## **AD 2 AERODROMES**

# **RJNK AD 2.1 AERODROME LOCATION INDICATOR AND NAME**

# **RJNK - KOMATSU**

## RJNK AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

1	ARP coordinates and site at AD	362338N/1362427E
2	Direction and distance from (city)	4.2km(2.6nm) WSW from Komatsu City (Komatsu Station)
3	Elevation/ Reference temperature	22FT / -
4	Geoid undulation at AD ELEV PSN	Nil
5	MAG VAR/ Annual change	8°W (2006)/
6	AD Administration, address, telephone, telefax, telex, AFS, e- mail and/or Web-site addresses	Japan Air Self Defense Force. Public AD.
7	Types of traffic permitted(IFR/VFR)	IFR/VFR
8	Remarks	KOMATSU AIRPORT OFFICE(Civil Aviation Bureau) Ukiyanagi-machi Yo 21, Komatsu-shi, Ishikawa Pref. Tel:0761-24-0828 Fax:0761-22-4632

### **RJNK AD 2.3 OPERATIONAL HOURS**

1	AD Administration	H24			
2	Customs and immigration	Customs: 2330-0815 Immigration: INTL SKED FLT hours only			
3	Health and sanitation	Quarantine(human): (MON, TUE, WED, FRI)2330-1000 (THU, SUN)2330-0815 (SAT)0115-1000 Quarantine(animal): 2330-0800 Quarantine(plant): 2330-0815			
4	AIS Briefing Office	H24 (CAB:Nil)			
5	ATS Reporting Office(ARO)	Nil			
6	MET Briefing Office	H24 (TOKYO)			
7	ATS	H24			
8	Fuelling	2230-1330 (Scheduled FLT only)			
9	Handling	2230-1330			
10	Security	2230-1330			
11	De-icing	Nil			
12	Remarks	HR of service at CAB OPS section 2230 - 1330 (Daily)			

# **RJNK AD 2.4 HANDLING SERVICES AND FACILITIES**

1	Cargo-handling facilities	All the modern institutions that deal with weight thing to B744 type freighter
2	Fuel/ oil types	JET A1
3	Fuelling facilities/ capacity	Fuel truck refueling
4	De-icing facilities	Nil
5	Hangar space for visiting aircraft	Nil
6	Repair facilities for visiting aircraft	Nil
7	Remarks	Nil

## **RJNK AD 2.5 PASSENGER FACILITIES**

1	Hotels	Hotels in the city	
2	Restaurants	At airport	
3	Transportation	Buses and Taxis	
4	Medical facilities	Hospital in the city	
5	Bank and Post Office	Bank and post office in the city	
6	Tourist Office	Tourist offices in the city	
7	Remarks	Nil	

## **RJNK AD 2.6 RESCUE AND FIRE FIGHTING SERVICES**

1	AD category for fire fighting	To be issued later
2	Rescue equipment	(JSDF) To be issued later (CAB) Emergency medical equipments conveyance truck x 1 Lighting power supply truck x 1
3	Capability for removal of disabled aircraft	To be issued later
4	Remarks	Nil

# **RJNK AD 2.7 SEASONAL AVAILABILITY-CLEARING**

1	Types of clearing equipment	Snow remove equipments (JSDF): To be issued later (CAB): Snow sweeper X 2, Snow plow X 3, Rotary X 2, Anti-freezing sprayer X 1, Tractor shovel X 3, Truck X 1, Swamp bulldozer and Dump truck			
2	Clearance priorities	(JSDF): To be issued later (CAB): 1.TWY C1,C5, CIVIL PARALLEL and APRON 2.TWY C4,C2 and C3			
3	Remarks	(CAB) Seasonal availability: All seasons Snow removal will be commenced, in the case of the snow depth is greater than or equal to the prohibited depth for scheduled flight			

# RJNK AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS DATA

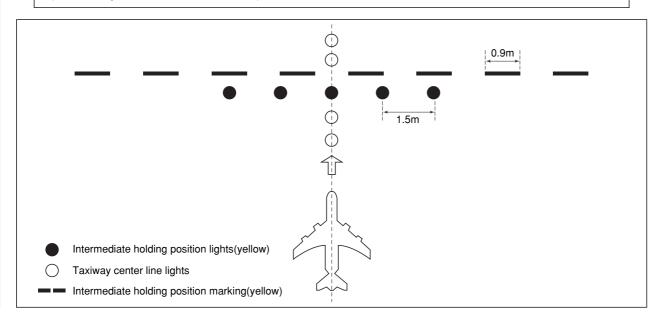
1	Apron surface and strength	Surface: Asphalt concrete and Concrete Strength: Spot NR3: PCN 74/R/B/X/T Spot NR4 - NR8: PCN 62/R/B/X/T
2	Taxiway width, surface and strength	Width: C1, C5: 26.5m C2, C3: 30m C4: 34m CIVIL PARALLEL TWY: 23m Surface: Asphalt concrete Strength: C1: PCN 58/F/B/X/T C2: PCN 63/F/B/X/T C3: PCN 52/F/B/X/T C4: PCN 63/F/B/X/T C5: PCN 80/F/B/X/T C5: PCN 80/F/B/X/T CIVIL PARALLEL TWY: PCN 58/F/B/X/T
3	ACL and elevation	Not Available
4	VOR checkpoints	Not Available
5	INS checkpoints	Spot NR 3: 362409.47N 1362457.78E 4: 362408.26N 1362455.61E 5: 362406.89N 1362453.50E 6: 362405.61N 1362451.19E 7: 362404.32N 1362448.87E 8: 362403.03N 1362446.55E
6	Remarks	Nil

### RJNK AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

1	Use of aircraft stand ID signs, TWY guide lines and Visual docking/ parking guidance system of aircraft stands	ACFT stand ID signs: Spot NR5, 6, 7, 8 Visual docking/ parking guidance system: Nil
2	RWY and TWY markings and LGT	RWY: RWY06/24: (Marking):RWY designation, RWY CL, RWY THR, Fixed DIST, TDZ, RWY side stripe (LGT):REDL, RTHL, RENL  TWY: (C1 THRU C5) (Marking):TWY CL, TWY side stripe, Mandatory instruction (LGT):TWY edge LGT, TWY CL LGT, Taxiing guidance sign (CIVIL PARALLEL) (Marking):TWY CL, TWY side stripe, Intermediate holding position (LGT):TWY edge LGT, TWY CL LGT(not installed from spot NR3 to NR8), Intermediate holding position
3	Stop bars	Nil
4	Remarks	(Marking):Overrun area (LGT):Apron flood LGT

# **GP HOLD LINE**

The "GP HOLD LINE" is installed on CIVIL PARALLEL TWY, consists of Intermediate holding position lights and marking. (see below figure, and AD2-24.1 AD CHART)

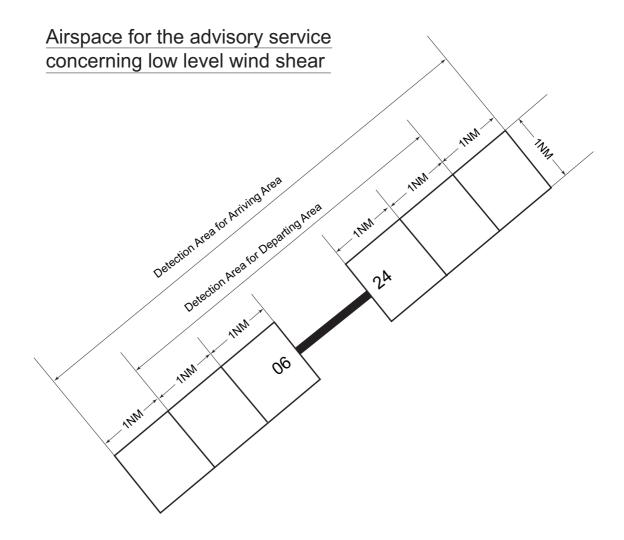


## **RJNK AD 2.10 AERODROME OBSTACLES**

RWY/	Area affected	Obstacle type	Coordinates	Elevation	Markings/ LGT	Remarks
			Nil			

## **RJNK AD 2.11 METEOROLOGICAL INFORMATION PROVIDED**

1	Associated MET Office	токуо				
2	Hours of service MET Office outside hours	H24(TOKYO)				
3	Office responsible for TAF preparation Periods of validity	TOKYO 30 Hours				
4	Trend forecast Interval of issuance	Nil				
5	Briefing/ consultation provided	Briefing is available upon inquiry at TOKYO				
6	Flight documentation Language(s) used	C En				
7	Charts and other information available for briefing or consultation	$\begin{aligned} &S_{6},U_{85},U_{7},U_{5},U_{3},U_{25},U_{2},\!/T_{r},P_{s},P_{5},P_{3},P_{25},P_{SWE},P_{SWF},P_{SWG},P_{SWI},\\ &P_{SWM},P_{SW}(\text{domestic}),E,C,W_{E},W_{F},W_{G},W_{I},W,N \end{aligned}$				
8	Supplementary equipment available for providing information	Doppler Radar for Airport Weather(See below figure)				
9	ATS units provided with information	TWR, APP				
10	Additional information (limitation of service, etc.)	Observation is made by the Ministry of Defense.				



