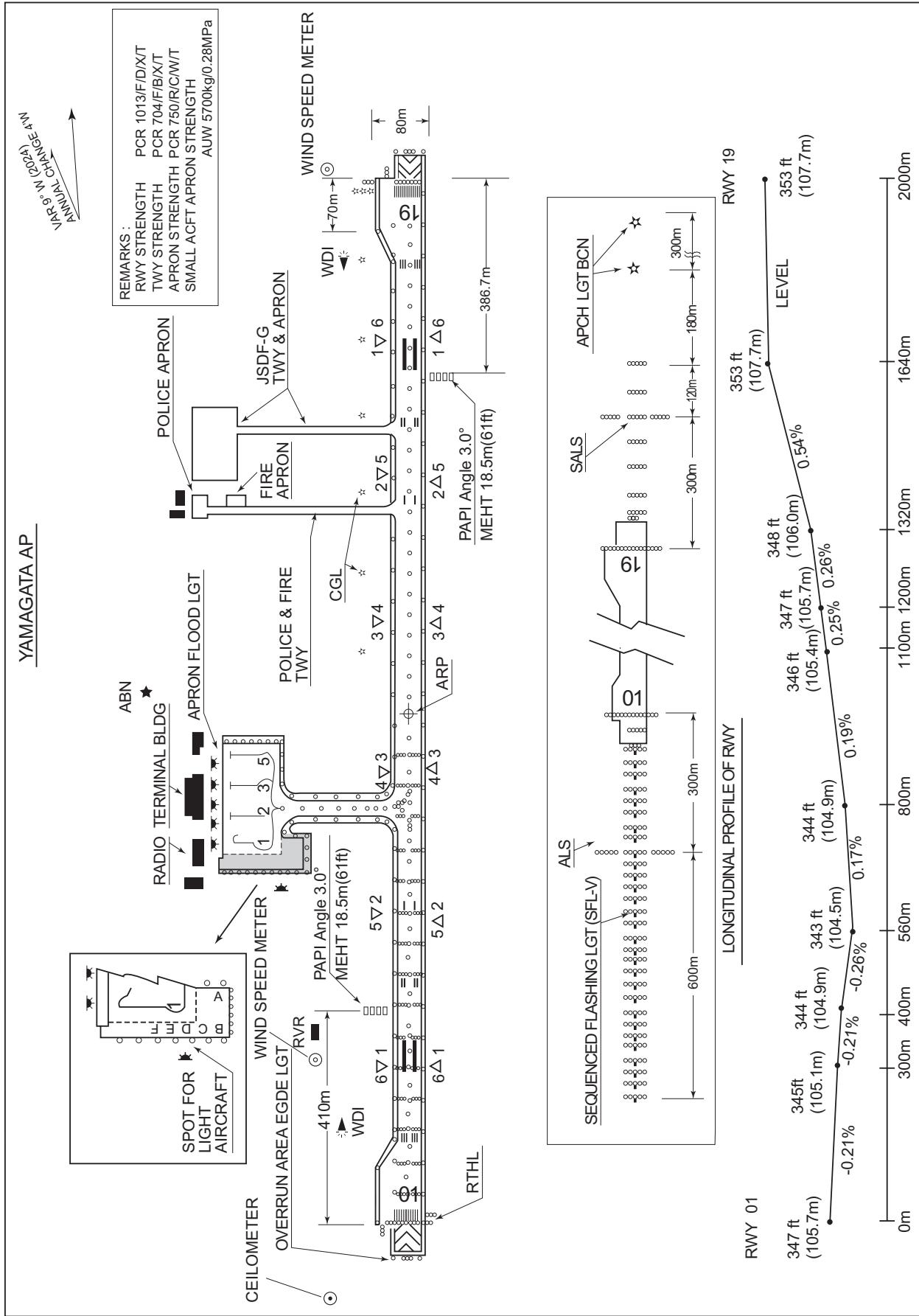


RJSC / YAMAGATA

AD CHART



STANDARD DEPARTURE CHART-INSTRUMENT

RJSC / YAMAGATA

SID

YAMAGATA FOUR DEPARTURE

RWY01 : Climb RWY HDG to 2000FT, via YTE R017 to 22.0DME, turn left, via YTE R003 to YTE VOR/DME.

RWY19 : Climb RWY HDG to 2000FT, turn right, direct to YTE VOR/DME, cross YTE VOR/DME at or above 4000FT, via YTE R017 to 15.0DME, turn left, via YTE R354 to YTE VOR/DME.

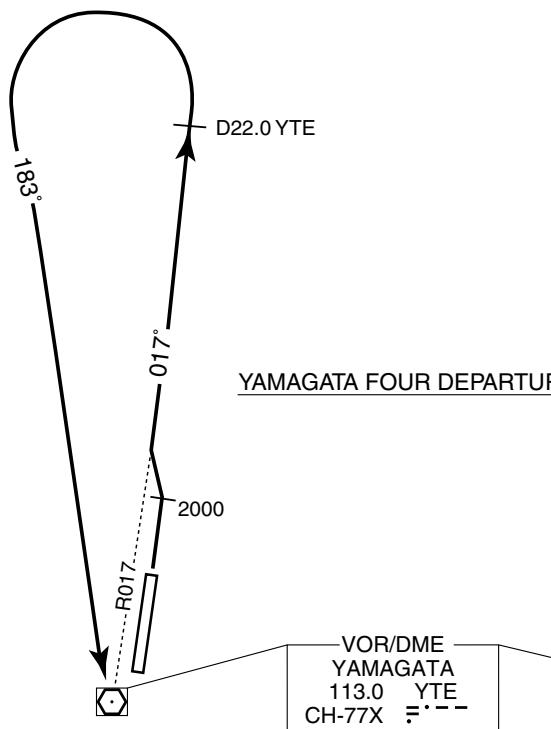
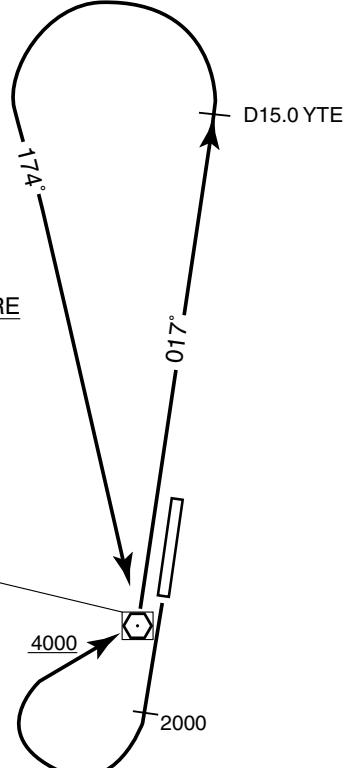
Note RWY01: 5.0% climb gradient required up to 2000FT.

OBST ALT 1182FT located at 4.2NM 033° FM end of RWY01.

RWY19: 5.0% climb gradient required up to 2000FT.

OBST ALT 788FT located at 3.1NM 181° FM end of RWY19.

Note No turn before DER.

For RWY01For RWY19

STANDARD DEPARTURE CHART-INSTRUMENT

| RJSC / YAMAGATA | RNAV SID |
|---|----------|
| RUBIS ONE DEPARTURE | RNP1 |
| Note GNSS required. | |
| | |
| RUBIS ONE DEPARTURE <p>RWY01 : Climb on HDG015° at or above 800FT, direct to SC101, to SC102 at or above 7000FT,...</p> <p>RWY19 : Climb on HDG195° at or above 1300FT, direct to SC903, to SC904, to SC905, to SC906,... ... to ZUNDA at or above FL170, to RUBIS at or above FL200.</p> <p>Note RWY01 : 5.0% climb gradient required up to 2000FT. OBST ALT 3609FT located at 16.0NM 039° FM end of RWY01.</p> <p>RWY19 : 4.0% climb gradient required up to 1300FT. OBST ALT 919FT located at 3.2NM 181° FM end of RWY19.</p> | |

