

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) Tel: 022-383-1301(AIS) AFS: RJSSYFYX |

RJSS AD 2.3 OPERATIONAL HOURS

| | | |
|----|---------------------------|---|
| 1 | AD Administration | 2230 - 1300 |
| 2 | Customs and immigration | 2230 - 1300 |
| 3 | Health and sanitation | 2230 - 1300 |
| 4 | AIS Briefing Office | H24 |
| 5 | ATS Reporting Office(ARO) | Nil |
| 6 | MET Briefing Office | H24 |
| 7 | ATS | 2230 - 1300 (Flight Information Service (except ATIS) and Alerting Service: H24) |
| 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 aircraft | Nil |
| 4 | Remarks | Nil |

RJSS AD 2.7 SEASONAL AVAILABILITY-CLEARING

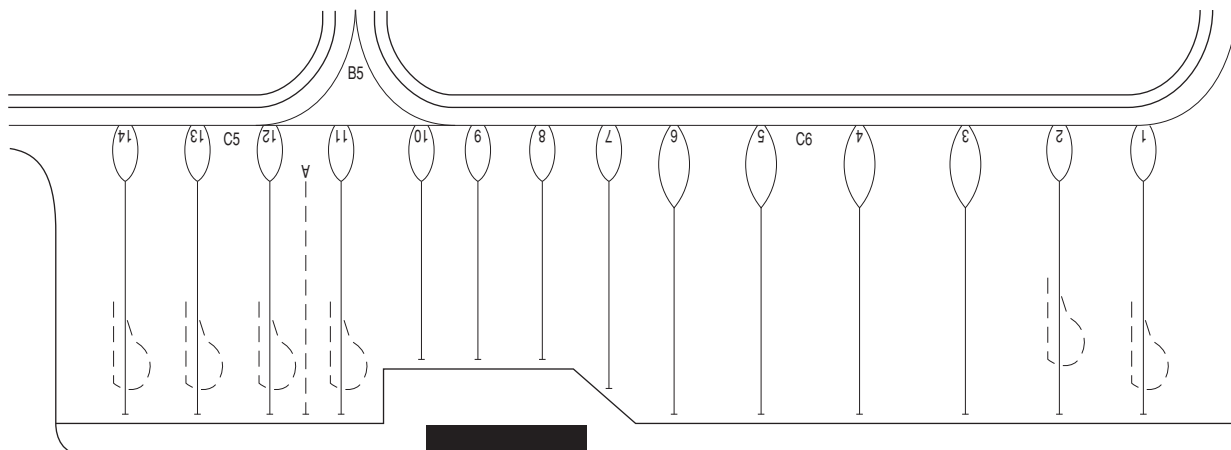
| | | |
|---|-----------------------------|---|
| 1 | Types of clearing equipment | Snow removal available |
| 2 | Clearance priorities | Snow removal priority: RWY09/27, TWY A1, B1, B3, B6, C1-C6, APRON |
| 3 | Remarks | Seasonal availability : All seasons |

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 : 380820.42N/1405556.64E 2 : 380820.17N/1405554.20E 3 : 380819.95N/1405551.44E 4 : 380819.64N/1405548.39E 5 : 380819.34N/1405545.43E 6 : 380819.04N/1405542.58E 7 : 380818.70N/1405539.94E 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 | <p>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)</p> <p>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)</p> |
| 3 | Stop bars | <p>Stop Bar Lights: B1-B6 Stop Bar Lights operations</p> <ol style="list-style-type: none"> 1) Stop Bar Lights are installed at each taxi holding position associated with Runway 09/27. 2) Stop Bar Lights will be operated when the visibility or the lowest RVR of Runway 09/27 is at or less than 600m. 3) Stop Bar Lights on Taxiway B1 and B6 are controlled individually by ATC. 4) Stop Bar Lights on Taxiways B2 through B5 are not controlled individually by ATC. 5) During the period Stop Bar Lights operated, Taxiways B2 through B5 are not available for departure aircraft. |
| 4 | Remarks | <p>(Marking) Overrun area (LGT) Apron flood LGT</p> |

Marking Aids and Parking Area

RJSS AD 2.10 AERODROME OBSTACLES

See AD2.24 Aerodrome Obstacle Chart

In circling area and at AD

| Obstacle type | Coordinates | Elevation | Markings/LGT | Remarks |
|---------------|----------------------|-----------|--------------|------------------------------|
| Lightning rod | 380938.4N/1405504.8E | 171ft | - /LGTD | Above the horizontal surface |
| Lightning rod | 380957.2N/1405342.1E | 161ft | - /LGTD | Above the horizontal surface |

RJSS AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

| | | |
|----|--|--|
| 1 | Associated MET Office | SENDAI |
| 2 | Hours of service MET Office outside hours | H24 |
| 3 | Office responsible for TAF preparation Periods of validity | SENDAI 30 Hours |
| 4 | Trend forecast Interval of issuance | Nil |
| 5 | Briefing/ consultation provided | P, Ja ,En |
| 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 ₁ , 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 |
| 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° | 3000x45 | PCN 80/F/B/X/T Asphalt Concrete | 380819.58N 1405355.40E 136.8ft | THR ELEV:11.5ft |
| 27 | 262.56° | 3000x45 | 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° | 1200x45 | PCN 34/F/C/Y/T(*) Asphalt Concrete | 380822.05N 1405453.09E 137ft | THR ELEV:6ft |
| 30 | 297.70° | 1200x45 | 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 |

RWY 09

RWY 27



RWY 12

RWY 30



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

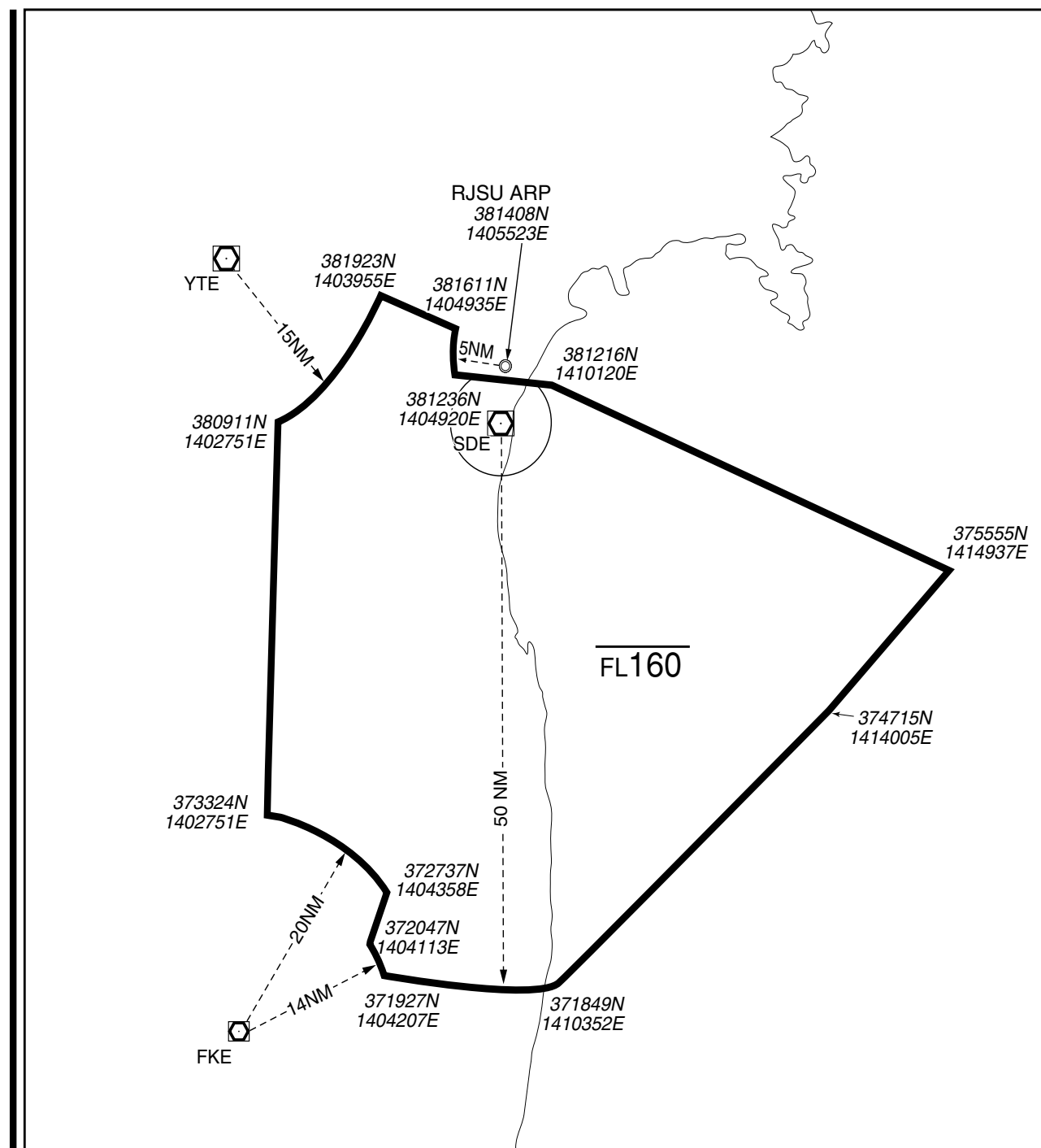
| |
|-----|
| Nil |
|-----|

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 En | |
| SENDAI PCA | SEE RJSS ATTACHED CHART | | C | SENDAI APP SENDAI TOWER En | |
| 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) | UNIT PROVIDING SERVICE | REMARKS |
|--------------|-----------------------------------|--------------------------------|--|--|
| | | LOWER LIMIT (AMSL) M(ft) | | |
| 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 | 当該空域を飛行しようとする航空機は、仙台アプローチ又は仙台タワーに連絡し、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 or Sendai Tower for ATC instructions giving in-formations 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



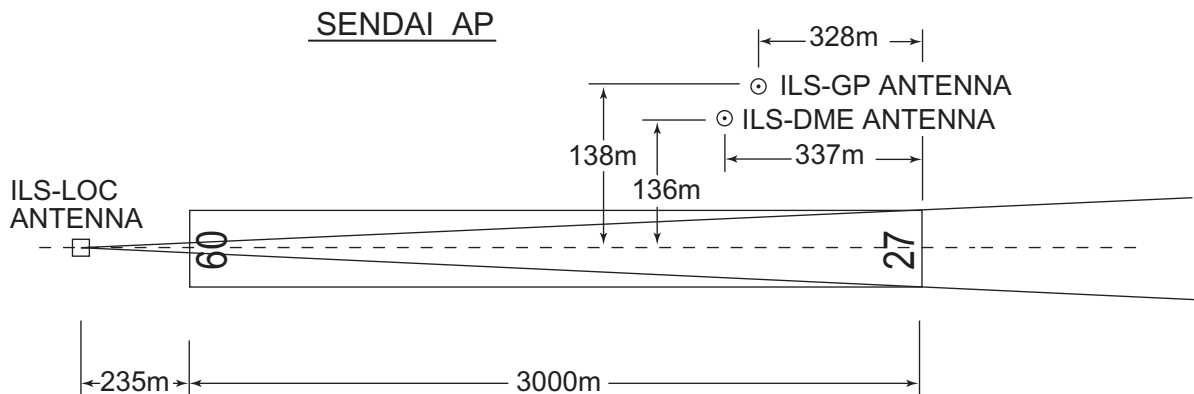
RJSS AD 2.18 ATS COMMUNICATION FACILITIES

| 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 - 1300 | |
| GND | Sendai Ground | 121.7MHz | 2230 - 1300 | |
| ATIS | Sendai Airport | 126.45MHz | 2230 - 1300 | |

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. 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.