UPPER LIMIT: 1600ft above FIELD ELEV LEVEL

LOWER LIMIT : FIELD ELEV LEVEL

# **RJNK AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS**

Designations RWY NR	TRUE BRG	Dimensions of RWY(M)	Strength(PCN) and surface of RWY	THR coord THR geoid u		THR elevate highest elevate of precision A	ion of TDZ	
1	2	3	4	5		6	6	
06	055°	2700 × 45	PCN 77/R/A/X/T SW66000kg (145460lbs)	To be issued later		THR ELEV:	THR ELEV: 38.1FT	
24	235°	2700 × 45	DW10000kg (220500lbs) DTW396000kg (872780lbs) TTTW330000kg (727650lbs) Concrete			THR ELEV	: 18.4FT	
Slope of RWY	Dim	Strip ensions (M)		Rei	marks			
7		10			12			
See below figure		300 × 450 300 × 450		RWY grooving	g: 2700m × 3	30m		
lope of RWY								
RWY 06						RWY	24	
38. 1ft	26.	<sup>7ft</sup> 24. <sup>3ft</sup> 23. 21	ft 22. 4ft	21.8ft 2	1.5ft 21.5	5ft	18. 4ft	
0. 50;	70	0. 53% 0. 46% 0	. 04% 0. 05%	0. 03%	0. 02%	0. 14%	•	
<u> </u>		<u> </u>	L		<u> </u>			
Om	67	79m 818m 909m	1289m	1658m 1	1974m 2024	m	2700m	

# **RJNK AD 2.13 DECLARED DISTANCES**

RWY Designator	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	Remarks
1	2	3	4	5	6
06 24	2700 2700	2700 2700	2700 2700	2700 2700	Nil Nil

# **RJNK AD 2.14 APPROACH AND RUNWAY LIGHTING**

RWY Designator	APCH LGT type LEN INTST	RTHL Color WBAR	PAPI (VASIS) Angle DIST FM THR MEHT	RTZL LEN	RCLL LEN Spacing Color INTST	REDL LEN Spacing Color INTST	RENL Color WBAR	STWL LEN Color
1	2	3	4	5	6	7	8	9
06	PALS (CAT I) 839m LIH	Green	PAPI 3.0 %LEFT 454.43m 66ft	Nil	Nil	2700m 60.0m Coded color (White/Yellow) LIH	Red	Nil
24	PALS (CAT I) 597m LIH	Green	PAPI 3.0 °/LEFT 408.06m 66ft	Nil	Nil	2700m 60.0m Coded color (White/Yellow) LIH	Red	Nil
				Remarks				
				10				
				Nil				

# RJNK AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

	1	ABN/IBN location, characteristics and hours of operation	ABN: 362335N/1362500E, White/Green EV6sec, HO
-	2	LDI location and LGT Anemometer location and LGT	Nil
<b>-</b>	3	TWY edge and centerline lighting	(TWY C1 THRU C5 and CIVIL PARALLEL TWY) TWY edge LGT: Blue TWY CL LGT: Green
<b>-</b>	4	Secondary power supply/ switch- over time	Within 15 sec: TWY edge LGT, TWY CL LGT(TWY C1 THRU C5 and CIVIL PARALLEL TWY), Taxiing guidance sign(TWY C1 THRU C5), Apron flood LGT, OBST LGT
Ī	5	Remarks	WDI LGT, OBST LGT

# **RJNK AD 2.16 HELICOPTER LANDING AREA**

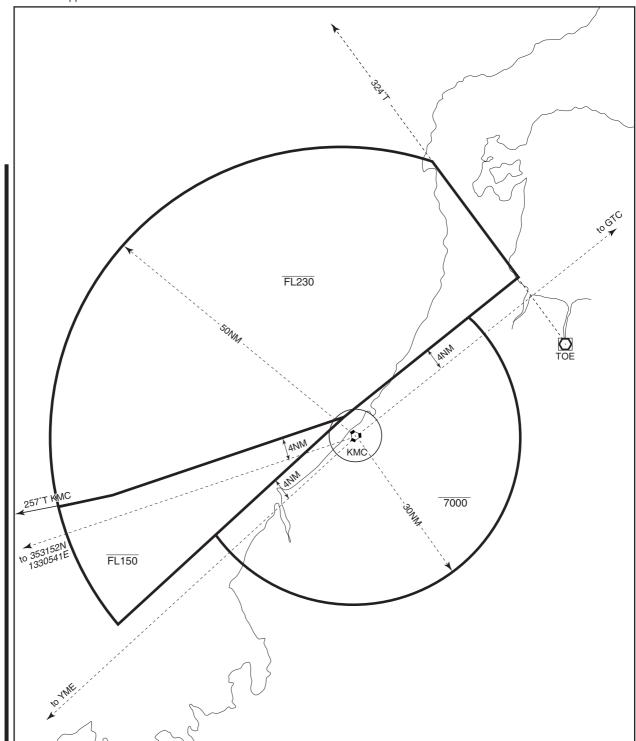
Nil
-----

AIP Japan KOMATSU

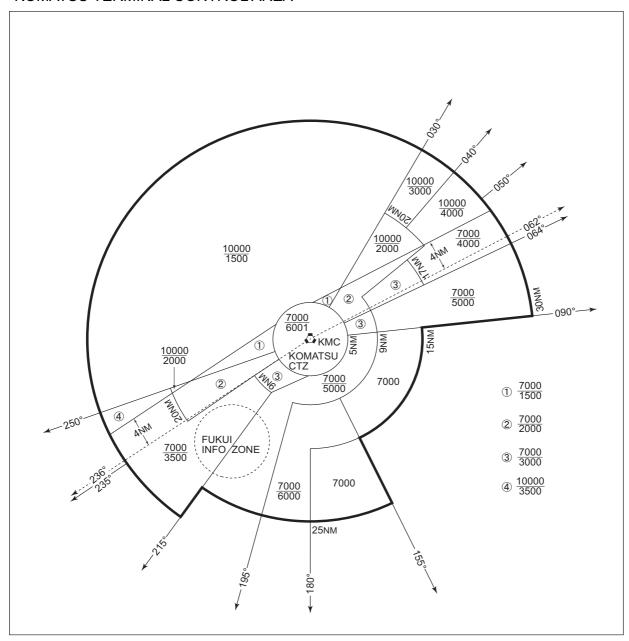
# **RJNK AD 2.17 ATS AIRSPACE**

	Designation and lateral limits	Vertical limits (ft)	Airspace classification	ATS unit call sign Language	Remarks
	1	2	3	4	6
KOMATSU CTR	Area within a radius of 5nm of KOMATSU ARP (36°24'N/136°24'E).	6000 or below	D	KOMATSU TOWER En	
KOMATSU ACA	See attached chart		E	KOMATSU APP KOMATSU RADAR KOMATSU DEP En	
KOMATSU TCA	See attached chart		KOMATSU TCA En		

小松進入管制区 Komatsu Approach Control Area



小松ターミナルコントロールエリア KOMATSU TERMINAL CONTROL AREA

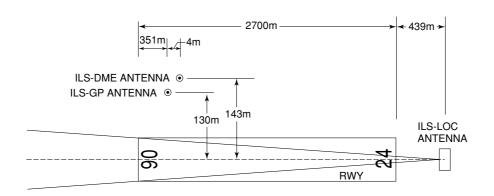


# **RJNK AD 2.18 ATS COMMUNICATION FACILITIES**

Service designation	Call sign	Frequency	Hours of operation	Remarks
1	2	3	4	5
APP/ASR	Komatsu Approach/ Komatsu Radar	261.2MHz 120.1 MHz 121.25 MHz 243.0 MHz(E) 121.5 MHz(E)	H24	
DEP	Komatsu Departure	362.3MHz 120.1MHz 121.25MHz 121.5MHz(E) 243.0MHz(E)	H24	
TCA	Komatsu TCA	127.95MHz 292.2MHz	2300 - 1100 SUN - THU (EXC HOL)	
TWR	Komatsu Tower	236.8MHz 126.2MHz 304.8MHz 118.25MHz 247.0MHz(1)(2) 138.05MHz(1) 123.1MHz(1)(2) 243.0MHz(E) 121.5MHz(E)	H24	(1)For rescue only. (2)AVBL on request.
GND	Komatsu Ground	275.8MHz 121.7MHz	H24	
GCA-ASR -PAR	Komatsu Radar	335.6 MHz 270.8 MHz 134.1 MHz 125.3 MHz 315.0 MHz 300.7 MHz 304.6 MHz 247.3 MHz 302.2 MHz 319.0 MHz 243.0 MHz(E)	H24	ASR RWY 06, PAR RWY 06/24.  Glide path 3.0°

## **RJNK AD 2.19 RADIO NAVIGATION AND LANDING AIDS**

Type of aid (VOR declination)	ID	Frequency	Hours of operation	Position of transmitting antenna coordinates	Elevation of DME transmitting antenna	Remarks
1	2	3	4	5	6	7
VOR (8 °W /2018)	KMC	112.0MHz	H24	362347.29N/ 1362415.31E		VOR Unusable: 100°-110° beyond 30nm BLW 8000ft. 130°-150° beyond 30nm BLW 11000ft. 150°-170° beyond 30nm BLW 8000ft.
TACAN	KMC	1018MHz (CH-57X)	H24	362347.36N/ 1362418.49E		TACAN Unusable: R080-090 beyond 25nm BLW 8000ft. R090-110 beyond 27nm BLW 9000ft. R110-130 beyond 33nm BLW 11000ft. R130-140 beyond 27nm BLW 11000ft. R140-150 beyond 30nm BLW 11000ft. R150-160 beyond 36nm BLW 11000ft. R160-180 beyond 25nm BLW 8000ft. R180-190 beyond 35nm BLW 8000ft. R190-200 beyond 32nm BLW 8000ft. R210-220 beyond 33nm BLW 5000ft.
ILS-LOC 06	IKM	110.1MHz	2230 - 1330	362411.09N/ 1362526.06E		LOC: 439m (1440ft) FM RWY 24 THR on the extended RCL. BRG (MAG) 063°.
ILS-GP 06	-	334.4MHz	2230 - 1330	362323.29N/ 1362350.88E		GP: 351m (1152ft) FM RWY 06 THR. 130m (427ft) NW of RCL. HGT of ILS Ref datum 16.5m (54ft). Angle 3.0°.
ILS-DME 06	IKM	999 MHz (CH-38X)	2230 - 1330	362323.72N/ 1362350.72E	46ft	DME: 355m (1165ft) FM RWY 06 THR. 143m (469ft) NW of RCL.
MSAS		1575.42MHz	H24			Transmitting antennas are satellite based



