Runway-holding position markings and runway guard lights are located on taxiway C3 and C4; their locations are 75m off the runway centerline of RWY 12/30.

Runway-holding position markings and stop bar lights are located on taxiway B1 through B6; their locations are 75m off the runway centerline of RWY 09/27.
HIROSE EIGHT DEPARTURE

RWY 09: Climb RWY HDG to SDE 3.4DME (2.8NM fm DER), turn right HDG 195°...
RWY 12: Climb RWY HDG to 500FT, turn right...
RWY 27: Climb RWY HDG to 500FT, turn left HDG 105°...
RWY 30: Climb RWY HDG to 500FT, turn left HDG 105°...
...to intercept and proceed via SDE R150, via IXE R015, via GOC R041 to GOC VORTAC.
Cross IXE R015/31.0DME at or above 8000FT, cross GOC R041/30.0DME (IXE R280) 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.
IWAKI SEVEN 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 R024/28.0DME 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.
**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.
DAIGO SIX DEPARTURE
Rwy 09: Climb Rwy HDG to SDE 3.4DME (2.8NM fm DER), turn right HDG 251°...
Rwy 12: Climb Rwy HDG to 500FT, turn right HDG 251°...
Rwy 27: Climb Rwy HDG to 500FT, turn left HDG 161°...
Rwy 30: Climb Rwy HDG to 500FT, turn left HDG 161°...
...to intercept and proceed via SDE R206/GOC R025 to GOC VORTAC.

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.
STANDARD DEPARTURE CHART - INSTRUMENT

DERBY TWO RNAV DEPARTURE

**Critical DME**
- RWY09 SDE: 8.0NM to ANEMO – 3.0NM to ANEMO
- 5.0NM to EBOSI – EBOSI
- IXE: 8.0NM to ANEMO – 3.0NM to ANEMO
- HPE: 5.0NM to EBOSI – 2.0NM to EBOSI
- RWY27 SDE: 5.0NM to EBOSI – EBOSI
- HPE: 5.0NM to EBOSI – 2.0NM to EBOSI

**NIIGATA TRANSITION**
- SDE: DERBY – 58.0NM to GTC
- YTE: 42.0NM to GTC – 28.0NM to GTC
- 12.0NM to GTC – 3.0NM to GTC
- ATD: 18.0NM to GTC – 3.0NM to GTC

**DERBY TWO RNAV DEPARTURE**

**Note**
1) DME/DME/IRU or GNSS required.
   - The aircraft equipped with only DME/DME/IRU must be able to update its position without delay at the starting point of take-off roll.
2) RADAR service required.

**DME GAP**
- RWY09 09DER – 8.0NM to ANEMO
- 3.0NM to ANEMO – 5.0NM to EBOSI
- RWY27 27DER – 5.0NM to EBOSI

**NIIGATA TRANSITION**
- 3.0NM to GTC – GTC

**Inappropriate Navaids**
- See AD1.1.6.10.3, Inappropriate NAVAIDs for RNAV1.

**DESIGNATION**

<table>
<thead>
<tr>
<th>SS9DZ</th>
<th>SS7DZ</th>
<th>EBOSI</th>
<th>DERBY</th>
<th>NIIGATA(GTC)</th>
</tr>
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<tbody>
<tr>
<td>SDE: 38 08 54.6N 140 59 35.6E</td>
<td>SDE: 38 07 58.5N 140 50 31.7E</td>
<td>SDE: 38 00 28.7N 140 37 48.4E</td>
<td>SDE: 38 00 12.7N 140 27 48.4E</td>
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**COORDINATES**

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<tr>
<th>SS9DZ</th>
<th>ANEMO</th>
<th>SS7DZ</th>
<th>EBOSI</th>
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<tr>
<td>N38-08-54.6E</td>
<td>N37-58-33.5N</td>
<td>N38-07-58.5N</td>
<td>N38-00-28.7N</td>
<td>N38-00-12.7N</td>
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</table>

**NIIGATA TRANSITION**

From DERBY at or above 10000FT, to NIIGATA(GTC).