STANDARD DEPARTURE CHART-INSTRUMENT

RJSC / YAMAGATA

RNAV SID

RUBIS ONE DEPARTURE

RWY01

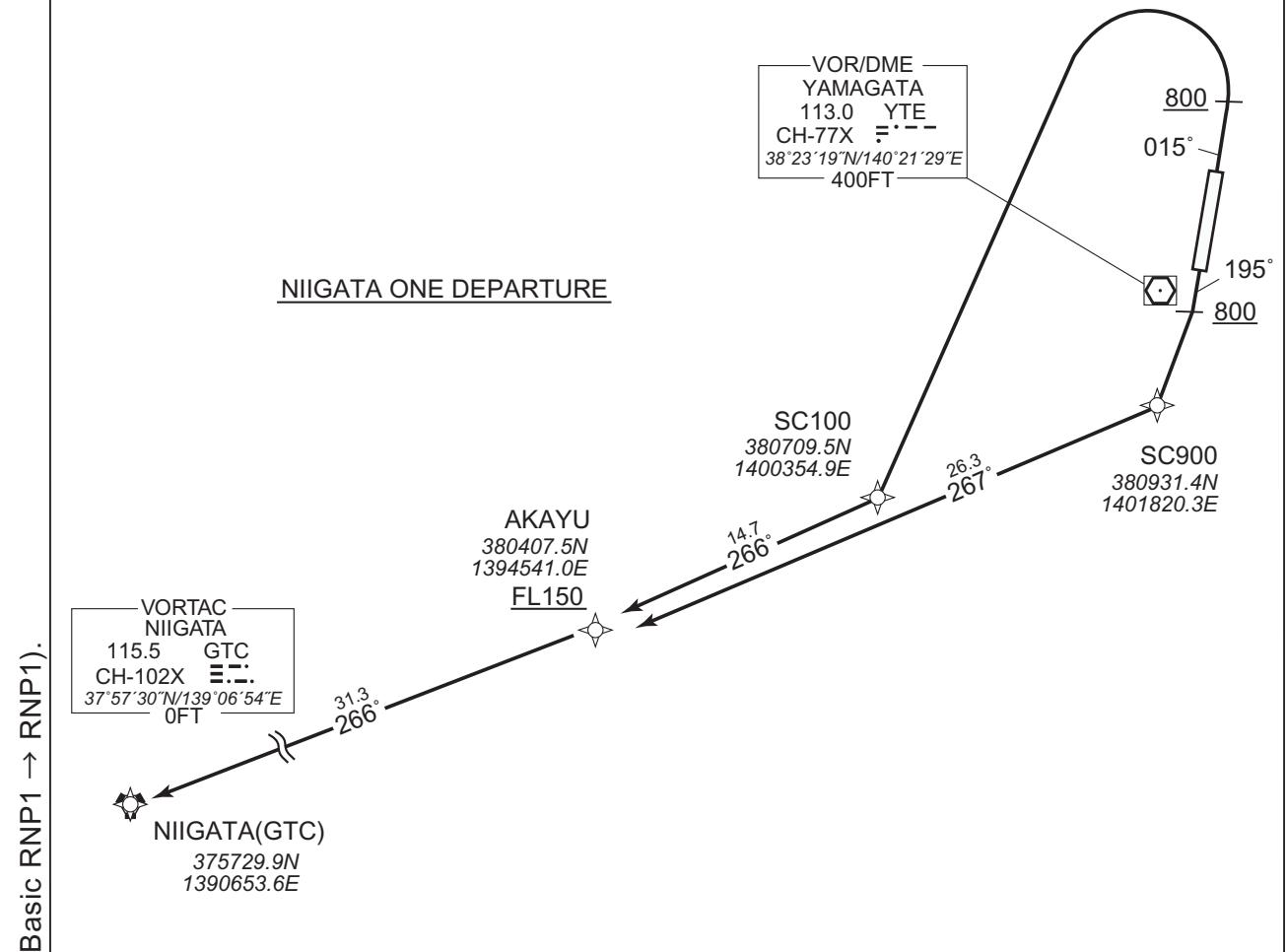
| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course °M(°T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---------------|-----------------|---------------------|----------|---------------|--------------------|---------------|----------------|---------------|--------------|----------------|--------------------------|
| 001 | VA | - | - | 015 (006.6) | -8.2 | - | - | +800 | - | - | RNP1 |
| 002 | DF | SC101 | - | - | -8.2 | - | - | - | - | - | RNP1 |
| 003 | TF | SC102 | - | 105 (096.6) | -8.2 | 8.4 | - | +7000 | - | - | RNP1 |
| 004 | TF | ZUNDA | - | 200 (192.2) | -8.2 | 31.2 | - | +FL170 | - | - | RNP1 |
| 005 | TF | RUBIS | - | 169 (161.2) | -8.2 | 26.9 | - | +FL200 | - | - | RNP1 |

RWY19

| 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 | - | - | 195 (186.6) | -8.2 | - | - | +1300 | - | - | RNP1 |
| 002 | DF | SC903 | - | - | -8.2 | - | - | - | - | - | RNP1 |
| 003 | TF | SC904 | - | 285 (276.6) | -8.2 | 9.4 | - | - | - | - | RNP1 |
| 004 | TF | SC905 | - | 015 (006.4) | -8.2 | 10.5 | - | - | - | - | RNP1 |
| 005 | TF | SC906 | - | 105 (096.5) | -8.2 | 10.6 | - | - | - | - | RNP1 |
| 006 | TF | ZUNDA | - | 179 (171.0) | -8.2 | 15.7 | - | +FL170 | - | - | RNP1 |
| 007 | TF | RUBIS | - | 169 (161.2) | -8.2 | 26.9 | - | +FL200 | - | - | RNP1 |

CHANGE : Navigation Specification(Basic RNP1 → RNP1).

STANDARD DEPARTURE CHART-INSTRUMENT

| RJSC / YAMAGATA | RNAV SID |
|---|----------|
| NIIGATA ONE DEPARTURE | RNP1 |
| Note GNSS required. | |
| VAR 8°W (2017) | |
|  <p>NIIGATA ONE DEPARTURE</p> <p>VOR/DME YAMAGATA 113.0 YTE CH-77X F--- 38°23'19"N/140°21'29"E 400FT</p> <p>VORTAC NIIGATA 115.5 GTC CH-102X E--- 37°57'30"N/139°06'54"E 0FT</p> <p>NIIGATA(GTC) 37°57'29.9"N 139°06'53.6"E</p> <p>AKAYU 380407.5N 1394541.0E FL150</p> <p>SC100 380709.5N 1400354.9E</p> <p>SC900 380931.4N 1401820.3E</p> <p>HDG 015° at or above 800FT, turn left direct to SC100, ... HDG 195° at or above 800FT, direct to SC900, to AKAYU at or above FL150, to GTC.</p> | |
| <p>CHANGE : Navigation Specification(Basic RNP1 → RNP1).</p> <p>NIIGATA ONE DEPARTURE</p> <p>RWY01 : Climb on HDG015° at or above 800FT, turn left direct to SC100, ... RWY19 : Climb on HDG195° at or above 800FT, direct to SC900, to AKAYU at or above FL150, to GTC.</p> <p>Note RWY01 : 5.5% climb gradient required up to 2500FT. OBST ALT 2198FT located at 6.3NM 321° FM end of RWY01.</p> <p>RWY19 : 4.3% climb gradient required up to 800FT. OBST ALT 722FT located at 2.8NM 182° FM end of RWY19.</p> | |