REMARKS : 1. ILS-LOC beam BRG(MAG) 063  $^{\circ}$ 

HGT of ILS REF datum 16.5m(54ft)
 ILS-GP Angle 3.0°
 ELEV of ILS-DME 13.8m(46ft)

# **RJNK AD 2.20 LOCAL TRAFFIC REGULATIONS**

1. Airport re	gulations
PPF	R for transient civil ACFT (ext HEL) to use this AD.
2. Taxiing to	and from stands
	Nil
3. Parking a	rea for small aircraft(General aviation)
	Nil
4. Parking a	rea for helicopters
	Nil
5. Apron - ta	axiing during winter conditions
	Nil
6. Taxiing - I	limitations
	Nil
7. School ar	nd training flights - technical test flights - use of runways
	Nil
8. Helicopte	r traffic - limitation
	Nil
9. Removal	of disabled aircraft from runways
	Nil
	RJNK AD 2.21 NOISE ABATEMENT PROCEDURES
	Nil
_ <del>_</del>	

### **RJNK AD 2.22 FLIGHT PROCEDURES**

### 1. TAKE OFF MINIMA

	RWY	REDL	AVBL	REDL OUT			
	IXVV I	CEIL-RVR	CEIL-VIS	CEIL-RVR	CEIL-VIS		
TKOF ALTN	06	0′-600m	0′-600m	0′-800m	0′-800m		
AP FILED	24	0′-600m	0′-600m	0'-800m 0'-800m			
OTHER	06		۸\/PL I D(	AVBL LDG MINIMA			
OTTLER	24		AVBL LDC	5 IVIIIVIIA			

NOTE: SIDs are designed in accordance with provisional standards for FLIGHT PROCEDURE DESIGN.

#### TAKE OFF MINIMA for RNAV DEPARTURE

	RWY	ACFT CAT	REDL & RCLL		_	RCLL or narking	NIL (DAYTIME ONLY)		
		CAI	RVR	VIS	RVR	VIS	RVR	VIS	
Multi-Engine ACFT with	06	A,B, C,D	-	-	400m	400m	-	500m	
TKOF ALTN AP Filed	24	A,B, C,D	-	-	-	500m			
OTHER	06	A,B,			AVBL LDG MINIMA				
OTTIER	24	C,D							

#### 2. WX MINIMA CONCERNING PAR/ASR APCH PROCEDURE

#### PAR RWY 06

#### PAR RWY 24

MINIMA THR ELEV: 38 AD ELEV: 22						A THR EI	_EV: 18	AD ELEV: 22	
	CIRCLING					CIRC	LING		
CAT	DA(H)	RVR/ CMV	MDA(H)	VIS	CAT	DA(H)	RVR/ CMV	MDA(H)	VIS
Α				1600	Α				1600
В	220(200)	750	520(498)	1000	В	222/204)	750	520(498)	1000
С	238(200) 750			2400	С	222(204)	750		2400
D			640(618)	3200	D			640(618)	3200

### ASR RWY 06

MINIMA	THR EI	LEV: 38	AD ELEV: 22			
			CIRCLING			
CAT	MDA(H)	RVR/ CMV	MDA(H)	VIS		
Α		1000		1600		
В	500(478)	1200	500(478)			
С	300(476)	1200	300(470)	2400		
D		1600		3200		

### 3. Lost communication procedures for arrival aircraft under radar navigational guidance

If radio communications with KOMATSU Radar/GCA are lost for 1 minute or 5 seconds (PAR)/15 seconds (ASR) on final approach, squawk Mode A/3 Code 7600 and,

- 1. Contact KOMATSU Radar /Tower.
  - 2. If unable, proceed in accordance with Visual Flight Rules.
  - 3. If unable, proceed to TACAN IAF or KOMATSU VOR at last assigned altitude or 4,000 feet whichever is higher, and execute instrument approach.
- (II) Procedures other than above will be issued when situation required.

#### 4. Automated Radar Terminal System (ARTS)

Aircraft flying within the approach control area under the control of Komatsu terminal control will be instructed to reply with discrete code on Mode A/3 and Mode C.

If an aircraft with non-discrete code capability be instructed to reply with the discrete code, it shall report a controller accordingly.

小松ターミナル管制所の指示のもとに、当該進入管制区を飛行する航空機は、モード A  $\angle$ 3の二次レーダー個別コード及びモード C による応答を指示される。

二次レーダー個別コードを搭載していない航空機が当該コードによる応答を指示された場合は、管制官に対しその旨 を通報すること。

#### **RJNK AD 2.23 ADDITIONAL INFORMATION**

Nil

#### **RJNK AD 2.24 CHARTS RELATED TO AN AERODROME**

Aerodrome Chart

Standard Departure Chart - Instrument (MANAH, GINJO, SONBU-RNAV)

Standard Departure Chart - Instrument (NOTO, MIYAZU, KOMATSU, KAGA)\*

Standard Arrival Chart - Instrument (KOMATSU, HIMMY, IMIZU, YARII, SONBU-RNAV)

Instrument Approach Chart (ILS Z or LOC Z RWY06)

Instrument Approach Chart (ILS Y or LOC Y RWY06)

Instrument Approach Chart (VOR RWY06)

Instrument Approach Chart (RNP RWY24)

Instrument Approach Chart (TACAN NR1)\*

Instrument Approach Chart (TACAN NR2)\*

Instrument Approach Chart (TACAN NR3)\*

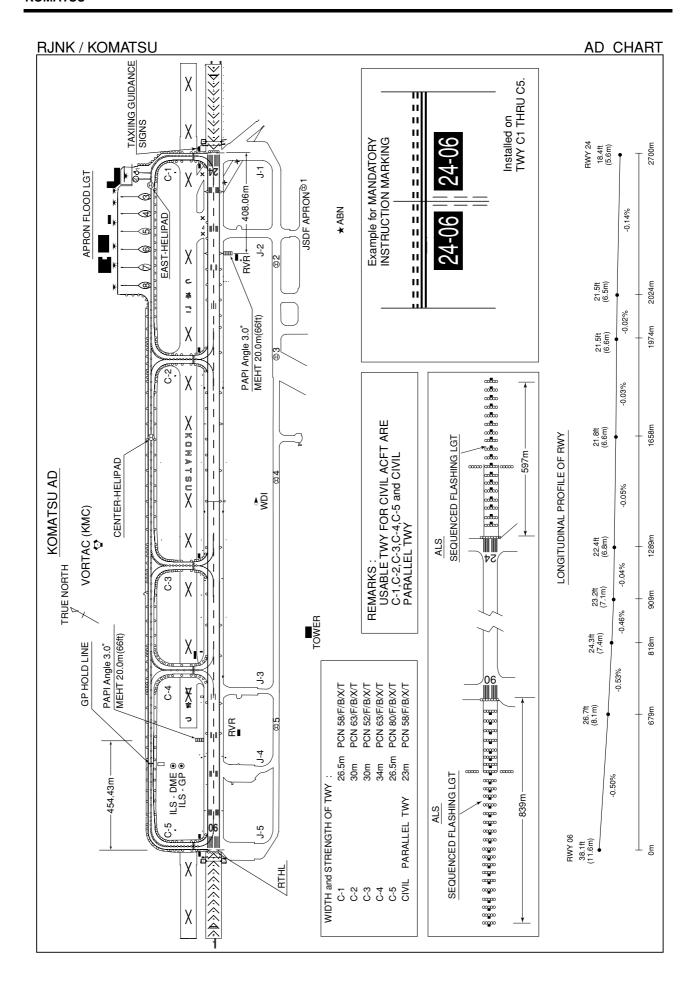
Instrument Approach Chart (TACAN NR4)\*

Other Chart (LDG CHART)

Other Chart (MVA CHART)

<sup>\*:</sup> Designed in accordance with provisional standards for FLIGHT PROCEDURE DESIGN.





### RNAV SID and TRANSITION RJNK / KOMATSU MANAH TWO DEPARTURE RNAV1 Note 1) DME/DME/IRU or GNSS required. RWY06 \*The aircraft equipped with only DME/DME/IRU KMC, YME: 10NM to KAETU - 30NM to MANAH, must be able to update its position without delay at the starting point of take-off roll. 23NM to MANAH - 3NM to MANAH Critical DME RWY24 2) RADAR service required. KMC, YME: 23NM to MANAH - 3NM to MANAH RWY06 06DER - 10NM to KAETU DMF GAP 30NM to MANAH - 23NM to MANAH RWY24 24DER - 23NM to MANAH See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1 Inappropriate Navaids VAR 8° W(2014) **VORTAC KOMATSU** 112.0 KMC CH-57X $\equiv :=$ 36°23′47″N/136°24′15″E 500 KAETU 362407.8N 1361447.7E 500 **AWAZU** 361946.6N 1361737.0E MANAH TWO DEPARTURE **MANAH** 355428.0N 1363223.1E KOMAKI TRANSITION **VORTAC NAGOYA** 114.2 KCC CH-89X ≣:≣: NAGOYA(KCC) 35°15′55″N/136°54′54″E -100FT 1365453.7E

### MANAH TWO DEPARTURE

RWY06: Climb on HDG063° at or above 500FT, turn left direct to KAETU, to MANAH. RWY24: Climb on HDG243° at or above 500FT, direct to <u>AWAZU</u>, to MANAH.

NOTE RWY06: 4.1% climb gradient required up to 3900FT.

OBST ALT 3215FT located at 13.0NM 200° FM end of RWY06.