**Note**
- RWY09: 5.0% climb gradient required up to 500FT.
- RWY27: 5.9% climb gradient required up to 1300FT.

**DERBY TWO RNAV DEPARTURE**

- RWY09: Climb on HDG090˚ at or above 500FT, direct to SS9DZ, turn right direct to ANEMO, to EBOSI, to DERBY at or above 10000FT.
- RWY27: Climb on HDG270˚ at or above 500FT, direct to SS7DZ, turn left direct to EBOSI, to DERBY at or above 10000FT.

**NIIGATA TRANSITION**

From DERBY at or above 10000FT, to NIIGATA(GTC).

**Note**
- RWY09: 5.0% climb gradient required up to 500FT.
- OBST ALT 62FT located at 0.2NM 102˚ FM end of RWY09.
- RWY27: 5.9% climb gradient required up to 1300FT.
- OBST ALT 1181FT located at 4.6NM 284˚ FM end of RWY27.
### DERBY TWO RNAV DEPARTURE

#### RWY09

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<thead>
<tr>
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<th>Fix ID (Waypoint Name)</th>
<th>Fly Over</th>
<th>Distance (NM)</th>
<th>MAG Track (TRUE Track)</th>
<th>Turn Direction</th>
<th>Altitude (FT)</th>
<th>Speed Limit (KIAS)</th>
<th>Vertical Angle</th>
<th>Navigation Performance</th>
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<tr>
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<td>—</td>
<td>RNAV1</td>
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#### RWY27

<table>
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<tr>
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<th>Distance (NM)</th>
<th>MAG Track (TRUE Track)</th>
<th>Turn Direction</th>
<th>Altitude (FT)</th>
<th>Speed Limit (KIAS)</th>
<th>Vertical Angle</th>
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<tbody>
<tr>
<td>VA</td>
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<td>RNAV1</td>
</tr>
<tr>
<td>DF</td>
<td>SS7DZ</td>
<td>Y</td>
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<td>—</td>
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<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
<tr>
<td>DF</td>
<td>EBOSI</td>
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### NIIGATA TRANSITION

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<th>Fly Over</th>
<th>Distance (NM)</th>
<th>MAG Track (TRUE Track)</th>
<th>Turn Direction</th>
<th>Altitude (FT)</th>
<th>Speed Limit (KIAS)</th>
<th>Vertical Angle</th>
<th>Navigation Performance</th>
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<td>IF</td>
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<td>+10000</td>
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<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>NIIGATA (GTC)</td>
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</table>
**STANDARD DEPARTURE CHART - INSTRUMENT**

### RJSS / SENDAI

#### STEED TWO RNAV DEPARTURE

<table>
<thead>
<tr>
<th>RNAV SID and TRANSITION</th>
<th>RNAV 1</th>
</tr>
</thead>
</table>

#### Critical DME

- RWY09 SDE: 23.0NM to STEED – 18.0NM to STEED
- RWY27 SDE: 2.0NM to BUBLE – 18.0NM to STEED
- IXE: 23.0NM to STEED – 18.0NM to STEED
- GOC: 4.0NM to STEED – STEED

#### DME GAP

<table>
<thead>
<tr>
<th>RWY09</th>
<th>09DER – 23.0NM to STEED</th>
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</thead>
<tbody>
<tr>
<td>18.0NM to STEED – 4.0NM to STEED</td>
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</tr>
<tr>
<td>RWY27</td>
<td>27DER – 2.0NM to BUBLE</td>
</tr>
<tr>
<td>18.0NM to STEED – 4.0NM to STEED</td>
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</tr>
</tbody>
</table>

### Inappropriate Navaids

See AD 1.1.6.10.3. Inappropriate NAVAIDs for RNAV1.

**VOR/DME SENDAI**

- SDE: 116.3
- CH: –110X
- 38°08’19”N/140°55’17”E
- 100FT

**Note**

- RWY09: 5.0% climb gradient required up to 500FT.
- RWY27: 5.0% climb gradient required up to 1000FT.

### DESIGNATION | COORDINATES
---|---
SS9DZ | 38°08’54.6”N 140°59’35.6”E
BUBLE | 38°03’33.7”N 140°59’56.2”E
STEED | 37°43’36.2”N 140°59’32.8”E
RIKYU | 37°33’27.8”N 140°27’31.8”E

### Critical DME

- RWY09: SDE to IXE
- RWY27: SDE to GOC

### Inappropriate Navaids

- **RWY09**: &OLPERQ’*ÛDWRUDE over 500FT, direct to SS9DZ, turn right direct to STEED.
- **RWY27**: &OLPERQ’*ÛDWRUDE over 500FT, turn left direct to BUBLE, to STEED.

