AD 2 AERODROMES

RJSS AD 2.1 AERODROME LOCATION INDICATOR AND NAME

RJSS - SENDAI

RJSS AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

1	ARP coordinates and site at AD	*380823N/1405501E* 283° / 0.9km from TWR
2	Direction and distance from (city)	13.6km (7.3NM) SSE of Sendai JR Station
3	Elevation/ Reference temperature	5.6FT / 27°C (2002-2006)
4	Geoid undulation at AD ELEV PSN	137FT
5	MAG VAR/ Annual change	8° W (2009) / 1'E
6	AD Administration, address, telephone, telefax, telex, AFS, e-mail and/or Web-site addresses	Sendai International Airport Co., Ltd. Sendai Airport, Minamihara, Shimomasuda, Natori City, Miyagi Pref. Tel: 022-382-4057, Fax: 022-382-4068 Web-site: https://www.sendai-airport.co.jp/
7	Types of traffic permitted(IFR/VFR)	IFR/VFR
8	Remarks	Sendai Airport Office(CAB) Sendai Airport, Minamihara, Shimomasuda, Natori City, Miyagi Pref. Tel: 022-383-1211 (2330-0815UTC EXC 2330UTC on FRI - 0815UTC on SUN)

RJSS AD 2.3 OPERATIONAL HOURS

1	AD Administration	2230 - 1300
2	Customs and immigration	Customs: 2330-0800 Immigration: 2230-1300
3	Health and sanitation	Quarantine (human): 2230-1300 Quarantine (animal): 2330-0800 Quarantine (plant): SUN 0130-SUN 1100, SUN 2330-MON 0900, MON 2330-TUE 1100, TUE 2330-WED 0900, THU 0130-THU 1100, THU 2330-FRI 0900, FRI 2330-SAT 0900
4	AIS Briefing Office	Nil
5	ATS Reporting Office(ARO)	Nil
6	MET Briefing Office	H24 (TOKYO)
7	ATS	2230 - 1300 Remarks: 1200 - 1300, AFIS provided by New Chitose Airport Office.
8	Fuelling	2230 - 1300
9	Handling	2230 - 1300
10	Security	2230 - 1300
11	De-icing	Nil
12	Remarks	Nil

RJSS AD 2.4 HANDLING SERVICES AND FACILITIES

1	Cargo-handling facilities	All the modern institutions that deal with the weight thing to boeing747 Type freighter
2	Fuel/ oil types	Fuel Grades : 100, JET A-1 Oil grades : W80, 100, ASTO 500, MJO-II
3	Fuelling facilities/ capacity	Truck refueling, No limitation
4	De-icing facilities	Nil
5	Hangar space for visiting aircraft	Nil
6	Repair facilities for visiting aircraft	Nil
7	Remarks	Nil

RJSS AD 2.5 PASSENGER FACILITIES

1	Hotels	Hotels in the Sendai city
2	Restaurants	At Airport
3	Transportation	Railways, Busses and Taxis
4	Medical facilities	Hospitals in the iwanuma city 9km
5	Bank and Post Office	At Airport
6	Tourist Office	At Airport
7	Remarks	Nil

RJSS AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

1	AD category for fire fighting	Fire protection : Scale of protection, ICAO required : CAT 9 Available : CAT 9
2	Rescue equipment	Chemical fire fighting truck x 3 Water-supply truck Lighting power supply truck Emergency medical equipments conveyance truck
3	Capability for removal of disabled air-craft	Nil
4	Remarks	Nil

RJSS AD 2.7 SEASONAL AVAILABILITY-CLEARING

1	Types of clearing equipment	Snow removal available
2	Clearance priorities	Snow removal priority: RWY09/27, TWY A1, B1, B3, B6, C1-C6, APRON
3	Remarks	Seasonal availability : All seasons

RJSS AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS DATA

1	Apron surface and strength	Surface : Asphalt Concrete and Concrete Strength : SPOT NR 1-14 : PCN 74/R/B/X/T SOUTH ONE APRON : PCN 22/F/B/Y/T SOUTH TWO APRON : PCN 20/F/B/Y/T SOUTH THREE APRON : PCN 23/F/C/Y/T WEST HELI PAD : AUW 5700kg/0.28Mpa
2	Taxiway width, surface and strength	Surface - Asphalt Concrete A1-A3 : 18m PCN 14/F/C/Y/T A4 : 45m PCN 14/F/C/Y/T B1 : 28.5m PCN 80/F/B/X/T B2 - B5 : 34m PCN 63/F/A/X/T B6 : 28.5m PCN 80/F/B/X/T C1 : 23m PCN 80/F/B/X/T C2 : 23m PCN 63/F/A/X/T C3 - C5 : 23m PCN 80/F/B/X/T C6 : 23m PCN 74/R/B/X/T D1 : 18m PCN 14/F/C/Y/T TWY(BTN RWY09/27 AND RWY12 THR) : 45m PCN 49/F/B/X/T
3	ACL and elevation	Not available
4	VOR checkpoints	Not available
5	INS checkpoints	Spot NR 1 : *380820.38N/1405556.75E* 2 : *380820.12N/1405554.31E* 3 : *380819.91N/1405551.55E* 4 : *380819.59N/1405548.49E* 5 : *380819.29N/1405545.54E* 6 : *380819.18N/1405542.89E* 7 : *380819.18N/1405540.69E* 8 : *380819.64N/1405538.75E* 9 : *380819.45N/1405536.92E* 10 : *380819.26N/1405535.09E* 11 : *380817.91N/1405533.18E* 12 : *380817.70N/1405531.10E* 13 : *380817.48N/1405529.02E* 14 : *380817.27N/1405526.95E*
6	Remarks	Nil

RJSS 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	Aircraft stand identification sign :NR2 - 6, 10
2	RWY and TWY markings and LGT	RWY:09/27, 12/30 (Marking) RWY designation, RWY CL, RWY THR, RWY middle point, Aiming point, TDZ, RWY side stripe (LGT) RCLL(RWY09/27), REDL, RTHL, RENL, RTZL(RWY27), WBAR(RWY27) TWY: (Marking) TWY CL, RWY HLDG PSN, TWY side stripe, Mandatory instruction marking (A1, A2, A4, B1-B6, C3, C4, D1) (LGT) TWY edge LGT, TWY CL LGT(B1-B6,C1-C6), Stop bar LGT(B1-B6), RWY guard LGT(B1-B6,C3,C4), Taxiing guidance sign(B1-B6)
3	Stop bars	Stop Bar Lights: B1-B6 Stop Bar Lights operations 1) Stop Bar Lights are installed at each taxi holding position associated with Runway 09/27. 2) Stop Bar Lights will be operated during operating hours of ATC Service. 3) Stop Bar Lights will be operated when the visibility or the lowest RVR of Runway 09/27 is at or less than 600m. 4) Stop Bar Lights on Taxiway B1 and B6 are controlled individually by ATC. 5) Stop Bar Lights on Taxiways B2 through B5 are not controlled individually by ATC. 6) During the period Stop Bar Lights operated, Taxiways B2 through B5 are not available for departure aircraft.
4	Remarks	(Marking) Overrun area (LGT) Apron flood LGT

Marking Aids and Parking Area

RJSS AD 2.10 AERODROME OBSTACLES

In Area2 See Obstacle data

In Area3 To be developed

RJSS AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

1	Associated MET Office	TOKYO
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	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}(domestic), E, C, W_E, W_F, W_G, W_I, W, N
8	Supplementary equipment available for providing information	Nil
9	ATS units provided with information	TWR, APP, ATIS, RADIO
10	Additional information (limitation of service, etc.)	Nil

