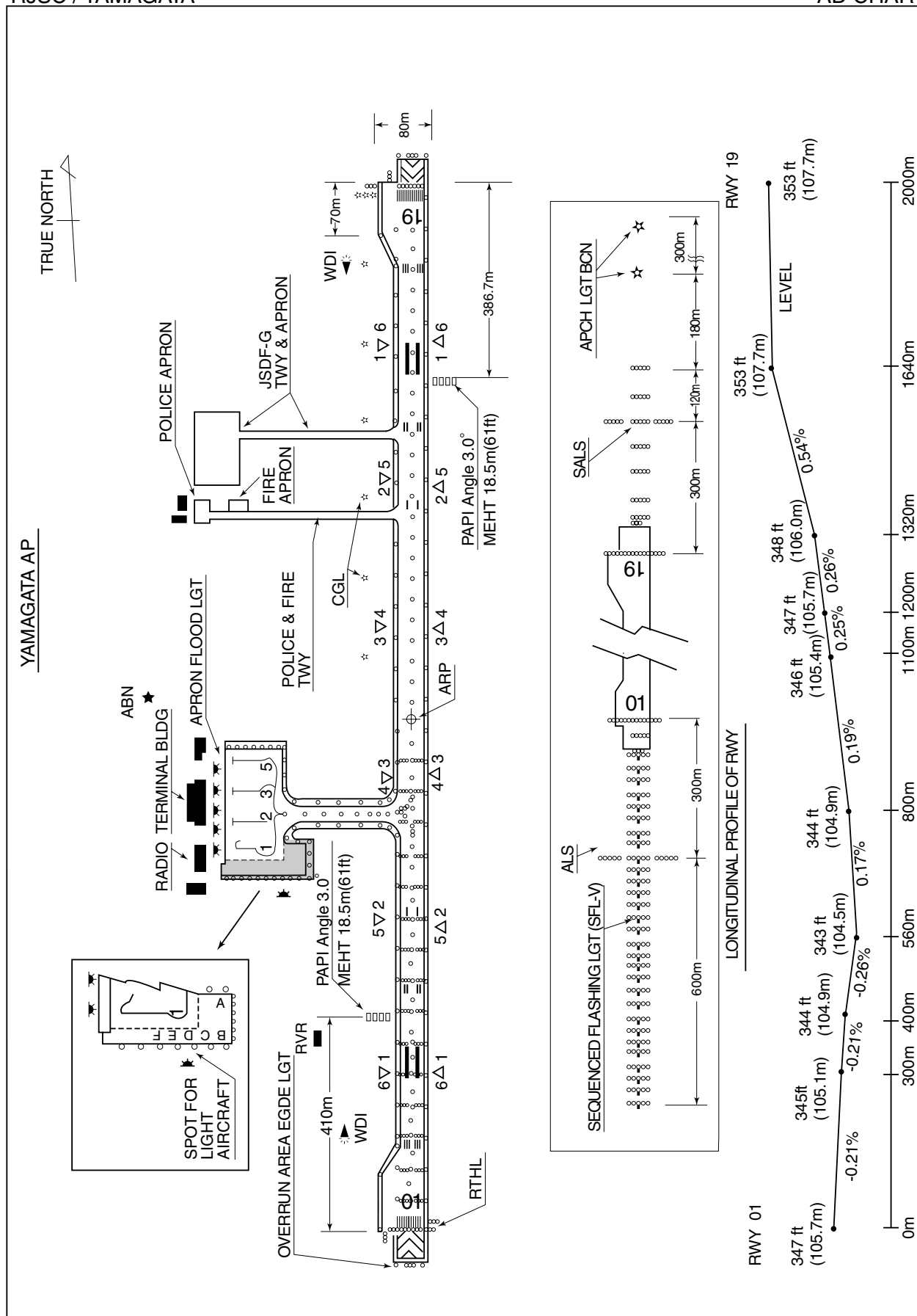


RJSC / YAMAGATA

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 RWY01

For RWY19



STANDARD DEPARTURE CHART-INSTRUMENT

RJSC / YAMAGATA

RNAV SID

RUBIS ONE DEPARTURE

Basic RNP1

Note GNSS required.

VAR 8°W (2017)

RUBIS ONE DEPARTURE

RWY01 : Climb on HDG015° at or above 800FT, direct to SC101, to SC102 at or above 7000FT,...

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.

Note RWY01 : 5.0% climb gradient required up to 2000FT.
OBST ALT 3609FT located at 16.0NM 039° FM end of RWY01.

RWY19 : 4.0% climb gradient required up to 1300FT.
OBST ALT 919FT located at 3.2NM 181° FM end of RWY19.