### STEED TWO RNAV DEPARTURE

- **RWY09**: Climb on HDG 090° at or above 500FT, direct to SS9DZ, turn right direct to STEED.
- **RWY27**: Climb on HDG 270° at or above 500FT, turn left direct to BUBLE, to STEED.

### RIKYU TRANSITION

- From STEED, to RIKYU.

#### Note

- RWY09: 5.0% climb gradient required up to 500FT.
- RWY27: 5.0% climb gradient required up to 1000FT.
- OBST ALT: 62FT located at 0.2NM 102° FM end of RWY09.
- OBST ALT: 919FT located at 4.1NM 269° FM end of RWY27.
### STEED TWO RNAV DEPARTURE

#### RWY09

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<th>Fly Over</th>
<th>Distance (NM)</th>
<th>MAG Track (TRUE Track)</th>
<th>Turn Direction</th>
<th>Altitude (FT)</th>
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<th>Vertical Angle</th>
<th>Navigation Performance</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>DF</td>
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<td>RNAV1</td>
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<tr>
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#### RWY27

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<th>Distance (NM)</th>
<th>MAG Track (TRUE Track)</th>
<th>Turn Direction</th>
<th>Altitude (FT)</th>
<th>Speed Limit (KIAS)</th>
<th>Vertical Angle</th>
<th>Navigation Performance</th>
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<tbody>
<tr>
<td>VA</td>
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<td>—</td>
<td>270° (262.5°)</td>
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<td>RNAV1</td>
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<tr>
<td>DF</td>
<td>BUBLE</td>
<td>—</td>
<td>—</td>
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#### RIKYU TRANSITION

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<tr>
<th>Rcmd. Path Terminator</th>
<th>Fix ID (Waypoint Name)</th>
<th>Fly Over</th>
<th>Distance (NM)</th>
<th>MAG Track (TRUE Track)</th>
<th>Turn Direction</th>
<th>Altitude (FT)</th>
<th>Speed Limit (KIAS)</th>
<th>Vertical Angle</th>
<th>Navigation Performance</th>
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<tbody>
<tr>
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STANDARD DEPARTURE CHART - INSTRUMENT

RAV SID and TRANSITION

CUBIC TWO RNAV DEPARTURE

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<tr>
<th>DESIGNATION</th>
<th>COORDINATES</th>
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<tbody>
<tr>
<td>SS9DZ</td>
<td>38°08'54.6N 140°59'35.6E</td>
</tr>
<tr>
<td>BUBLE</td>
<td>38°03'33.7N 140°59'56.2E</td>
</tr>
<tr>
<td>CUBIC</td>
<td>37°55'17.8N 141°35'03.0E</td>
</tr>
<tr>
<td>RIDER</td>
<td>38°19'06.7N 141°41'17.5E</td>
</tr>
<tr>
<td>TOHOKU(MWE)</td>
<td>40°48'32.1N 141°09'26.5E</td>
</tr>
</tbody>
</table>

R W Y09 : 5.0% climb gradient required up to 500FT.
R W Y27 : 5.0% climb gradient required up to 1000FT.

Note 1) DME/DME/IRU or GNSS required.
   ※The aircraft equipped with only DME/DME/IRU must be able to update its position without delay at the starting point of take-off roll.
   2) RADAR service required.

Critical DME

R W Y09 SDE, IXE : 29.0NM to CUBIC – CUBIC
R W Y27 SDE : 2.0NM to BUBLE – 16.0NM to CUBIC
   IXE : 2.0NM to BUBLE – 22.0NM to CUBIC

TOHOKU TRANSITION

HPE : 133.0NM to MWE – 110.0NM to MWE
MGE : 45.0NM to MWE – 32.0NM to MWE

Inappropriate Navaids
See AD 1.1.6.10.3. Inappropriate NAVAIDs for RNAV1.

Note 1 ) DME/DME/IRU or GNSS required.
2 ) RADAR service required.

The aircraft equipped with only DME/DME/IRU must be able to update its position without delay at the starting point of take-off roll.

RWY09 DER – 29.0NM to CUBIC
RWY27 DER – 2.0NM to BUBLE

Note 1 ) DME/DME/IRU or GNSS required.
2 ) RADAR service required.