RJSS AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

Designations RWY NR	TRUE BRG	Dimensions of RWY(M)	Strength(PCN) and surface of RWY	THR coordinates THR geoid undulation	THR elevation and highest elevation of TDZ of precision APP RWY
1	2	3	4	5	6
09	82.56°	3000×45	PCN 80/F/B/X/T Asphalt Concrete	*380819.58N* *1405355.40E* 136.8ft	THR ELEV:11.5ft
27	262.56°	3000×45	PCN 80/F/B/X/T Asphalt Concrete	*380832.18N* *1405557.56E* 136.8ft	THR ELEV:15.1ft TDZ ELEV:15.1ft
12	117.70°	1200×45	PCN 34/F/C/Y/T(*) Asphalt Concrete	*380822.05N* *1405453.09E* 137ft	THR ELEV:6ft
30	297.70°	1200×45	PCN 34/F/C/Y/T(*) Asphalt Concrete	*380803.96N* *1405536.72E* 137ft	THR ELEV:5ft

Slope of RWY	Strip Dimensions(M)	RESA(Overrun) Dimensions(M)	Remarks
7	10	11	14
See below chart	3120x300 3120x300	90x(MNM:90 MAX:300)* 191x(MNM:130 MAX:300)* *For detail, ask airport administrator	09/27 grooving:3000mx30m
See below chart	1320x150 1320x150	90x150 240x150	(*)RWY12/30(BTN RWY09/27 AND TWY C3-C4) : PCN 58/F/B/X/T RWY12/30(INT OF TWY C3-C4) : PCN 80/F/B/X/T

RJSS AD 2.13 DECLARED DISTANCES

RWY Designator	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	Remarks
1	2	3	4	5	6
09	3000	3000	3000	3000	Nil
TWY:B2	2420	2420	2420		
TWY:B3	1930	1930	1930		
27	3000	3000	3000	3000	Nil
TWY:B4	1630	1630	1630		
TWY:B5	2300	2300	2300		
12	1200	1200	1200	1200	Nil
30	1200	1200	1200	1200	Nil

誘導路の TORA,TODA 及び ASDA は、誘導路中心線と滑走路中心線の交点から滑走路末端までの距離を示す。
(TORA,TODA and ASDA for TWY indicate distances BTN the point where TWY CL meets RWY CL and RWY THR.)

RJSS 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
09	SALS 420m (*1)	Green Nil	PAPI 3.0° 456m 73.8ft		3000m 30m Coded Color (White/Red) LIH	3000m 60m Coded Color (White/Yellow) LIH	Red	Nil (*2)
27	PALS (CAT I) 900m	Green Green	PAPI 3.0° 439m 65.6ft	900m	3000m 30m Coded Color (White/Red) LIH	3000m 60m Coded Color (White/Yellow) LIH	Red	Nil (*2)
12		Green Nil	PAPI 3.0° 306m 44.5ft			1200m 60m Coded Color (White/Yellow) LIH	Red	Nil (*2)
30		Green Nil	PAPI 3.1° 262m 44.5ft			1200m 60m Coded Color (White/Yellow) LIH	Red	Nil (*2)

Remarks
10
SALS with APCH LGT beacon(560m and 916m FM RWY 09 THR)(*1) Overrun area edge LGT(Color:Red)(*2) CGL for RWY 09 RWY THR ID LGT for RWY 12/30 THR (Color: White)

RJSS AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

1	ABN/IBN location, characteristics and hours of operation	ABN: *380816N/1405552E*, White/Green EV4.3sec, HO
2	LDI location and LGT Anemometer location and LGT	LDI:Nil Anemometer: RWY12:440M FROM RWY12 THR, LGTD RWY09:400M FROM RWY09 THR, LGTD RWY27:385M FROM RWY27 THR, LGTD
3	TWY edge and center line lighting	TWY edge and center line lights installed, see AD2.9
4	Secondary power supply/ switch-over time	Within 1 sec : RCLL, REDL(RWY09/27), RTHL(RWY09/27), RENL(RWY09/27), WBAR, Stop bar LGT, Overrun area edge LGT(RWY09/27) Within 15 sec : Other lights
5	Remarks	Nil

RJSS AD 2.16 HELICOPTER LANDING AREA

Nil

RJSS 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
SENDAI CTR	Area within a radius of 5nm of SENDAI ARP (*38° 08'N 140° 55'E*) exclude KASUMINOME control zone	3 000 or below	D	SENDAI TOWER SENDAI RADIO(1) En	(1)1200 - 1300
SENDAI PCA	SEE RJSS ATTACHED CHART		C	SENDAI APP SENDAI TOWER SENDAI RADIO(1) En	(1)1200 - 1300
SENDAI ACA	SEE RJSS ATTACHED CHART		E	SENDAI APP SENDAI DEP SENDAI RADAR En	
SENDAI TCA	SEE RJSS ATTACHED CHART		E	SENDAI TCA En	

仙台特別管制区
Sendai Positive Control Area

NAME	LATERAL LIMITS	UPPER LIMIT (AMSL) / LOWER LIMIT (AMSL) M(ft)	UNIT PROVIDING SERVICE	REMARKS
1	2	3	4	5
仙台 Sendai	下記に示される区域 The area shown below		Primary Sendai APP 120.4-261.2 Secondary Sendai TWR 126.2 Sendai Radio 118.7	当該空域を飛行しようとする航空機は、仙台アプローチ、仙台タワー又は仙台レディオに連絡し、コールサイン、現在位置、高度及び意図を通報し指示を受けること。 Pilot of aircraft operating in this area shall contact Sendai Approach, Sendai Tower or Sendai Radio for ATC instructions giving informations on aircraft identification, positions, altitude and pilot's intentions.

仙台進入管制区
Sendai Approach Control Area

仙台ターミナルコントロールエリア
Sendai Terminal Control Area

RJSS AD 2.18 ATS COMMUNICATION FACILITIES

Service designation	Call sign	Frequency	Hours of operation	Remarks
1	2	3	4	5
APP	Sendai Approach	120.4MHz 261.2MHz 121.5MHz(E) 243.0MHz(E)	2230 - 1300	(1)Primary
ASR	Sendai Radar	121.2MHz 121.5MHz(E) 243.0MHz(E)	2230 - 1300	
DEP	Sendai Departure	120.0MHz 121.5MHz(E) 243.0MHz(E)	2230 - 1300	
TCA	Sendai TCA	121.025MHz 225.2MHz	2300 - 1030	
TWR	Sendai Tower	118.7MHz(1) 126.2MHz 121.5MHz(E) 243.0MHz(E)	2230 - 1200(*)	
GND	Sendai Ground	121.7MHz	2230 - 1200(*)	
ATIS	Sendai Airport	126.45MHz	2230 - 1300	
AFIS	Sendai Radio	118.7MHz	1200 - 1300(*)	Operated by New Chitose Airport Office

* Depending on air traffic situation, ATC service will be provided from 1200 to 1215.