RWY24: 4.8% climb gradient required up to 3900FT.

OBST ALT 3215FT located at 12.0NM 195° FM end of RWY24.

#### **KOMAKI TRANSITION**

From MANAH to KCC.

# RJNK / KOMATSU

# **RNAV SID and TRANSITION**

# MANAH TWO DEPARTURE

## RWY06

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation		Turn Direction	Altitude (FT)	Speed (KIAS)		
001	VA	_	_	063 (055.0)	-7.7	_	_	+500	_	_	RNAV1
002	DF	KAETU		_	-7.7	_	Г	_	_	_	RNAV1
003	TF	MANAH	_	162 (154.3)	-7.7	32.9	_	_	_	_	RNAV1

# RWY24

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation		Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	VA	_	_	243 (235.0)	-7.7	_	_	+500	_	_	RNAV1
002	DF	AWAZU	Υ	_	-7.7	_	-	_	-	_	RNAV1
003	TF	MANAH	_	162 (154.7)	-7.7	28.0	_	_	_	_	RNAV1

# KOMAKI TRANSITION

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over		Magnetic Variation		Turn Direction		Speed (KIAS)		Navigation Specification
001	IF	MANAH	_	_	-7.7	_	_	_	_	_	RNAV1
002	TF	KCC	_	162 (154.5)	-7.7	42.7	_	_	_	_	RNAV1

### RJNK / KOMATSU RNAV SID and TRANSITION RNAV1 GINJO TWO DEPARTURE RWY06 Note 1) DME/DME/IRU or GNSS required. \*The aircraft equipped with only DME/DME/IRU TOE: 14NM to HAKUI - NOTO must be able to update its position without delay at the starting point of take-off roll. RWY24 KMC, YME: 29.5NM to HAKUI - 19NM to HAKUI 2) RADAR service required. TOE: 13NM to HAKUI - NOTO KINZAN TRANSITION Critical DMF TOE: NOTO - 81 NM to GOLDO 81NM to GOLDO - 73NM to GOLDO KMC: 81NM to GOLDO - 73NM to GOLDO GTC: 66NM to GOLDO - 35NM to GOLDO 7NM to GOLDO - GOLDO RWY06 06DER - 14NM to HAKUI DME GAP RWY24 24DER - 29.5NM to HAKUI See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1 Inappropriate Navaids VAR 8° W(2014) KINZAN TRANSITION **GOLDO** 380356.9N 1382435.5E 83.0 NOTO(NTE) 371723.9N 1365746.5E 15.0 064 VOR/DME **GINJO** NOTO 370902.0N 111.45 NTE 1364210.5E CH-51Y 37°17′24″N/136°57′46″E **GINJO TWO DEPARTURE** 800FT 23.3 014 **HAKUI** 364552.3N 1363853.2E **VORTAC KOMATSU** 500 112.0 KMC 063 CH-57X $\equiv :=$ 500 243° 36°23′47″N/136°24′15″E **GINJO TWO DEPARTURE** RWY06: Climb on HDG063° at or above 500FT, turn left direct to HAKUI, to GINJO, to NTE. RWY24: Climb on HDG243° at or above 500FT, turn right direct to HAKUI, to GINJO, to NTE. **KINZAN** TRANSITION From NTE to GOLDO.

# RJNK / KOMATSU

# RNAV SID and TRANSITION

# GINJO TWO DEPARTURE

# RWY06

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation		Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	VA	-	_	063 (055.0)	-7.7	_	_	+500	_	_	RNAV1
002	DF	HAKUI	_	_	-7.7	_	L	_	_	_	RNAV1
003	TF	GINJO	_	014 (006.5)	-7.7	23.3	-	_	_	_	RNAV1
004	TF	NTE	_	064 (056.0)	-7.7	15.0	-	_	_	_	RNAV1

# RWY24

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	_	_	243 (235.0)	-7.7	_	_	+500		_	RNAV1
002	DF	HAKUI	1	-	-7.7	_	R	_	_	_	RNAV1
003	TF	GINJO	1	014 (006.5)	-7.7	23.3	1	-	_	_	RNAV1
004	TF	NTE	_	064 (056.0)	-7.7	15.0	_	-	_	_	RNAV1

# KINZAN TRANSITION

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over		Magnetic Variation		Turn Direction		•		Navigation Specification
001	IF	NTE	_	-	-7.7	_	_	_	_	_	RNAV1
002	TF	GOLDO	_	063 (055.4)	-7.7	83.0	_	-	_	_	RNAV1

RJNK / KOMATSU RNAV SID SONBU TWO DEPARTURE RNAV1 Note 1) DME/DME/IRU or GNSS required. RWY06 \*\*The aircraft equipped with only DME/DME/IRU must be able to update its position without delay at the starting point of take-off roll. YME: 30NM to SONBU - 6NM to SONBU RWY24 YME: 23NM to SONBU - 6NM to SONBU 2) RADAR service required. RWY06 06DER - 44.5NM to SONBU DME GAP RWY24 24DER - 23NM to SONBU Inappropriate Navaids See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1 VAR 8°W(2014) VORTAC **KOMATSU** 112.0 KMC CH-57X **Ξ**:Ξ 36°23′47″N/136°24′15″E SONBU TWO DEPARTURE 500 SONBU 361132.3N 1353502.9E

### SONBU TWO DEPARTURE

RWY06: Climb on HDG063° at or above 500FT, turn left direct to SONBU. RWY24: Climb on HDG243° at or above 500FT, turn right direct to SONBU.

RJNK / KOMATSU RNAV SID

# SONBU TWO DEPARTURE

# RWY06

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over		Magnetic Variation		Turn Direction		•		Navigation Specification
001	VA	_	_	063 (055.0)	-7.7	_	_	+500	_	_	RNAV1
002	DF	SONBU	_	_	-7.7	_	L	_	_	_	RNAV1

# RWY24

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation		Turn Direction		'		Navigation Specification
001	VA	_	_	243 (235.0)	-7.7	_	_	+500	_	_	RNAV1
002	DF	SONBU	_	_	-7.7	_	R	_	_	_	RNAV1

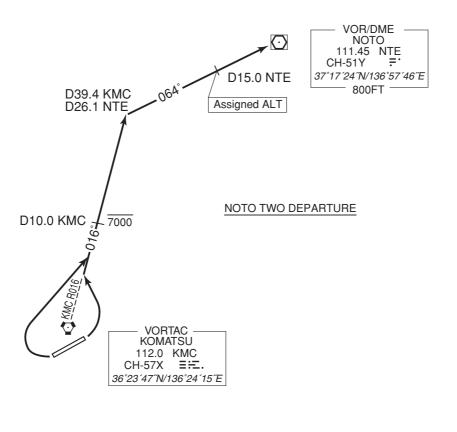
RJNK / KOMATSU SID

# NOTO TWO DEPARTURE

RWY06: Turn left,... RWY24: Turn right,...

... climb via KMC R016 to intercept and proceed via NTE R244 to NTE VOR/DME.

Cross KMC R016/10.0DME at or below 7000FT, cross NTE R244/15.0DME at assigned altitude.



CHANGE: SID renamed

RJNK / KOMATSU SID

# MIYAZU FOUR DEPARTURE

RWY 06: Turn left,... RWY 24: Turn right,...

...climb via KMC R286 to intercept and proceed via YME R040 to YME VOR/DME.

Cross KMC R286/10.0DME (YME R050) at or below 7000FT (\*at 7000FT), cross YME R040/48.0DME (KMC R256) at assigned altitude. \*YME R050 MRA 7000FT

## KOMATSU REVERSAL THREE DEPARTURE

RWY 06: Turn left,... RWY 24: Turn right,...

...climb via KMC R351, turn left to intercept and proceed via KMC R331 to KMC VORTAC within KMC 30.0DME.

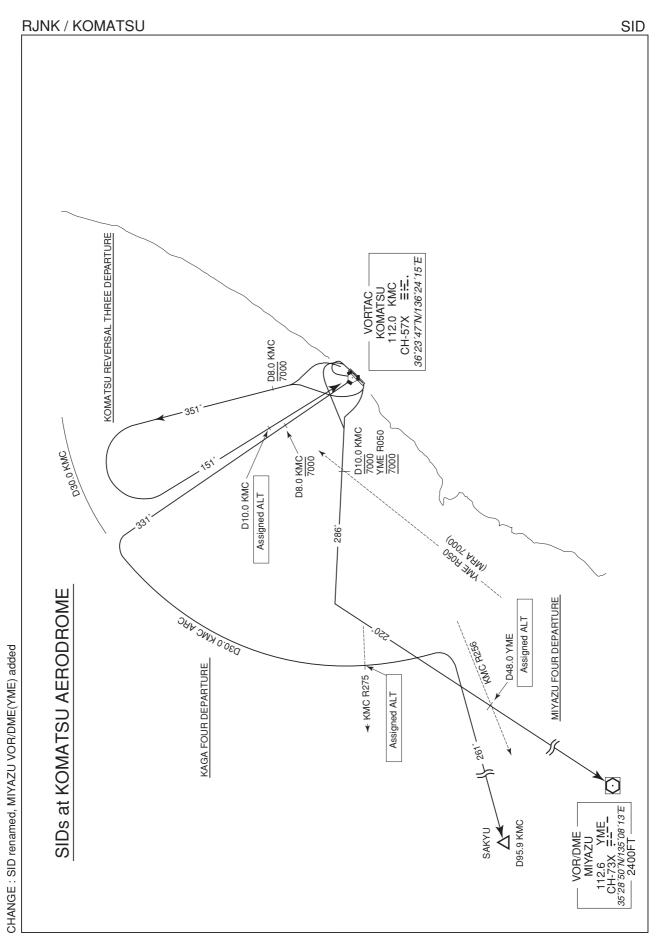
Cross KMC R351/8.0DME at or below 7000FT, cross KMC R331/10.0DME at assigned altitude.