CHANGE : New PROC

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 | — | — | Basic RNP1 |
| 002 | DF | SC101 | — | — | -8.2 | — | — | — | — | — | Basic RNP1 |
| 003 | TF | SC102 | — | 105 (096.6) | -8.2 | 8.4 | — | +7000 | — | — | Basic RNP1 |
| 004 | TF | ZUNDA | — | 200 (192.2) | -8.2 | 31.2 | — | +FL170 | — | — | Basic RNP1 |
| 005 | TF | RUBIS | — | 169 (161.2) | -8.2 | 26.9 | — | +FL200 | — | — | Basic 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 | — | — | Basic RNP1 |
| 002 | DF | SC903 | — | — | -8.2 | — | — | — | — | — | Basic RNP1 |
| 003 | TF | SC904 | — | 285 (276.6) | -8.2 | 9.4 | — | — | — | — | Basic RNP1 |
| 004 | TF | SC905 | — | 015 (006.4) | -8.2 | 10.5 | — | — | — | — | Basic RNP1 |
| 005 | TF | SC906 | — | 105 (096.5) | -8.2 | 10.6 | — | — | — | — | Basic RNP1 |
| 006 | TF | ZUNDA | — | 179 (171.0) | -8.2 | 15.7 | — | +FL170 | — | — | Basic RNP1 |
| 007 | TF | RUBIS | — | 169 (161.2) | -8.2 | 26.9 | — | +FL200 | — | — | Basic RNP1 |

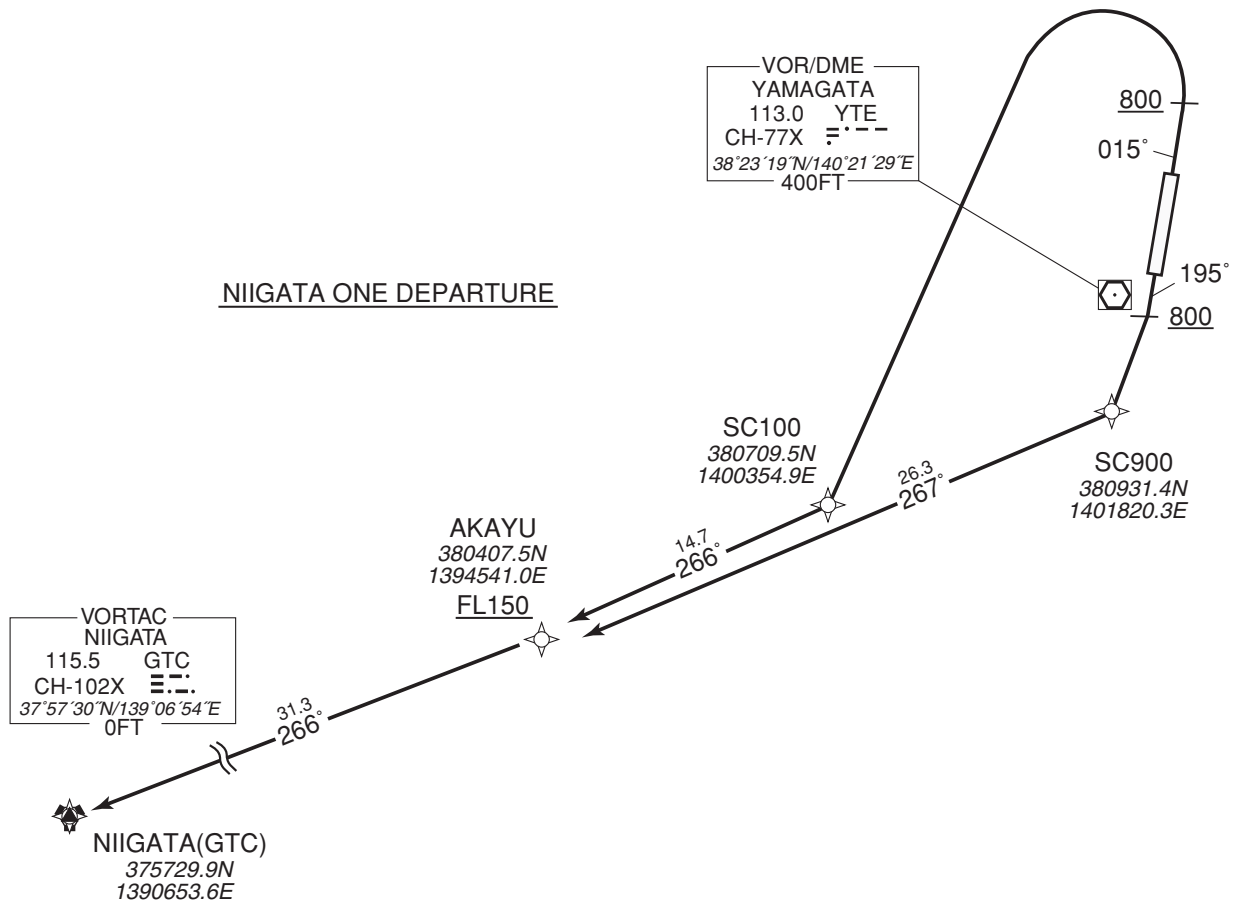
CHANGE : New PROC

RJSC / YAMAGATA

NIIGATA ONE DEPARTURE

Basic RNP1

VAR 8°W (2017)



NIIGATA ONE DEPARTURE

... to AKAYU at or above FL150, to GTC.