RJSS 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/2010)	SDE	116.3MHz	H24	*380818.86N/ 1405517.34E*		VOR unusable: 271° BTN 20 - 22nm
DME	SDE	1197MHz (CH-110X)	H24	*380818.86N/ 1405517.34E*	54ft	
ILS-LOC 27	ISD	111.7MHz	2230 - 1300	*380818.56N/ 1405345.94E*		LOC:235m(771ft) away FM RWY 09 THR, BRG (MAG) 270°.
ILS-GP 27	-	333.5MHz	2230 - 1300	*380835.20N/ 1405543.58E*		GP:328m(1076ft) inside FM RWY 27 THR, 138m(453ft) N of RCL. HGT of ILS Ref datum 16.4m(54ft) GP angle 3.0°.
ILS-DME 27	ISD	1015MHz	2230 - 1300	*380835.09N/ 1405543.23E*	24ft	DME:337m(1106ft) inside FM RWY 27 THR, 136m(446ft) N of RCL.
MSAS		1575.42MHz	H24			Transmitting antennas are satellite based

ILS

REMARKS : 1 LOC beam BRG(MAG) 270°
2 ILS-GP Angle 3.0°
3 HGT of ILS REF datum 16.4m(54ft)
4 ELEV of ILS-DME 7.4m(24ft)

RJSS AD 2.20 LOCAL TRAFFIC REGULATIONS

1. Airport regulations

1.1 Aircraft operations, other than scheduled or in emergency.

When using this airport, aircraft operators are required to obtain prior permission of the airport administrator in order to allocate appropriate parking area.

1.2 Prior notification should be required with AD Administration for the purpose of getting the permission when crossing Sendai CTR from 1200UTC to 1300UTC.

For further information (0000UTC - 0800UTC MON - FRI EXC HOL)
Air Traffic Controller Office, Sendai Airport Office
TEL: 022-383-1669

21 時 00 分から 22 時 00 分までの間、仙台管制圏を通過する場合は、当該通過の許可を得るためにあらかじめ仙台空港事務所へ調整すること。
問い合わせ先
仙台空港事務所管制官事務室
（月曜日から金曜日までのうち、9 時 00 分から 17 時 00 分までの間。ただし休日を除く。）
TEL: 022-383-1669

1.3 Time restriction on departures and arrivals.

RWY 12/30 is available during the hours from 2230UTC to 1200UTC.

2. Taxiing to and from stands

Nil

3. Parking area for small aircraft(General aviation)

Nil

4. Parking area for helicopters

Nil

5. Apron - taxiing during winter conditions

Nil

6. Taxiing - limitations

1. Wing tip clearance at the TWY intersection (REF AD1.1.6.8)
Wing tip clearance at the TWY intersection between the aircraft holding at the stop marking on the TWY and the other aircraft taxiing behind it are as follows.

When B773 holding at the stop marking on TWY B2, B3, B4 or B5

Wing Span (WS) of aircraft taxiing on TWY C1-C6	WS =< 30.2m	WS > 30.2m
Wing tip clearance	*B	*C

Legend:
*A : wing tip clearance >= 15m
*B : 6.5m =< wing tip clearance < 15m
*C : wing tip clearance < 6.5m

7. School and training flights - technical test flights - use of runways

Nil

8. Helicopter traffic - limitation

Nil

9. Removal of disabled aircraft from runways

Nil

RJSS AD 2.21 NOISE ABATEMENT PROCEDURES

(See AIP AD 1.1.6.5)

1　騒音軽減運航方式

すべてのジェット機に対して、空港周辺における航空機騒音軽減のため、運航の安全に支障のない範囲で、以下の方式が適用される。ただし、これらの方式によることができない航空機は実効的にこれらと同等と認められる代替方式を実施するものとする。

1) 離陸について（滑走路 27）
急上昇方式
2) 着陸について（滑走路 09）
ディレイド･フラップ進入方式及び低フラップ角着陸方式
3) リバース･スラストについて
21 時 30 分以降翌朝 7 時 30 分までの間、着陸機におけるリバース･スラスト使用についてはアイドルまでに制限する。

2 優先滑走路方式

すべてのジェット機及び証明された最大離陸重量が 5,700kg (12,500lbs) を超えるプロペラ機を対象とし、離陸は滑走路 09、着陸は滑走路 27 により優先的に行うこととする。ただし、航行の安全確保などに万全を期すため、以下に示す条件等にあっては、本方式は適用されない。

1) 機長が航行の安全を考慮して、反対側滑走路に離着陸を行う必要があると判断した場合

2) 滑走路面の状況が適当でない場合

3) 突風を含め追風成分が 5knot を超える場合

4) 突風を含め横風成分が 15knot を超える場合

5) 秩序ある航空交通流が乱される恐れがある場合

6) 特別な訓練、航行援助施設の検査のために反対側滑走路に離着陸を行うことが特に必要であると認められる場合

1 Noise Abatement Operating Procedures

For all jet aircraft, in order to reduce aircraft noise in the vicinity of airport, the following procedures shall be applied unless compliance of the procedures adversely affects the safety of aircraft operations. In case that the aircraft is unable to take these procedures, pilots should execute alternative procedures which are considered to be practically equivalent.

1) For take-off from RWY27
Steepest Climb Procedure
2) For landing to RWY09
Delayed Flap Approach Procedure and Reduced Flap Setting Procedure
3) Reverse Thrust
Between 1230UTC(2130JST) and 2230UTC(0730JST), pilots are requested to limit the use of reverse thrust to idle reverse after landing.

2 Preferential Runways Procedures

For all jet aircraft and propeller-driven aircraft having a maximum certificated take-off weight of more than 5,700kg (12,500lbs), in principle, RWY09 for take-off and RWY27 for landing are preferentially to be used. However, in order to achieve maximum flight safety, this procedure is not applied under the following circumstances.

1) When a pilot-in-command determines that the use of other runway is necessary in consideration of safety of the aircraft operation.
2) When the condition of the specified runway is not suitable for landing or take-off.
3) When the tail wind component, including gusts, exceeds 5 knots.
4) When the cross wind component, including gusts, exceeds 15 knots.
5) When the possibility exists that orderly flow of traffic may be impeded.
6) When the use of other runways is considered especially necessary for the purpose of special training, inspection of navigational facilities, etc.

３．優先飛行経路
1) 滑走路 27 からの離陸
滑走路 27 から離陸する航空機にあっては、空港の西南西 4 海里付近の住居地区（別添図参照）上空を可能な限り避けて飛行すること。
2) 滑走路 09 への着陸
滑走路 09 へ着陸する航空機にあっては、空港の西北西 2.5 海里付近の住居地区（別添図参照）上空を可能な限り避けて飛行すること。

３Noise Preferential Routes
1) Take-off from RWY27
All aircraft departing from RWY27 are urged to avoid, as far as practicable, flying over the residential area located about 4NM WSW of the airport. (See the attached chart.)
2) Landing on RWY09
All aircraft arriving on RWY09 are urged to avoid, as far as practicable, flying over the residential area located about 2.5NM WNW of the airport.
(See the attached chart.)

４．標準計器出発方式の使用
空港周辺地域における航空機騒音を減少させるため、21 時 30 分以降翌朝 7 時までの間においては、緊急またはやむを得ない状況にある航空機を除き、以下の標準計器出発方式に従うこと。

滑走路 27 からの離陸
DERBY DEPARTURE

4 Use of SIDs for Noise Abatement
In order to reduce aircraft noise around the airport, all aircraft are requested to fly via following SIDs during the hours from 1230UTC(2130JST) to 2200UTC(0700JST) except aircraft an emergency or in an unavoidable situation.