## KAGA FOUR DEPARTURE

RWY 06: Turn left,... RWY 24: Turn right,...

...climb via KMC R331 to intercept and proceed via KMC 30.0DME counterclockwise ARC, turn right to intercept and proceed via KMC R261 to SAKYU.

Cross KMC R331/8.0DME at or below 7000FT, cross KMC R275 at assigned altitude.



## RJNK / KOMATSU **RNAV STAR RWY06** RNAV 1 KOMATSU WEST ARRIVAL Note 1) DME/DME/IRU or GNSS required. 2) RADAR service required. VAR 8°W (2014) SAWRA 362735.2N 1361253.1E KOMATSU WEST ARRIVAL KOMATSU(KMC) 362347.3N 1362415.3E 4000 VORTAC -**MEGIS** KOMATSU 362054.4N 112.0 KMC 1360645.1E CH-57X $\equiv :=$ 36°23′47″N/136°24′15″E 183 4.3 093 **KANOH DAIJO** 361631.0N 361653.7N 1360713.9E 1361231.8E

## KOMATSU WEST ARRIVAL

From KMC, to SAWRA, to MEGIS at or above 4000FT, to KANOH, to DAIJO at or above 2000FT.

Critical DME	KMC: 6.9nm to SAWRA - 5.0nm to SAWRA KMC: 2.0nm to SAWRA - 5.0nm to MEGIS KMC: MEGIS - 3.0nm to KANOH YME: 6.9nm to SAWRA - 5.0nm to SAWRA YME: 2.0nm to SAWRA - 5.0nm to MEGIS YME: MEGIS - 3.0nm to KANOH
DME GAP	KMC - 6.9nm to SAWRA 5.0nm to SAWRA - 2.0nm to SAWRA 5.0nm to MEGIS - MEGIS 3.0nm to KANOH - DAIJO
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	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	KMC	_	_	-7.7	_	_	_	_	_	RNAV1
002	TF	SAWRA	_	300 (292.6)	-7.7	9.9	_	_	_	_	RNAV1
003	TF	MEGIS		224 (216.5)	-7.7	8.3	_	+4000	1	_	RNAV1
004	TF	KANOH	_	183 (175.0)	-7.7	4.4	_	_	ı	_	RNAV1
005	TF	DAIJO	_	093 (084.9)	-7.7	4.3	_	+2000	_	_	RNAV1

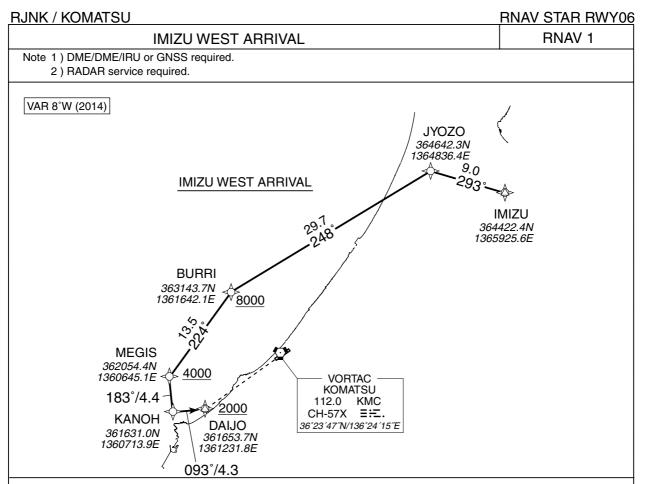
### RJNK / KOMATSU **RNAV STAR RWY06** RNAV 1 HIMMY WEST ARRIVAL Note 1) DME/DME/IRU or GNSS required. 2) RADAR service required. VAR 8°W (2014) HIMMY HIMMY WEST ARRIVAL 364916.0N 1365406.9E 34.<sup>8</sup> 248 **BURRI** 363143.7N 1361642.1E **№8000 MEGIS** 362054.4N 4000 1360645.1E VORTAC KOMATSU 183°/4.4 112.0 KMC <u>2000</u> CH-57X **Ξ** := . **KANOH DAIJO** 36°23′47″N/136°24′15″E 361631.0N 361653.7N 1360713.9E 1361231.8E 093°/4.3

# HIMMY WEST ARRIVAL

From HIMMY, to BURRI at or above 8000FT, to MEGIS at or above 4000FT, to KANOH, to DAIJO at or above 2000FT.

Critical DME	TOE: HIMMY - 11.0nm to BURRI TOE: 8.0nm to MEGIS - 7.0nm to MEGIS KMC: HIMMY - 30.0nm to BURRI KMC: 24.0nm to BURRI - 22.0nm to BURRI KMC: 17.0nm to BURRI - 15.0nm to BURRI KMC: 8.0nm to MEGIS - 7.0nm to MEGIS KMC: MEGIS - 3.0nm to KANOH YME: MEGIS - 3.0nm to KANOH
DME GAP	7.0nm to MEGIS - MEGIS 3.0nm to KANOH - DAIJO
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	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	HIMMY	_	_	-7.7	_	_	_	_	_	RNAV1
002	TF	BURRI	_	248 (239.9)	-7.7	34.8	-	+8000	1	_	RNAV1
003	TF	MEGIS	_	224 (216.5)	-7.7	13.5	1	+4000	1	_	RNAV1
004	TF	KANOH	_	183 (175.0)	-7.7	4.4	_	_	_	_	RNAV1
005	TF	DAIJO	_	093 (084.9)	-7.7	4.3	ı	+2000	_	_	RNAV1

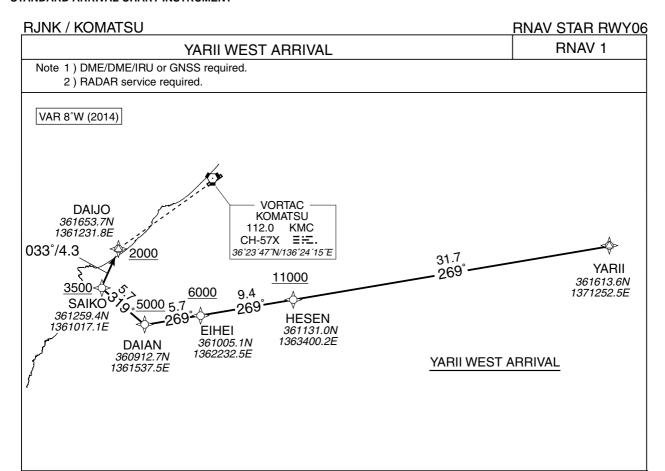


## IMIZU WEST ARRIVAL

From IMIZU, to JYOZO, to BURRI at or above 8000FT, to MEGIS at or above 4000FT, to KANOH, to DAIJO at or above 2000FT.

Critical DME	TOE: IMIZU - 10.0nm to BURRI KMC: 4.0nm to JYOZO - JYOZO KMC: 24.0nm to BURRI - 22.0nm to BURRI KMC: 17.0nm to BURRI - 15.0nm to BURRI KMC: 7.0nm to MEGIS - 5.0nm to MEGIS KMC: MEGIS - 3.0nm to KANOH YME: 7.0nm to MEGIS - 5.0nm to MEGIS YME: MEGIS - 3.0nm to KANOH
DME GAP	5.0nm to MEGIS - MEGIS 3.0nm to KANOH - DAIJO
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	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	IMIZU	_	-	-7.7	_	_	_	_	_	RNAV1
002	TF	JYOZO	_	293 (285.1)	-7.7	9.0	_	_	_	_	RNAV1
003	TF	BURRI	_	248 (239.8)	-7.7	29.7	_	+8000	_	_	RNAV1
004	TF	MEGIS	_	224 (216.5)	-7.7	13.5	_	+4000	_	_	RNAV1
005	TF	KANOH	_	183 (175.0)	-7.7	4.4	_	_	_	_	RNAV1
006	TF	DAIJO	_	093 (084.9)	-7.7	4.3	_	+2000	_	_	RNAV1

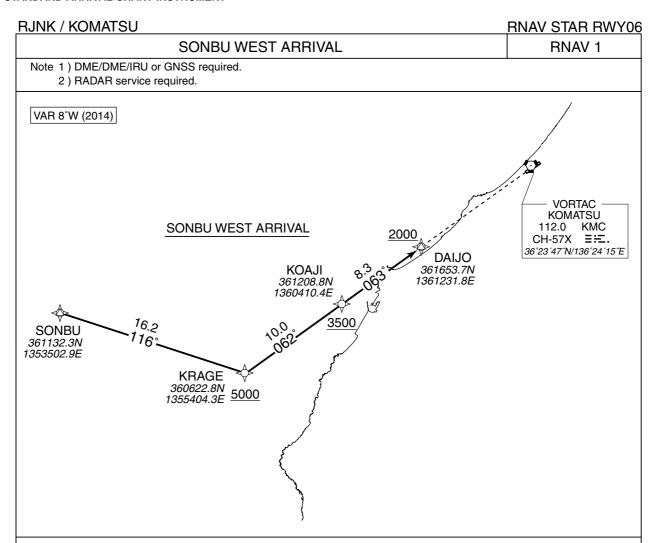


## YARII WEST ARRIVAL

From YARII, to HESEN at or above 11000FT, to EIHEI at or above 6000FT, to DAIAN at or above 5000FT, to SAIKO at or above 3500FT, to DAIJO at or above 2000FT.