RWY09 : Climb on HDG090° at or above 500FT, direct to SS9DZ, turn right direct to CUBIC at or above FL150.
RWY27 : Climb on HDG270° at or above 500FT, turn left direct to BUBLE, to CUBIC at or above FL150.

TOHOKU TRANSITION

From CUBIC at or above FL150, to RIDER, to TOHOKU(MWE).

Note 1 ) DME/DME/IRU or GNSS required.
2 ) RADAR service required.

The aircraft equipped with only DME/DME/IRU must be able to update its position without delay at the starting point of take-off roll.
### CUBIC TWO RNAV DEPARTURE

#### RWY09

<table>
<thead>
<tr>
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<th>Fly Over</th>
<th>Distance (NM)</th>
<th>MAG Track (TRUE Track)</th>
<th>Turn Direction</th>
<th>Altitude (FT)</th>
<th>Speed Limit (KIAS)</th>
<th>Vertical Angle</th>
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<tbody>
<tr>
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<td>270° (262.5°)</td>
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<td>DF</td>
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<td>—</td>
<td>—</td>
<td>L</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>CUBIC</td>
<td></td>
<td>28.9</td>
<td>114° (106.5°)</td>
<td>—</td>
<td>+FL150</td>
<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
</tbody>
</table>

### TOHOKU TRANSITION

<table>
<thead>
<tr>
<th>Rcmd. Path Terminator</th>
<th>Fix ID (Waypoint Name)</th>
<th>Fly Over</th>
<th>Distance (NM)</th>
<th>MAG Track (TRUE Track)</th>
<th>Turn Direction</th>
<th>Altitude (FT)</th>
<th>Speed Limit (KIAS)</th>
<th>Vertical Angle</th>
<th>Navigation Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF</td>
<td>CUBIC</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>+FL150</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>RIDER</td>
<td></td>
<td>24.3</td>
<td>019° (011.6°)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>TOHOKU (MWE)</td>
<td></td>
<td>151.5</td>
<td>019° (011.6°)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
</tbody>
</table>
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

RJSS / SENDAI

LANCE WEST RNAV ARRIVAL

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

<table>
<thead>
<tr>
<th>FIX</th>
<th>DESIGNATION</th>
<th>COORDINATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANCE</td>
<td>37 54 22.0N 140 28 33.6E</td>
<td></td>
</tr>
<tr>
<td>QUAIL</td>
<td>37 51 53.7N 140 34 06.0E</td>
<td></td>
</tr>
<tr>
<td>RIBON</td>
<td>37 52 22.2N 140 40 23.4E</td>
<td></td>
</tr>
<tr>
<td>SHIPS</td>
<td>38 00 10.4N 140 39 27.4E</td>
<td></td>
</tr>
</tbody>
</table>

Critical DME

- SDE: 5.0NM to QUAIL – 4.0NM to QUAIL
- 2.0NM to QUAIL – QUAIL
- HPE: 1.0NM to QUAIL – QUAIL

DME GAP

- QUAIL – SHIPS

Inappropriate Navaids

See AD 1.1.6.10.3. Inappropriate NAVAIDs for RNAV1.

Rcmd. Path Terminator | Fix ID (Waypoint Name) | Fly Over | Distance (NM) | MAG Track (TRUE Track) | Turn Direction | Altitude (FT) | Speed Limit (KIAS) | Vertical Angle | Navigation Performance |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>IF</td>
<td>LANCE</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>+11000</td>
<td>–</td>
<td>–</td>
<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>QUAIL</td>
<td>–</td>
<td>5.0</td>
<td>127 (119.4°)</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>RIBON</td>
<td>–</td>
<td>5.0</td>
<td>092 (084.5°)</td>
<td>–</td>
<td>+6000</td>
<td>–</td>
<td>–</td>
<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>SHIPS</td>
<td>–</td>
<td>7.8</td>
<td>092 (354.6°)</td>
<td>–</td>
<td>+4000</td>
<td>–</td>
<td>–</td>
<td>RNAV1</td>
</tr>
</tbody>
</table>
From LANCE at or above 11000FT, to QUAIL, to RIBON at or above 6000FT, to SNOOK at or above 4000FT, to TOPAZ, to PREID at or above 1500FT.