Take-off from RWY27
DERBY DEPARTURE

Noise Preferential Route Attachment

RJSS AD 2.22 FLIGHT PROCEDURES

1. TAKE OFF MINIMA

	RWY	ACFT CAT	REDL & RCLL		REDL or RCLL or RCL Marking		NIL (DAYTIME ONLY)	
			CEIL-RVR	CEIL-VIS	CEIL-RVR	CEIL-VIS	CEIL-RVR	CEIL-VIS
Multi-Engine ACFT with TKOF ALTN AP FILED	09	A,B,C,D	-	0′-400m	-	0′-400m	-	0′-500m
	27		0′-400m	0′-400m	0′-400m	0′-400m	-	0′-500m
	12	A,B,C	-	-	-	200′-1600m	-	200′-1600m
	30		-	-	-	0′-400m	-	0′-500m
OTHER	09	A,B,C,D	AVBL LDG MINIMA					
	27							
	12	A,B,C						
	30							

2. Lost communication procedures for arrival aircraft under radar navigational guidance

If radio communications with Sendai Approach/Radar are lost for 1 minute, squawk Mode A/3 Code 7600 and :

(I) 1. Contact Sendai Tower / Sendai Radio
2. If unable, proceed in accordance with Visual Flight Rules.
3. If unable, proceed to Sendai VOR/DME at last assigned altitude or 3,000 feet whichever is higher, and execute instrument approach.

(II) Procedures other than above will be issued when situation required.

3. Trajectorized Airport Traffic Data Processing System (TAPS)

Aircraft flying in Sendai approach control area under its contol will be instructed to reply with discrete code on Mode A/3 and Mode C.
If an aircraft has no capability of replying with discrete code, the pilot shall report ATC if so instructed.

仙台アプローチの指示のもとに、当該進入管制区を飛行する航空機は、モード A/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個別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通報すること。

4. Traffic pattern

(1) In order to avoid congestion of arriving aircraft and to make orderly flow on traffic pattern, aircraft are desirable to fly at the altitude from 2230UTC to 1200UTC.
However, in case it is difficult to fly at the altitude due to weather and so on, aircraft shall report it to "SENDAI TWR" with your proposed altitude.
Traffic pattern altitude as follows.

i) Fixed wing ACFT

a) JET	1,500ft
b) PROPELLER	
Single engine	800ft
Multi engine	1,000ft
ii) Rotor craft	600ft

(2) Aircraft are desirable to fly at or above 1,000ft in hours other than (1) above.

(3) Aircraft using north traffic pattern should pay enough attention to keep out of KASUMINOME CTR.

(1) 到着機が輻輳することを避け、かつ秩序ある飛行場周辺の航空交通の流れを促進するために、7 時 30 分から 21 時までの間、場周経路において航空機は以下の高度で飛行することが望ましい。
ただし、天候等により以下の高度により飛行できない場合は“仙台タワー”に希望飛行高度とともにその旨を通報すること。
場周経路を飛行する際の高度は以下のとおり

i) 固定翼航空機

a) ジェット	1,500ft
b) プロペラ	
単発機	800ft
多発機	1,000ft
ii) 回転翼航空機	600ft

(2) (1) 以外の時間は、すべての航空機は高度 1,000 フィート以上で飛行することが望ましい。

(3) 北側の場周経路を使用する場合は霞目管制圏に入域しないように留意すること。

RJSS AD 2.23 ADDITIONAL INFORMATION

Experimental Radio Facilities

Experimental radio facilities of Aeronautical Safety College Iwanuma Training Center at Sendai Airport as follows. These radio facilities are not to be used as Naviaids.

Facility	Frequency (MHz)	Power	ID	Coordinate of antenna	Hour of OPS
LOC	109.9	10W	EKD	*380812N/1405505E*	H24 (Intermittent transmissions)
GP	333.8	2W	-	*380811N/1405504E*	
DME	997.0	100W	EKD	*380811N/1405507E*	
VOR/TACAN	112.4/1158	100W/1KW	EIW	*380810N/1405506E* *380811N/1405507E*	

RJSS AD 2.24 CHARTS RELATED TO AN AERODROME

Aerodrome Chart -1
Aerodrome Chart -2
Aerodrome Obstacle Chart-ICAO type A (RWY09/27)
Aerodrome Obstacle Chart-ICAO type B
Standard Departure Chart - Instrument (IWAKI)
Standard Departure Chart - Instrument (SENDAI)
Standard Departure Chart - Instrument (DERBY-RNAV)
Standard Departure Chart - Instrument (STEED-RNAV)
Standard Departure Chart - Instrument (CUBIC-RNAV)
Standard Arrival Chart - Instrument (PERID)
Standard Arrival Chart - Instrument (LANCE WEST-RNAV)
Standard Arrival Chart - Instrument (OWLET WEST-RNAV)
Standard Arrival Chart - Instrument (LANCE EAST ALFA-RNAV)
Standard Arrival Chart - Instrument (LANCE EAST BRAVO-RNAV)
Standard Arrival Chart - Instrument (OWLET EAST ALFA-RNAV)
Standard Arrival Chart - Instrument (OWLET EAST BRAVO-RNAV)
Instrument Approach Chart (ILS Z or LOC Z RWY27)
Instrument Approach Chart (ILS Y or LOC Y RWY27)
Instrument Approach Chart (VOR RWY27)
Instrument Approach Chart (VOR RWY30)
Instrument Approach Chart (RNP RWY09 (LNAV/VNAV only))

Instrument Approach Chart (RNP RWY27 (AR))
Other Chart (Visual REP)
Other Chart (LDG CHART)
Other Chart (MVA CHART)

AERODROME CHART

SENDAI AIRPORT

ELEV 1.7m(5.6ft)

CHANGE : CEILOMETER relocated.

CHANGE : AFIS unit added.

Designation	Call Sign	Frequency (MHz)	OPR HR(UTC)
ATIS	Sendai Airport	126.45	2230 - 1300
GND	Sendai Ground	121.7	2230 - 1200
TWR	Sendai Tower	118.7 126.2	2230 - 1200
AFIS	Sendai Radio	118.7	1200 - 1300

AERODROME OBSTACLE CHART-ICAO

TYPE A (OPERATING LIMITATIONS)

DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC

MAGNETIC VARIATION 8°14' W-MAR 2020

SENDAI AIRPORT
RWY : 09/27

DECLARED DISTANCES		
RWY 09		RWY 27
3000m	TAKE OFF RUN AVAILABLE	3000m
3000m	TAKE OFF DISTANCE AVAILABLE	3000m
3000m	ACCELERATE STOP DISTANCE AVAILABLE	3000m
3000m	LANDING DISTANCE AVAILABLE	3000m

LEGEND	
IDENTIFICATION NUMBER	
POLE, TOWER, SPIRE, ANTENNA, ETC	
AERONAUTICAL GROUND LIGHT	
OBSTRUCTION LIGHT	
BUILDING OR LARGE STRUCTURE	
RAILROAD	TRIANGULATION POINT
TRANSMISSION LINE OR OVERHEAD CABLE	
LEVEE	
TREE	RIVER
LAKE	CONTOUR(S)

AMENDMENT RECORD		
Nr	DATE	ENTERED BY

CHANGE:Update

AERODROME OBSTACLE CHART-ICAO

TYPE B

DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC

LEGEND

- AERODROME REFERENCE POINT 38°58'21"N 140°55'21"E
- POLE, TOWER, SPIRE, ANTENNA, ETC
- AERONAUTICAL GROUND LIGHT
- OBSTRUCTION LIGHT
- BUILDING OR LARGE STRUCTURE
- RAILROAD
- TRIANGULATION POINT
- TERRAIN PENETRATING OBSTACLE PLANE
- TRANSMISSION LINE OR OVERHEAD CABLE
- LEVEE
- TREE
- RIVER
- LAKE
- CONTOURS(ft)

AMENDMENT RECORD

Nr	DATE	ENTERED BY

CHANGE:Update

STANDARD DEPARTURE CHART-INSTRUMENT

RJSS / SENDAI SID

IWAKI EIGHT DEPARTURE

RWY 09 : Climb RWY HDG to SDE 3.4DME (2.8NM FM DER), turn right to intercept and proceed...