STANDARD DEPARTURE CHART-INSTRUMENT

RJSC / YAMAGATA

RNAV SID

NIIGATA ONE DEPARTURE

RWY01

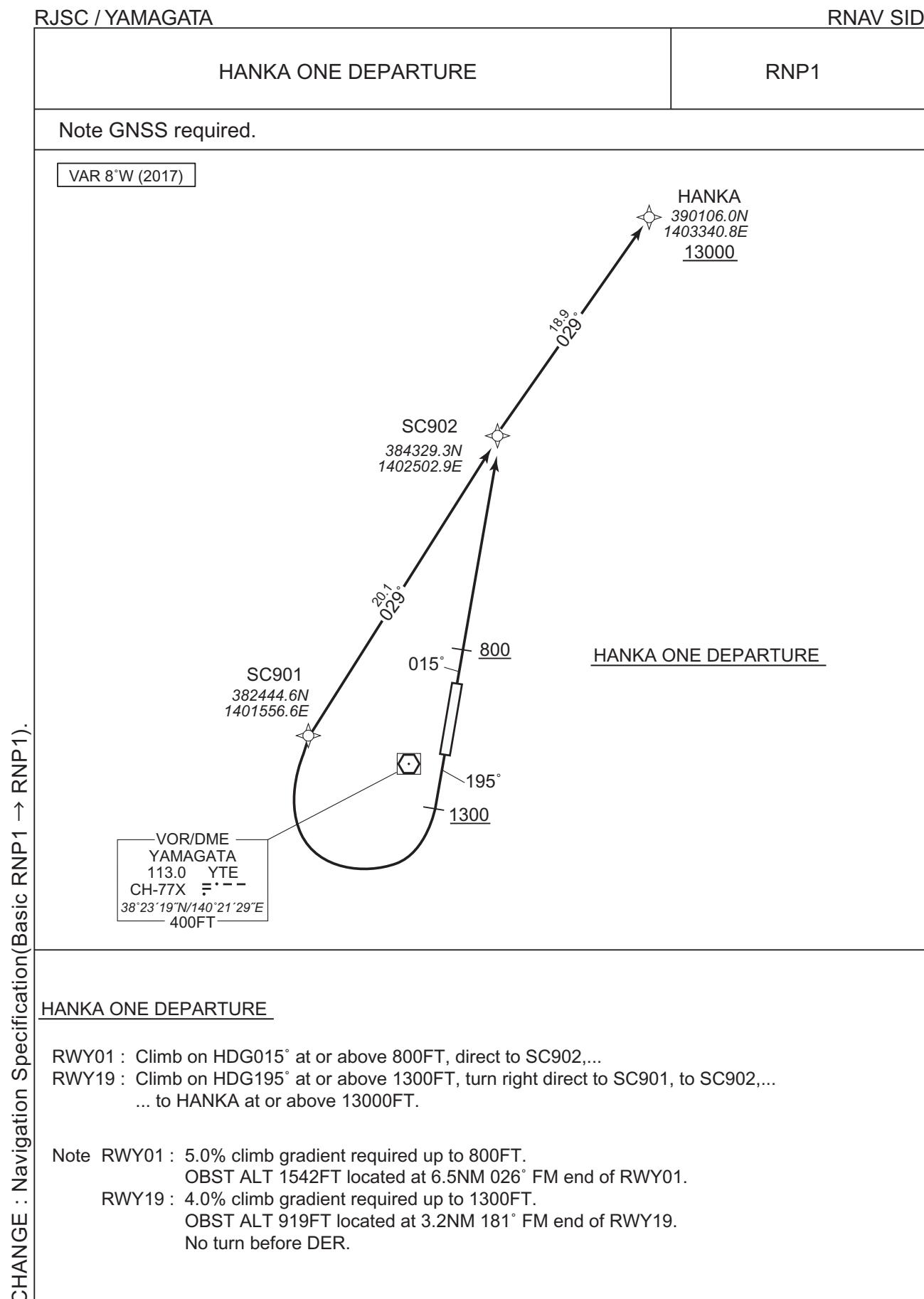
| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course °M(°T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---------------|-----------------|---------------------|----------|----------------|--------------------|---------------|----------------|---------------|--------------|----------------|--------------------------|
| 001 | VA | - | - | 015 (006.6) | -8.2 | - | - | +800 | - | - | RNP1 |
| 002 | DF | SC100 | - | - | -8.2 | - | L | - | - | - | RNP1 |
| 003 | TF | AKAYU | - | 266 (258.2) | -8.2 | 14.7 | - | +FL150 | - | - | RNP1 |
| 004 | TF | GTC | - | 266 (258.0) | -8.2 | 31.3 | - | - | - | - | RNP1 |

RWY19

| 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 | - | - | 195 (186.6) | -8.2 | - | - | +800 | - | - | RNP1 |
| 002 | DF | SC900 | - | - | -8.2 | - | - | - | - | - | RNP1 |
| 003 | TF | AKAYU | - | 267 (258.3) | -8.2 | 26.3 | - | +FL150 | - | - | RNP1 |
| 004 | TF | GTC | - | 266 (258.0) | -8.2 | 31.3 | - | - | - | - | RNP1 |

CHANGE : Navigation Specification(Basic RNP1 → RNP1).

STANDARD DEPARTURE CHART-INSTRUMENT



STANDARD DEPARTURE CHART-INSTRUMENT

RJSC / YAMAGATA

RNAV SID

HANKA ONE DEPARTURE

RWY01

| 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 | - | - | 015 (006.6) | -8.2 | - | - | +800 | - | - | RNP1 |
| 002 | DF | SC902 | - | - | -8.2 | - | - | - | - | - | RNP1 |
| 003 | TF | HANKA | - | 029 (020.8) | -8.2 | 18.9 | - | +13000 | - | - | RNP1 |

RWY19

| 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 | - | - | 195 (186.6) | -8.2 | - | - | +1300 | - | - | RNP1 |
| 002 | DF | SC901 | - | - | -8.2 | - | R | - | - | - | RNP1 |
| 003 | TF | SC902 | - | 029 (020.7) | -8.2 | 20.1 | - | - | - | - | RNP1 |
| 004 | TF | HANKA | - | 029 (020.8) | -8.2 | 18.9 | - | +13000 | - | - | RNP1 |

CHANGE : Navigation Specification(Basic RNP1 → RNP1).

STANDARD ARRIVAL CHART - INSTRUMENT

RJSC / YAMAGATA

RNAV STAR RWY01

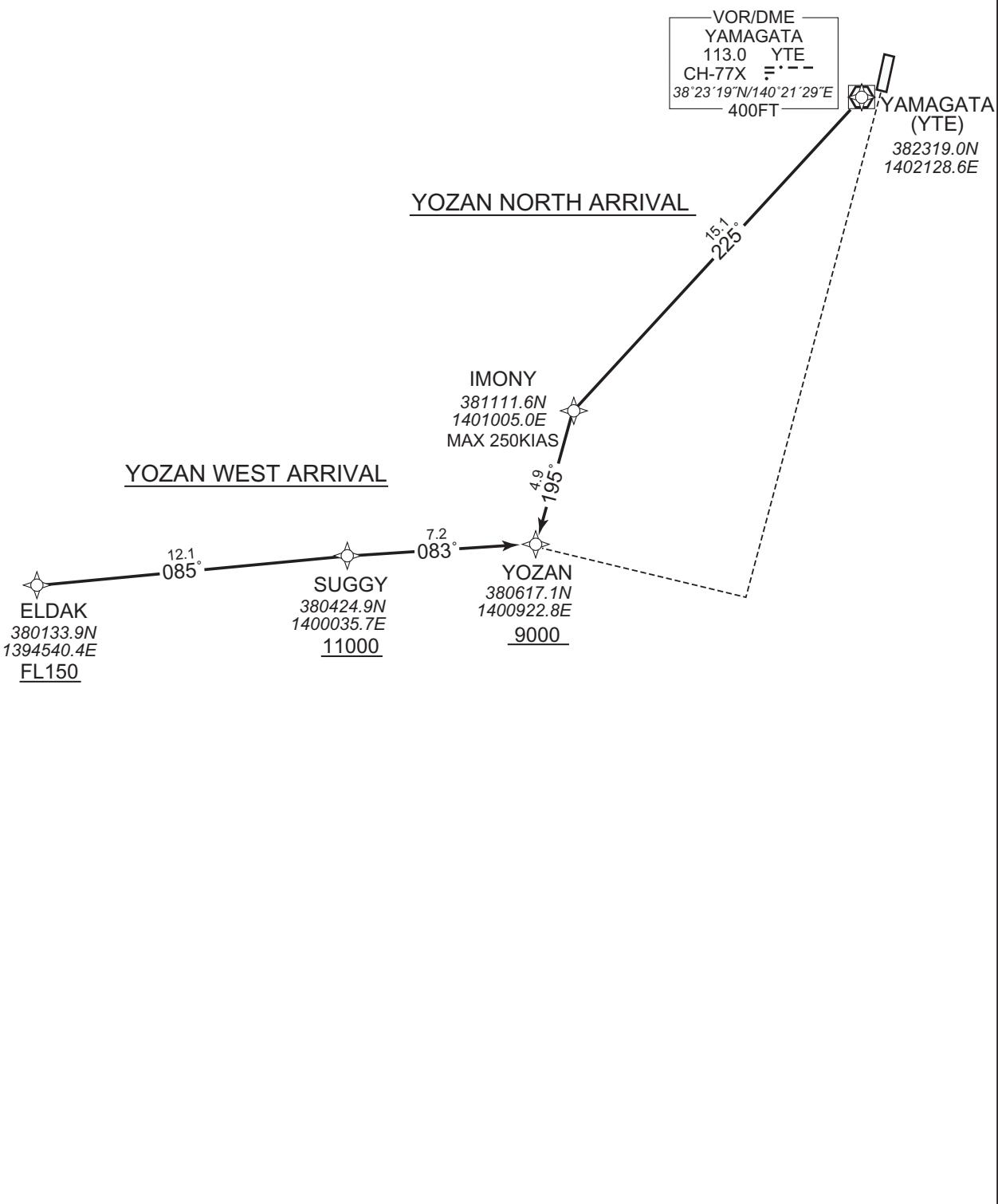
YOZAN WEST ARRIVAL / YOZAN NORTH ARRIVAL

RNP1

Note GNSS required.