**DESIGNATION** | **COORDINATES**
--- | ---
LANCE | 37°54′22.0″N 140°28′33.6″E
QUAIL | 37°51′53.7″N 140°34′06.0″E
RIBON | 37°52′22.2″N 140°40′23.4″E
SNOOK | 37°59′01.5″N 140°54′51.7″E
TOPAZ | 38°05′16.8″N 141°08′33.5″E
PREID | 38°09′44.8″N 141°07′49.4″E

**Critical DME**
- **SDE**: 2.0NM to QUAIL – QUAIR
- **HPE**: 1.0NM to QUAIL – QUAIR
- **IXE**: 4.0NM to SNOOK – 12.0NM to TOPAZ
- **MXT**: 4.0NM to SNOOK – 8.0NM to TOPAZ

**DME GAP**
- **QUAIL**: 4.0NM to SNOOK

**Inappropriate Navaids**
See AD 1.1.6.10.3. Inappropriate NAVAIDs for RNAV1.
From OWLET at or above 13000FT, to PRINK at or above 8000FT, to QUIST at or above 6000FT, to ROOKS at or above 5000FT, to SAZAE at or above 4000FT, to TOPAZ, to PERID at or above 1500FT.

<table>
<thead>
<tr>
<th>FIX</th>
<th>DESIGNATION</th>
<th>COORDINATES</th>
<th>Critical DME</th>
<th>IXE</th>
<th>DME GAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>OWLET</td>
<td>N37-46-23.0</td>
<td>E140-27-47.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRINK</td>
<td>N37-46-53.4</td>
<td>E140-34-25.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QUIST</td>
<td>N37-47-23.1</td>
<td>E140-40-59.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROOKS</td>
<td>N37-50-01.9</td>
<td>E140-45-46.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAZAE</td>
<td>N37-56-19.6</td>
<td>E140-57-13.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOPAZ</td>
<td>N38-05-16.8</td>
<td>E141-08-33.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PERID</td>
<td>N38-09-44.8</td>
<td>E141-07-49.4</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rcmd. Path Terminator</th>
<th>Fix ID (Waypoint Name)</th>
<th>Fly Over</th>
<th>Distance (NM)</th>
<th>MAG (TRUE Track)</th>
<th>Turn Direction</th>
<th>Altitude (FT)</th>
<th>Speed Limit (KIAS)</th>
<th>Vertical Angle</th>
<th>Navigation Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF</td>
<td>OWLET</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>+13000</td>
<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>PRINK</td>
<td>—</td>
<td>5.3</td>
<td>092 (084.4)</td>
<td>—</td>
<td>+8000</td>
<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>QUIST</td>
<td>—</td>
<td>5.2</td>
<td>092 (084.5)</td>
<td>—</td>
<td>+6000</td>
<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>ROOKS</td>
<td>—</td>
<td>4.6</td>
<td>063 (055.0)</td>
<td>—</td>
<td>+5000</td>
<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>SAZAE</td>
<td>—</td>
<td>11.0</td>
<td>063 (055.1)</td>
<td>—</td>
<td>+4000</td>
<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>TOPAZ</td>
<td>—</td>
<td>12.7</td>
<td>052 (044.9)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
<tr>
<td>TF</td>
<td>PERID</td>
<td>—</td>
<td>4.5</td>
<td>360 (352.8)</td>
<td>—</td>
<td>+1500</td>
<td>—</td>
<td>—</td>
<td>RNAV1</td>
</tr>
</tbody>
</table>

Note 1) DME/DME/IRU or GNSS required.
2) RADAR service required.
INSTRUMENT APPROACH CHART

**RJSS / SENDAI**

**SENDAI APP**

120.4 – 261.2 – 362.3

**SENDAI TWR**

118.7 – 126.2 – 121.5

**RADAR AVBL**

ATIS 126.45

---

**EQPT REQUIRED**

- DME
- VOR

---

**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.

**Missed APCH climb gradient MNM 4.0%**.

**MINIMA**

<table>
<thead>
<tr>
<th>CAT</th>
<th>THR elev. 15</th>
<th>AD elev. 6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CAT I</td>
<td>LOC</td>
</tr>
<tr>
<td></td>
<td>DA(H)</td>
<td>MDA(H)</td>
</tr>
<tr>
<td>A</td>
<td>215 (200)</td>
<td>550</td>
</tr>
<tr>
<td>B</td>
<td>320 (314)</td>
<td>530 (524)</td>
</tr>
<tr>
<td>C</td>
<td>1400</td>
<td>560 (554)</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MINIMA** with Missed APCH climb gradient of 2.5% are not established.
INSTRUMENT APPROACH CHART