RWY 12 : Climb ...

RWY 27 : Climb RWY HDG to 500FT, turn left HDG 090˚ to intercept and proceed...

RWY 30 : Climb RWY HDG to 500FT, turn left HDG 090˚ to intercept and proceed...
...via SDE R120, via IXE R024 to IXE VOR/DME.
Cross IXE R024/46.7DME at or above 11000FT, cross IXE R024/28.0DME at or above FL150, cross IXE VOR/DME at assigned altitude.

Note RWY 09 : 5.0% climb gradient required up to 500FT.
OBST ALT 62FT located at 0.2NM 102˚ FM end of RWY09.

RWY 27 : 5.0% climb gradient required up to 1000FT.
OBST ALT 919FT located at 4.1NM 269˚ FM end of RWY27.

RWY 30 : 5.0% climb gradient required up to 1200FT.
OBST ALT 1181FT located at 5.3NM 283˚ FM end of RWY30.

CHANGE : Description of PROC name.

STANDARD DEPARTURE CHART-INSTRUMENT

RJSS / SENDAI SID

SENDAI REVERSAL SIX DEPARTURE

RWY 09 : Climb RWY HDG to SDE 3.4DME (2.8NM fm DER), turn right to intercept and proceed...

RWY 12 : Climb ...

RWY 27 : Climb RWY HDG to 500FT, turn left HDG 090˚ to intercept and proceed...

RWY 30 : Climb RWY HDG to 500FT, turn left HDG 090˚ to intercept and proceed...
...via SDE R120 to 10.0DME, turn right, direct to SDE VOR/DME.
Cross SDE VOR/DME at or above 7000FT(*).

* In case of proceeding to IXE VOR/DME : Cross SDE VOR/DME at or above 5000FT.
In case of proceeding to FKE VOR/DME : Cross SDE VOR/DME at or above 6000FT.

Note RWY 09 : 5.0% climb gradient required up to 500FT.
OBST ALT 62FT located at 0.2NM 102˚ FM end of RWY09.
RWY 27 : 5.0% climb gradient required up to 1000FT.
OBST ALT 919FT located at 4.1NM 269˚ FM end of RWY27.
RWY 30 : 5.0% climb gradient required up to 1200FT.
OBST ALT 1181FT located at 5.3NM 283˚ FM end of RWY30.

CHANGE : Description of PROC name.

STANDARD DEPARTURE CHART - INSTRUMENT

RJSS / SENDAI

RNAV SID and TRANSITION

DERBY FOUR DEPARTURE YAMAGATA TRANSITION / NIIGATA TRANSITION / RIKYU NORTH TRANSITION / SASAP TRANSITION	Basic RNP1

Note GNSS required.

DERBY FOUR DEPARTURE

RWY09 : Climb on HDG091˚ at or above 500FT, direct to SS901, turn right direct to ANEMO, to EBOSI, to DERBY at or above 9000FT.

RWY27 : Climb on HDG271˚ at or above 500FT, direct to SS701, turn left direct to EBOSI, to DERBY at or above 9000FT.

NOTE RWY09: 5.0% climb gradient required up to 500FT.
OBST ALT 62FT located at 0.2NM 103˚ FM end of RWY09.

RWY27: 5.9% climb gradient required up to 1300FT.
OBST ALT 1181FT located at 4.6NM 285˚ FM end of RWY27.

YAMAGATA TRANSITION

From DERBY at or above 9000FT, to YTE.

NIIGATA TRANSITION

From DERBY at or above 9000FT, to GTC.

RIKYU NORTH TRANSITION

From DERBY at or above 9000FT, to RIKYU.

SASAP TRANSITION

From DERBY at or above 9000FT, to SASAP.

CHANGE : Description of VAR.

STANDARD DEPARTURE CHART - INSTRUMENT

RJSS / SENDAI

RNAV SID and TRANSITION

CHANGE : VAR. SID renamed. SID course. ALT restriction at DERBY. Navigation specification. NIIGATA TRANSITION deleted.

DERBY FOUR DEPARTURE

RWY09

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	—	—	091 (082.5)	-8.3	—	—	+500	—	—	Basic RNP1
002	DF	SS901	Y	—	-8.3	—	—	—	—	—	Basic RNP1
003	DF	ANEMO	—	—	-8.3	—	R	—	—	—	Basic RNP1
004	TF	EBOSI	—	285 (276.4)	-8.3	17.6	—	—	—	—	Basic RNP1
005	TF	DERBY	—	276 (268.1)	-8.3	7.7	—	+9000	—	—	Basic RNP1

RWY27

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	—	—	271 (262.5)	-8.3	—	—	+500	—	—	Basic RNP1
002	DF	SS701	Y	—	-8.3	—	—	—	—	—	Basic RNP1
003	DF	EBOSI	—	—	-8.3	—	L	—	—	—	Basic RNP1
004	TF	DERBY	—	276 (268.1)	-8.3	7.7	—	+9000	—	—	Basic RNP1

STANDARD DEPARTURE CHART - INSTRUMENT

RJSS / SENDAI

RNAV SID and TRANSITION

CHANGE : YAMAGATA TRANSITION, RIKYU NORTH TRANSITION, SASAP TRANSITION established. NIIGATA TRANSITION added.

YAMAGATA TRANSITION

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	DERBY	—	—	-8.3	—	—	+9000	—	—	Basic RNP1
002	TF	YTE	—	356 (347.9)	-8.3	23.7	—	—	—	—	Basic RNP1

NIIGATA TRANSITION

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	DERBY	—	—	-8.3	—	—	+9000	—	—	Basic RNP1
002	TF	GTC	—	276 (268.0)	-8.3	63.9	—	—	—	—	Basic RNP1

RIKYU NORTH TRANSITION

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	DERBY	—	—	-8.3	—	—	+9000	—	—	Basic RNP1
002	TF	RIKYU	—	189 (180.5)	-8.3	26.8	—	—	—	—	Basic RNP1

SASAP TRANSITION

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	DERBY	—	—	-8.3	—	—	+9000	—	—	Basic RNP1
002	TF	SASAP	—	188 (179.4)	-8.3	49.3	—	—	—	—	Basic RNP1

STANDARD DEPARTURE CHART - INSTRUMENT

RJSS / SENDAI — RNAV SID and TRANSITION

STEED FOUR DEPARTURE / RIKYU TRANSITION	Basic RNP1

Note GNSS required.

STEED FOUR DEPARTURE

RWY09 : Climb on HDG091˚ at or above 500FT, direct to SS901, turn right direct to MUSBI at or above 5000FT, to STEED.

RWY27 : Climb on HDG271˚ at or above 500FT, turn left direct to BUBLE, to MUSBI at or above 5000FT, to STEED.