OBST ALT 722FT located at 2.8NM 182° FM end of RWY19.

CHANGE : New PROC

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 | — | — | Basic RNP1 |
| 002 | DF | SC100 | — | — | -8.2 | — | L | — | — | — | Basic RNP1 |
| 003 | TF | AKAYU | — | 266 (258.2) | -8.2 | 14.7 | — | +FL150 | — | — | Basic RNP1 |
| 004 | TF | GTC | — | 266 (258.0) | -8.2 | 31.3 | — | — | — | — | Basic 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 | — | — | Basic RNP1 |
| 002 | DF | SC900 | — | — | -8.2 | — | — | — | — | — | Basic RNP1 |
| 003 | TF | AKAYU | — | 267 (258.3) | -8.2 | 26.3 | — | +FL150 | — | — | Basic RNP1 |
| 004 | TF | GTC | — | 266 (258.0) | -8.2 | 31.3 | — | — | — | — | Basic RNP1 |

CHANGE : New PROC

STANDARD DEPARTURE CHART-INSTRUMENT

RJSC / YAMAGATA

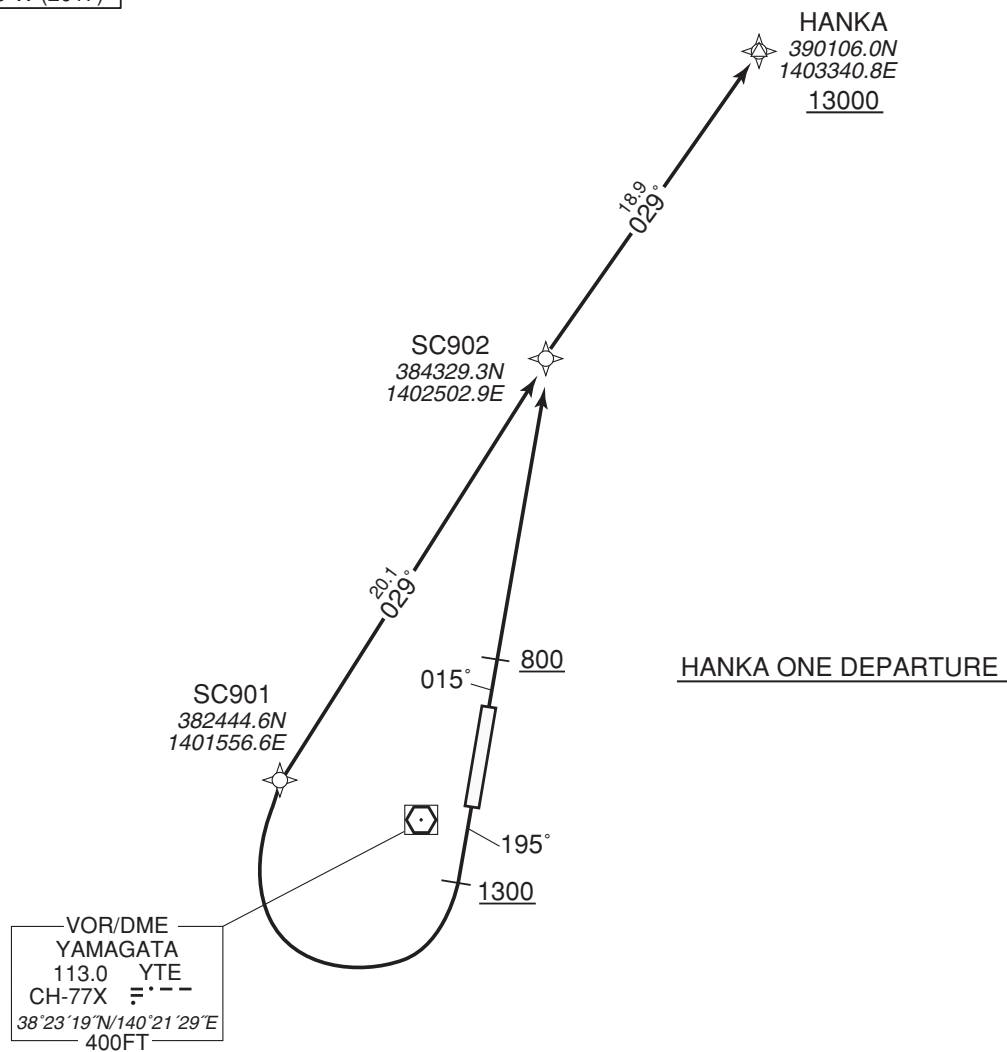
RNAV SID

HANKA ONE DEPARTURE

Basic RNP1

Note GNSS required.

VAR 8°W (2017)

HANKA ONE DEPARTURE

RWY01 : Climb on HDG015° at or above 800FT, direct to SC902,...

RWY19 : Climb on HDG195° at or above 1300FT, turn right direct to SC901, to SC902,...
... to HANKA at or above 13000FT.