VAR 8°W (2017)

CHANGE : Navigation Specification(Basic RNP1 → RNP1).



STANDARD ARRIVAL CHART - INSTRUMENT

RJSC / YAMAGATA

RNAV STAR RWY01

YOZAN WEST ARRIVAL

From ELDAK at or above FL150, to SUGGY at or above 11000FT,
to YOZAN at or above 9000FT.

| 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 | ELDAK | - | - | -8.2 | - | - | +FL150 | - | - | RNP1 |
| 002 | TF | SUGGY | - | 085 (076.3) | -8.2 | 12.1 | - | +11000 | - | - | RNP1 |
| 003 | TF | YOZAN | - | 083 (074.8) | -8.2 | 7.2 | - | +9000 | - | - | RNP1 |

YOZAN NORTH ARRIVAL

From YTE, to IMONY, to YOZAN at or above 9000FT.

| 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 | YTE | - | - | -8.2 | - | - | - | - | - | RNP1 |
| 002 | TF | IMONY | - | 225 (216.5) | -8.2 | 15.1 | - | - | -250 | - | RNP1 |
| 003 | TF | YOZAN | - | 195 (186.4) | -8.2 | 4.9 | - | +9000 | - | - | RNP1 |

CHANGE : Navigation Specification(Basic RNP1 → RNP1).

STANDARD ARRIVAL CHART - INSTRUMENT

RJSC / YAMAGATA

RNAV STAR RWY19

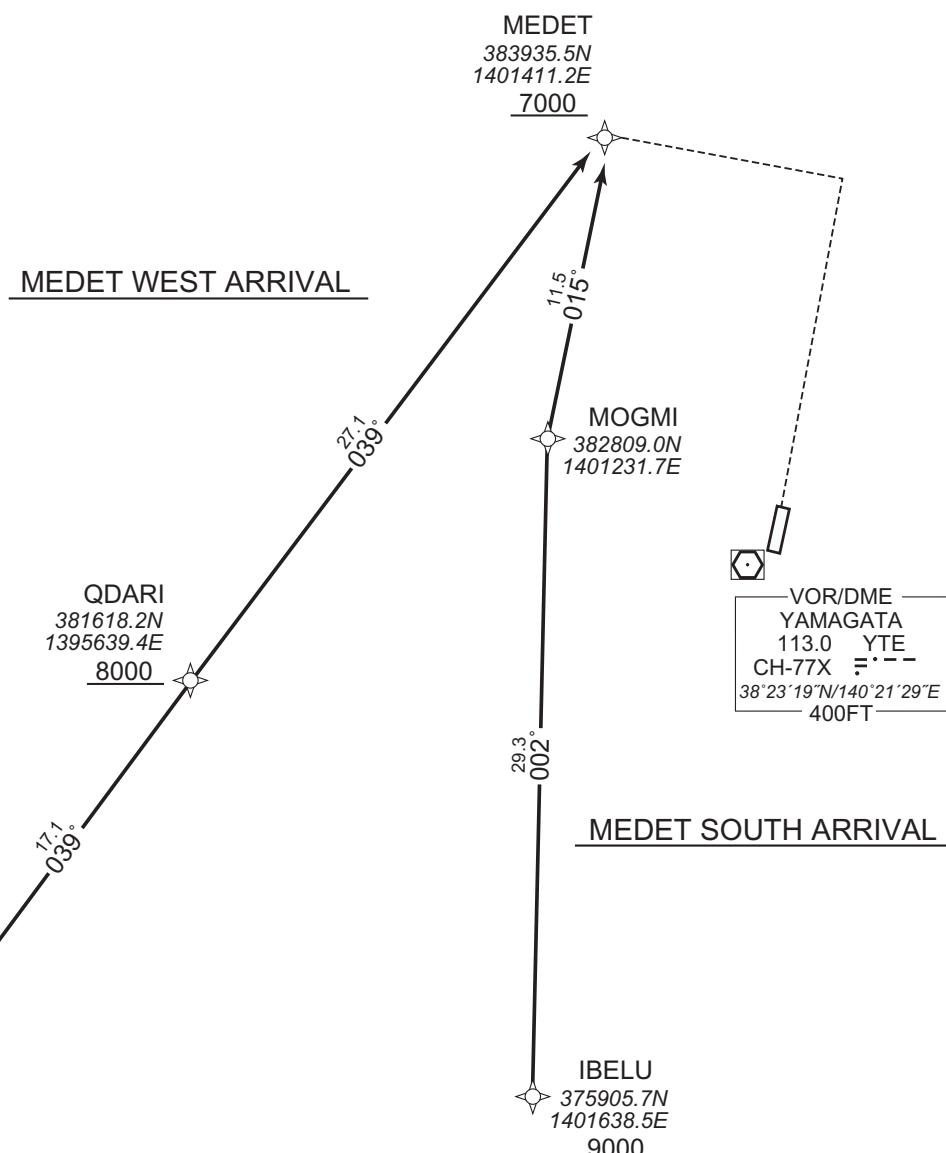
MEDET WEST ARRIVAL / MEDET SOUTH ARRIVAL

RNP1

Note GNSS required.

VAR 8°W (2017)

CHANGE : Navigation Specification(Basic RNP1 → RNP1).



STANDARD ARRIVAL CHART - INSTRUMENT

RJSC / YAMAGATA

RNAV STAR RWY19

MEDET WEST ARRIVAL

From ELDAK at or above FL150, to QDARI at or above 8000FT,
to MEDET at or above 7000FT.

| 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 | ELDAK | - | - | -8.2 | - | - | +FL150 | - | - | RNP1 |
| 002 | TF | QDARI | - | 039 (030.3) | -8.2 | 17.1 | - | +8000 | - | - | RNP1 |
| 003 | TF | MEDET | - | 039 (030.4) | -8.2 | 27.1 | - | +7000 | - | - | RNP1 |