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つては、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

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つては、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つては、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。

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

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 Noise 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 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



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.
 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 control 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.

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 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、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) 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 Iwanuma Branch of Aeronautical Safety College at Sendai Airport as follows. These radio facilities are not to be used as Navaids.

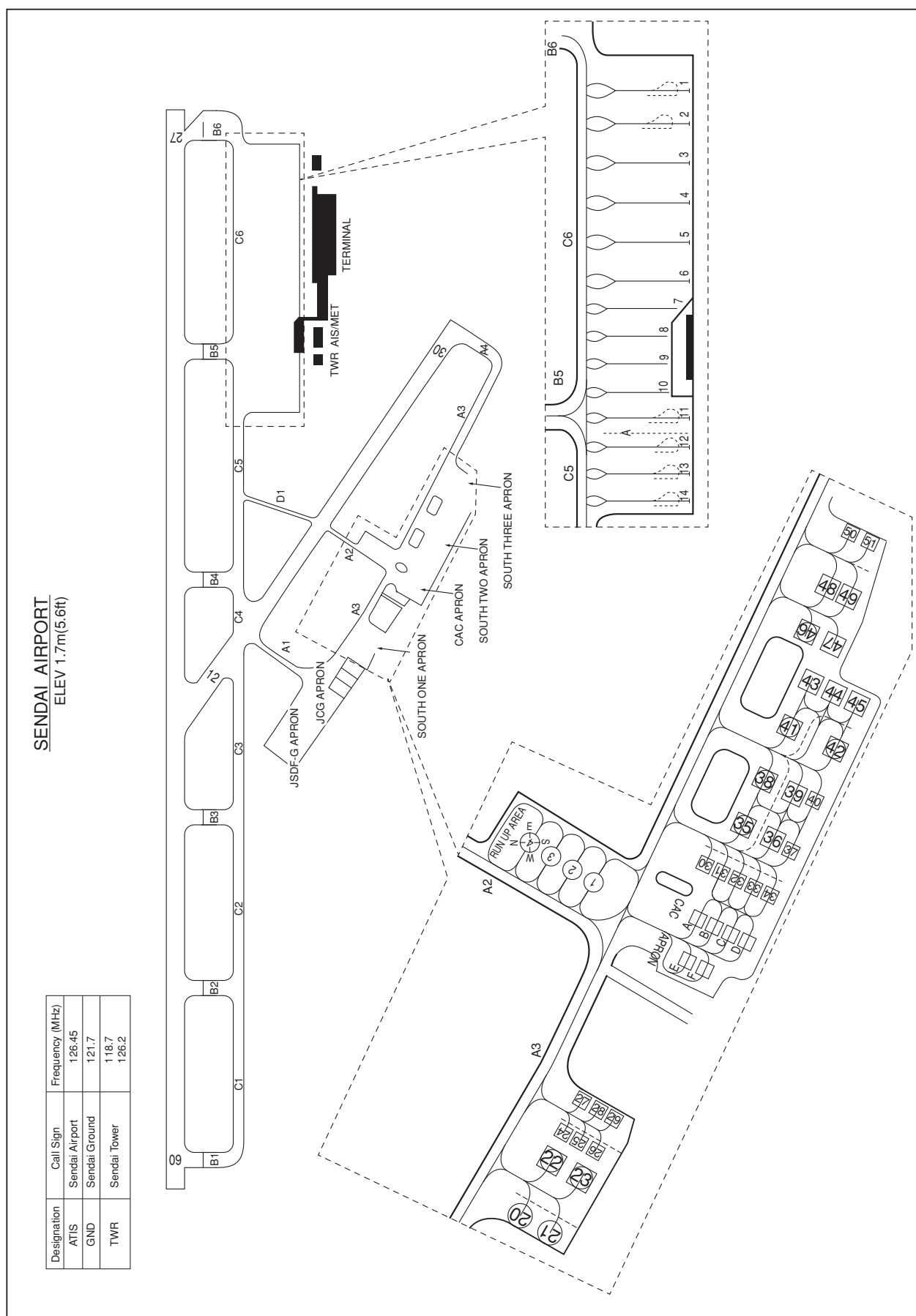
| Facility | Frequency | Power | ID | Coordinate of antenna | Hour of OPS |
|-----------|------------|------------|-----|-----------------------|-------------------------------------|
| LOC | 109.9 | 10W | EKD | 380748N/1405558E | H24 (Intermittent transmissions) |
| GP | 333.8 | 2W | - | 380757N/1405520E | |
| Marker | 75.0 | 0.5W | - | 380747N/1405558E | |
| VOR/TACAN | 112.4/1158 | 100W/1KW | EIW | 380747N/1405522E | |
| ASR/SSR | 2720/1030 | 350KW/500W | - | 380747N/1405518E | |
| DME | 997.0 | 100W | EKD | 380756N/1405522E | |
| VOR | 117.9 | 50W | ECV | 380752N/1405509E | |

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 (RNAV(GNSS) Z RWY09)
Instrument Approach Chart (RNAV(RNP) Y RWY09)
Instrument Approach Chart (RNAV(RNP) RWY27)
Other Chart (Visual REP)
Other Chart (LDG CHART)
Other Chart (MVA CHART)

SENDAI AIRPORT
ELEV 1.7m(5.6ft)



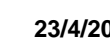


AERODROME OBSTACLE CHART-ICAO
TYPE A (OPERATING LIMITATIONS)

DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC



DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC



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 : PROC renamed.Restriction added (IXE R024/46.7DME).



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.

SENDAI REVERSAL SIX DEPARTURE

CHANGE : VAR. SID renamed. YAMAGATA TRANSITION, RIKYU NORTH TRANSITION, SASAP TRANSITION established. Navigation specification. Sensor for RNAV. SID course. ALT restriction at DERBY.



STANDARD DEPARTURE CHART - INSTRUMENT

RJSS / SENDAI

RNAV SID and TRANSITION

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 |

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

STANDARD DEPARTURE CHART - INSTRUMENT

RJSS / SENDAI

RNAV SID and TRANSITION

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 |

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

STANDARD DEPARTURE CHART - INSTRUMENT

RJSS / SENDAI

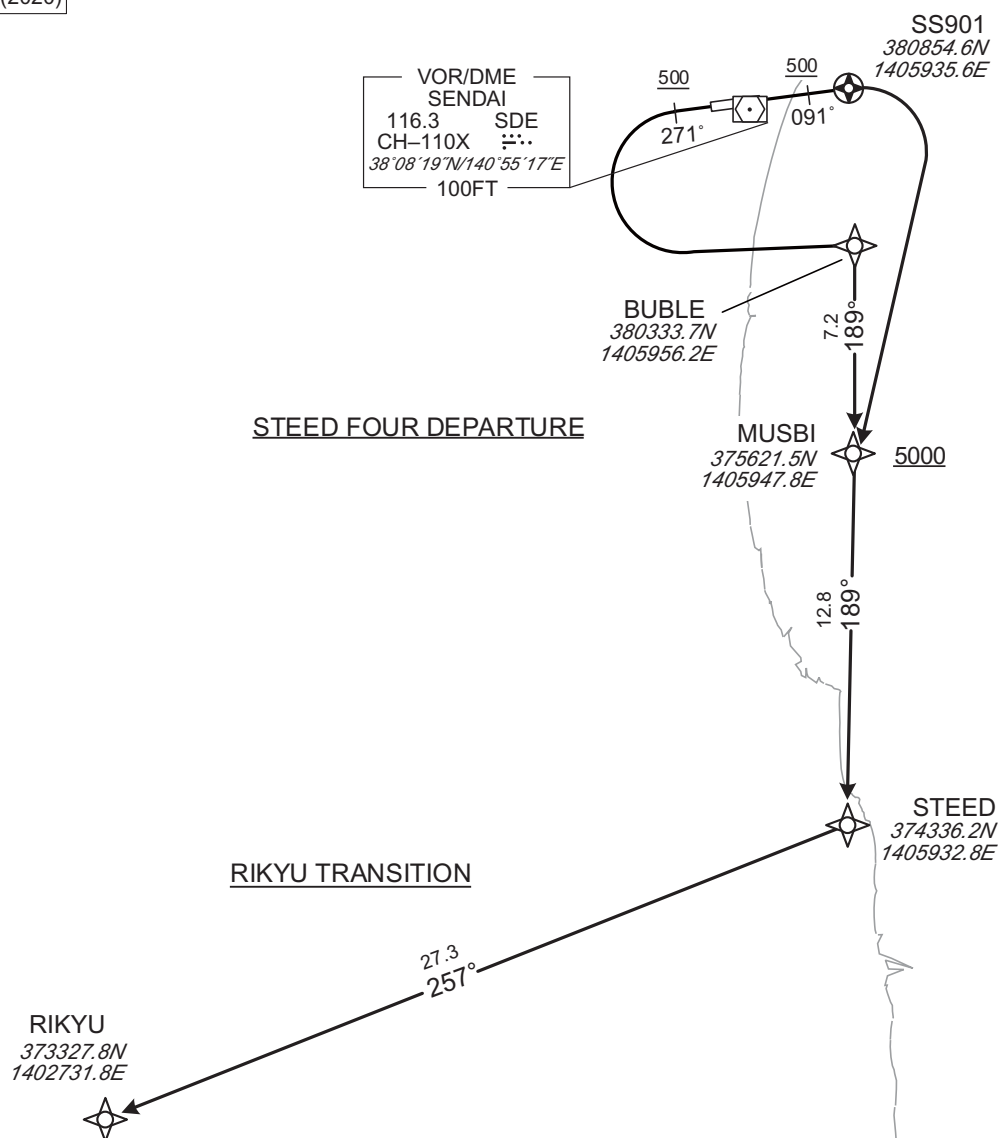
RNAV SID and TRANSITION

STEED FOUR DEPARTURE / RIKYU TRANSITION

Basic RNP1

Note GNSS required.

VAR 8°W(2020)



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 : VAR: SID renamed. Navigation specification. Sensor for RNAV. PROC course. MUSBI established.