Note RWY01 : 5.0% climb gradient required up to 800FT.

OBST ALT 1542FT located at 6.5NM 026° FM end of RWY01.

RWY19 : 4.0% climb gradient required up to 1300FT.

OBST ALT 919FT located at 3.2NM 181° FM end of RWY19.

No turn before DER.

CHANGE : New PROC

STANDARD DEPARTURE CHART-INSTRUMENT

RJSC / YAMAGATA

RNAV SID

HANKA ONE DEPARTURE

RWY01

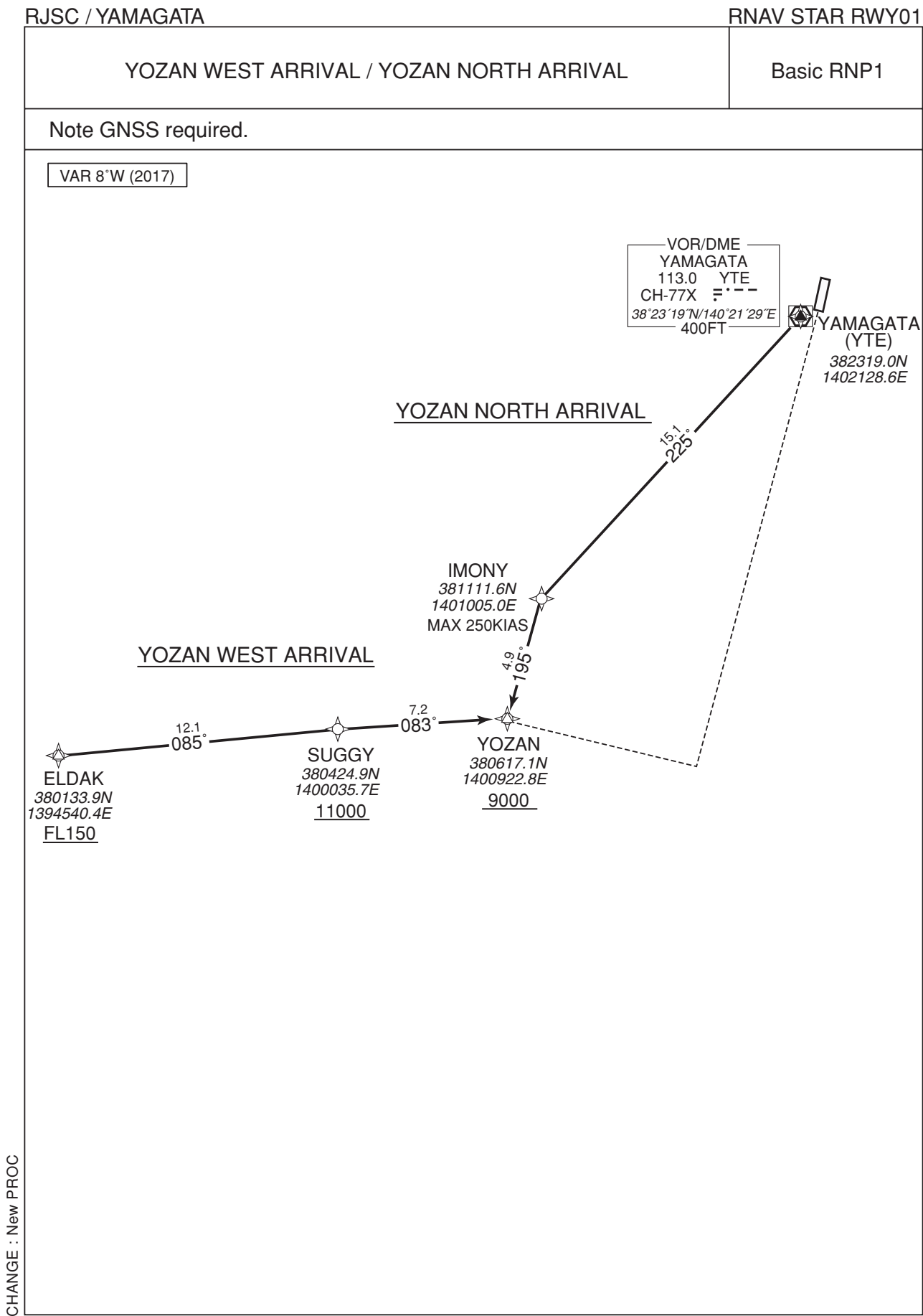
| Serial Number | Path Descriptor | Waypoint Identifier | Fly Over | Course °M(°T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KIAS) | Vertical Angle | Navigation Specification |
|---------------|-----------------|---------------------|----------|----------------|--------------------|---------------|----------------|---------------|--------------|----------------|--------------------------|
| 001 | VA | — | — | 015 (006.6) | -8.2 | — | — | +800 | — | — | Basic RNP1 |
| 002 | DF | SC902 | — | — | -8.2 | — | — | — | — | — | Basic RNP1 |
| 003 | TF | HANKA | — | 029 (020.8) | -8.2 | 18.9 | — | +13000 | — | — | Basic 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 | — | — | Basic RNP1 |
| 002 | DF | SC901 | — | — | -8.2 | — | R | — | — | — | Basic RNP1 |
| 003 | TF | SC902 | — | 029 (020.7) | -8.2 | 20.1 | — | — | — | — | Basic RNP1 |
| 004 | TF | HANKA | — | 029 (020.8) | -8.2 | 18.9 | — | +13000 | — | — | Basic RNP1 |