Critical DME	KMC : 14.0nm to HESEN -EIHEI YME : HESEN-EIHEI
DME GAP	EIHEI - DAIJO
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	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	YARII	_	_	-7.7	_	_	_	_	_	RNAV1
002	TF	HESEN	_	269 (261.6)	-7.7	31.7	_	+11000		_	RNAV1
003	TF	EIHEI	_	269 (261.3)	-7.7	9.4	_	+6000	ı	_	RNAV1
004	TF	DAIAN	_	269 (261.1)	-7.7	5.7	_	+5000	-	_	RNAV1
005	TF	SAIKO	_	319 (311.3)	-7.7	5.7	_	+3500	1	_	RNAV1
006	TF	DAIJO	-	033 (024.9)	-7.7	4.3	_	+2000	ı	_	RNAV1



# SONBU WEST ARRIVAL

From SONBU, to KRAGE at or above 5000FT, to KOAJI at or above 3500FT, to DAIJO at or above 2000FT.

Critical DME	KMC : SONBU - 8.0nm to KRAGE YME : SONBU - 8.0nm to KRAGE
DME GAP	8.0nm to KRAGE - DAIJO
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	SONBU	_	_	-7.7	_	_	_	_	_	RNAV1
002	TF	KRAGE	-	116 (108.5)	-7.7	16.2	_	+5000	_	_	RNAV1
003	TF	KOAJI		062 (054.7)	-7.7	10.0	-	+3500	_	_	RNAV1
004	TF	DAIJO	_	063 (054.8)	-7.7	8.3	_	+2000	_	_	RNAV1

# RJNK / KOMATSU **RNAV STAR RWY24** RNAV 1 KOMATSU EAST ARRIVAL Note 1) DME/DME/IRU or GNSS required. 2) RADAR service required. VAR 8°W (2014) 2600 HIMRO 5.0 4000 <sup>/</sup>363553.0N 083 1363402.3E 4.5 080° **ZEBRA** 363438.8N YAMJI -1362801.2E 363316.8N 1362242.5E KOMATSU EAST ARRIVAL VORTAC KOMATSU 112.0 KMC CH-57X **Ξ :**Ξ. KOMATSU(KMC) 36°23′47″N/136°24′15″E 362347.3N 1362415.3E

# KOMATSU EAST ARRIVAL

From KMC, to YAMJI, to ZEBRA at or above 4000FT, to HIMRO at or above 2600FT.

Critical DME	KMC : 6.6nm to YAMJI - YAMJI YME : 6.6nm to YAMJI - YAMJI
DME GAP	KMC - 6.6nm to YAMJI YAMJI - HIMRO
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	KMC	_	_	-7.7	_	_	-	_	_	RNAV1
002	TF	YAMJI	_	360 (352.5)	-7.7	9.6	_	_	_	_	RNAV1
003	TF	ZEBRA	_	080 (072.2)	-7.7	4.5	1	+4000	_	-	RNAV1
004	TF	HIMRO	_	083 (075.6)	-7.7	5.0	_	+2600	_	_	RNAV1

# RJNK / KOMATSU **RNAV STAR RWY24** HIMMY EAST ARRIVAL RNAV 1 Note 1) DME/DME/IRU or GNSS required. 2) RADAR service required. VAR 8°W (2014) HIMMY 364916.0N 1365406.9E 10.7 VOR/DME **TOYAMA** 110.85 TOE CH-45Y = -36°39′08″N/137°11′28″E 100FT 7000 **GINRE** 363841.4N 1365621.2E 5000 HIMMY EAST ARRIVAL **KINKA** 363210.7N 1364250.6E VORTAC KOMATSU 112.0 KMC CH-57X **Ξ**:Ξ.

# HIMMY EAST ARRIVAL

From HIMMY, to GINRE at or above 7000FT, to KINKA at or above 5000FT.

36°23′47″N/136°24′15″E

Critical DME	TOE: HIMMY - GINRE TOE: 12.0nm to KINKA - 9.0nm to KINKA KMC: HIMMY - 7.0nm to GINRE KMC: 6.0nm to GINRE - 2.0nm to GINRE YME: 12.0nm to KINKA - 9.0nm to KINKA
DME GAP	GINRE - 12.0nm to KINKA 9.0nm to KINKA - KINKA
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	HIMMY	_	_	-7.7	_	_	_	_	_	RNAV1
002	TF	GINRE	_	178 (170.4)	-7.7	10.7	_	+7000	_	_	RNAV1
003	TF	KINKA	_	247 (239.1)	-7.7	12.7	_	+5000	_	_	RNAV1

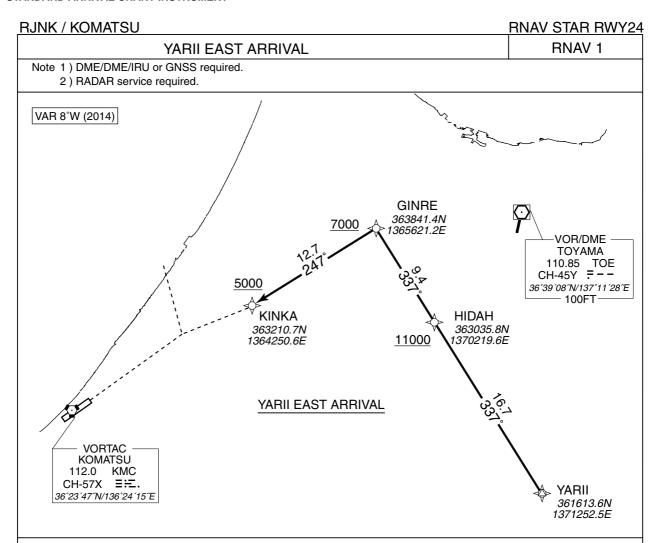
# **RNAV STAR RWY24** RJNK / KOMATSU RNAV 1 IMIZU EAST ARRIVAL Note 1) DME/DME/IRU or GNSS required. 2) RADAR service required. VAR 8°W (2014) **IMIZU** 364422.4N 1365925.6E 7000 **GINRE** 363841.4N 1365621.2E VOR/DME **TOYAMA** 110.85 TOE CH-45Y = --5000 36°39′08″N/137°11′28″E IMIZU EAST ARRIVAL 100FT **KINKA** 363210.7N 1364250.6E VORTAC KOMATSU 112.0 KMC CH-57X **Ξ**:**Ξ** 36°23′47″N/136°24′15″E

# IMIZU EAST ARRIVAL

From IMIZU, to GINRE at or above 7000FT, to KINKA at or above 5000FT.

	TOE : IMIZU - GINRE
Oviti a al DME	TOE: 12.0nm to KINKA - 9.0nm to KINKA
Critical DME	KMC: IMIZU - 2.0nm to GINRE
	YME: 12.0nm to KINKA - 9.0nm to KINKA
DME GAP	GINRE - 12.0nm to KINKA
DIVIE GAF	9.0nm to KINKA - KINKA
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)		
001	IF	IMIZU	_	_	-7.7	_	_	_	_	_	RNAV1
002	TF	GINRE	_	211 (203.4)	-7.7	6.2	_	+7000	_	_	RNAV1
003	TF	KINKA	_	247 (239.1)	-7.7	12.7	_	+5000	_	_	RNAV1

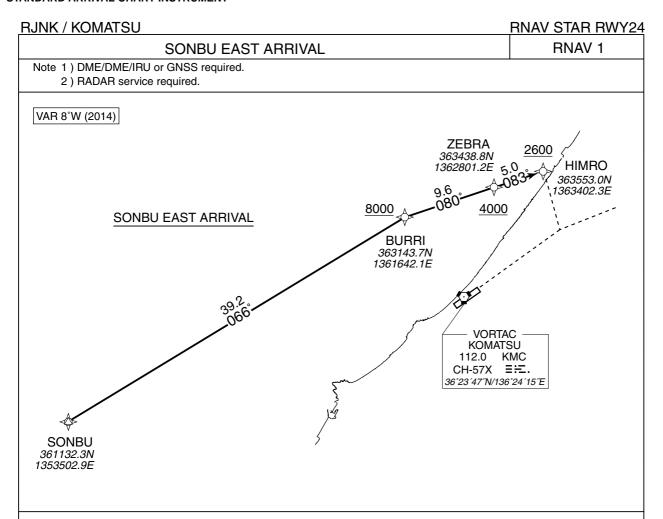


# YARII EAST ARRIVAL

From YARII, to HIDAH at or above 11000FT, to GINRE at or above 7000FT, to KINKA at or above 5000FT.

Critical DME	TOE: 8.0nm to HIDAH - 8.0nm to GINRE TOE: 1.0nm to GINRE - GINRE TOE: 12.0nm to KINKA - 9.0nm to KINKA KMC: 2.0nm to HIDAH - 8.0nm to GINRE YME: 1.0nm to GINRE - GINRE YME: 12.0nm to KINKA - 9.0nm to KINKA
DME GAP	8.0nm to GINRE - 1.0nm to GINRE GINRE - 12.0nm to KINKA 9.0nm to KINKA - KINKA
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	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	YARII	_	_	-7.7	_	_	_	-	_	RNAV1
002	TF	HIDAH	_	337 (329.5)	-7.7	16.7	_	+11000	_	_	RNAV1
003	TF	GINRE	_	337 (329.4)	-7.7	9.4	_	+7000	ı	_	RNAV1
004	TF	KINKA	_	247 (239.1)	-7.7	12.7	_	+5000	_	_	RNAV1