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

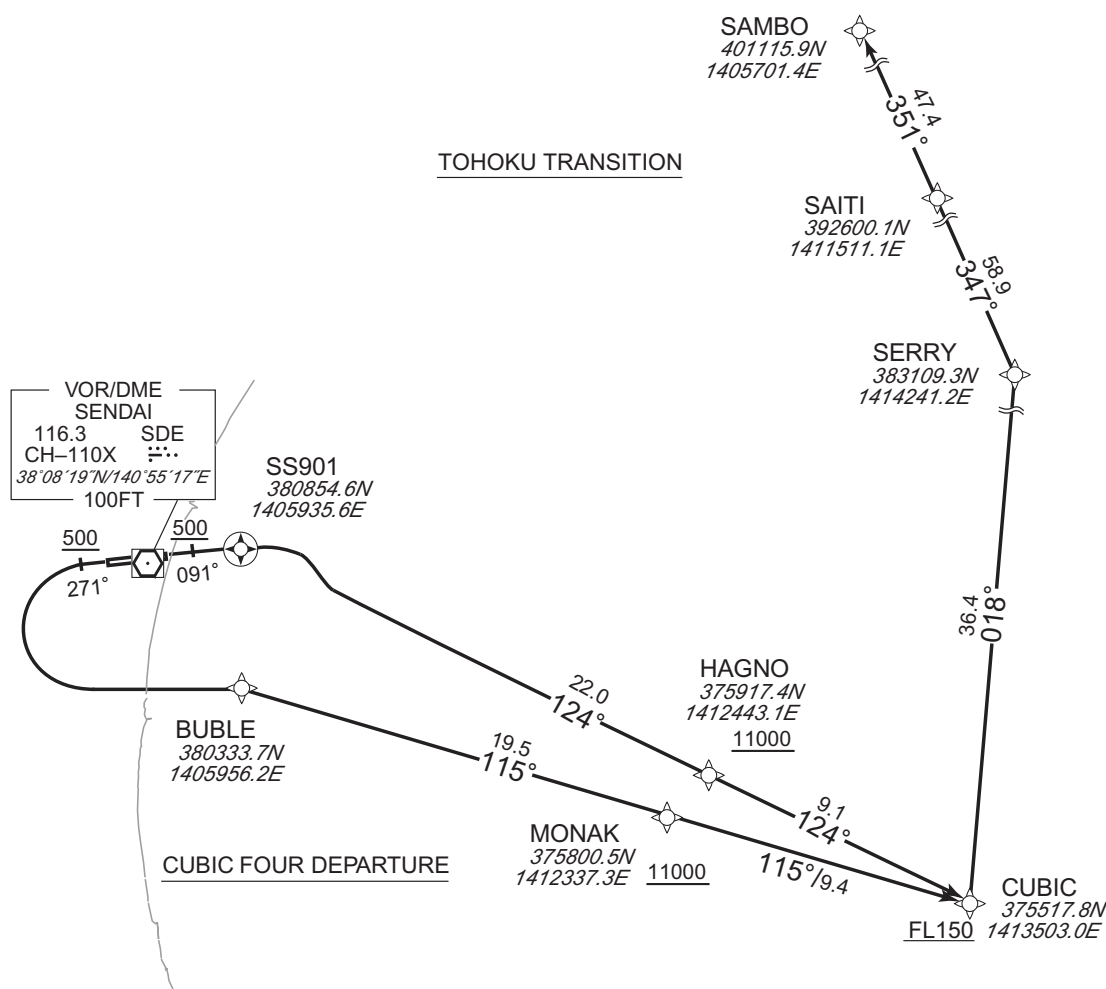
RNAV SID and TRANSITION

CUBIC FOUR DEPARTURE / TOHOKU TRANSITION

Basic RNP1

Note GNSS required.

VAR 8°W(2020)



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

STANDARD DEPARTURE CHART - INSTRUMENT

RJSS / SENDAI

RNAV SID and TRANSITION

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 |

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

STANDARD ARRIVAL CHART-INSTRUMENT

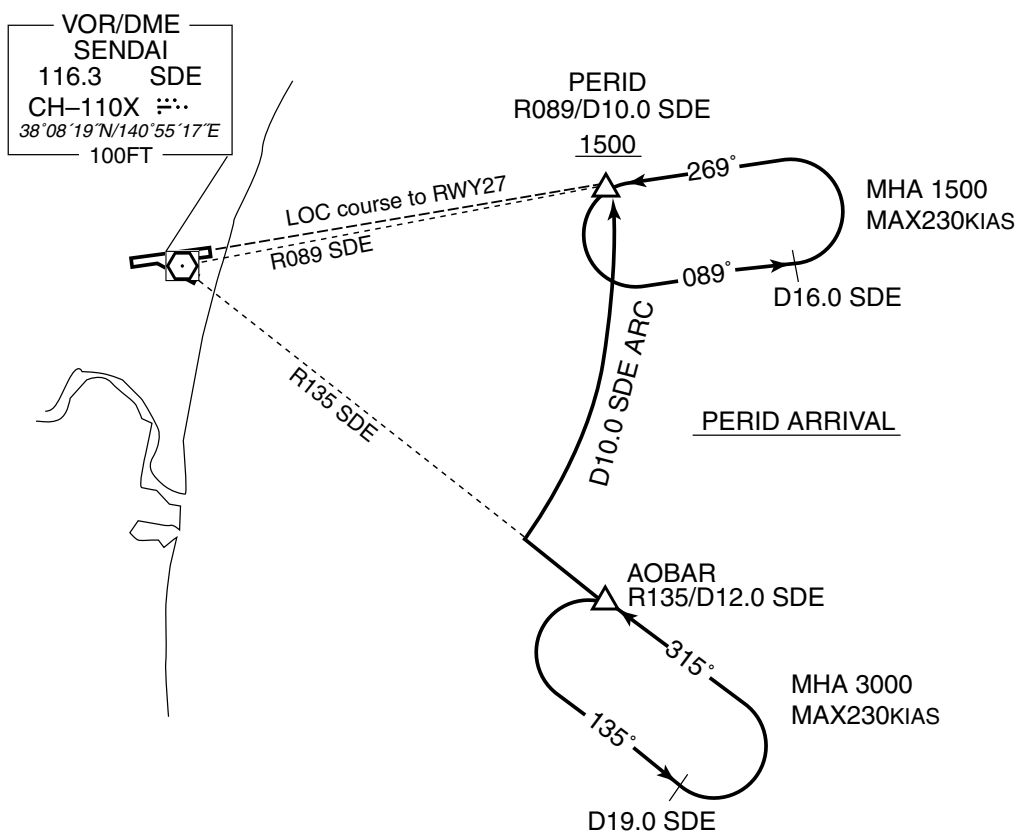
RJSS / SENDAI

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.



STANDARD ARRIVAL CHART - INSTRUMENT

CHANGE : VAR. Sensor for RNAV. Navigation specification. PROC course. ALT restriction at QUAIL. HLDG pattern established.

RJSS / SENDAI

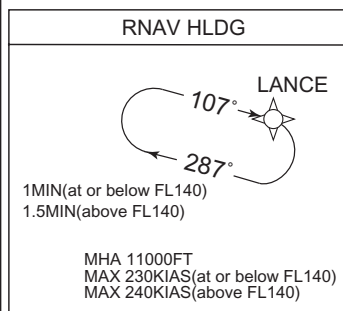
RNAV STAR RWY09

LANCE WEST ARRIVAL

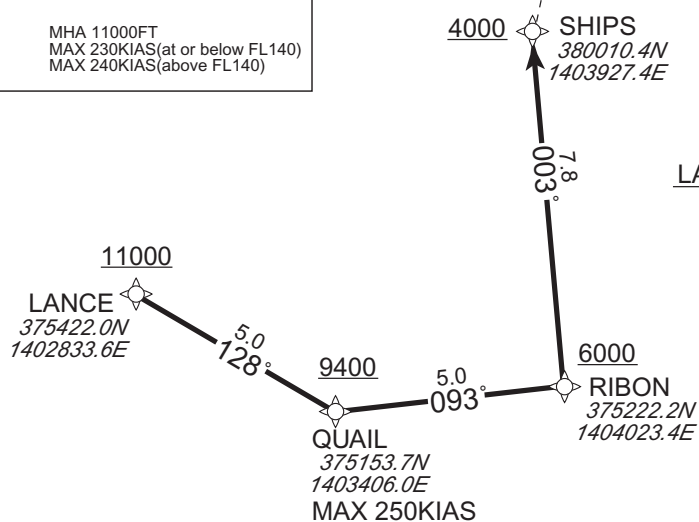
Basic RNP1

Note GNSS required.

VAR 8°W (2020)



VOR/DME
SENDAI
116.3 SDE
CH-110X
38°08'19"N/140°55'17"E
100FT



LANCE WEST ARRIVAL

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 |

STANDARD ARRIVAL CHART-INSTRUMENT

RJSS / SENDAI

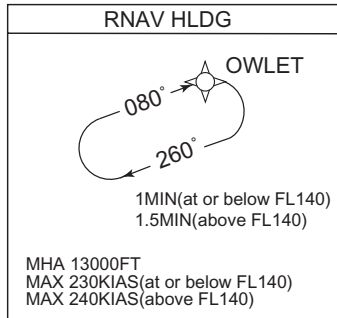
RNAV STAR RWY09

OWLET WEST ARRIVAL

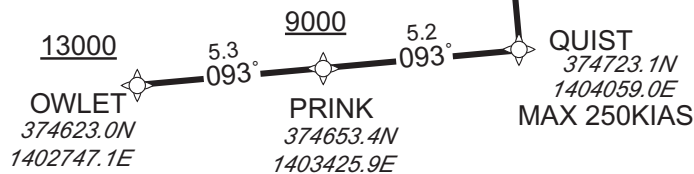
Basic RNP1

Note GNSS required.

VAR 8°W (2020)



OWLET WEST ARRIVAL



OWLET WEST ARRIVAL

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 : VAR. PROC course. ALT restriction at PRINK. HLDG pattern established.

STANDARD ARRIVAL CHART-INSTRUMENT

RJSS / SENDAI

RNAV STAR RWY27

LANCE EAST ALFA ARRIVAL

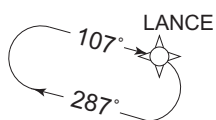
Basic RNP1

Note GNSS required.