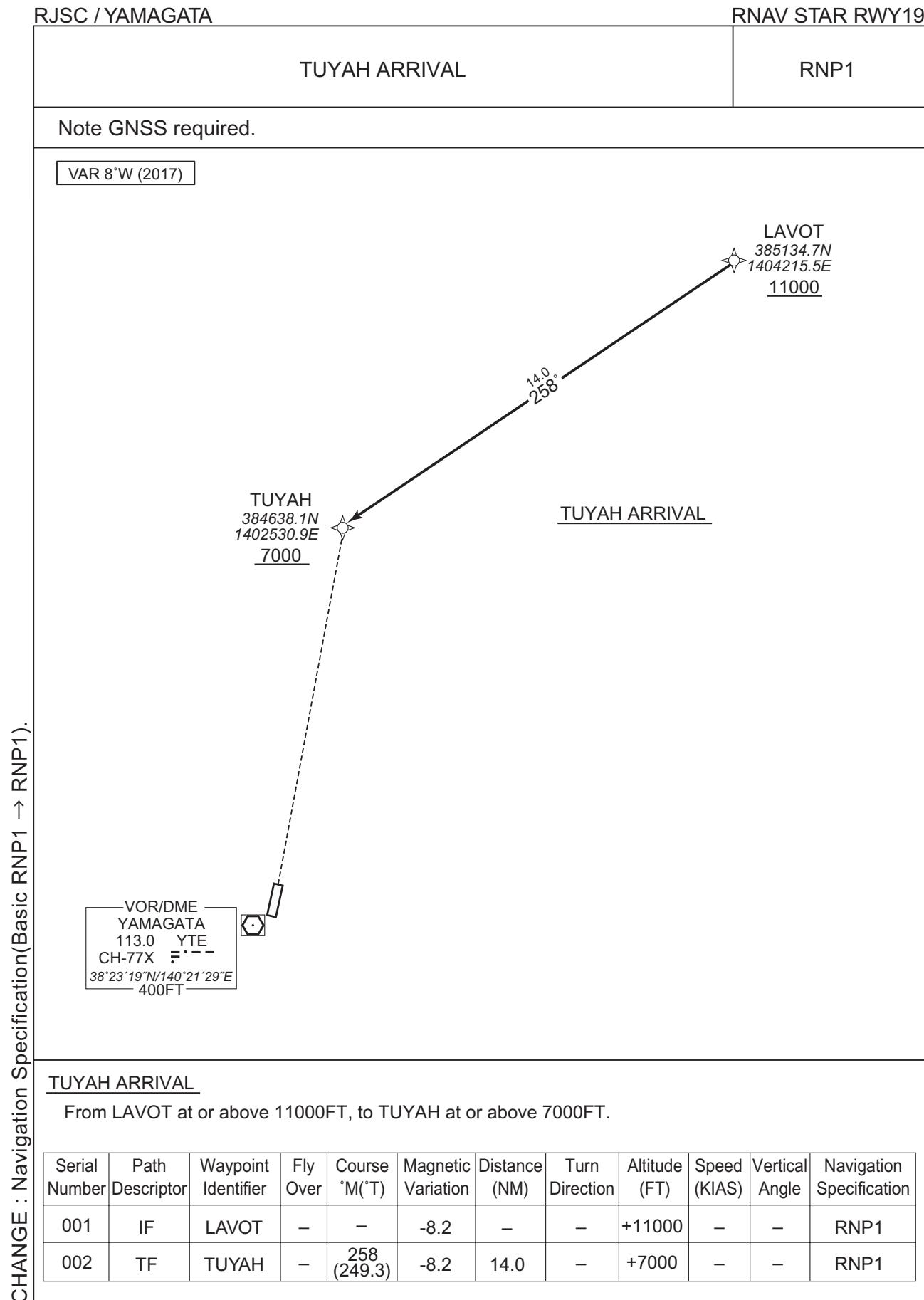
MEDET SOUTH ARRIVAL

From IBELU at or above 9000FT, to MOGMI, to MEDET at or above 7000FT.

| 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 | IBELU | - | - | -8.2 | - | - | +9000 | - | - | RNP1 |
| 002 | TF | MOGMI | - | 002 (353.7) | -8.2 | 29.3 | - | - | - | - | RNP1 |
| 003 | TF | MEDET | - | 015 (006.5) | -8.2 | 11.5 | - | +7000 | - | - | RNP1 |

CHANGE : Navigation Specification(Basic RNP1 → RNP1).

STANDARD ARRIVAL CHART - INSTRUMENT



INSTRUMENT APPROACH CHART

RJSC / YAMAGATA

TOKYO CONTROL
132.3 - 300.2
127.65 - 303.4

YAMAGATA RADIO
122.7 - 126.2

NO RADAR

VAR 9°W (2021)

MSA 25NM

VOR/DME YAMAGATA
113.0 YTE
CH-77X 38°23'19"N/140°21'29"E

EQPT REQUIRED
DME
VOR

Using NAVAID

NOTE: For Initial approach segment
(1) RNP1.
(2) GNSS required.

YOTATE (IAF)
D19.5 YTE
380617.11N
1400922.81E
9000

KAJYO(FAF)
D14.1 IYT
381021.06N/1402010.69E

LAFRA(IF)
380522.60N
1401927.16E
D19.1 IYT

IBELU(IAF)
375905.65N
1401638.49E
9000

MISSED APPROACH
Climb to 2000FT on HDG015°,
via YTE R017 to 5000FT,
turn left, via YTE R003 to YTE
VOR/DME and hold at 7000FT.
Contact YAMAGATA RADIO.

| CAT | CAT I | | CIRCLING | |
|-----|-----------|-------------|-----------|------|
| | DA(H) | RVR/ CMV | MDA(H) | VIS |
| A | 547 (200) | 550 | 790 (445) | 1600 |
| B | | | 800 (455) | 2400 |
| C | | | 900 (555) | 3200 |
| D | | | | |

MINIMA with Missed APCH climb gradient of 2.5% are not established.
Circling to WEST side of RWY only.

INSTRUMENT APPROACH CHART

RJSC / YAMAGATA

TOKYO CONTROL
132.3 - 300.2
127.65 - 303.4

ILS LOC
110.1 IYT \equiv
ILS-DME CH-38X

YAMAGATA RADIO
122.7 - 126.2

NO RADAR

VAR 9°W (2021)

MSA 25NM

VOR/DME YAMAGATA
113.0 YTE
CH-77X \equiv
38°23'19"N/140°21'29"E

MAPt D0.8 IYT

EQPT REQUIRED DME VOR

Using NAVAID

D25.0 YTE
MHA 9000 MAX 230KIAS

NOTE: For Initial approach segment
(1) RNP1.
(2) GNSS required.

YOTAN (IAF)
D19.5 YTE
380617.11N
1400922.81E
9000

KAJYO(FAF)
D14.1 IYT

LAFRA(IF)
380522.60N
1401927.16E
D19.1 IYT

IBELU(IAF)
375905.65N
1401638.49E
9000

KAJYO(FAF) : 381021.06N/1402010.69E

Using NAVAID

YOTAN (IAF)
D19.5 YTE
380617.11N
1400922.81E
9000

MHA 7000/MAX 230KIAS

Using NAVAID

IBELU(IAF)
D24.5 YTE
MHA 9000 MAX 230KIAS

Missed Approach

Climb to 2000FT on HDG015°, via YTE R017 to 5000FT, turn left, via YTE R003 to YTE VOR/DME and hold at 7000FT. Contact YAMAGATA RADIO.

PAPI and descent angles not coincident. Timing not authorized for defining the MAPt.

| NM to IYT | FAF | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | MAPt |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|
| ALT(3.1° APCH Path) | 4969 | 4941 | 4612 | 4283 | 3954 | 3625 | 3296 | 2967 | 2637 | 2308 | 1979 | 1650 | 1321 | 992 | - |

LAFLA (IF)

5000FT

015°

4600 (4255)

4060 (3715)

4218 SDF

3.1°

015°

2420 (2075)

