
Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation		Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	AMURO	_	_	-7.6	_	_	+8000	_	_	RNAV1
002	TF	SAILA	_	262 (254.5)	-7.6	6.7	_	+7000	_	_	RNAV1
003	TF	SEAWA	_	262 (254.4)	-7.6	29.2	_	+5500	_	_	RNAV1
004	TF	MISEN	_	187 (179.8)	-7.6	5.7	_	+4100	_	_	RNAV1

#### STANDARD ARRIVAL CHART-INSTRUMENT

# RJOA / HIROSHIMA RNAV STAR RWY10

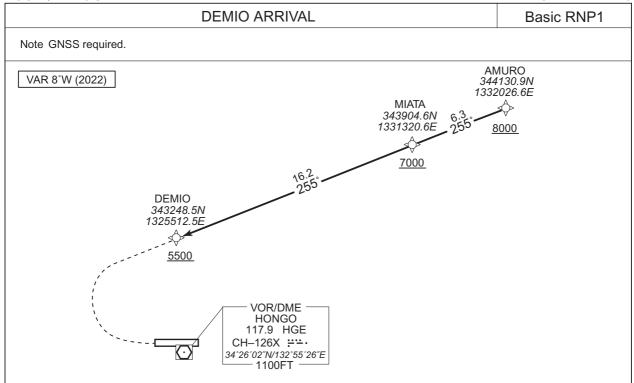


From AMURO at or above 8000FT, to CAROL between 8000FT and 6000FT, to TIIDA at or above 4000FT, to VISTA, to ATENZ, to AXELA at or above 3300FT.

Serial	Path	Waypoint	Fly	Course	Magnetic			Altitude	Speed	Vertical	Navigation
Number	Descriptor	Identifier	Over	°M(°T)	Variation	(NM)	Direction	(FT)	(KIAS)	Angle	Specification
001	IF	AMURO	_	-	-8.1	_	_	+8000	_	_	Basic RNP1
002	TF	CAROL	_	221 (213.0)	-8.1	6.7	_	-8000 +6000	_	_	Basic RNP1
003	TF	TIIDA	_	221 (213.0)	-8.1	5.9	_	+4000	_	_	Basic RNP1
004	TF	VISTA	_	221 (212.9)	-8.1	5.7	_	_	_	_	Basic RNP1
005	TF	ATENZ	_	221 (212.9)	-8.1	6.6	_	_	_	_	Basic RNP1
006	TF	AXELA	_	278 (270.1)	-8.1	6.9	_	+3300	_	_	Basic RNP1

#### STANDARD ARRIVAL CHART-INSTRUMENT

RJOA / HIROSHIMA RNAV STAR RWY10

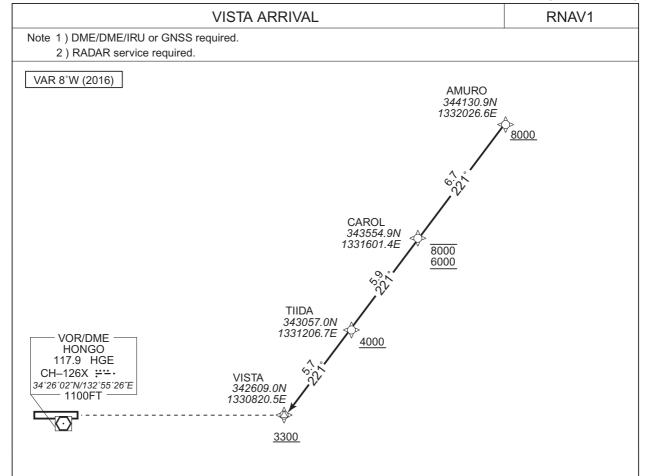


From AMURO at or above 8000FT, to MIATA at or above 7000FT, to DEMIO at or above 5500FT.