VAR 8°W (2020)

VOR/DME
SENDAI
116.3 SDE
CH-110X
38°08'19"N/140°55'17"E
100FT

RNAV HLDG



1MIN(at or below FL140)
1.5MIN(above FL140)

MHA 11000FT
MAX 230KIAS(at or below FL140)
MAX 240KIAS(above FL140)

11000 5.9° 085°
LANCE 375422.0N 1402833.6E
9000 FUBOU 375540.2N 1403551.6E

4000 SNOOK 375901.5N 1405451.7E

1500 PERID 380944.8N 1410749.4E
4.5° 001°
TOPAZ 380516.8N 1410833.5E
MAX 230KIAS

LANCE EAST ALFA ARRIVAL

LANCE EAST ALFA ARRIVAL

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 : VAR. Navigation specification. Sensor for RNAV. Course FM FUBOU to SNOOK. Course FM TOPAZ to PERID. ALT restriction at FUBOU. HLDG pattern established.

STANDARD ARRIVAL CHART-INSTRUMENT

RJSS / SENDAI

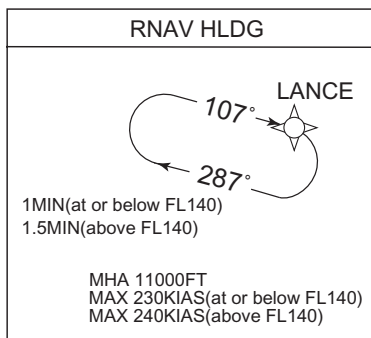
RNAV STAR RWY27

LANCE EAST BRAVO ARRIVAL

Basic RNP1

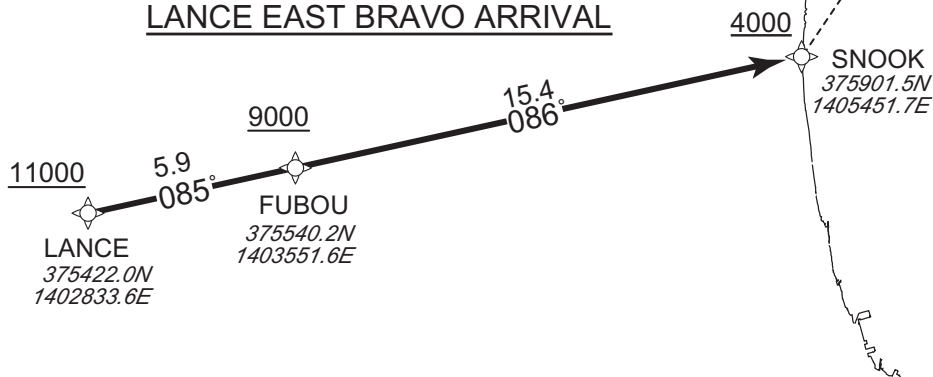
Note GNSS required.

VAR 8°W (2020)



VOR/DME
SENDAI
116.3 SDE
CH-110X
38°08'19"N/140°55'17"E
100FT

LANCE EAST BRAVO ARRIVAL



LANCE EAST BRAVO ARRIVAL

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 : VAR. Course FM FUBOU to SNOOK. ALT restriction at FUBOU. HLDG pattern established.

STANDARD ARRIVAL CHART-INSTRUMENT

RJSS / SENDAI

RNAV STAR RWY27

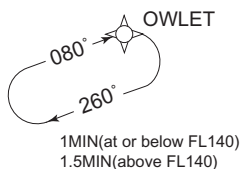
OWLET EAST ALFA ARRIVAL

Basic RNP1

Note GNSS required.

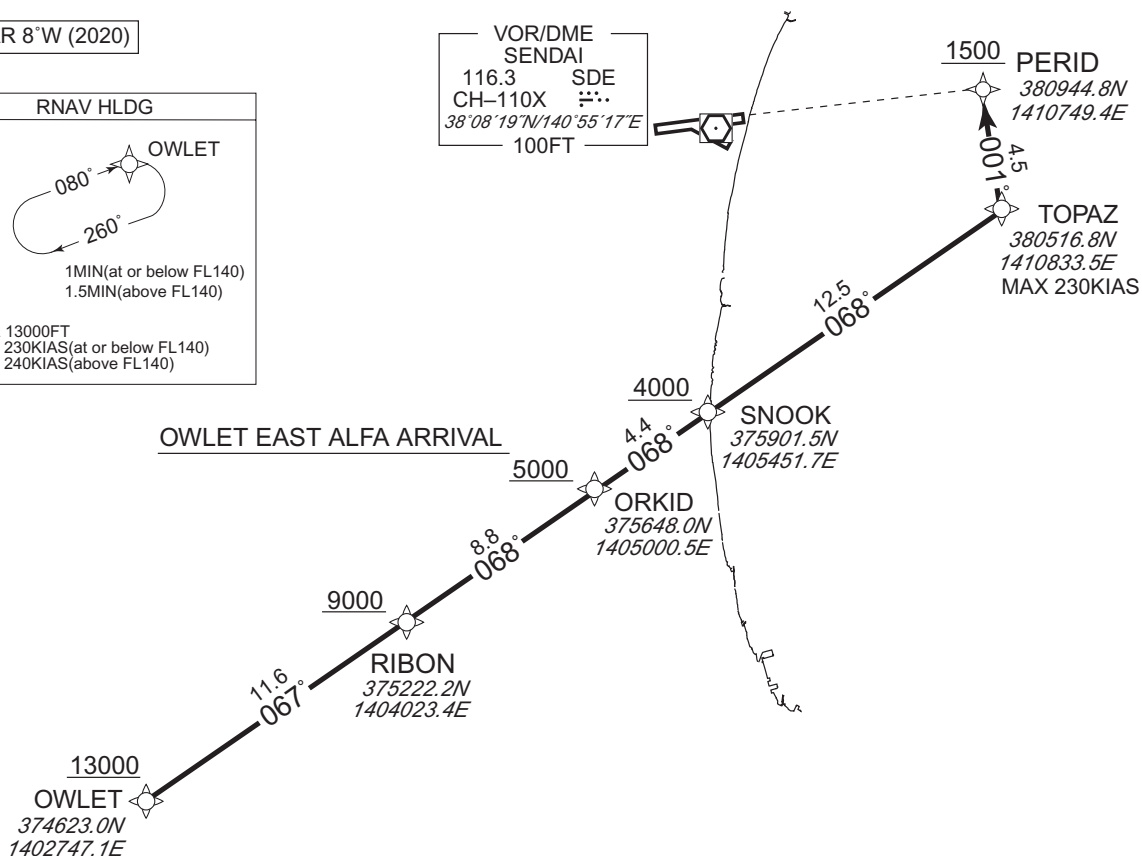
VAR 8°W (2020)

RNAV HLDG



MHA 13000FT
MAX 230KIAS(at or below FL140)
MAX 240KIAS(above FL140)

VOR/DME
SENDAI
116.3 SDE
CH-110X
38°08'19"N/140°55'17"E
100FT



OWLET EAST ALFA ARRIVAL

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 : VAR. Navigation specification. Sensor for RNAV. ORKID established. DATTE abolished. PROC course. ALT restriction at RIBON.
HLDG pattern established.

STANDARD ARRIVAL CHART-INSTRUMENT

RJSS / SENDAI

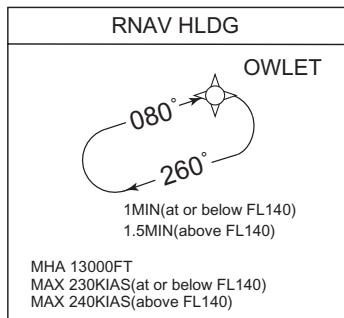
RNAV STAR RWY27

OWLET EAST BRAVO ARRIVAL

Basic RNP1

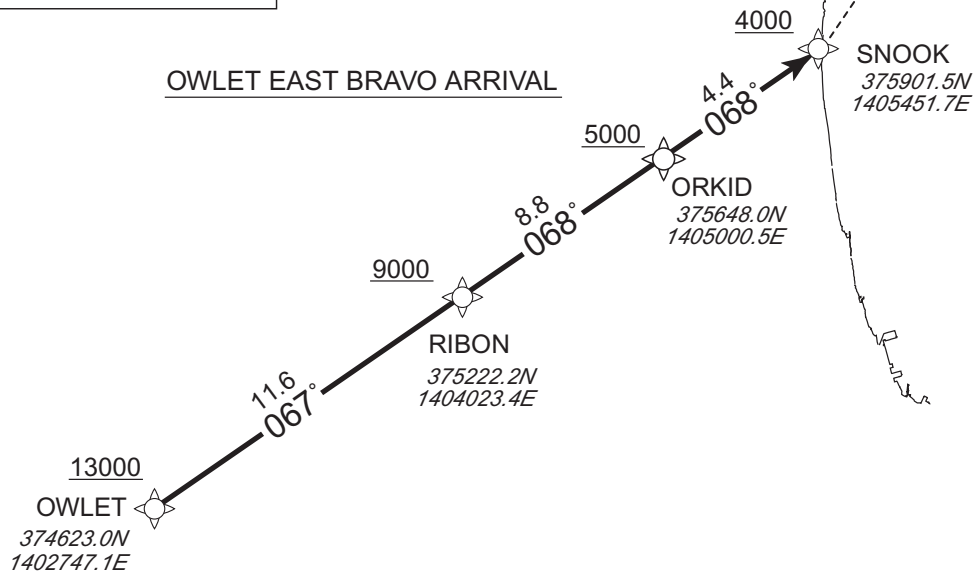
Note GNSS required.

VAR 8°W (2020)