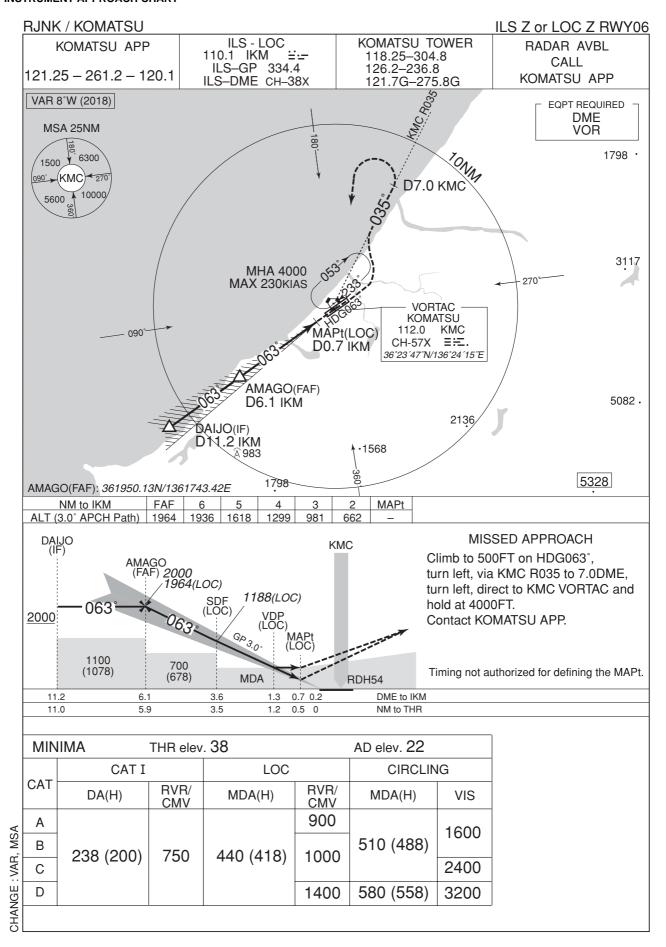


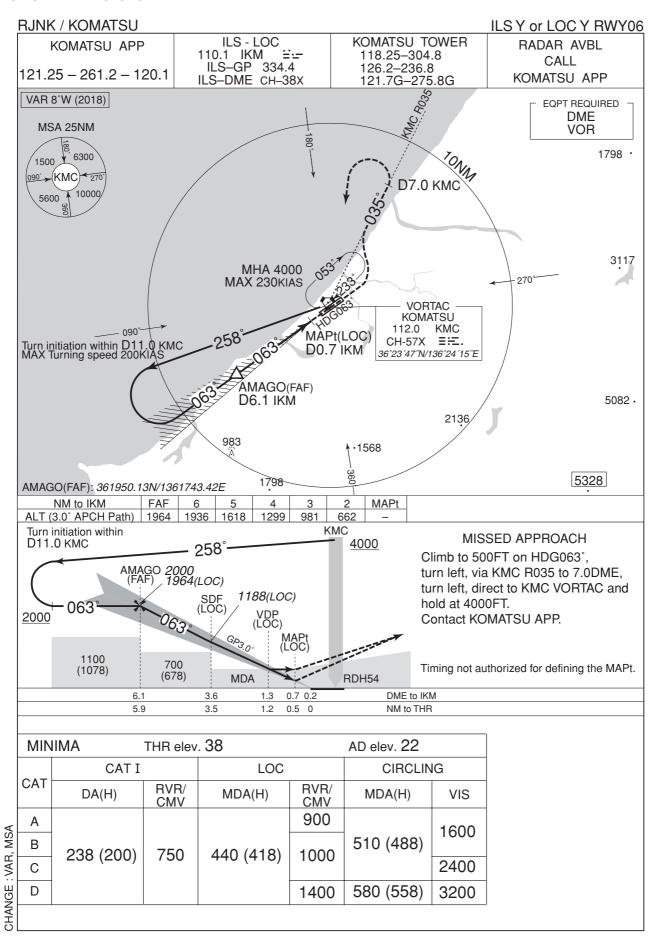
# SONBU EAST ARRIVAL

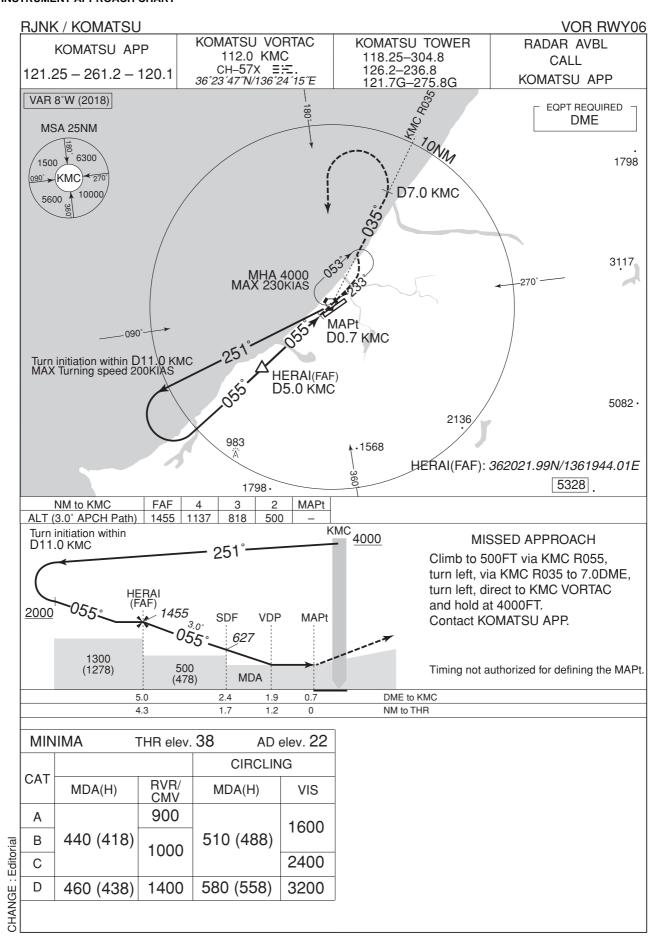
From SONBU, to BURRI at or above 8000FT, to ZEBRA at or above 4000FT, to HIMRO at or above 2600FT.

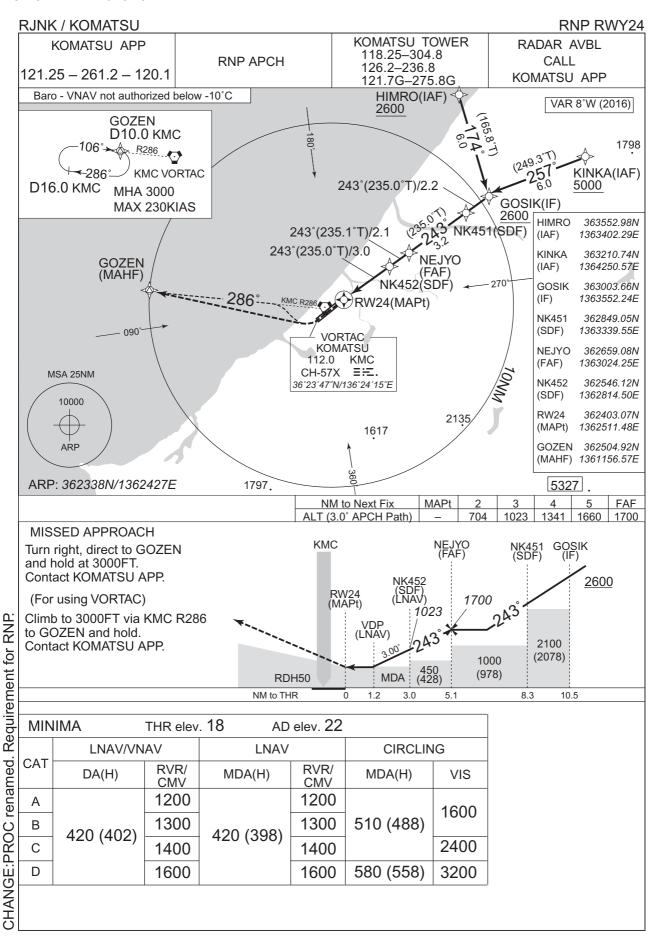
Critical DME	YME: SONBU - 8.0nm to BURRI KMC: 34.0nm to BURRI - 8.0nm to BURRI KMC: 7.0nm to BURRI - 5.0nm to BURRI KMC: BURRI - 7.0nm to ZEBRA KMC: 6.0nm to ZEBRA - 5.0nm to ZEBRA TOE: 7.0nm to BURRI - 5.0nm to BURRI TOE: BURRI - 7.0nm to ZEBRA TOE: 6.0nm to ZEBRA - 5.0nm to ZEBRA				
DME GAP	8.0nm to BURRI - 7.0nm to BURRI 5.0nm to ZEBRA - HIMRO				
Inappropriate Navaids	See AD1.1.6.10.3 Inappropriate NAVAIDs for RNAV1				

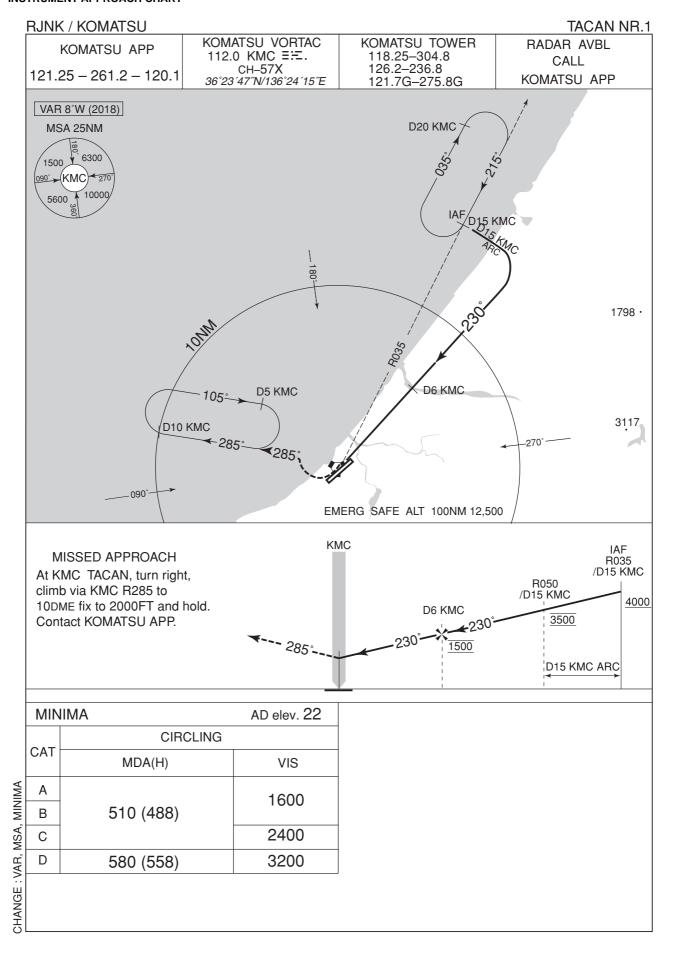
Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation		Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	SONBU	_	_	-7.7	_	_	-	_	_	RNAV1
002	TF	BURRI	_	066 (058.8)	-7.7	39.2	_	+8000	_	_	RNAV1
003	TF	ZEBRA	_	080 (072.1)	-7.7	9.6	1	+4000	_	_	RNAV1
004	TF	HIMRO	_	083 (075.6)	-7.7	5.0	_	+2600	_	_	RNAV1