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	AMURO	_	_	-8.1	_	_	+8000	_	_	Basic RNP1
002	TF	MIATA	_	255 (247.4)	-8.1	6.3	_	+7000	_	_	Basic RNP1
003	TF	DEMIO	_	255 (247.3)	-8.1	16.2	_	+5500	1	_	Basic RNP1

#### STANDARD ARRIVAL CHART -INSTRUMENT

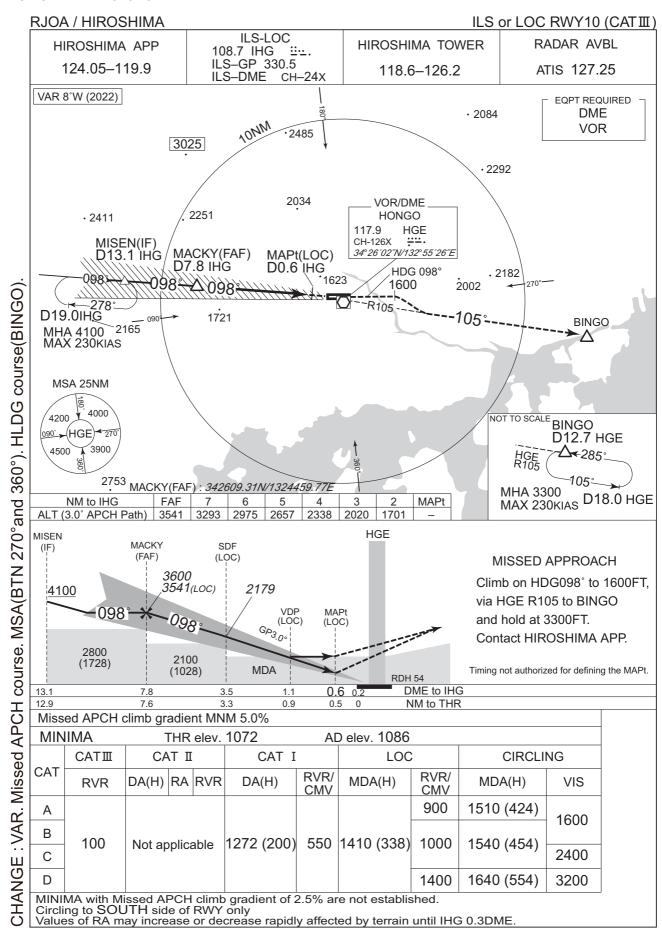