SDF

2508

MDA

YTE

MAPt

19.1

14.1

11.8

6.6

0.8

0.2

DME to IYT

18.9

13.9

11.6

6.4

0.6

0

NM to THR

Missed APCH climb gradient MIN 5.0%

MINIMA THR elev. 347 AD elev. 345

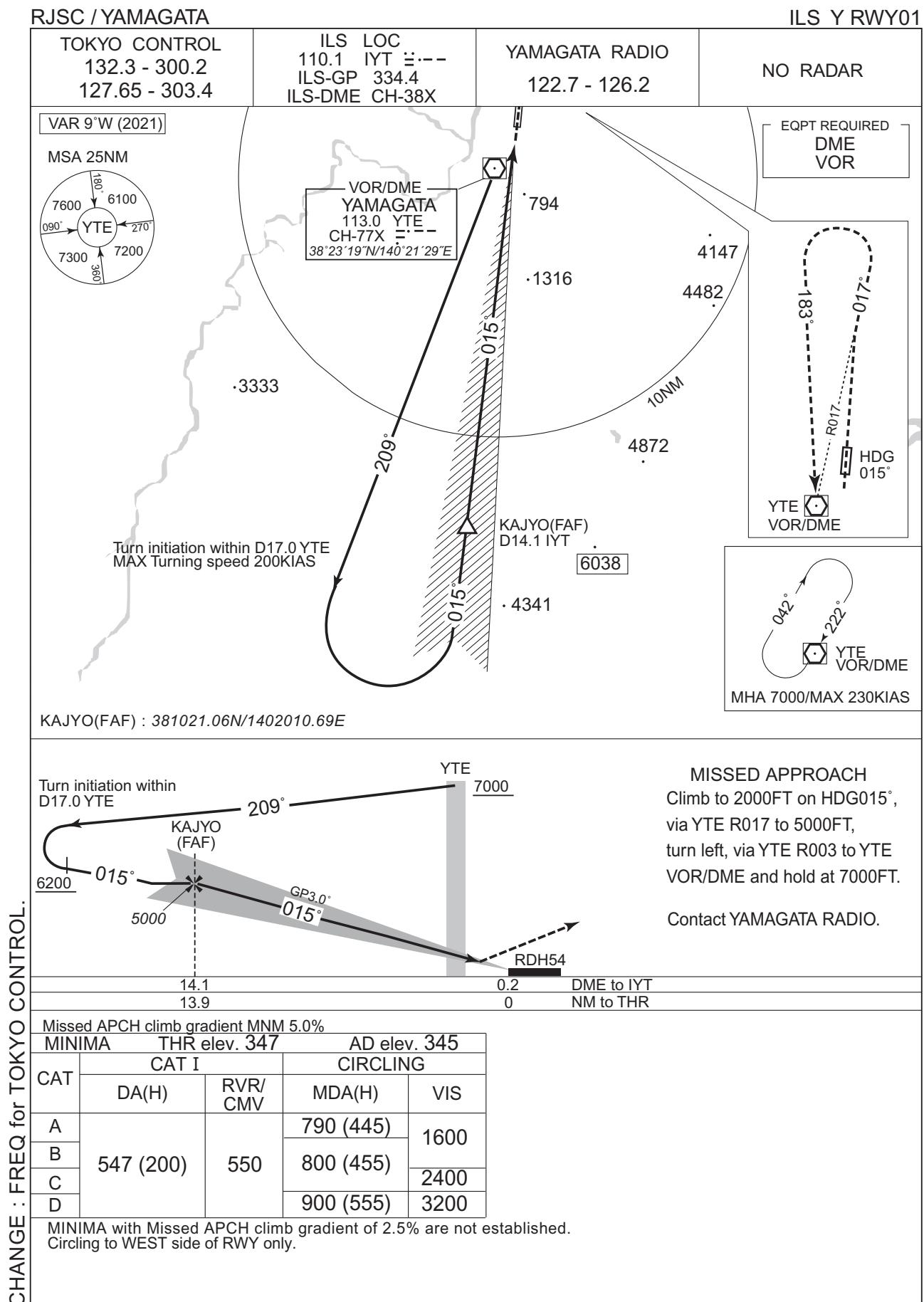
CIRCLING

| CAT | MDA(H) | RVR/CMV | MDA(H) | VIS |
|-----|-----------|---------|-----------|------|
| A | 1000 | | | |
| B | 870 (525) | | 870 (525) | 1600 |
| C | | 1200 | | 2400 |
| D | | 1600 | 900 (555) | 3200 |

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

Circling to WEST side of RWY only.

INSTRUMENT APPROACH CHART



INSTRUMENT APPROACH CHART

RJSC / YAMAGATA

LOC Y RWY01

TOKYO CONTROL
132.3 - 300.2
127.65 - 303.4

ILS LOC
110.1 IYT \equiv
ILS-DME CH-38X

YAMAGATA RADIO
122.7 - 126.2

NO RADAR

VAR 9°W (2021)

MSA 25NM

VOR/DME YAMAGATA
113.0 YTE
CH-77X \equiv
 $38^{\circ}23'19"N / 140^{\circ}21'29"E$

MAPt
D0.8 IYT

EQPT REQUIRED
DME
VOR

Turn initiation within D17.0 YTE
MAX Turning speed 200KIAS

KAJYO(FAF)
D14.1 IYT

MHA 7000/MAX 230KIAS

KAJYO(FAF) : 381021.06N/1402010.69E

| NM to IYT | FAF | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | MAPt |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|
| ALT(3.1° APCH Path) | 4969 | 4941 | 4612 | 4283 | 3954 | 3625 | 3296 | 2967 | 2637 | 2308 | 1979 | 1650 | 1321 | 992 | - |

Turn initiation within D17.0 YTE

YTE
7000

KAJYO (FAF)
4969 SDF

SDF
4218 3.1° 015°

MAPt

MISSSED APPROACH
Climb to 2000FT on HDG015°, via YTE R017 to 5000FT, turn left, via YTE R003 to YTE VOR/DME and hold at 7000FT. Contact YAMAGATA RADIO.

**PAPI and descent angles not coincident.
Timing not authorized for defining the MAPt.**

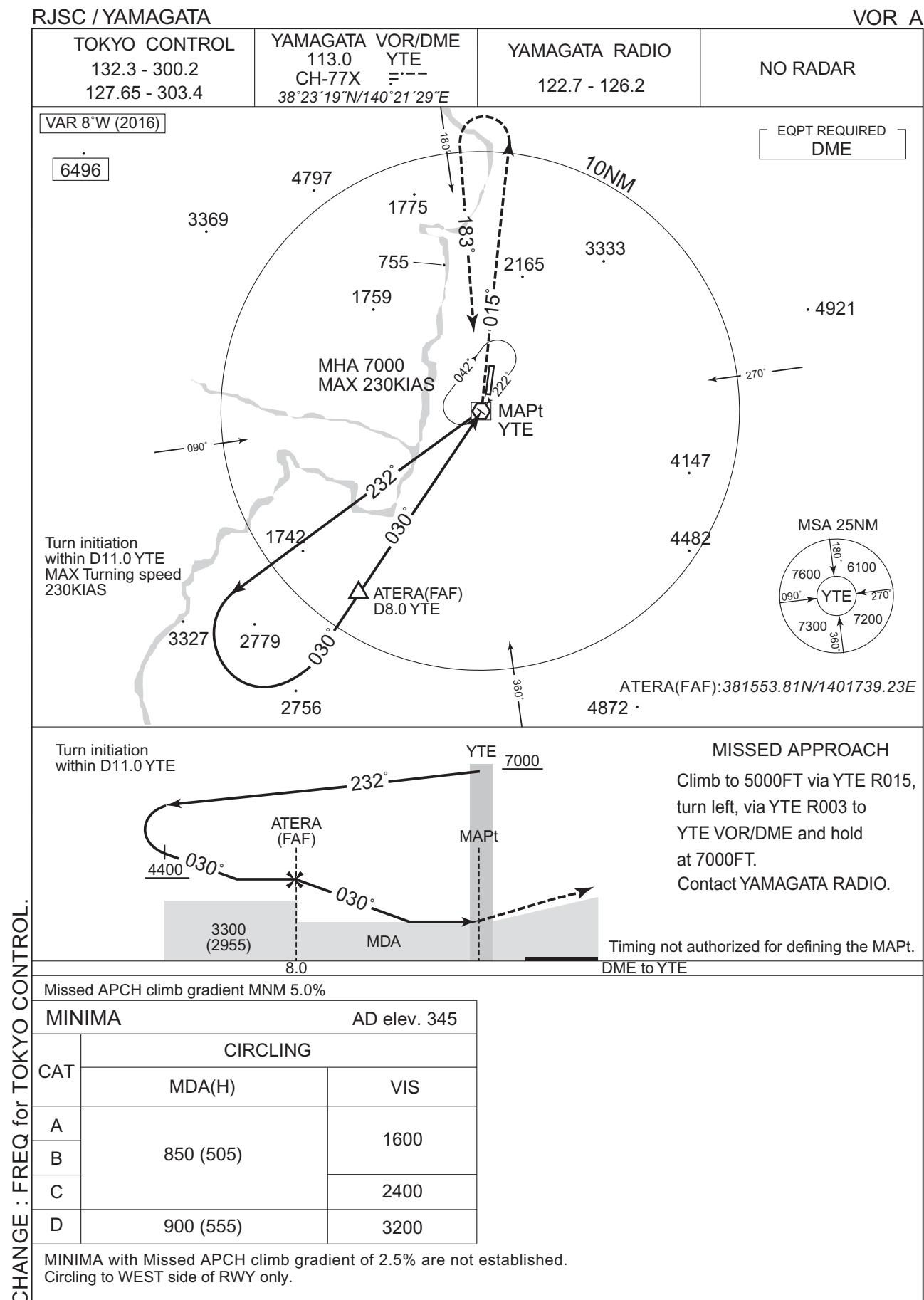
| 14.1 | 11.8 | 6.6 | 0.8 | 0.2 | DME to IYT |
|------|------|-----|-----|-----|------------|
| 13.9 | 11.6 | 6.4 | 0.6 | 0 | NM to THR |