VOR/DME
SENDAI
116.3 SDE
CH-110X
38°08'19"N/140°55'17"E
100FT

OWLET EAST BRAVO ARRIVAL



OWLET EAST BRAVO ARRIVAL

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 |

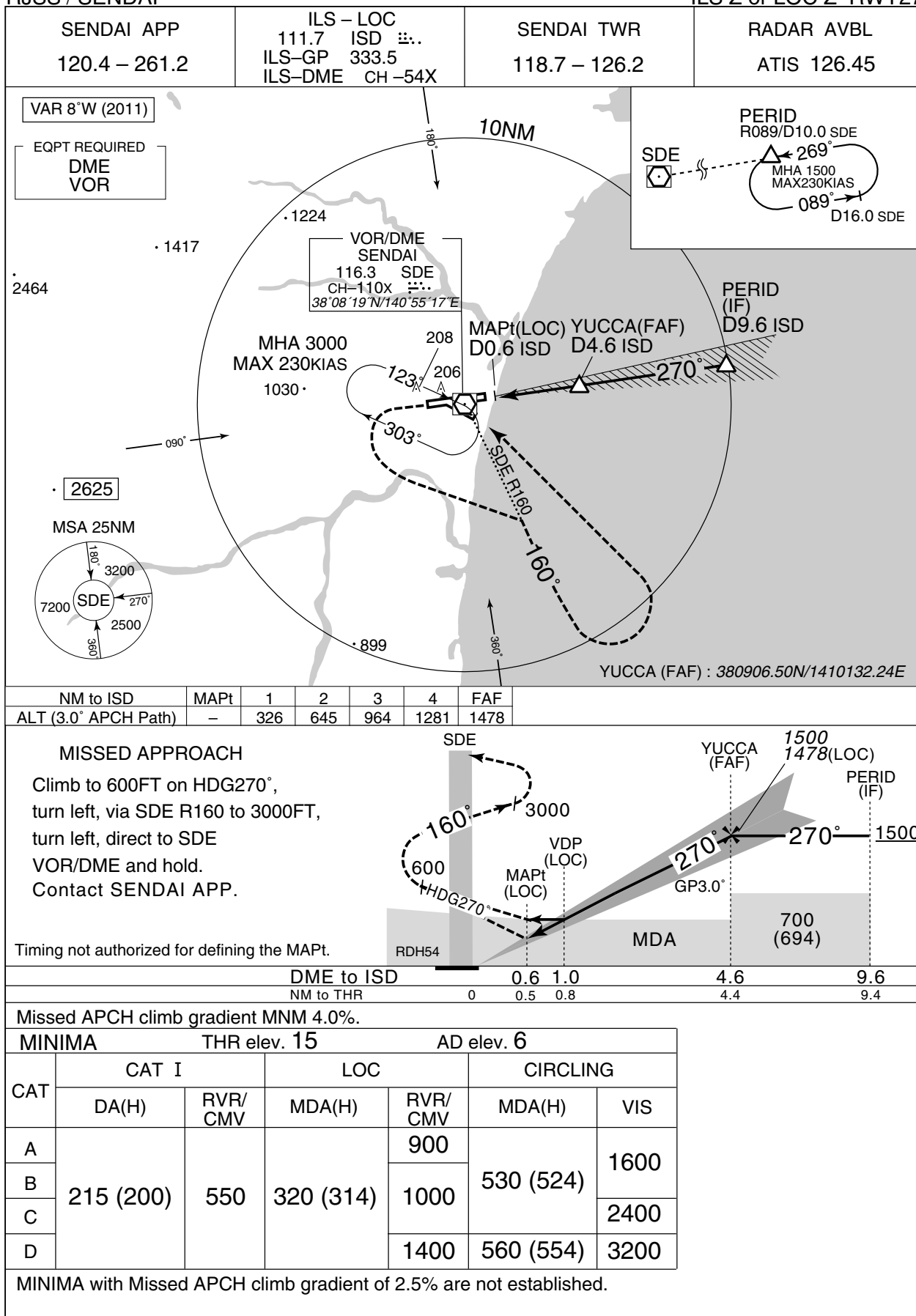
CHANGE : VAR. ORKID established. DATTE abolished. Course FM RIBON to SNOOK. ALT restriction at RIBON. HLDG pattern established.

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INSTRUMENT APPROACH CHART

RJSS / SENDAI

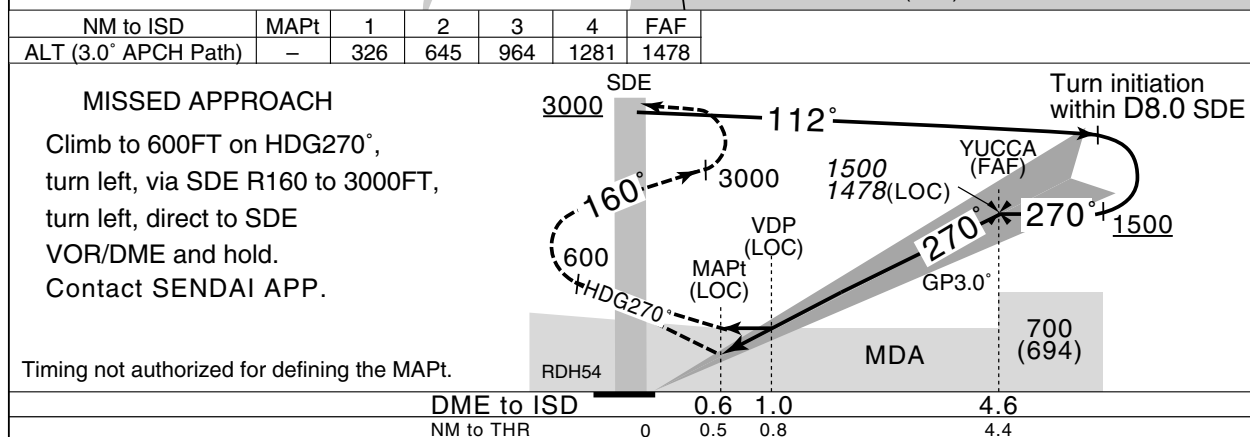
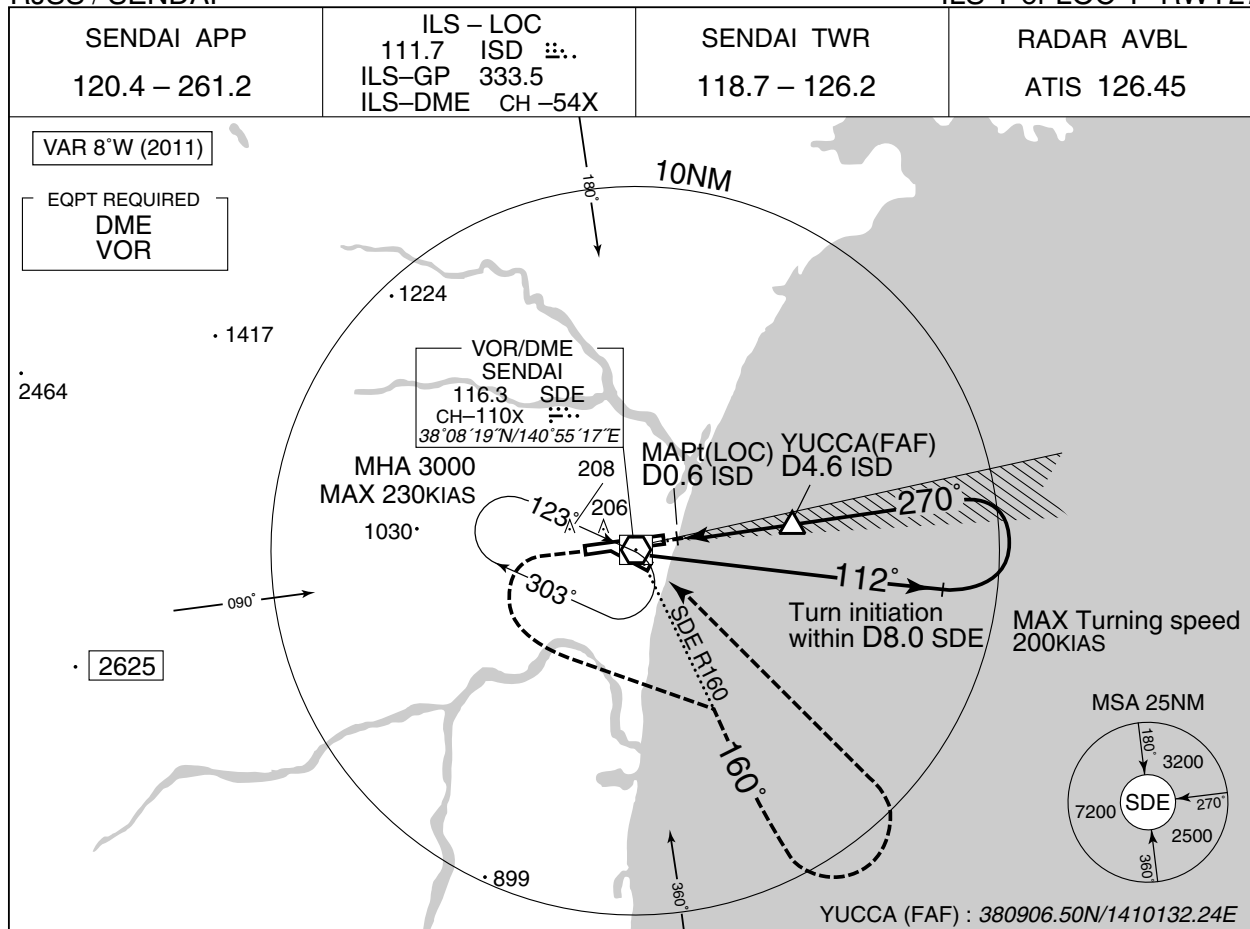
ILS Z or LOC Z RWY27



INSTRUMENT APPROACH CHART

RJSS / SENDAI

ILS Y or LOC Y RWY27



Missed APCH climb gradient MNM 4.0%.

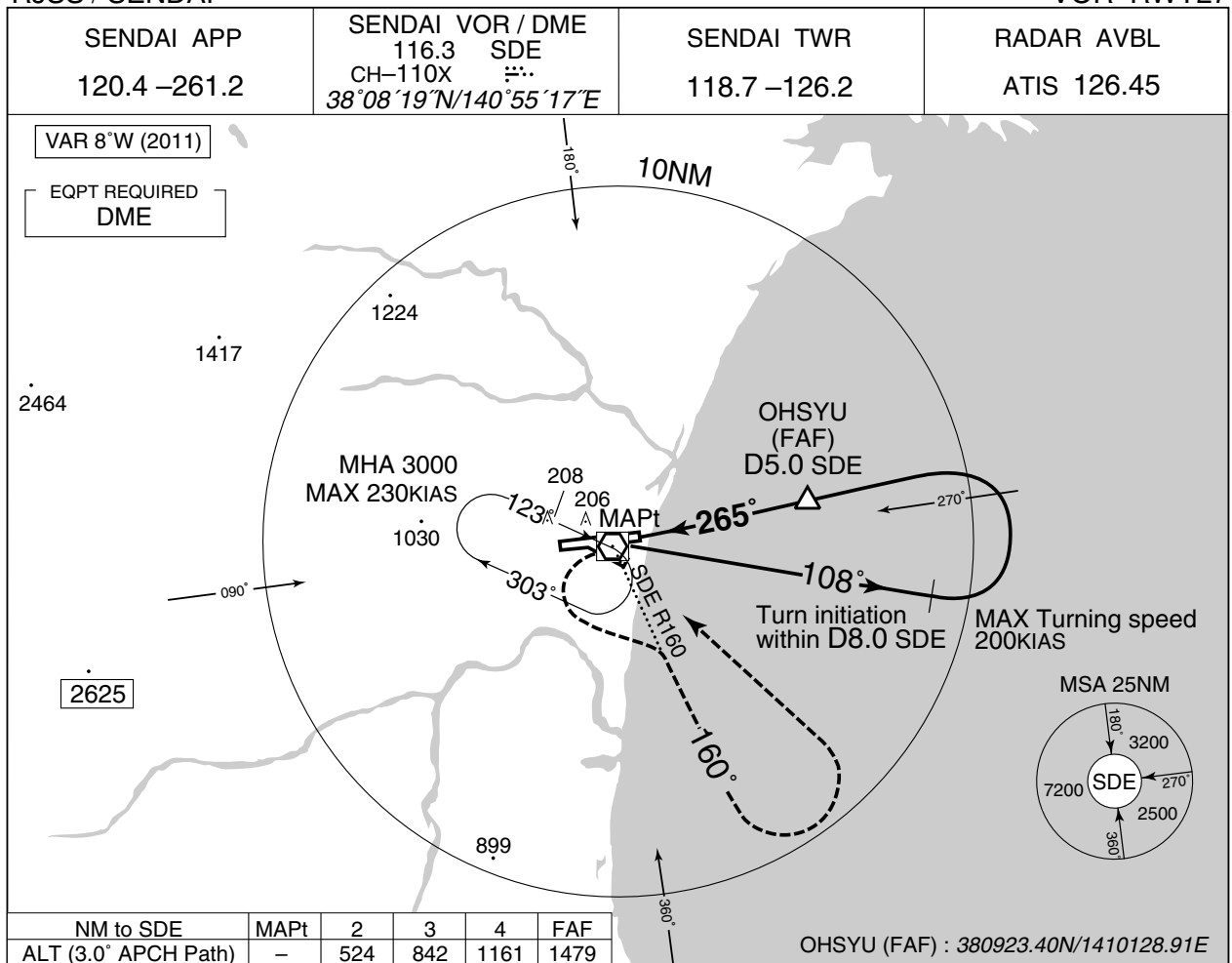
| MINIMA | | THR elev. 15 | | AD elev. 6 | | |
|--------|-----------|--------------|-----------|-------------|-----------|------|
| CAT | CAT I | | LOC | | CIRCLING | |
| | DA(H) | RVR/ CMV | MDA(H) | RVR/ CMV | MDA(H) | VIS |
| A | 215 (200) | 550 | 320 (314) | 900 | 530 (524) | 1600 |
| B | | | | 1000 | | 2400 |
| C | | | | | | |
| D | | | | 1400 | 560 (554) | 3200 |