### RJOA / HIROSHIMA RNAV STAR RWY28

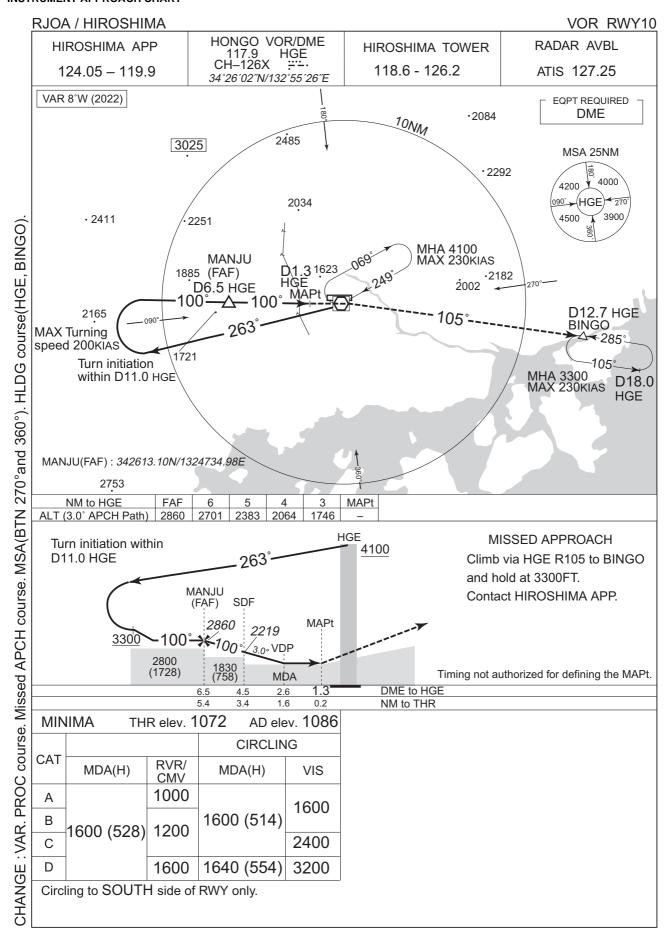


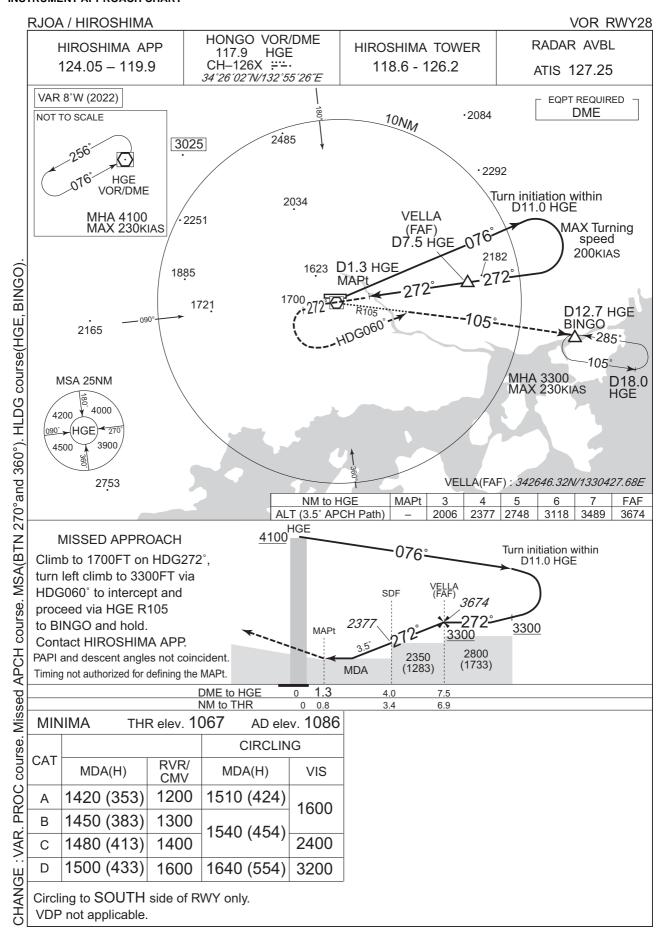
From AMURO at or above 8000FT, to CAROL between 8000FT and 6000FT, to TIIDA at or above 4000FT, to VISTA at or above 3300FT.

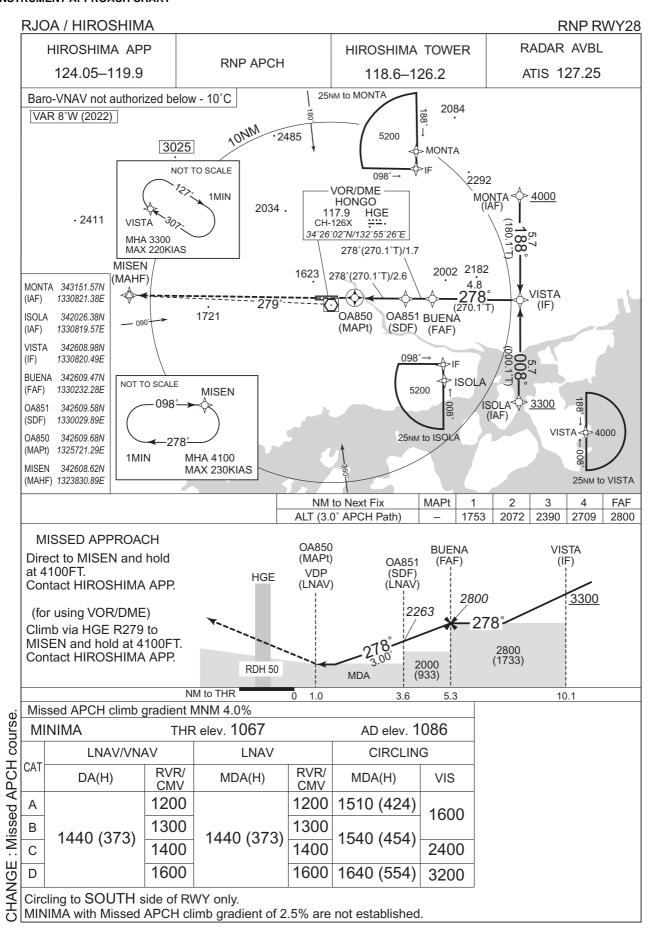
Critical DME	_
DME GAP	-
Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1.