Missed APCH climb gradient MNN 5.0%

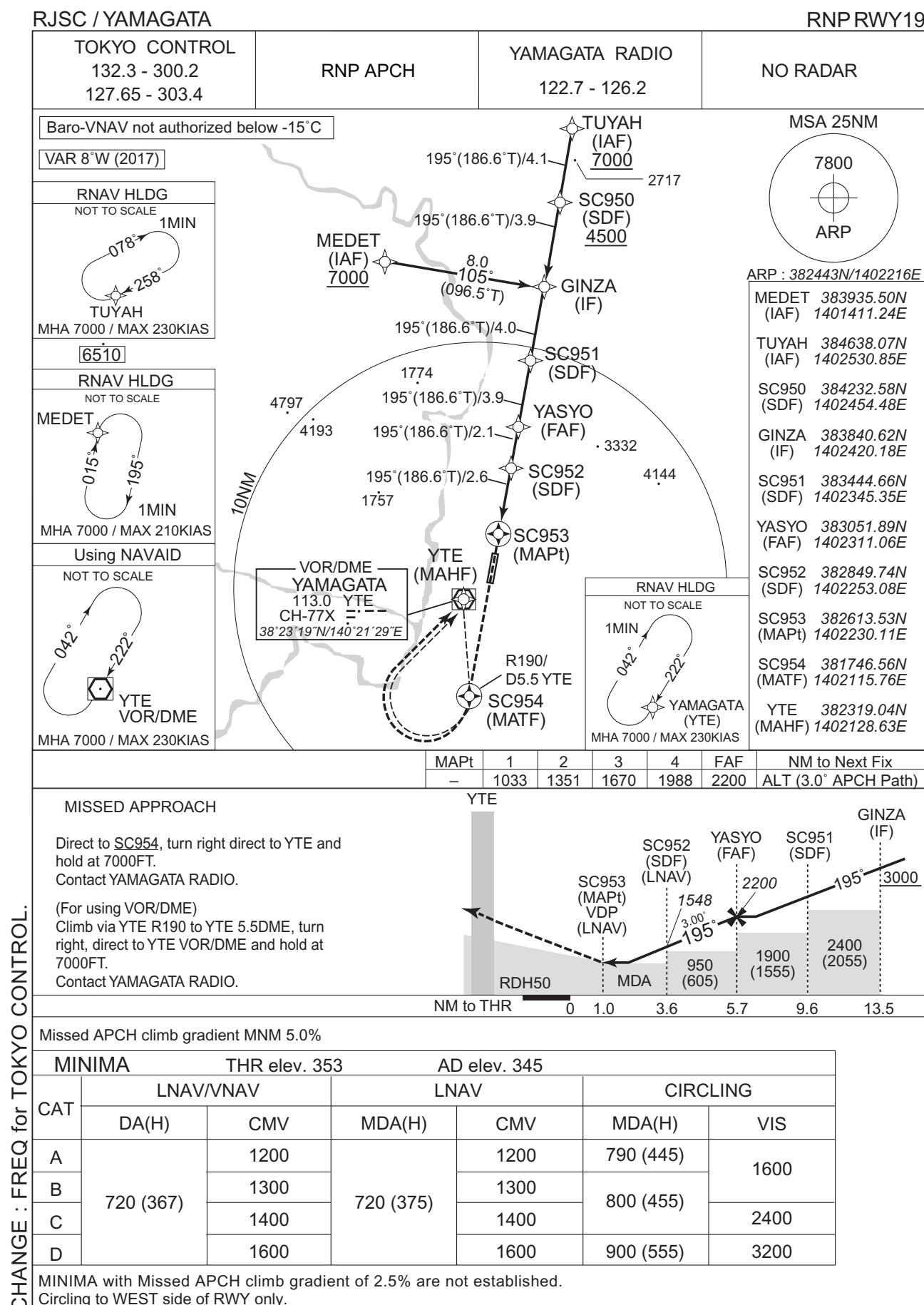
| MINIMA | THR elev. 347 | AD elev. 345 | | |
|--------|---------------|--------------|-----------|------|
| CAT | CIRCLING | | | |
| | MDA(H) | RVR/CMV | MDA(H) | VIS |
| A | 1000 | 870 (525) | 1600 | |
| B | 1200 | | 2400 | |
| C | 1600 | | 900 (555) | 3200 |
| D | | | | |