**RJSS / SENDAI**

<table>
<thead>
<tr>
<th>SENDAI APP</th>
<th>ILS – LOC 111.7 ISD CH-110X ILS – GP 333.5 ILS – DME CH -54X</th>
<th>SENDAI TWR 118.7 – 126.2 – 121.5</th>
<th>RADAR AVBL ATIS 126.45</th>
</tr>
</thead>
<tbody>
<tr>
<td>120.4 – 261.2 – 362.3</td>
<td><img src="image" alt="Chart Diagram" /></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**VAR 8 W (2011)**

- EQPT REQUIRED
- DME
- VOR

- 2464
- 1417
- 2625

**NEAR SENDAI**

- MHA 3000
- MAX 230 KIAS
- 1030

**MAPt (LOC) D0.6 ISD**

- YUCCA (FAF) D4.6 ISD
- YUCCA (FAD) : 380906.50N/1410132.24E

**MSA 25NM**

- MAX Turning speed 200 KIAS

**MINIMA**

<table>
<thead>
<tr>
<th>CAT</th>
<th>DA(H)</th>
<th>RVR/CMV</th>
<th>MDA(H)</th>
<th>RVR/CMV</th>
<th>MDA(H)</th>
<th>VIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>215</td>
<td>550</td>
<td>320</td>
<td>1000</td>
<td>530</td>
<td>1600</td>
</tr>
<tr>
<td>B</td>
<td>255 (200)</td>
<td>550</td>
<td>320 (314)</td>
<td>1000</td>
<td>530 (524)</td>
<td>2400</td>
</tr>
<tr>
<td>C</td>
<td>140</td>
<td>560</td>
<td>320</td>
<td>1000</td>
<td>530</td>
<td>1600</td>
</tr>
<tr>
<td>D</td>
<td>1400</td>
<td>560</td>
<td>320</td>
<td>1000</td>
<td>530</td>
<td>1600</td>
</tr>
</tbody>
</table>

**MISSED APPROACH**

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

Timing not authorized for defining the MAPt.

**MINIMA with Missed APCH climb gradient of 2.5% are not established.**
INSTRUMENT APPROACH CHART

RJSS / SENDAI

SENDAI APP
120.4 – 261.2 – 362.3

1. DME/DME not authorized.
2. RADAR service required.

SENDAI TWR
118.7 – 126.2 – 121.5

Radar AVBL

ATIS 126.45

Baro VNAV NA
VAR 8’W (2011)

NM to Next Fix

FAF
ALT (3.1˚ APCH Path)

4
3
2
MAPt

1707 1378 1049 720 –

MINIMA

THR elev. 11

AD elev. 6

CAT

LNAV/VNAV

LNAV

CIRCLING

DA(H)
CMV
MDA(H)
CMV
MDA(H)
VIS

A

–
–
580 (574)
1400
1500
1600

B

–
–
580 (574)
1600
1800
2400

C

–
–
580 (574)
2400
2400
3200

D

–
–
580 (574)
2400
2400
3200

Climb to SS099, direct to AOBAR and hold at 3000FT. Contact SENDAI APP. (For using VOR/DME) Climb on HDG090˚ until SDE 1.6DME, turn right via SDE R135 to AOBAR and hold at 3000FT. Contact SENDAI APP. PAPI and descent angles not coincident.
INSTRUMENT APPROACH CHART

**RJSS / SENDAI**

**SENDAI VOR / DME**

116.3 SDE
38°08'19"N/140°55'17"E

**SENDAI TWR**

118.7 – 126.2 – 121.5

**RADAR AVBL**

ATIS 126.45

**VAR 8 W (2011)**

EGPT REQUIRED
DME

**DME to SDE**

<table>
<thead>
<tr>
<th>NM to SDE</th>
<th>MAPt</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>FAF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALT (3.0° APCH Path)</td>
<td>–</td>
<td>524</td>
<td>842</td>
<td>1161</td>
<td>1479</td>
</tr>
</tbody>
</table>