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

INSTRUMENT APPROACH CHART

RJSS / SENDAI

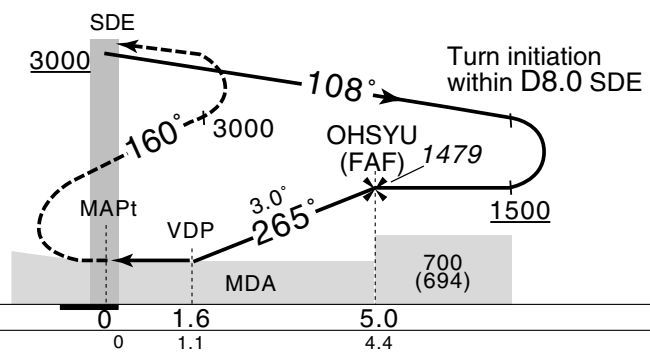
VOR RWY27



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.

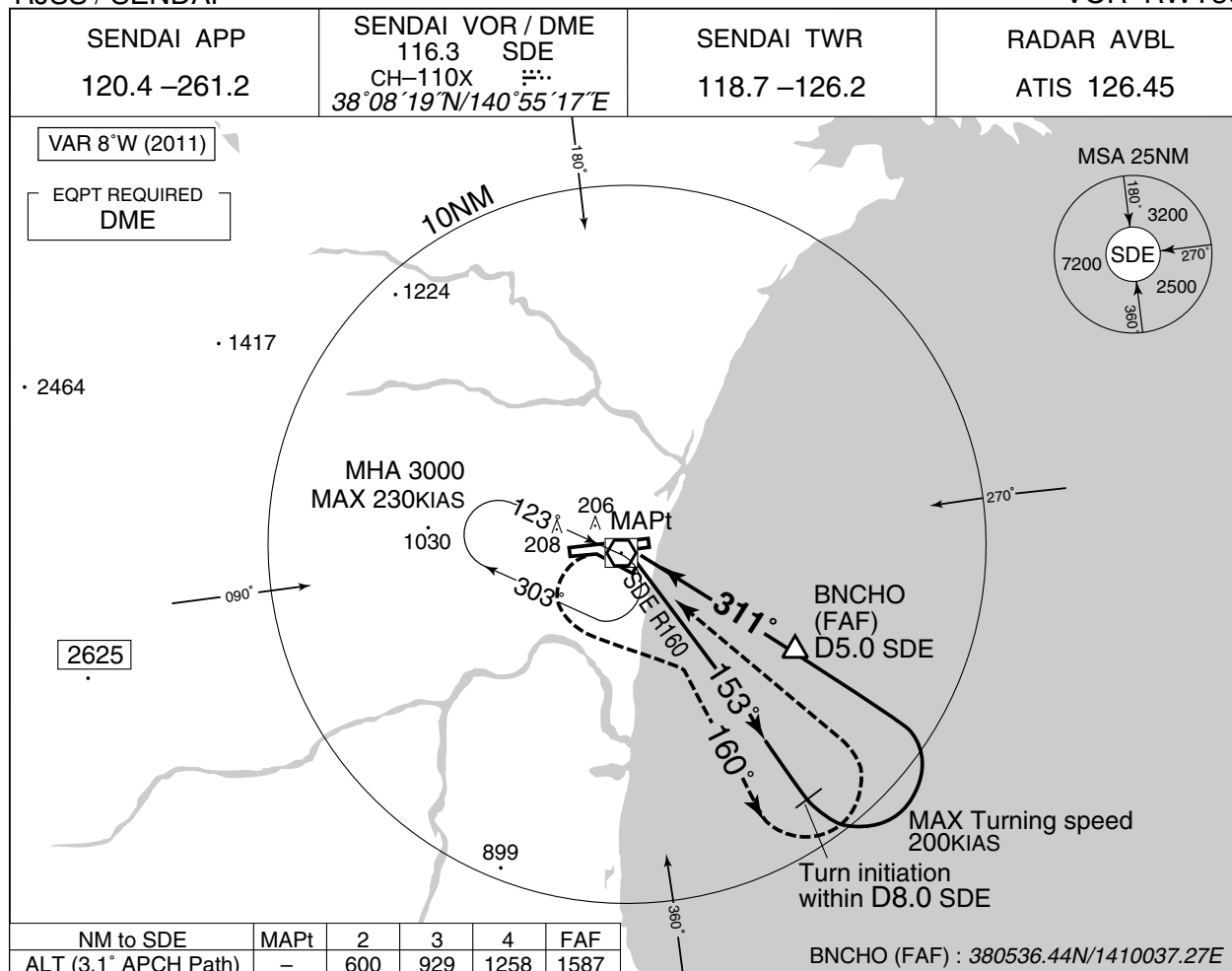


| MINIMA | | THR elev. 15 | AD elev. 6 | |
|--------|-----------|--------------|------------|------|
| CAT | | | CIRCLING | |
| | MDA(H) | RVR/ CMV | MDA(H) | VIS |
| A | 390 (384) | 900 | 530 (524) | 1600 |
| B | | 1000 | | 2400 |
| C | | | | |
| D | | 1400 | 560 (554) | 3200 |