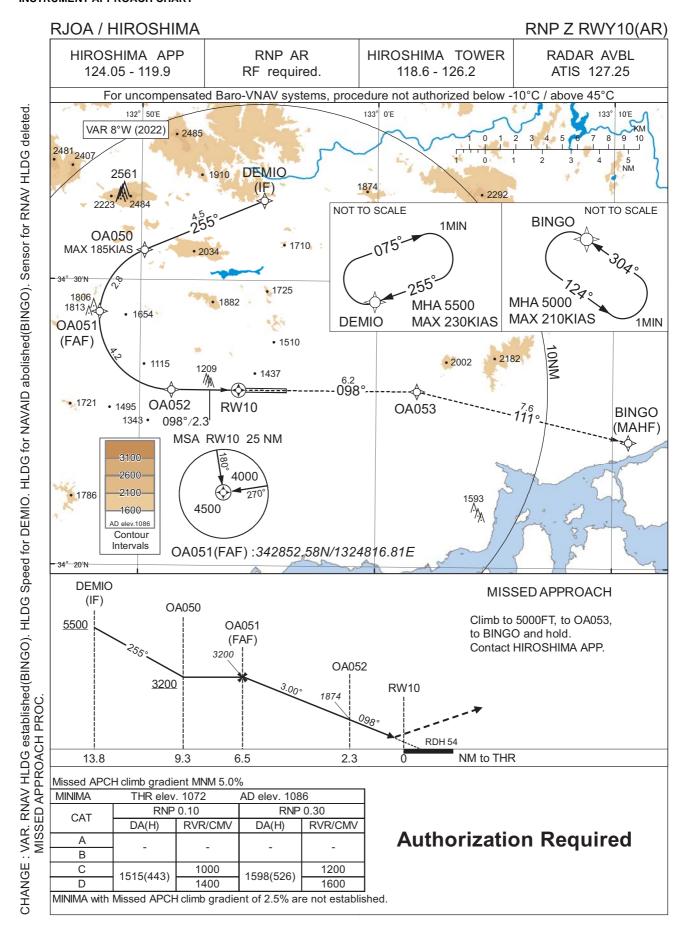
Serial	Path	Waypoint	Fly	Course	Magnetic	Distance	Turn	Altitude	Speed	Vertical	Navigation
Number	Descriptor	Identifier	Over	°M(°T)	Variation	(NM)	Direction	(FT)	(KIAS)	Angle	Specification
001	IF	AMURO	_	_	-7.6	_	_	+8000	_	_	RNAV1
002	TF	CAROL	_	221 (213.0)	-7.6	6.7	-	-8000 +6000	_	_	RNAV1
003	TF	TIIDA	_	221 (213.0)	-7.6	5.9	ı	+4000	_	_	RNAV1
004	TF	VISTA	_	221 (212.9)	-7.6	5.7	_	+3300	_	_	RNAV1