NOTE RWY09: 5.0% climb gradient required up to 500FT.
OBST ALT 62FT located at 0.2NM 103˚ FM end of RWY09.
RWY27: 5.0% climb gradient required up to 1000FT.
OBST ALT 919FT located at 4.1NM 269˚ FM end of RWY27.

RIKYU TRANSITION
From STEED, to RIKYU.

CHANGE : Description of VAR.

STANDARD DEPARTURE CHART - INSTRUMENT

RJSS / SENDAI

RNAV SID and TRANSITION

STEED FOUR DEPARTURE

RWY09

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	—	—	091 (082.5)	-8.3	—	—	+500	—	—	Basic RNP1
002	DF	SS901	Y	—	-8.3	—	—	—	—	—	Basic RNP1
003	DF	MUSBI	—	—	-8.3	—	R	+5000	—	—	Basic RNP1
004	TF	STEED	—	189 (180.9)	-8.3	12.8	—	—	—	—	Basic RNP1

RWY27

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	—	—	271 (262.5)	-8.3	—	—	+500	—	—	Basic RNP1
002	DF	BUBLE	—	—	-8.3	—	L	—	—	—	Basic RNP1
003	TF	MUSBI	—	189 (180.9)	-8.3	7.2	—	+5000	—	—	Basic RNP1
004	TF	STEED	—	189 (180.9)	-8.3	12.8	—	—	—	—	Basic RNP1

RIKYU TRANSITION

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	STEED	—	—	-8.3	—	—	—	—	—	Basic RNP1
002	TF	RIKYU	—	257 (248.4)	-8.3	27.3	—	—	—	—	Basic RNP1

CHANGE : VAR. SID renamed. Navigation specification. PROC course. MUSBI established.

STANDARD DEPARTURE CHART - INSTRUMENT

RJSS / SENDAI — RNAV SID and TRANSITION

CUBIC FOUR DEPARTURE / TOHOKU TRANSITION	Basic RNP1

Note GNSS required.

CUBIC FOUR DEPARTURE

RWY09 : Climb on HDG091˚ at or above 500FT, direct to SS901, to HAGNO at or above 11000FT, to CUBIC at or above FL150.

RWY27 : Climb on HDG271˚ at or above 500FT, turn left direct to BUBLE, to MONAK at or above 11000FT, to CUBIC at or above FL150.

NOTE RWY09: 5.0% climb gradient required up to 500FT.
OBST ALT 62FT located at 0.2NM 103˚ FM end of RWY09.
RWY27: 5.0% climb gradient required up to 1000FT.
OBST ALT 919FT located at 4.1NM 269˚ FM end of RWY27.

TOHOKU TRANSITION

From CUBIC at or above FL150, to SERRY, to SAITI, to SAMBO.

CHANGE : Description of VAR.

STANDARD DEPARTURE CHART - INSTRUMENT

RJSS / SENDAI

RNAV SID and TRANSITION

CHANGE : VAR. SID renamed. Navigation specification. PROC course. HAGNO, MONAK, SERRY established. RIDER abolished. TOHOKU TRANSITION added.

CUBIC FOUR DEPARTURE

RWY09

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	—	—	091 (082.5)	-8.3	—	—	+500	—	—	Basic RNP1
002	DF	SS901	Y	—	-8.3	—	—	—	—	—	Basic RNP1
003	TF	HAGNO	—	124 (115.8)	-8.3	22.0	—	+11000	—	—	Basic RNP1
004	TF	CUBIC	—	124 (116.1)	-8.3	9.1	—	+FL150	—	—	Basic RNP1

RWY27

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	—	—	271 (262.5)	-8.3	—	—	+500	—	—	Basic RNP1
002	DF	BUBLE	—	—	-8.3	—	L	—	—	—	Basic RNP1
003	TF	MONAK	—	115 (106.4)	-8.3	19.5	—	+11000	—	—	Basic RNP1
004	TF	CUBIC	—	115 (106.7)	-8.3	9.4	—	+FL150	—	—	Basic RNP1

TOHOKU TRANSITION

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	CUBIC	—	—	-8.3	—	—	+FL150	—	—	Basic RNP1
002	TF	SERRY	—	018 (009.5)	-8.3	36.4	—	—	—	—	Basic RNP1
003	TF	SAITI	—	347 (338.8)	-8.3	58.9	—	—	—	—	Basic RNP1
004	TF	SAMBO	—	351 (343.0)	-8.3	47.4	—	—	—	—	Basic RNP1

STANDARD ARRIVAL CHART-INSTRUMENT

RJSS / SENDAI STAR

PERID ARRIVAL

From over AOBAR, via SDE R135 to intercept and proceed via SDE 10.0DME counterclockwise ARC to PERID.

Cross PERID at or above 1500FT.

CHANGE : HLDG abolished(PERID).

STANDARD ARRIVAL CHART - INSTRUMENT

RJSS / SENDAI — RNAV STAR RWY09

LANCE WEST ARRIVAL — Basic RNP1

Note GNSS required.

From LANCE at or above 11000FT, to QUAIL, at or above 9400FT, to RIBON at or above 6000FT, to SHIPS at or above 4000FT.

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	LANCE	—	—	-8.3	—	—	+11000	—	—	Basic RNP1
002	TF	QUAIL	—	128 (119.4)	-8.3	5.0	—	+9400	-250	—	Basic RNP1
003	TF	RIBON	—	093 (084.5)	-8.3	5.0	—	+6000	—	—	Basic RNP1
004	TF	SHIPS	—	003 (354.6)	-8.3	7.8	—	+4000	—	—	Basic 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	LANCE	107 (098.3)	-8.3	1.0(-14000) 1.5(+14001)	R	11000	—	-230(-14000) -240(+14001)	Basic RNP1

CHANGE : Description of HLDG.

STANDARD ARRIVAL CHART-INSTRUMENT

RJSS / SENDAI — RNAV STAR RWY09

OWLET WEST ARRIVAL	Basic RNP1

Note GNSS required.

From OWLET at or above 13000FT, to PRINK at or above 9000FT, to QUIST, to RIBON at or above 6000FT, to SHIPS at or above 4000FT.

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	OWLET	—	—	-8.3	—	—	+13000	—	—	Basic RNP1
002	TF	PRINK	—	093 (084.4)	-8.3	5.3	—	+9000	—	—	Basic RNP1
003	TF	QUIST	—	093 (084.5)	-8.3	5.2	—	—	-250	—	Basic RNP1
004	TF	RIBON	—	003 (354.6)	-8.3	5.0	—	+6000	—	—	Basic RNP1
005	TF	SHIPS	—	003 (354.6)	-8.3	7.8	—	+4000	—	—	Basic 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	OWLET	080 (071.7)	-8.3	1.0(-14000) 1.5(+14001)	R	13000	—	-230(-14000) -240(+14001)	Basic RNP1

CHANGE : Description of HLDG.

STANDARD ARRIVAL CHART-INSTRUMENT

RJSS / SENDAI — RNAV STAR RWY27

LANCE EAST ALFA ARRIVAL — Basic RNP1

Note GNSS required.

From LANCE at or above 11000FT, to FUBOU at or above 9000FT, to SNOOK at or above 4000FT, to TOPAZ, to PERID at or above 1500FT.

