

RJAF / MATSUMOTO

AD CHART

CHANGE: Aircraft stand lead-in line (Spot 6,10,11) changed.



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STANDARD DEPARTURE CHART-INSTRUMENT

RJAF / MATSUMOTO

SID

MATSUMOTO REVERSAL ONE DEPARTURE

- RWY 18 : Climb RWY HDG to 2700FT, turn left HDG321° to intercept and proceed via MBE R006 to 5.0DME, turn right direct to MBE VOR/DME.  
Cross MBE R006/5.0DME at or above 6000FT, cross MBE VOR/DME at or above 10000FT.
- RWY 36 : Climb via MBE R006 to 5900FT, turn right direct to MBE VOR/DME.  
Cross MBE VOR/DME at or above 10000FT.

NOTE RWY18 : 1) 6.6% climb gradient required up to 4200FT.

OBST ALT 3740FT located at 111°/4.40NM FM end of RWY18.

2) Departure turn limited to 150KIAS maximum until completing left turn.



## STANDARD DEPARTURE CHART-INSTRUMENT

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SID

HAPPO ONE DEPARTURE

RWY 18 : Climb RWY HDG to 2700FT, turn left HDG321° to intercept and proceed via MBE R006 to HAPPO.

RWY 36 : Climb via MBE R006 to HAPPO.

NOTE RWY18 : 1) 6.6% climb gradient required up to 4200FT.

OBST ALT 3740FT located at 111°/4.40NM FM end of RWY18.

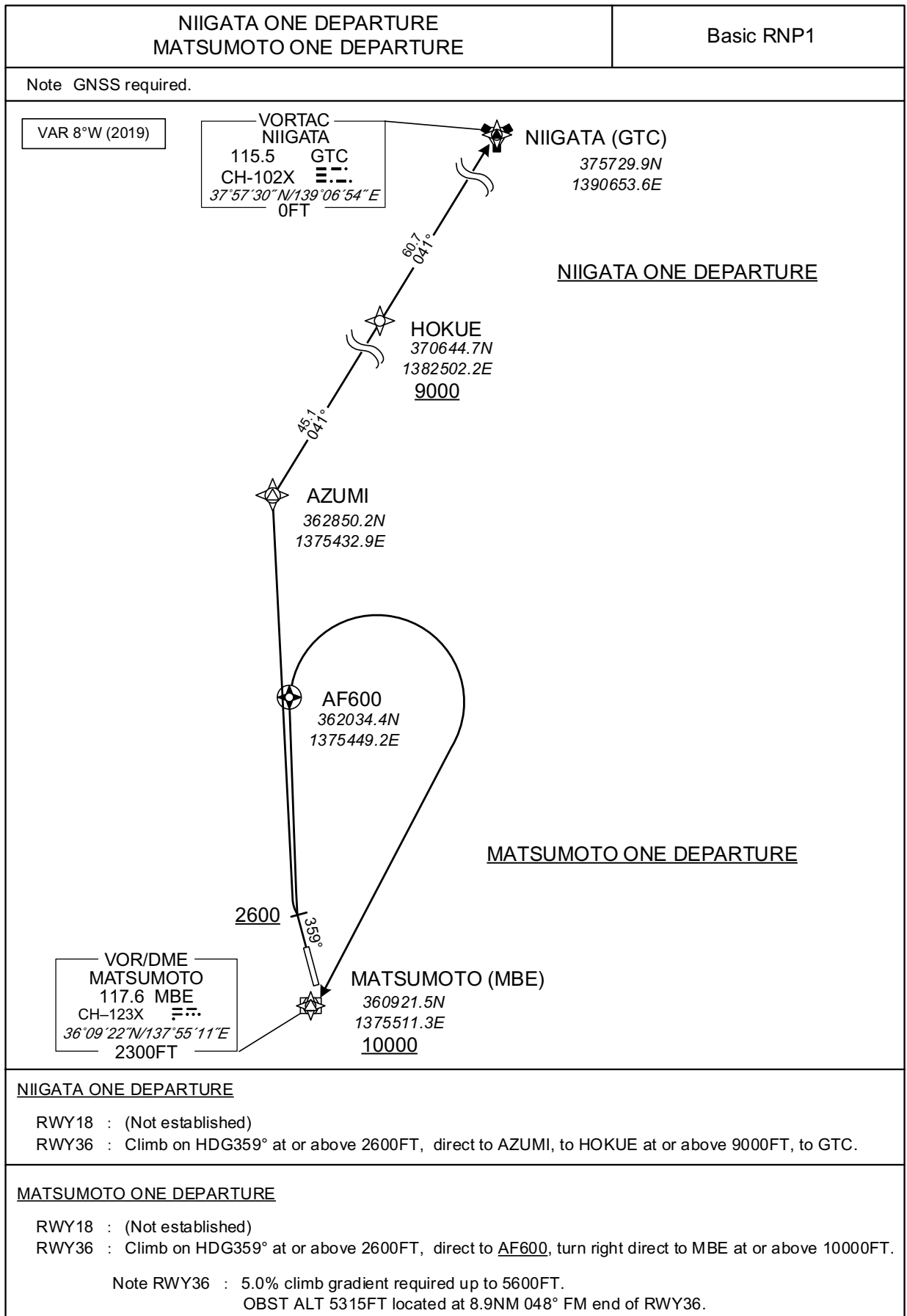
2) Departure turn limited to 150KIAS maximum until completing left turn.