CHANGE : Editorial

STANDARD ARRIVAL CHART - INSTRUMENT



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 | — | — | Basic RNP1 |
| 002 | TF | SUGGY | — | 085 (076.3) | -8.2 | 12.1 | — | +11000 | — | — | Basic RNP1 |
| 003 | TF | YOZAN | — | 083 (074.8) | -8.2 | 7.2 | — | +9000 | — | — | Basic 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 | — | — | — | — | — | Basic RNP1 |
| 002 | TF | IMONY | — | 255 (216.5) | -8.2 | 15.1 | — | — | -250 | — | Basic RNP1 |
| 003 | TF | YOZAN | — | 195 (186.4) | -8.2 | 4.9 | — | +9000 | — | — | Basic RNP1 |

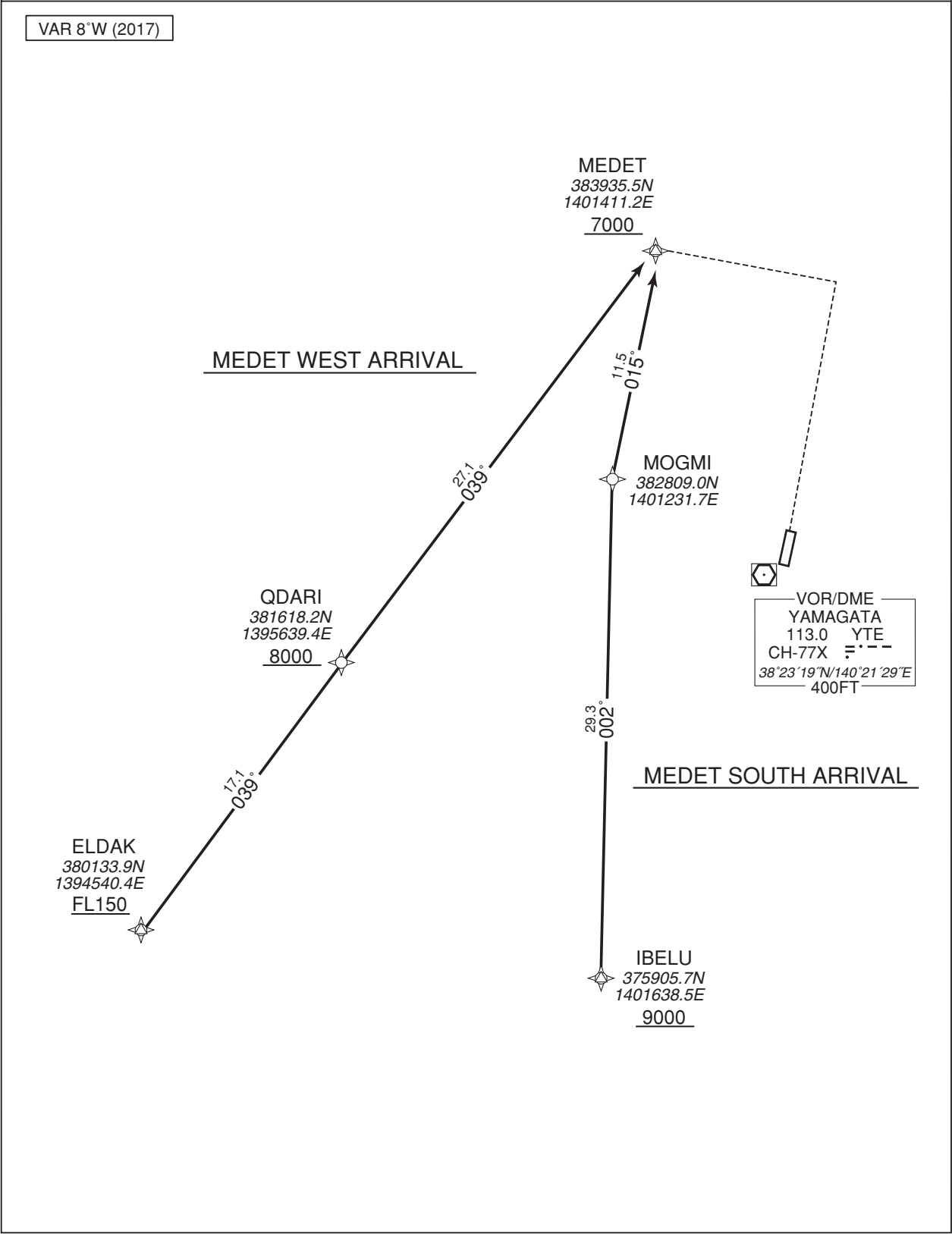
CHANGE : New PROC

STANDARD ARRIVAL CHART - INSTRUMENT

RJSC / YAMAGATARNAV STAR RWY19

| | |
|--|------------|
| MEDET WEST ARRIVAL / MEDET SOUTH ARRIVAL | Basic RNP1 |
|--|------------|

Note GNSS required.