# RJOA / HIROSHIMA

# RNP Z RWY10(AR)

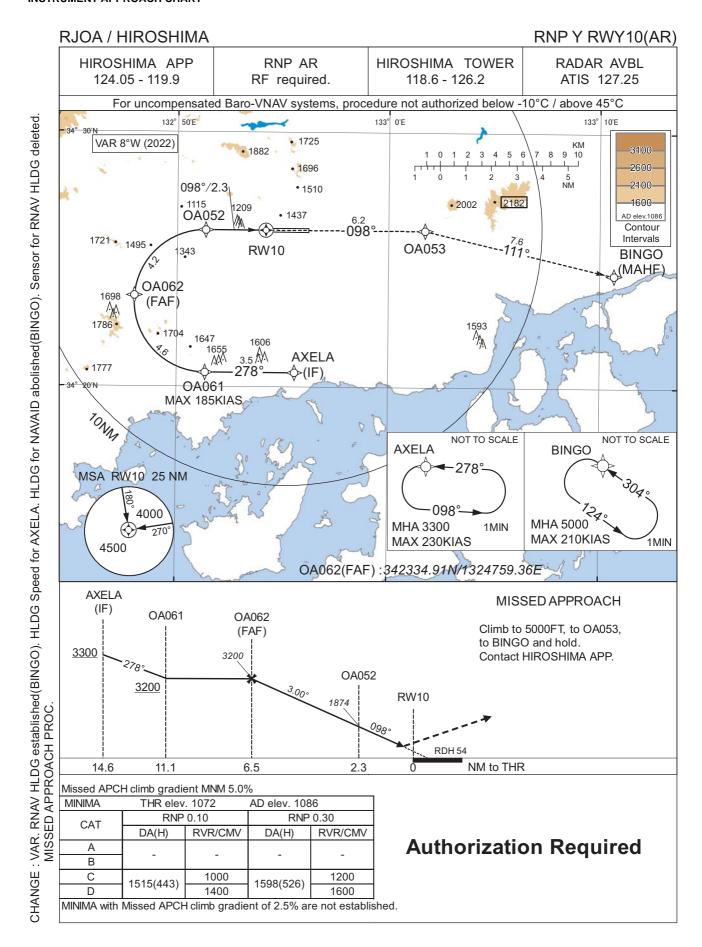
# **Coding Table**

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	DEMIO	1	-	-8.1	-	ı	+5500	1	-	-
002	TF	OA050	-	255 (247.1)	-8.1	4.5	-	+3200	-185	-	1.0
003	RF Center: OARF1 r=2.54NM	OA051	,	-	-8.1	2.8	L	3200	-		1.0
004	RF Center: OARF1 r=2.54NM	OA052	1	-	-8.1	4.2	L	1874	-	-3.00	0.10 0.30
005	TF	RW10	Υ	098 (090.0)	-8.1	2.3	ı	1126	ı	-3.00/54	0.10 0.30
006	TF	OA053	1	098 (090.0)	-8.1	6.2	1	-	1	-	1.0
007	TF	BINGO	-	111 (103.2)	-8.1	7.6	ı	5000	ı	-	1.0

Path	Waypoint Identifier	Inbound Course °M(°T)	Magnetic Variation	Outbound Time (MIN)	Turn Direction	Δltituda	Maximum Altitude (FT)	Speed (KIAS)	RNP Value
Hold	DEMIO	255 (247.1)	-8.1	1.0 (-14000)	R	5500	FL140	-230(-14000)	1.0
Hold	BINGO	304 (296.1)	-8.1	1.0 (-14000)	L	5000	FL140	-210(-14000)	1.0

# **Waypoint Coordinates**

Waypoint Identifier	Coordinates	RF Arc Center Identifier	Coordinates
DEMIO	343248.47N / 1325512.50E	OARF1	342842.28N / 1325120.72E
OA050	343102.99N / 1325009.23E		
OA051	342852.58N / 1324816.81E		
OA052	342609.63N / 1325120.84E		
RW10	342609.69N / 1325411.25E		
OA053	342609.67N / 1330143.51E		
BINGO	342425.72N / 1331040.68E		
		-	



# RJOA / HIROSHIMA

# RNP Y RWY10(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	AXELA	1	-	-8.1	-	-	+3300	-	-	1.0
002	TF	OA061	-	278 (270.0)	-8.1	3.5	-	+3200	-185	-	1.0
003	RF Center: OARF2 r=2.79NM	OA062	-	-	-8.1	4.6	R	3200	-	-	1.0
004	RF Center: OARF2 r=2.79NM	OA052	ı	-	-8.1	4.2	R	1874	ı	-3.00	0.10 0.30
005	TF	RW10	Υ	098 (090.0)	-8.1	2.3	ı	1126	ı	-3.00/54	0.10 0.30
006	TF	OA053	1	098 (090.0)	-8.1	6.2	ı	-	-	ı	1.0
007	TF	BINGO	1	111 (103.2)	-8.1	7.6	-	5000	-	-	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	AXELA	278 (270.0)	-8.1	1.0 (-14000)	L	3300	FL140	-230(-14000)	1.0
Hold	BINGO	304 (296.1)	-8.1	1.0 (-14000)	L	5000	FL140	-210(-14000)	1.0

# **Waypoint Coordinates**

	Waypoint Identifier	Coordinates	RF Arc Center Identifier	Coordinates
	AXELA	342034.40N / 1325534.80E	OARF2	342321.96N / 1325120.96E
	OA061	342034.29N / 1325121.21E		
	OA062	342334.91N / 1324759.36E		
	OA052	342609.63N / 1325120.84E		
	RW10	342609.69N / 1325411.25E		
	OA053	342609.67N / 1330143.51E		
	BINGO	342425.72N / 1331040.68E		
I			-	



※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
CHANGE : VAR.	白竜 Hakuryu	345°T / 4.3NM	湖 Lake
	小佐木 Kosagi	115°T / 10.1NM	小佐木島 Kosagi - Island
	竹原 Takehara	184°T / 5.8NM	竹原駅 Railway Station
	三永サウス Minaga South	251°T / 8.4NM	東広島駅 Railway Station
	新庄 Shinjo	209°T / 2.9NM	新庄交差点 Shinjo Intersection