INSTRUMENT APPROACH CHART

RJSS / SENDAI

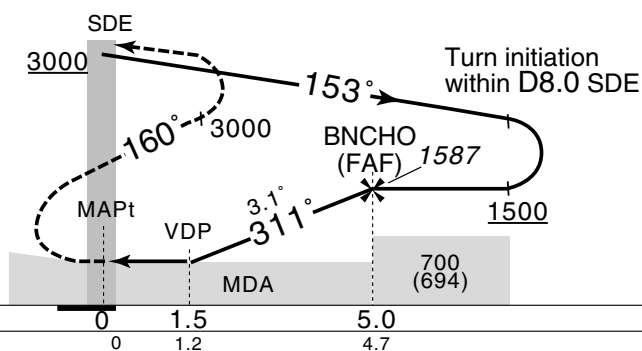
VOR RWY30



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

NM to THR

0

1.5

5.0

0

1.2

4.7

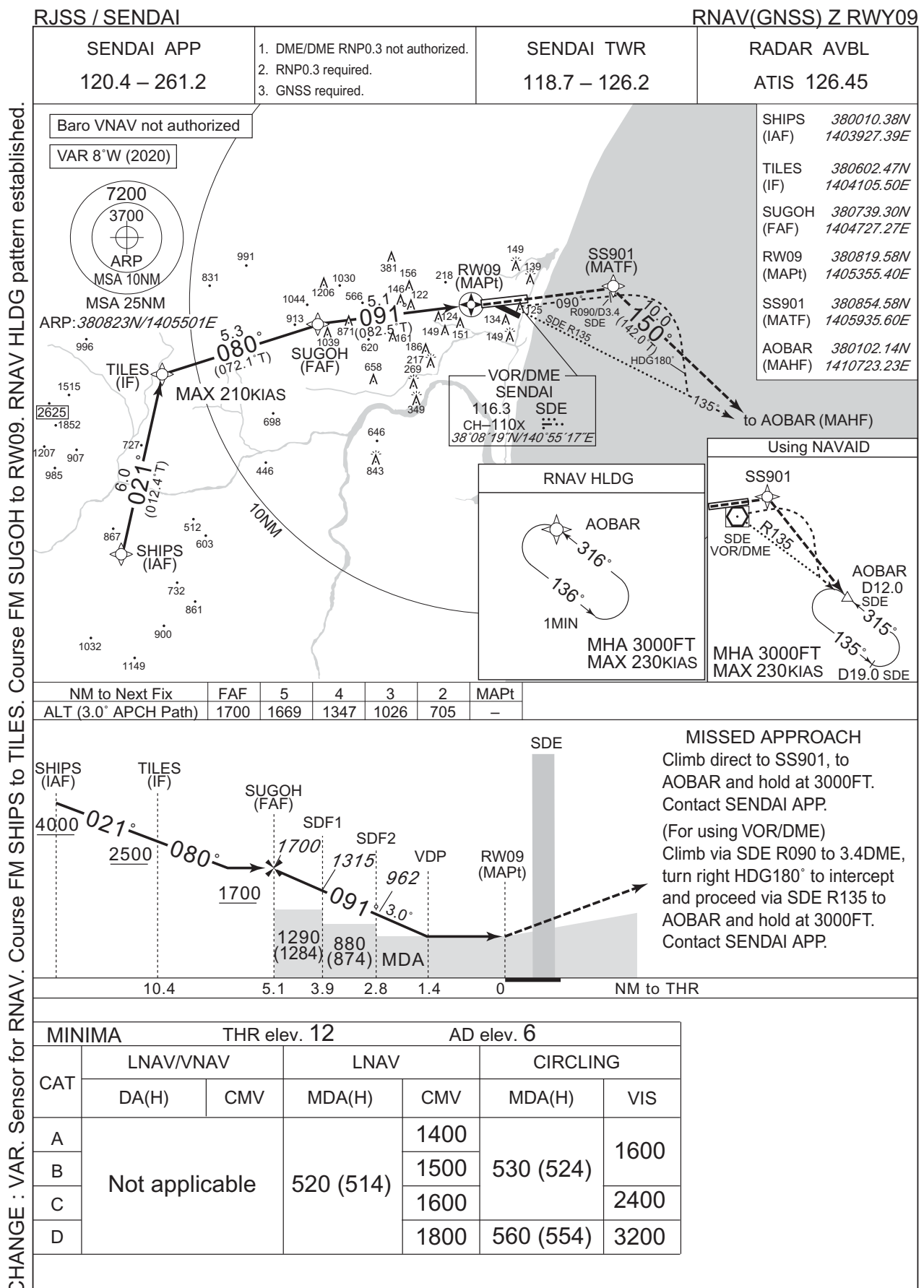
MINIMA

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 | — | — | — | — |

INSTRUMENT APPROACH CHART



INSTRUMENT APPROACH CHART

RJSS / SENDAI

RNAV(RNP) Y RWY09

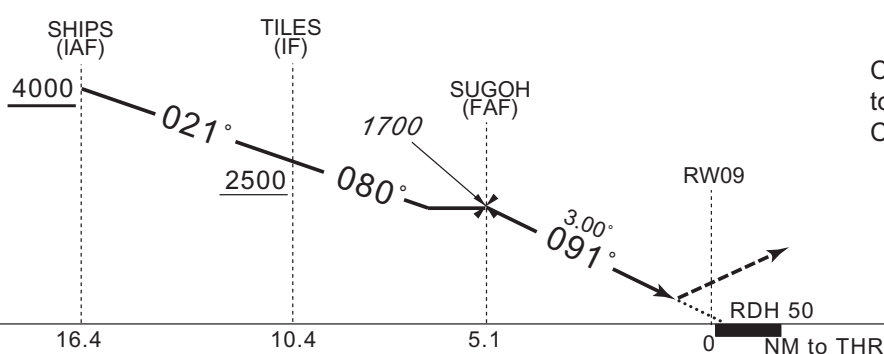
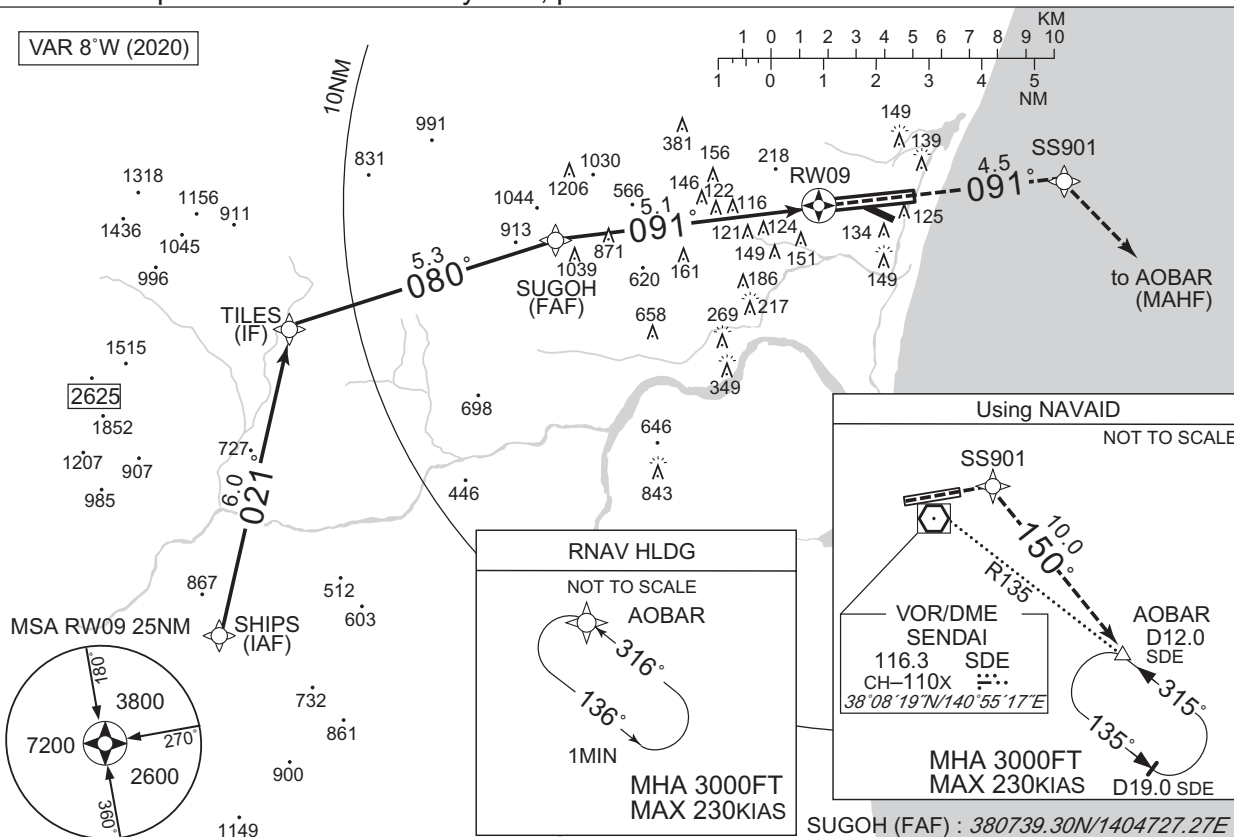
SENDAI APP
120.4 – 261.2

GNSS required

SENDAI TWR
118.7 – 126.2RADAR AVBL
ATIS 126.45

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

VAR 8°W (2020)



MISSED APPROACH

Climb to 3000FT, to SS901,
to AOBAR and hold.
Contact SENDAI APP.

MINIMA THR elev. 12 AD elev. 6

| CAT | RNP 0.30 | |
|-----|-----------|------|
| | DA(H) | CMV |
| A | — | — |
| B | | |
| C | 312 (300) | 1400 |
| D | | 1600 |

RNP AR
Special Authorization Required

CHANGE : VAR. PROC course. MSA. RNAV HLDG pattern established.

INSTRUMENT APPROACH CHART

RJSS / SENDAI

RNAV(RNP) Y RWY09

RNAV(RNP) Y RWY09Coding 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 | SHIPS | — | — | -8.3 | — | — | +4000 | — | — | — |
| 002 | TF | TILES | — | 021 (012.4) | -8.3 | 6.0 | — | +2500 | — | — | 1.0 |
| 003 | TF | SUGOH | — | 080 (072.1) | -8.3 | 5.3 | — | 1700 | — | — | 1.0 |
| 004 | TF | RW09 | Y | 091 (082.5) | -8.3 | 5.1 | — | 62 | — | -3.00/50 | 0.3 |
| 005 | TF | SS901 | — | 091 (082.5) | -8.3 | 4.5 | — | — | — | — | 1.0 |
| 006 | TF | AOBAR | — | 150 (142.0) | -8.3 | 10.0 | — | 3000 | — | — | 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 | AOBAR | 316 (307.5) | -8.3 | 1.0(-14000) | L | 3000 | FL140 | -230(-14000) | 1.0 |

Waypoint Coordinates

| Waypoint Identifier | Coordinates |
|---------------------|------------------------|
| SHIPS | 380010.38N/1403927.39E |
| TILES | 380602.47N/1404105.50E |
| SUGOH | 380739.30N/1404727.27E |
| RW09 | 380819.58N/1405355.40E |
| SS901 | 380854.58N/1405935.60E |
| AOBAR | 380102.14N/1410723.23E |

CHANGE : VAR. PROC course. RNAV HLDG pattern established.

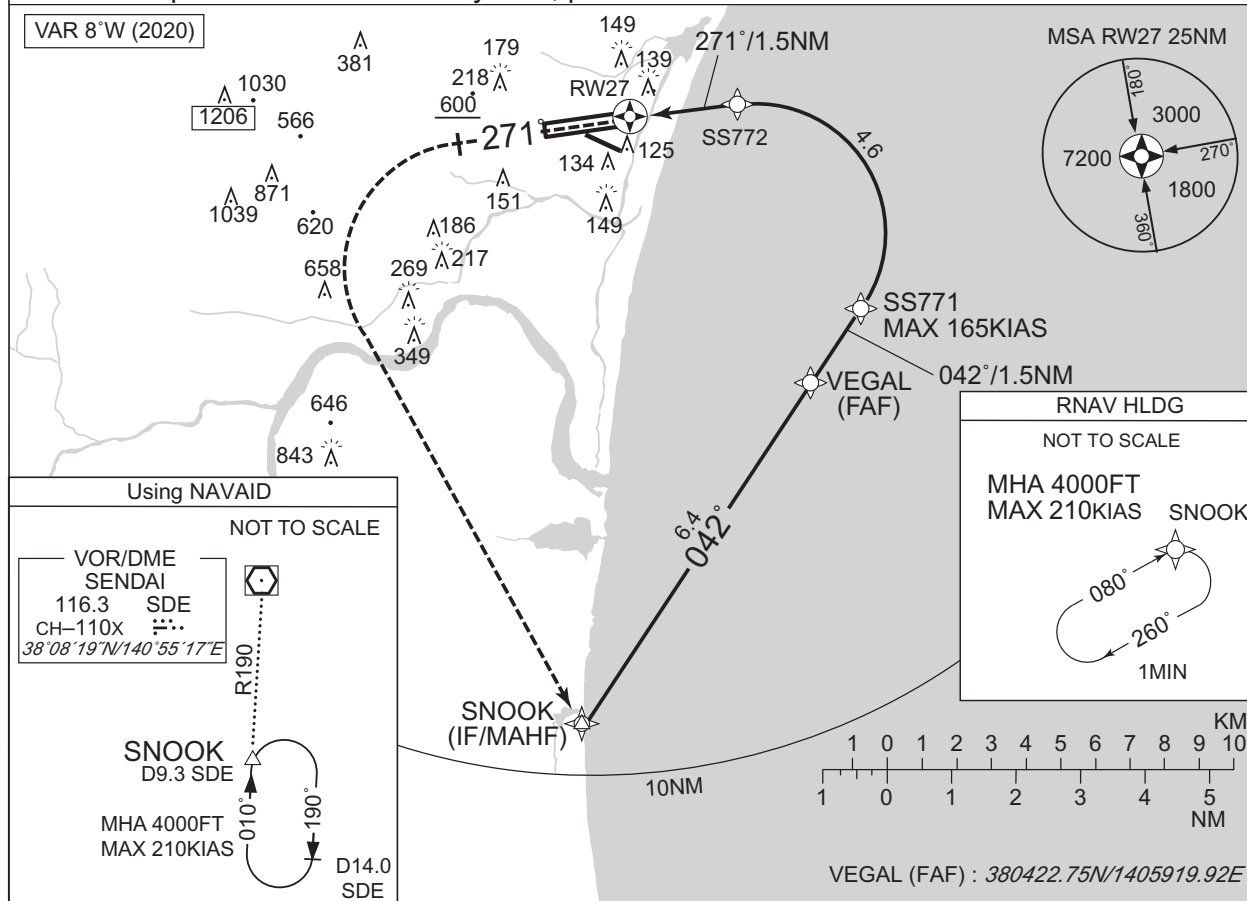
INSTRUMENT APPROACH CHART

RJSS / SENDAI

RNAV(RNP) RWY27

| | | | |
|-----------------------------|----------------------|-----------------------------|---------------------------|
| SENDAI APP 120.4 – 261.2 | GNSS and RF required | SENDAI TWR 118.7 – 126.2 | RADAR AVBL ATIS 126.45 |
|-----------------------------|----------------------|-----------------------------|---------------------------|