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 | — | — | Basic RNP1 |
| 002 | TF | QDARI | — | 039 (030.3) | -8.2 | 17.1 | — | +8000 | — | — | Basic RNP1 |
| 003 | TF | MEDET | — | 039 (030.4) | -8.2 | 27.1 | — | +7000 | — | — | Basic 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 | — | — | Basic RNP1 |
| 002 | TF | MOGMI | — | 002 (353.7) | -8.2 | 29.3 | — | — | — | — | Basic RNP1 |
| 003 | TF | MEDET | — | 015 (006.5) | -8.2 | 11.5 | — | +7000 | — | — | Basic RNP1 |

CHANGE : New PROC

STANDARD ARRIVAL CHART - INSTRUMENT

RJSC / YAMAGATA

RNAV STAR RWY19

| | |
|---------------|------------|
| TUYAH ARRIVAL | Basic RNP1 |
|---------------|------------|

Note GNSS required.



| <u>TUYAH ARRIVAL</u> From LAVOT at or above 11000FT, to TUYAH 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 | LAVOT | — | — | -8.2 | — | — | +11000 | — | — | Basic RNP1 | |
| 002 | TF | TUYAH | — | 258 (249.3) | -8.2 | 14.0 | — | +7000 | — | — | Basic RNP1 | |

CHANGE : New PROC

INSTRUMENT APPROACH CHART

RJSC / YAMAGATA

ILS Z RWY01



CHANGE : New PROC

RJSC / YAMAGATA

TOKYO CONTROL
118.9 - 276.8
135.9 - 230.6

ILS LOC
110.1 IYT ---
ILS-DME CH-38

YAMAGATA RADIO
122.7 - 126.2

NO RADAR

VAR 8°W (2017)

MSA 25NM

YTE
7600 6100
7300 7200
380

VOR/DME YAMAGATA
113.0 YTE
CH-77X ---
38°23'19"N/140°21'20"E

MAPt
D0.8 IYT
794

EQPT REQUIRED
DME
VOR

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

MHA 9000
MAX 230KIAS

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

IBELU(IAF)
375905.65N
1401638.49E
9000

KAJYO(FAF)
D14.1 IYT

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

KAJYO(FAF) : 381021.06N/1402010.69E

MISSED APPROACH
Climb to 2000FT on HDG014°,
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 | 4945 | 4616 | 4286 | 3957 | 3628 | 3299 | 2970 | 2641 | 2312 | 1983 | 1654 | 1325 | 995 | - |

| DME to IYT | NM to THR |
|------------|-----------|
| 19.1 | 18.9 |
| 14.1 | 13.9 |
| 11.8 | 11.6 |
| 6.6 | 6.4 |
| 0.8 | 0.6 |
| 0.2 | 0 |

| CAT | MINIMA | | AD elev. 345 CIRCLING | | |
|-----|-----------|---------|--------------------------|-----------|------|
| | MDA(H) | RVR/CMV | MDA(H) | VIS | |
| A | 870 (525) | 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