**MINIMA with Missed APCH climb gradient of 2.5% are not established.
Circling to WEST side of RWY only.**

INSTRUMENT APPROACH CHART

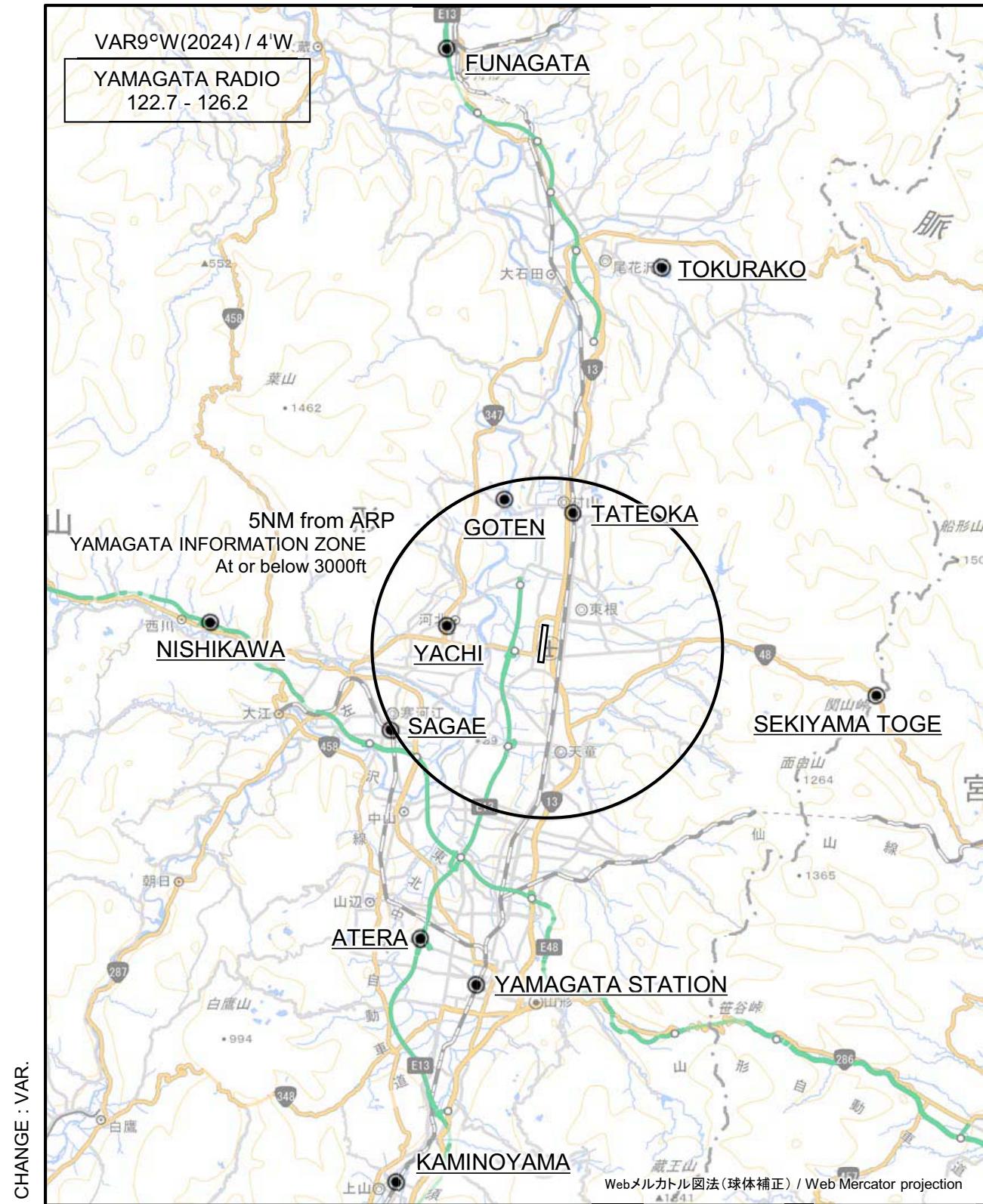


INSTRUMENT APPROACH CHART



RJSC / YAMAGATA

Visual REP



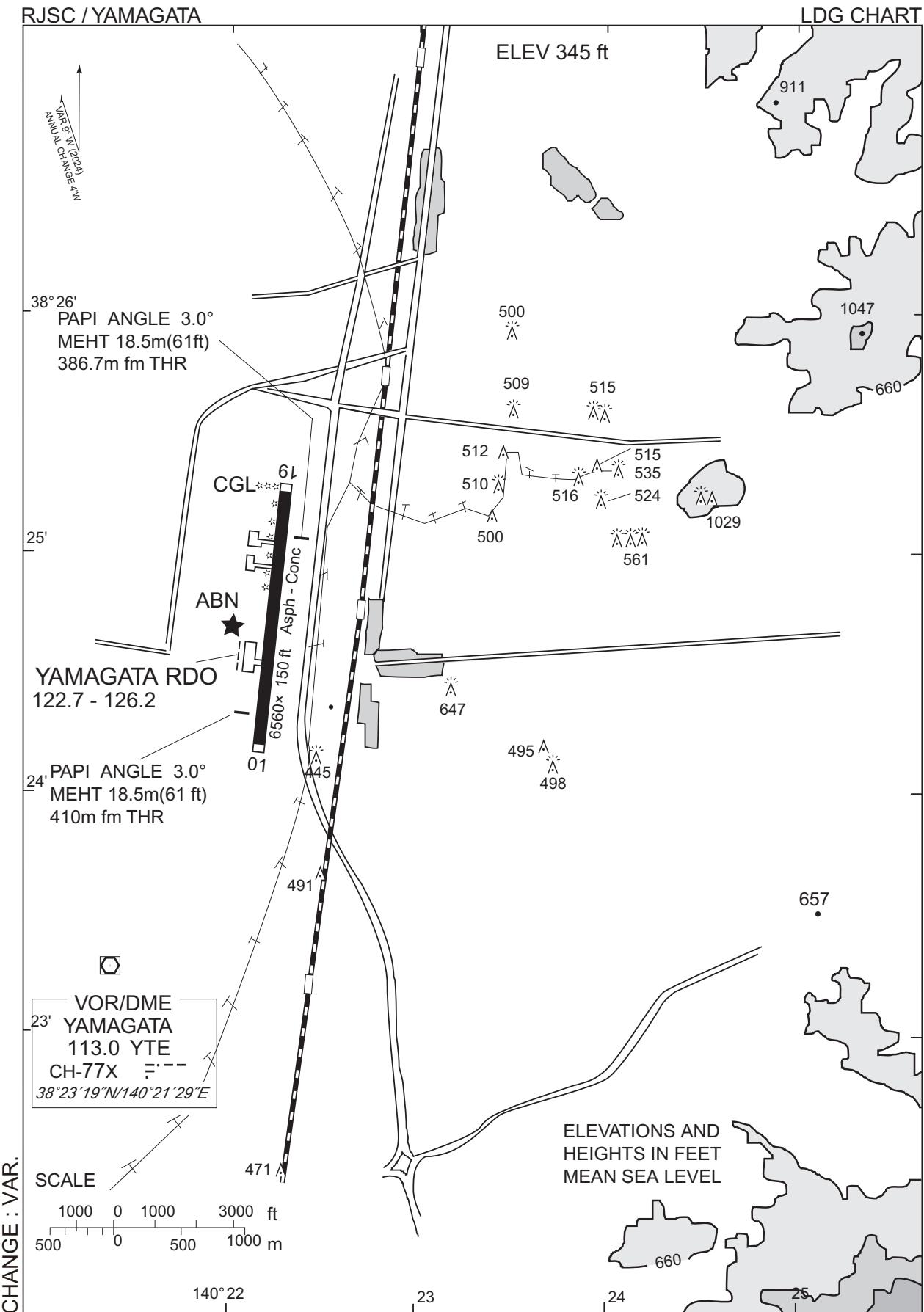
※図中に標高を示す数字がある場合、単位はメートル(m)である。The unit of measurement used to express elevation is meter(m).

RJSC / YAMAGATA

Visual REP

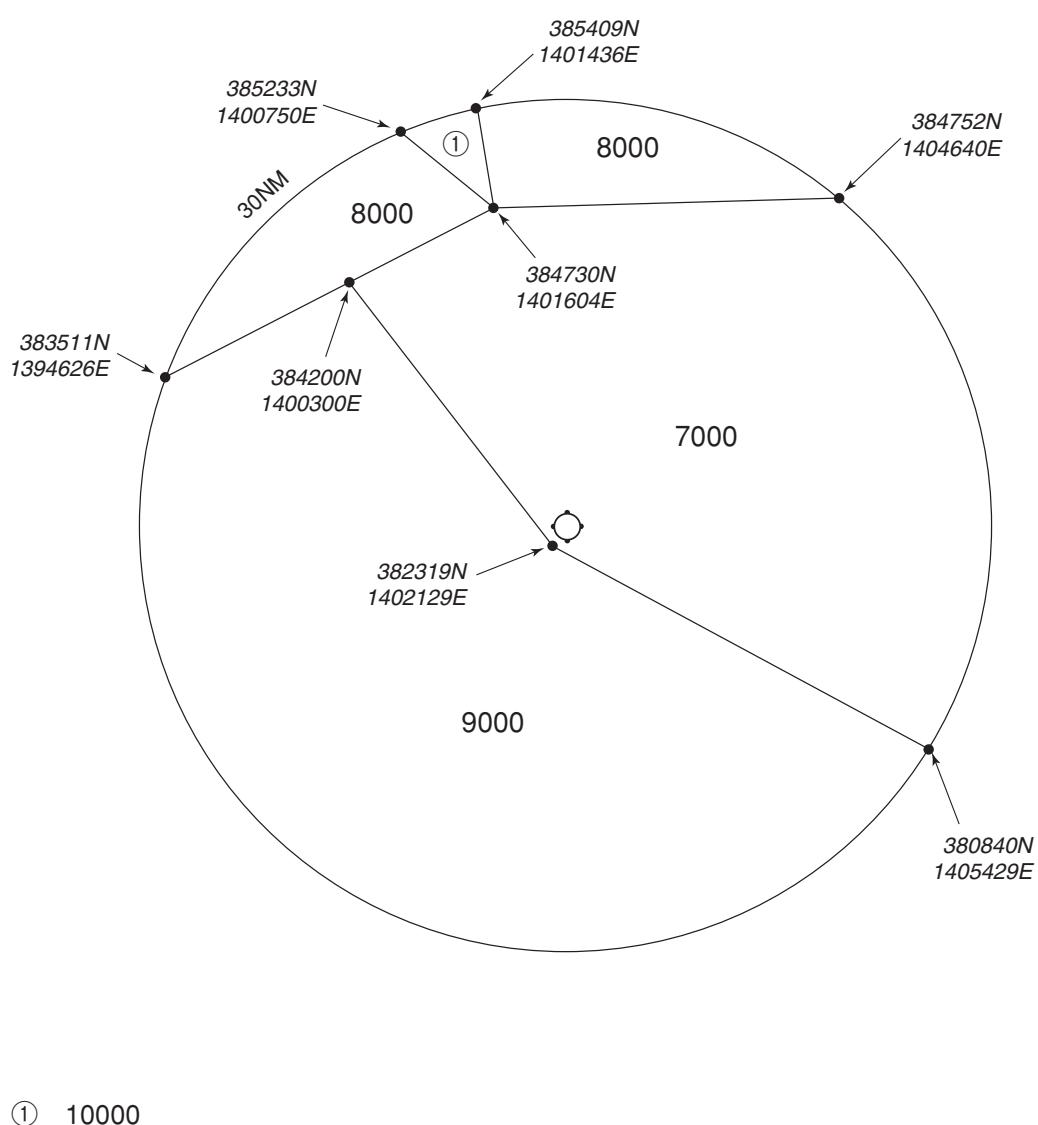
| Call sign | BRG / DIST from ARP | Remarks |
|------------------------------|---------------------|-----------------------------|
| 舟形 Funagata | 351°T / 17.7NM | 舟形インターチェンジ Interchange |
| 徳良湖 Tokurako | 017°T / 11.5NM | 徳良湖 Lake |
| 碁点 Goten | 344°T / 4.5NM | 村山市民体育館 Gymnasium |
| 楯岡 Tateoka | 010°T / 4.0NM | 村山駅(旧楯岡駅) JR station |
| 西川 Nishikawa | 274°T / 9.8NM | 西川インターチェンジ Interchange |
| 谷地 Yachi | 282°T / 3.0NM | 谷地高校 School |
| 関山峠 Sekiyama Toge | 100°T / 9.5NM | 関山トンネル Tunnel |
| 寒河江 Saga | 242°T / 5.1NM | 寒河江駅 JR station |
| アテラ Atera | 203°T / 9.3NM | 山形中央インターチェンジ Interchange |
| 山形ステーション Yamagata Station | 192°T / 10.0NM | 山形駅 JR station |
| 上山 Kaminoyama | 196°T / 16.2NM | かみのやま温泉駅 JR station |

CHANGE : Kaminoyama(Remarks).



RJSC / YAMAGATA

Minimum Vectoring Altitude CHART



CENTER : 382443N/1402216E (ARP)