**OHSYU (FAF): 380923.40N/1410128.91E**

**MHA 3000**

MAX 230KIAS

**MISSING 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**

<table>
<thead>
<tr>
<th>NM to THR</th>
<th>0</th>
<th>1.1</th>
<th>4.4</th>
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</thead>
</table>

**MINIMA**

THR elev. 15

<table>
<thead>
<tr>
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<th>MDA(H)</th>
<th>RVR/ CMV</th>
<th>MDA(H)</th>
<th>VIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>390</td>
<td>900</td>
<td>1600</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>390 (384)</td>
<td>1000</td>
<td>530 (524)</td>
<td>2400</td>
</tr>
<tr>
<td>C</td>
<td>1400</td>
<td>560 (554)</td>
<td>3200</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Civil Aviation Bureau, Japan (EFF: 10 MAR 2011)**

10/2/11
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

<table>
<thead>
<tr>
<th>CAT</th>
<th>THR elev. 5</th>
<th>AD elev. 6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CIRCLING</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MDA(H)</td>
<td>CMV</td>
</tr>
<tr>
<td>A</td>
<td>410 (404)</td>
<td>1500</td>
</tr>
<tr>
<td>B</td>
<td>1800</td>
<td>2400</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SDE

Turn initiation within D8.0 SDE

BNCHO (FAF) : 380536.44N/1410037.27E

MHA 3000
MAX 230KIAS

VAR 8 W (2011)

EQPT REQUIRED
DME
<table>
<thead>
<tr>
<th>Call sign</th>
<th>BRG / DIST from ARP</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tsukinoki</td>
<td>240°/6.4NM</td>
<td>JR Station</td>
</tr>
<tr>
<td>Iwanuma</td>
<td>244°/2.9NM</td>
<td>JR Station</td>
</tr>
<tr>
<td>Watari</td>
<td>209°/6.5NM</td>
<td>JR Station</td>
</tr>
<tr>
<td>Arahama</td>
<td>189°/5.4NM</td>
<td>Arakawa River-mouth of the Abukuma</td>
</tr>
<tr>
<td>Yuriage</td>
<td>042°/2.9NM</td>
<td>Yumura River mouth of the Natori</td>
</tr>
<tr>
<td>Nakada</td>
<td>342°/4NM</td>
<td>JR Hanau Station</td>
</tr>
<tr>
<td>Kumano</td>
<td>326°/5.2NM</td>
<td>Kumano Shrine</td>
</tr>
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</table>
仙台特别管制区  
Sendai Positive Control Area

<table>
<thead>
<tr>
<th>NAME</th>
<th>LATERAL LIMITS</th>
<th>UPPER LIMIT (AMSL)</th>
<th>LOWER LIMIT (AMSL) M(R)</th>
<th>UNIT PROVIDING SERVICE</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>仙台</td>
<td>下記に示される区域</td>
<td>Primary</td>
<td>Sendai APP 120.4-261.2</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Sendai</td>
<td>The area shown below</td>
<td>Secondary</td>
<td>Sendai TWR 126.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

![Diagram of the Sendai Positive Control Area](image-url)
Sendai Terminal Control Area

SENDAI TERMINAL CONTROL AREA

Sendai Terminal Control Area

Sendai Approach Control Area

Sendai Training/Testing Area

Tohoku 12
### TAKE OFF MINIMA

<table>
<thead>
<tr>
<th>RWY</th>
<th>REDL &amp; RCLL AVBL</th>
<th>REDL or RCLL AVBL</th>
<th>REDL &amp; RCLL OUT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CEIL-RVR</td>
<td>CEIL-VIS</td>
<td>CEIL-RVR</td>
</tr>
<tr>
<td>09</td>
<td>–</td>
<td>0'-400m</td>
<td>–</td>
</tr>
<tr>
<td>27</td>
<td>200'-800m</td>
<td>200'-800m</td>
<td>200'-800m</td>
</tr>
<tr>
<td>12</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>30</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

**Other**

- AVBL LDG MINIMA

* Applicable to HIROSE SEVEN DEPARTURE, DAIGO FIVE DEPARTURE.

---

**SENDAI AIRPORT**

**ILS-LOC ANTENNA**

- 130m
- 120m
- 328m
- 235m
- 3000m

**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 8.8m(29ft)
MARKING AIDS and PARKING AREA