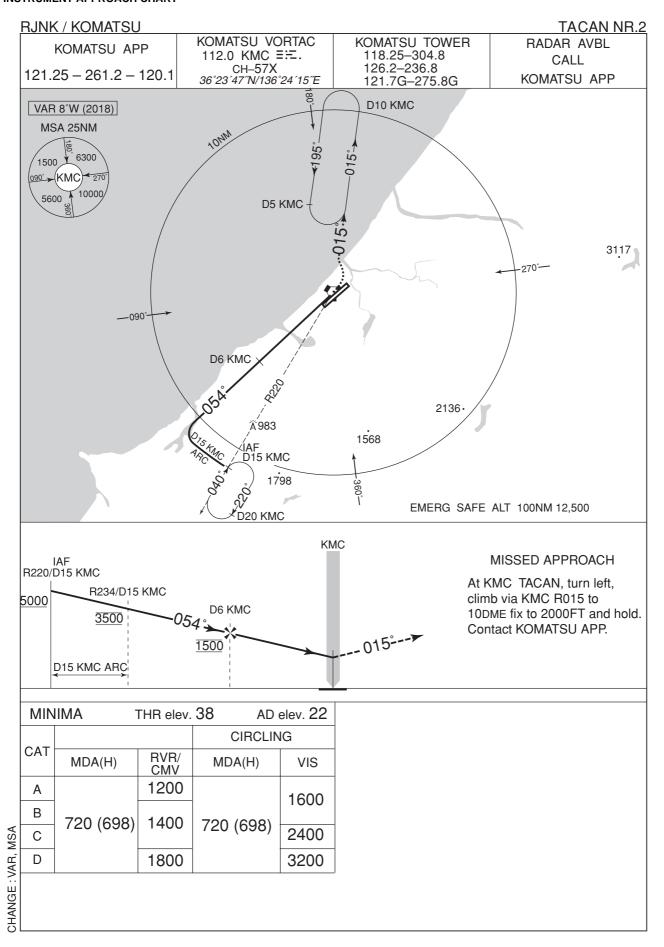


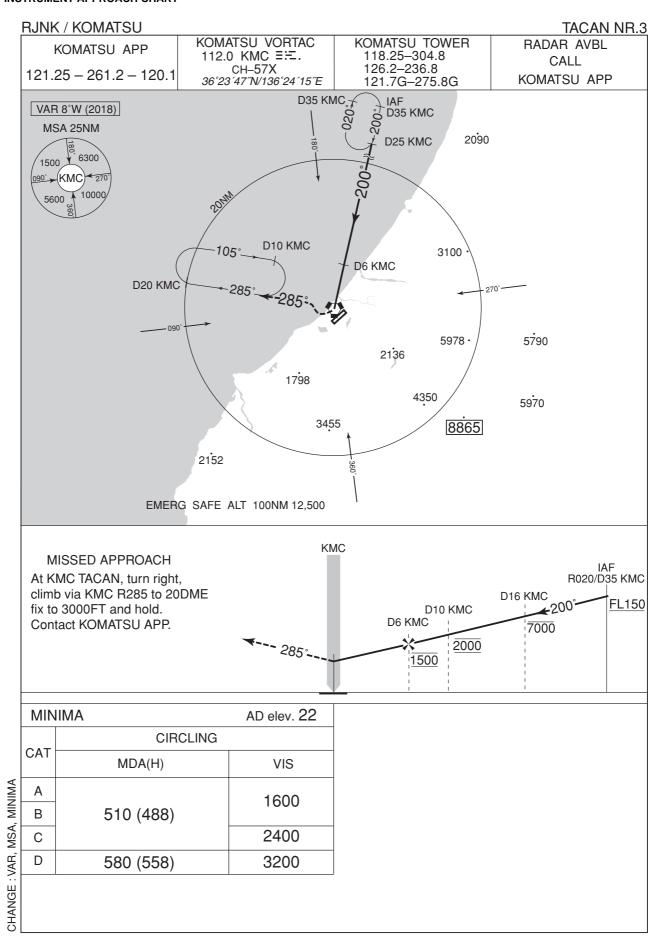


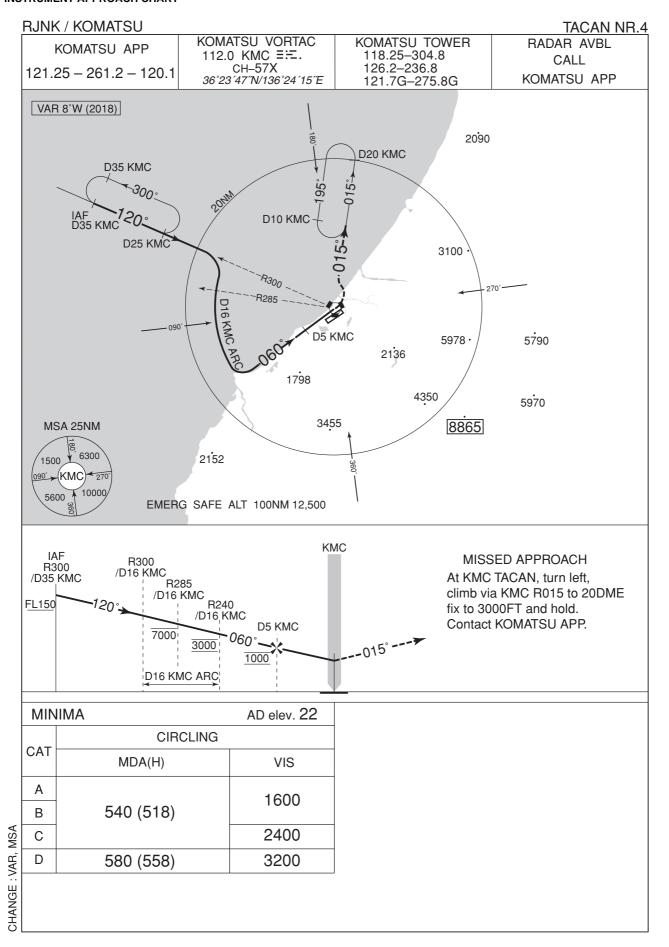


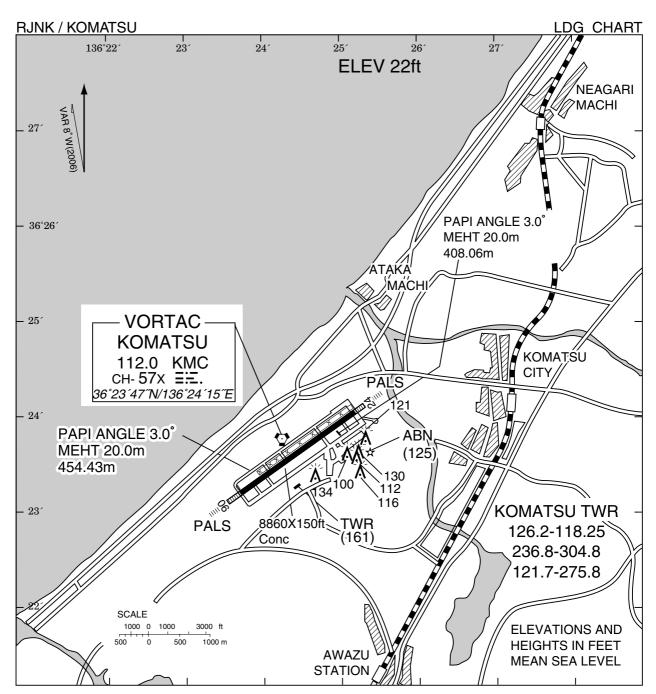












注: 小松飛行場の本滑走路の供用開始に伴い、着陸する航空機は、運用を廃止した仮設滑走路に誤認着陸しないように注意すること。

Note: With an in-service start of this runway of Komatsu aerodrome, warn a landing aircraft not to land at the out-service temporary runway.

- 備考:1. 仮設滑走路には禁止標識が設置される(300m以内に1個標準)。
  - 2. 航空機の到着機がある場合は、気象状態にかかわらず着陸滑走路の進入灯が常時点灯される。
  - 3. 管制官からの着陸許可発出後に注意喚起のため、次の用語が通報される場合がある。 用語例:「VERIFY LANDING RUNWAY.」
- Rem: 1. A closed marking is installed in a temporary runway (one less than 300m, standard).
  - 2. When there is arrival aircrft, approach lights of a landing runway is always turned on regardless of a weather state.
  - 3. There is the case that the next term is reported to for attention awakening after a landing permission from a ATC.
    - A term example: [VERIFY LANDING RUNWAY.] .