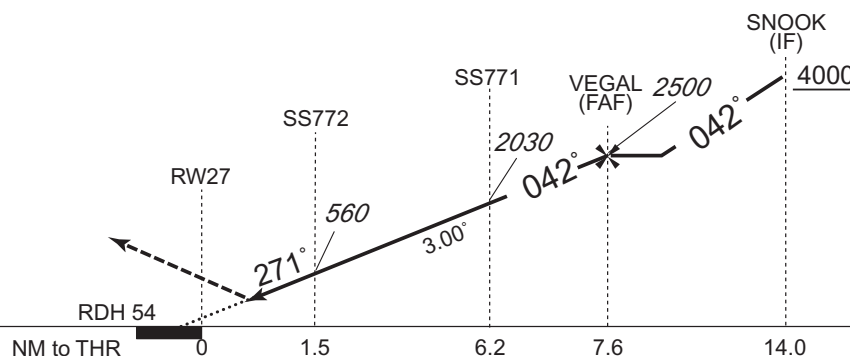
For uncompensated Baro-VNAV system, procedure not authorized below -10°C / above 45°C



MISSED APPROACH

From RWY27 on track 271°,
at or above 600FT turn left,
direct to SNOOK and hold at
4000FT.

Contact SENDAI APP.



| MINIMA | | |
|--------|-----------|---------|
| CAT | RNP 0.30 | |
| | DA(H) | RVR/CMV |
| A | — | — |
| B | — | — |
| C | 315 (300) | 1000 |
| D | | 1400 |

RNP AR

Special Authorization Required

* Missed APCH climb gradient MNM 4.0%

CHANGE : VAR. PROC course, MSA. RNAV HLDG pattern established.

INSTRUMENT APPROACH CHART

RJSS / SENDAI

RNAV(RNP) RWY27

RNAV(RNP) RWY27Coding Table

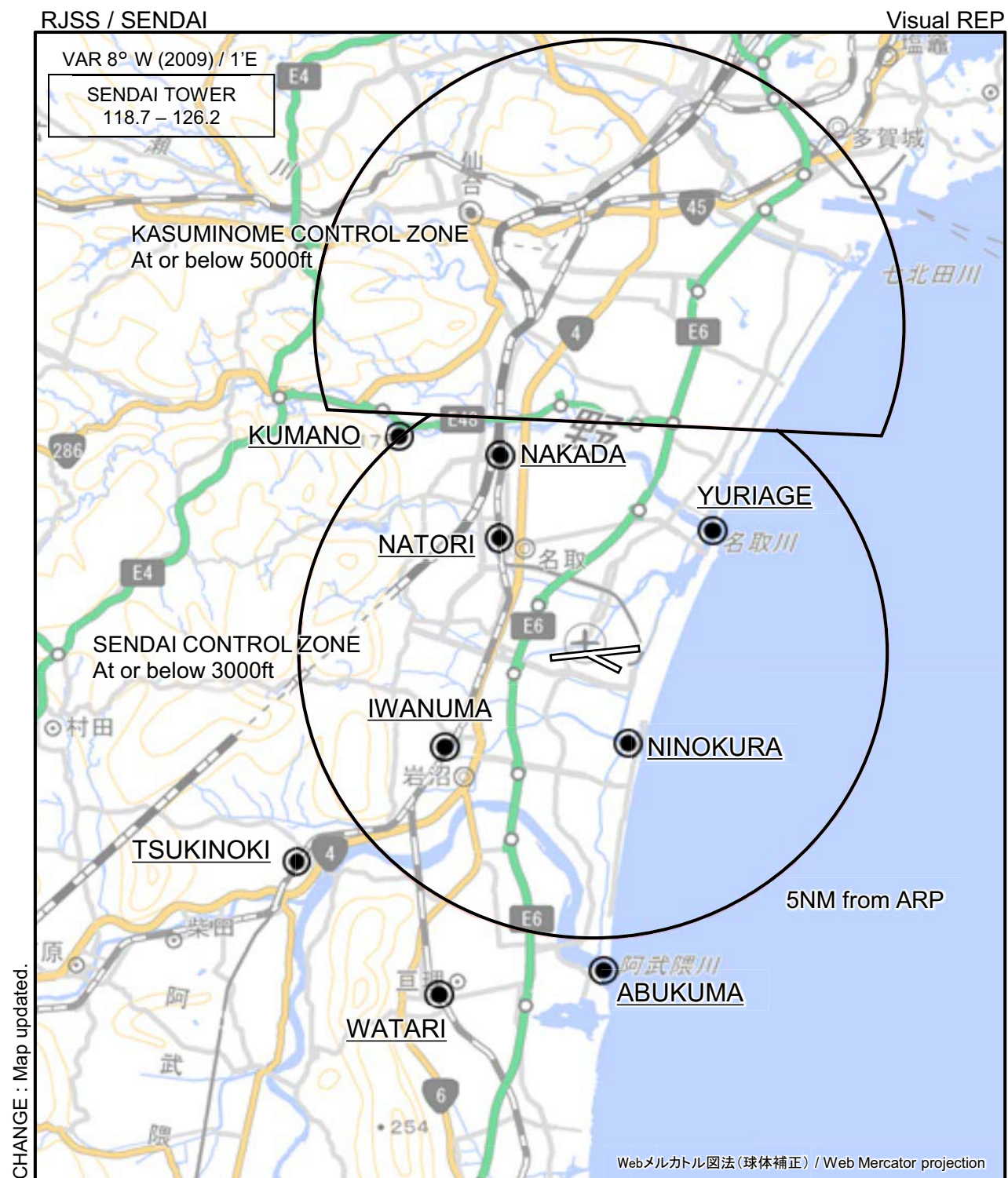
| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course °M(°T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | VPA/RDH (°/FT) | RNP Value |
|---------------|------------------------------------|---------------------|----------|----------------|--------------------|---------------|----------------|---------------|--------------|----------------|-----------|
| 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 | | |

CHANGE : VAR. PROC course. RNAV HLDG pattern established.



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 |
| 関上 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 |

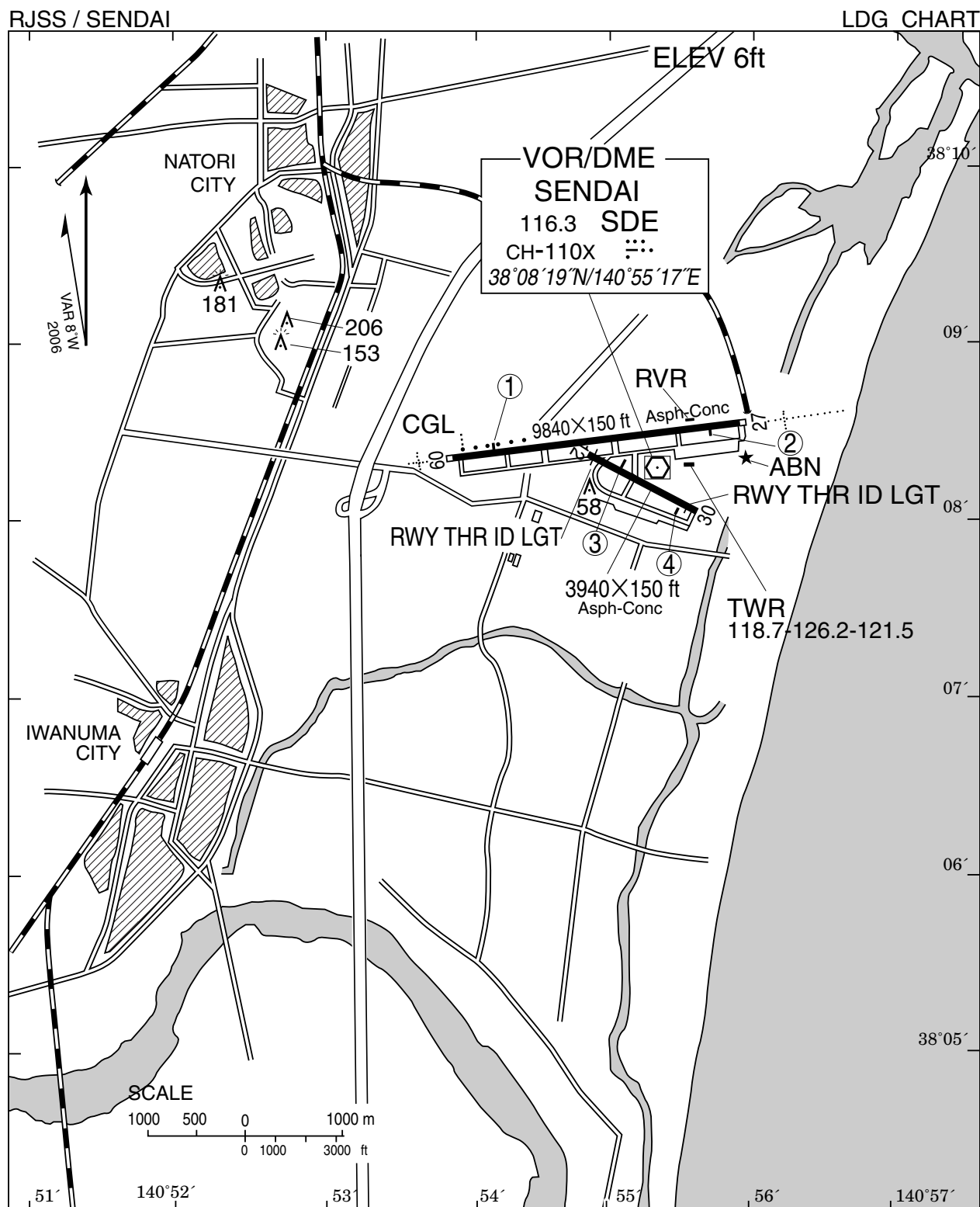
注：有視界飛行方式により霞目管制圏から仙台管制圏へ進入しようとする航空機は、仙台管制圏に入圏する前に仙台タワーへ通報すること。

NOTE : When any VFR flight enters SENDAI CTR directly via KASUMINOME CTR, the pilot shall report to "SENDAI TWR" 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 : BRG/DIST from ARP.



| 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