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	LANCE	—	—	-8.3	—	—	+11000	—	—	Basic RNP1
002	TF	FUBOU	—	085 (077.2)	-8.3	5.9	—	+9000	—	—	Basic RNP1
003	TF	SNOOK	—	086 (077.3)	-8.3	15.4	—	+4000	—	—	Basic RNP1
004	TF	TOPAZ	—	068 (059.8)	-8.3	12.5	—	—	-230	—	Basic RNP1
005	TF	PERID	—	001 (352.6)	-8.3	4.5	—	+1500	—	—	Basic 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	LANCE	107 (098.3)	-8.3	1.0(-14000) 1.5(+14001)	R	11000	—	-230(-14000) -240(+14001)	Basic RNP1

CHANGE : Description of HLDG.

STANDARD ARRIVAL CHART-INSTRUMENT

RJSS / SENDAI — RNAV STAR RWY27

LANCE EAST BRAVO ARRIVAL — Basic RNP1

Note GNSS required.

VAR 8˚W

From LANCE at or above 11000FT, to FUBOU at or above 9000FT, to SNOOK at or above 4000FT.

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	LANCE	—	—	-8.3	—	—	+11000	—	—	Basic RNP1
002	TF	FUBOU	—	085 (077.2)	-8.3	5.9	—	+9000	—	—	Basic RNP1
003	TF	SNOOK	—	086 (077.3)	-8.3	15.4	—	+4000	—	—	Basic 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	LANCE	107 (098.3)	-8.3	1.0(-14000) 1.5(+14001)	R	11000	—	-230(-14000) -240(+14001)	Basic RNP1

CHANGE : Description of HLDG.

STANDARD ARRIVAL CHART-INSTRUMENT

RJSS / SENDAI — RNAV STAR RWY27

OWLET EAST ALFA ARRIVAL — Basic RNP1

Note GNSS required.

From OWLET at or above 13000FT, to RIBON at or above 9000FT, to ORKID at or above 5000FT, to SNOOK at or above 4000FT, to TOPAZ, to PERID at or above 1500FT.

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	OWLET	—	—	-8.3	—	—	+13000	—	—	Basic RNP1
002	TF	RIBON	—	067 (058.9)	-8.3	11.6	—	+9000	—	—	Basic RNP1
003	TF	ORKID	—	068 (059.7)	-8.3	8.8	—	+5000	—	—	Basic RNP1
004	TF	SNOOK	—	068 (059.8)	-8.3	4.4	—	+4000	—	—	Basic RNP1
005	TF	TOPAZ	—	068 (059.8)	-8.3	12.5	—	—	-230	—	Basic RNP1
006	TF	PERID	—	001 (352.6)	-8.3	4.5	—	+1500	—	—	Basic 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	OWLET	080 (071.7)	-8.3	1.0(-14000) 1.5(+14001)	R	13000	—	-230(-14000) -240(+14001)	Basic RNP1

CHANGE : Description of HLDG.

STANDARD ARRIVAL CHART-INSTRUMENT

RJSS / SENDAI — RNAV STAR RWY27

OWLET EAST BRAVO ARRIVAL	Basic RNP1

Note GNSS required.

From OWLET at or above 13000FT, to RIBON at or above 9000FT, to ORKID at or above 5000FT, to SNOOK at or above 4000FT.

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	OWLET	—	—	-8.3	—	—	+13000	—	—	Basic RNP1
002	TF	RIBON	—	067 (058.9)	-8.3	11.6	—	+9000	—	—	Basic RNP1
003	TF	ORKID	—	068 (059.7)	-8.3	8.8	—	+5000	—	—	Basic RNP1
004	TF	SNOOK	—	068 (059.8)	-8.3	4.4	—	+4000	—	—	Basic 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	OWLET	080 (071.7)	-8.3	1.0(-14000) 1.5(+14001)	R	13000	—	-230(-14000) -240(+14001)	Basic RNP1

CHANGE : Description of HLDG.

INTENTIONALLY LEFT BLANK

INSTRUMENT APPROACH CHART

RJSS / SENDAI — ILS Z or LOC Z RWY27

SENDAI APP	ILS – LOC	SENDAI TOWER	SENDAI RADIO	RADAR AVBL
120.4 – 261.2	111.7 ISD ILS–GP 333.5 ILS–DME CH –54X	118.7 - 126.2	1200 – 1300(UTC) 118.7 AFIS provided by New Chitose Airport Office	ATIS 126.45

NM to ISD	MAPt	1	2	3	4	FAF
ALT (3.0° APCH Path)	–	326	645	964	1281	1478

MISSED APPROACH

Climb to 600FT on HDG270°,
turn left, via SDE R160 to 3000FT,
turn left, direct to SDE
VOR/DME and hold.
Contact SENDAI APP.

Timing not authorized for defining the MAPt.

DME to ISD	0.6	1.0	4.6	9.6
NM to THR	0	0.5	0.8	4.4	9.4

Missed APCH climb gradient MNM 4.0%.

MINIMA THR elev. 15 AD elev. 6

CAT	CAT I		LOC		CIRCLING	
	DA(H)	RVR/CMV	MDA(H)	RVR/CMV	MDA(H)	VIS
A	215 (200)	550	320 (314)	900	530 (524)	1600
B				1000		
C						2400
D				1400	560 (554)	3200

MINIMA with Missed APCH climb gradient of 2.5% are not established.

CHANGE : Description of Missed APCH course.

INSTRUMENT APPROACH CHART

RJSS / SENDAI — ILS Y or LOC Y RWY27

SENDAI APP	ILS – LOC	SENDAI TOWER	SENDAI RADIO	RADAR AVBL
120.4 – 261.2	111.7 ISD ILS–GP 333.5 ILS–DME CH –54X	118.7 - 126.2	1200 – 1300(UTC) 118.7 AFIS provided by New Chitose Airport Office	ATIS 126.45

NM to ISD	MAPt	1	2	3	4	FAF
ALT (3.0˚ APCH Path)	–	326	645	964	1281	1478

MISSED APPROACH

Climb to 600FT on HDG270˚,
turn left, via SDE R160 to 3000FT,
turn left, direct to SDE
VOR/DME and hold.
Contact SENDAI APP.

Timing not authorized for defining the MAPt.

DME to ISD		0.6	1.0	4.6
NM to THR	0	0.5	0.8	4.4

Missed APCH climb gradient MNM 4.0%.

MINIMA THR elev. 15 AD elev. 6

CAT	CAT I		LOC		CIRCLING	
	DA(H)	RVR/CMV	MDA(H)	RVR/CMV	MDA(H)	VIS
A	215 (200)	550	320 (314)	900	530 (524)	1600
B				1000		
C						2400
D				1400	560 (554)	3200

MINIMA with Missed APCH climb gradient of 2.5% are not established.

CHANGE : Description of Missed APCH course.

INSTRUMENT APPROACH CHART

RJSS / SENDAI — VOR RWY27

SENDAI APP	SENDAI VOR / DME 116.3 SDE CH–110X 38°08´19˝N/140°55´17˝E	SENDAI TOWER	1200 – 1300(UTC) SENDAI RADIO 118.7 AFIS provided by New Chitose Airport Office	RADAR AVBL
120.4 –261.2		118.7 - 126.2		ATIS 126.45

NM to SDE	MAPt	2	3	4	FAF
ALT (3.0° APCH Path)	–	524	842	1161	1479

MISSED APPROACH

Turn left, climb via SDE R160 to 3000FT, turn left, direct to SDE VOR/DME and hold.

Contact SENDAI APP.

Timing not authorized for defining the MAPt.