RJSC / YAMAGATA

ILS Y RWY01



CHANGE : New PROC

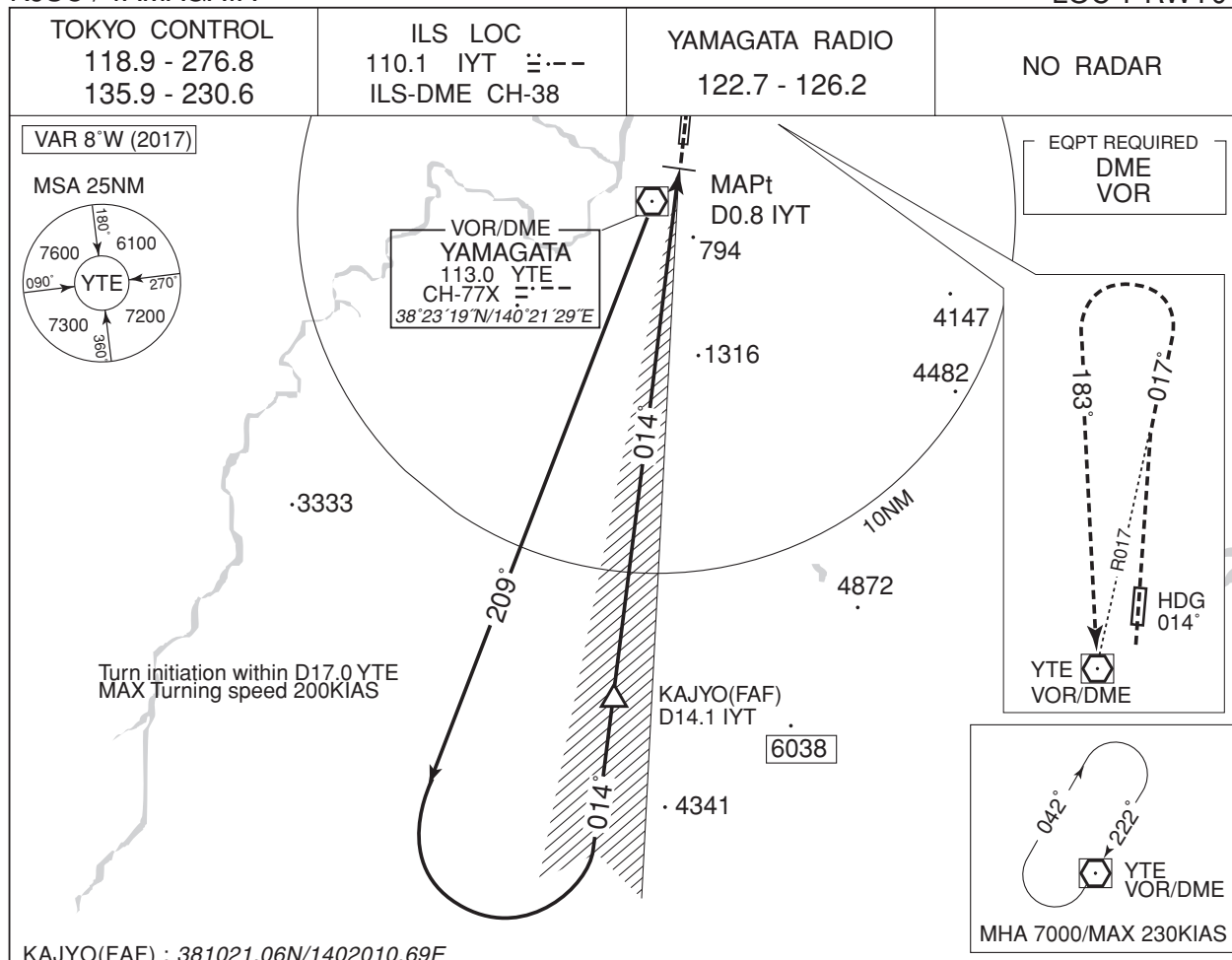
| | | | | |
|-------------------------------------|---------------|---------|--------------|------|
| Missed APCH climb gradient MNM 5.0% | | | | |
| MINIMA | THR elev. 347 | | AD elev. 345 | |
| CAT | CAT I | | CIRCLING | |
| | DA(H) | RVR/CMV | MDA(H) | VIS |
| A | 547 (200) | 550 | 790 (445) | 1600 |
| B | | | 800 (455) | 2400 |
| C | | | 900 (555) | |
| 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

LOC Y RWY01



| NM to IYT | FAF | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | MAPt |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|
| ALT(3.1° APCH Path) | 4969 | 4945 | 4616 | 4286 | 3957 | 3628 | 3299 | 2970 | 2641 | 2312 | 1983 | 1654 | 1325 | 995 | - |



| | | | | |
|-------------------------------------|-----------|---------------|-----------|--------------|
| Missed APCH climb gradient MNM 5.0% | | | | |
| MINIMA | | THR elev. 347 | | AD elev. 345 |
| CAT | | | CIRCLING | |
| | MDA(H) | RVR/ CMV | MDA(H) | VIS |
| A | 870 (525) | 1000 | 870 (525) | 1600 |
| B | | 1200 | | 2400 |
| C | | | | |
| D | | 1600 | 900 (555) | 3200 |

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

CHANGE : New PROC

INSTRUMENT APPROACH CHART

RJSC / YAMAGATA

VOR A

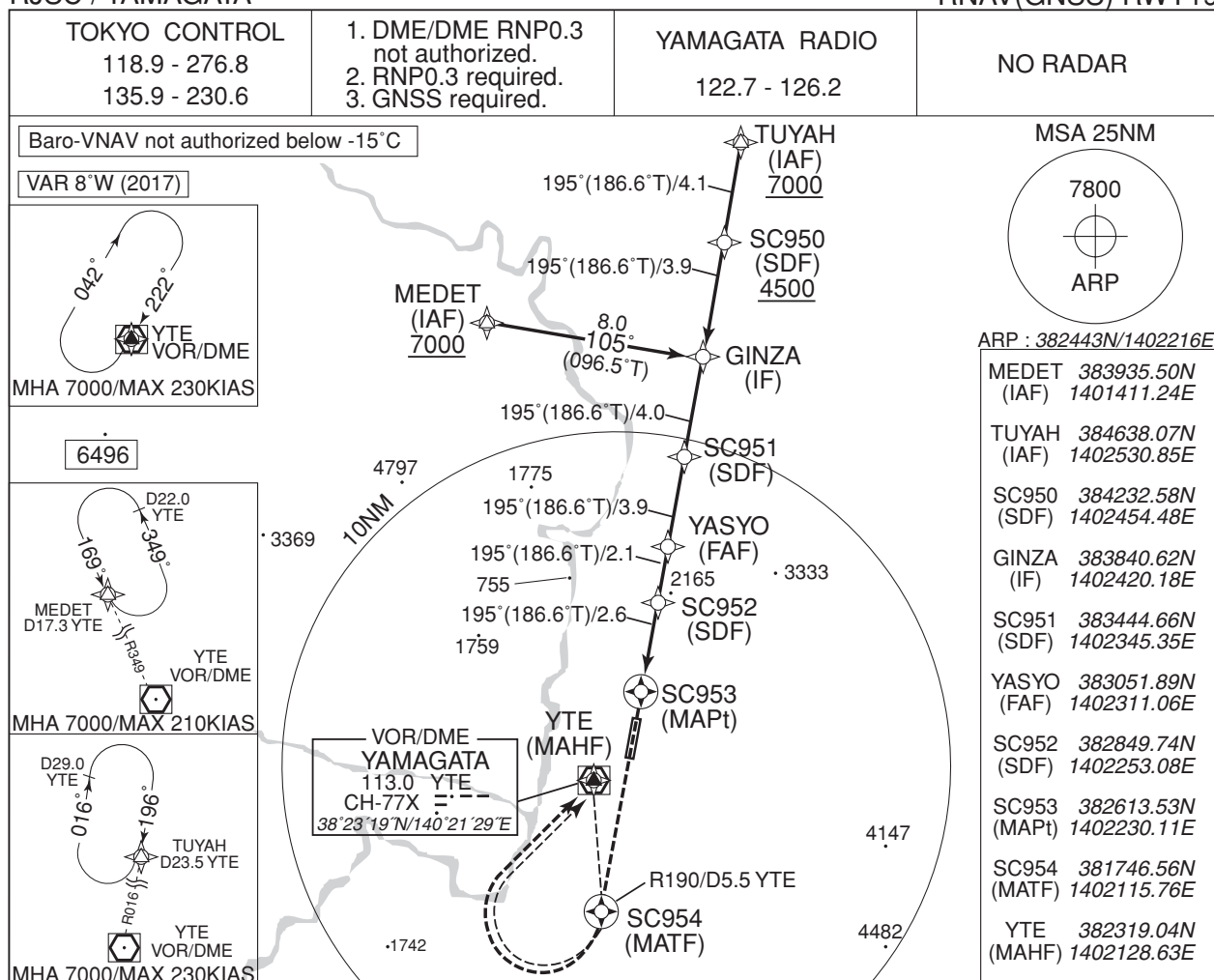


CHANGE : MHA

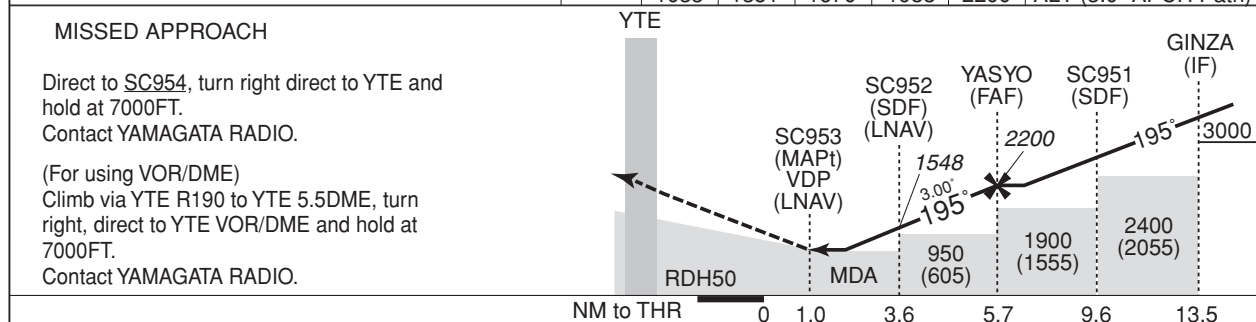
INSTRUMENT APPROACH CHART

RJSC / YAMAGATA

RNAV(GNSS) RWY19



| MAPt | 1 | 2 | 3 | 4 | FAF | NM to Next Fix |
|------|------|------|------|------|------|----------------------|
| - | 1033 | 1351 | 1670 | 1988 | 2200 | ALT (3.0° APCH Path) |



Missed APCH climb gradient MNM 5.0%

| MINIMA | | THR elev. 353 | | AD elev. 345 | |
|--------|-----------|---------------|-----------|--------------|------------|
| CAT | LNAV/VNAV | | LNAV | | CIRCLING |
| | DA(H) | CMV | MDA(H) | CMV | MDA(H) VIS |
| A | 720 (367) | 1200 | 720 (375) | 1200 | 1600 |
| B | | 1300 | | 1300 | |
| C | | 1400 | | 1400 | 2400 |
| D | | 1600 | | 1600 | |

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

CHANGE : New PROC

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 |
| 基点 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 Sagae | 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)