DME to SDE	0	1.6	5.0
NM to THR	0	1.1	4.4

MINIMA — THR elev. 15 — AD elev. 6

CAT			CIRCLING	
	MDA(H)	RVR/ CMV	MDA(H)	VIS
A	390 (384)	900	530 (524)	1600
B		1000		
C				2400
D		1400	560 (554)	3200

CHANGE : Description of PROC course.

INSTRUMENT APPROACH CHART

RJSS / SENDAI — VOR RWY30

SENDAI APP	SENDAI VOR / DME 116.3 SDE	SENDAI TOWER	1200 – 1300(UTC) SENDAI RADIO 118.7	RADAR AVBL
120.4 –261.2	CH–110X 38˚08´19˝N/140˚55´17˝E	118.7 - 126.2	AFIS provided by New Chitose Airport Office	ATIS 126.45

NM to SDE	MAPt	2	3	4	FAF
ALT (3.1˚ APCH Path)	–	600	929	1258	1587

BNCHO (FAF) : *380536.44N/1410037.27E*

MISSED APPROACH

Turn left, climb via SDE R160 to 3000FT, turn left, direct to SDE VOR/DME and hold.

Contact SENDAI APP.

Timing not authorized for defining the MAPt.

DME to SDE	0	1.5	5.0
NM to THR	0	1.2	4.7

MINIMA — THR elev. 5 — AD elev. 6

CAT			CIRCLING	
	MDA(H)	CMV	MDA(H)	VIS
A	410 (404)	1500	530 (524)	1600
B				
C		1800		2400
D	–	–	–	–

CHANGE : Description of PROC course.

INSTRUMENT APPROACH CHART

RJSS / SENDAI

RNP RWY09(LNAV/VNAV only)

SENDAI APP	RNP APCH	SENDAI TOWER	SENDAI RADIO (1200 – 1300(UTC))	RADAR AVBL
120.4 – 261.2		118.7 - 126.2	118.7 AFIS provided by New Chitose Airport Office	ATIS 126.45

MISSED APPROACH
Climb direct to SS901, to AOBAR and hold at 3000FT.
Contact SENDAI APP.

MINIMA THR elev. 12 AD elev. 6

CAT	LNAV/VNAV		LNAV		CIRCLING	
	DA(H)	CMV	MDA(H)	CMV	MDA(H)	VIS
A	265 (253)	1000	Not applicable		530 (524)	1600
B	270 (258)	1100				
C	278 (266)	1200				2400
D	286 (274)	1400			560 (554)	3200

CHANGE : PROC renamed. Course FM TILES to SUGOH. MAPt abolished. Missed APCH PROC. MINIMA for LNAV/VNAV, LNAV. HLDG for NAVAID abolished. OCA(H) deleted.

INSTRUMENT APPROACH CHART

RJSS / SENDAI — RNP RWY27(AR)

SENDAI APP 120.4 - 261.2	RNP AR RF required.	SENDAI TOWER 118.7 - 126.2	1200 - 1300(UTC) SENDAI RADIO 118.7 AFIS provided by New Chitose Airport Office	RADAR AVBL ATIS 126.45

For uncompensated Baro-VNAV systems, procedure not authorized below -10°C / above 45°C

MISSED APPROACH

From RW27 on track 271°,
at or above 600FT turn left,
direct to SNOOK and hold at
4000FT.
Contact SENDAI APP.

MINIMA	THR elev. 15	AD elev. 6
CAT	RNP 0.30	
	DA(H)	RVR/CMV
A	-	-
B		
C	315(300)	1000
D		1400

Authorization Required

* Missed APCH climb gradient MNM 4.0%

CHANGE : Description of VAR.

INSTRUMENT APPROACH CHART

RJSS / SENDAI RNP RWY27(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	SNOOK	-	-	-8.3	-	-	+4000	-	-	-
002	TF	VEGAL	-	042 (033.3)	-8.3	6.4	-	2500	-	-	1.0
003	TF	SS771	-	042 (033.4)	-8.3	1.5	-	2030	-165	-3.00	0.3
004	RF Center: SSRF1 r=2.02NM	SS772	-	-	-8.3	4.6	L	560	-	-3.00	0.3
005	TF	RW27	Y	271 (262.6)	-8.3	1.5	-	69	-	-3.00/54	0.3
006	FA	-	-	271 (262.6)	-8.3	-	-	+600	-	-	1.0
007	DF	SNOOK	-	-	-8.3	-	L	4000	-	-	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	SNOOK	080 (071.9)	-8.3	1.0 (-14000)	R	4000	FL140	-210 (-14000)	1.0

Waypoint Coordinates

Waypoint Identifier	Coordinates	RF Arc Center Identifier	Coordinates
SNOOK	*375901.53N / 1405451.66E*	SSRF1	*380643.74N / 1405813.69E*
VEGAL	*380422.75N / 1405919.92E*		
SS771	*380536.78N / 1410021.86E*		
SS772	*380844.14N / 1405753.87E*		
RW27	*380832.18N / 1405557.56E*		

RJSS / SENDAI

Visual REP

CHANGE : AFIS unit added.

RJSS / SENDAI Visual REP

Call sign	BRG / DIST from ARP	Remarks
熊野 Kumano	319°T / 5.0NM	熊野神社 Kumano Shrine
中田 Nakada	336°T / 3.8NM	JR南仙台駅 Station
閖上 Yuriage	043°T / 2.9NM	名取川河口 River-mouth of the Natori
名取 Natori	321°T / 2.6NM	JR名取駅 Station
二の倉 Ninokura	160°T / 1.7NM	県南浄化センター Sewage disposal center
岩沼 Iwanuma	236°T / 3.0NM	JR岩沼駅 Station
槻木 Tsukinoki	234°T / 6.2NM	JR槻木駅 Station
阿武隈 Abukuma	178°T / 5.6NM	阿武隈川河口 River-mouth of the Abukuma
亘理 Watari	204°T / 6.5NM	JR亘理駅 Station

注：有視界飛行方式により霞目管制圏から仙台管制圏へ進入しようとする航空機は、仙台管制圏に入圏する前に仙台タワーまたは仙台レディオへ通報すること。

NOTE : When any VFR flight enters SENDAI CTR directly via KASUMINOME CTR, the pilot shall report to "SENDAI TWR" or "SENDAI RADIO" before entering SENDAI CTR.

注：VFR機とIFR機の航行の安全のため、仙台進入管制区のうち、仙台空港から15NM以内の地域をVFRで航行する場合は、仙台TCAと積極的にコンタクトすること。

NOTE : In order to ensure the safety operations for both VFR and IFR aircraft, VFR aircraft should contact SENDAI TCA positively when the flight includes SENDAI Approach Control Area, within 15 miles from Sendai Airport.

CHANGE : SENDAI RADIO added to NOTE.

RJSS / SENDAI LDG CHART

CHANGE : AFIS unit added.

①	②	③	④
Angle 3.0˚	Angle 3.0˚	Angle 3.0˚	Angle 3.1˚
MEHT 22.5m (73.8 ft)	MEHT 20.0m (65.6 ft)	MEHT 13.6m (44.5 ft)	MEHT 13.6m (44.5 ft)
456m FM THR	439m FM THR	306m FM THR	262m FM THR

RJSS / SENDAI Minimum Vectoring Altitude CHART

VAR 8˚W (2011)

① 4500
② 4000

FM RADAR SITE
(1) 265˚ 11.4NM
(2) 260˚ 16.4NM
(3) 249˚ 20NM
(4) 070˚ 33NM

CENTER : *380838N/1405510E* (RADAR SITE)