STANDARD DEPARTURE CHART-INSTRUMENT

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RNAV SID



## STANDARD DEPARTURE CHART-INSTRUMENT

RJAF / MATSUMOTO

RNAV SID

NIIGATA ONE DEPARTURE

## RWY36

| 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              | -                   | -        | 359<br>(351.4) | -8.0               | -             | -              | +2600         | -            | -              | Basic RNP1               |
| 002           | DF              | AZUMI               | -        | -              | -8.0               | -             | -              | -             | -            | -              | Basic RNP1               |
| 003           | TF              | HOKUE               | -        | 041<br>(032.6) | -8.0               | 45.1          | -              | +9000         | -            | -              | Basic RNP1               |
| 004           | TF              | GTC                 | -        | 041<br>(033.0) | -8.0               | 60.7          | -              | -             | -            | -              | Basic RNP1               |

MATSUMOTO ONE DEPARTURE

## RWY36

| 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              | -                   | -        | 359<br>(351.4) | -8.0               | -             | -              | +2600         | -            | -              | Basic RNP1               |
| 002           | DF              | AF600               | Y        | -              | -8.0               | -             | -              | -             | -            | -              | Basic RNP1               |
| 003           | DF              | MBE                 | -        | -              | -8.0               | -             | R              | +10000        | -            | -              | Basic RNP1               |

CHANGE:New PROC

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VOR RWY18

|      |      |      |      |      |      |                      |
|------|------|------|------|------|------|----------------------|
| MAPt | 3    | 4    | 5    | 6    | FAF  | NM to MBE            |
| –    | 2764 | 3083 | 3401 | 3720 | 4015 | ALT (3.0° APCH Path) |

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

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## INSTRUMENT APPROACH CHART

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RNAV(RNP) Z RWY18

RNAV(RNP) Z RWY18Coding 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                                 | RIPSI               | -        | -              | -8.0               | -             | -              | +12000        | -250         | -               | -          |
| 002           | TF                                 | AF850               | -        | 096<br>(087.7) | -8.0               | 12.3          | -              | +8600         | -            | -               | 1.0        |
| 003           | TF                                 | AF851               | -        | 043<br>(035.2) | -8.0               | 6.0           | -              | -             | -            | -               | 0.3        |
| 004           | TF                                 | AF852               | -        | 008<br>(359.9) | -8.0               | 16.6          | -              | +5800         | -            | -               | 0.3        |
| 005           | RF<br>Center:<br>AFRF5<br>r=3.15NM | AF853               | -        | -              | -8.0               | 7.4           | L              | 4700          | -            | -               | 0.3        |
| 006           | RF<br>Center:<br>AFRF5<br>r=3.15NM | AF854               | -        | -              | -8.0               | 4.4           | L              | 3306          | -            | -3.00           | 0.2<br>0.3 |
| 007           | TF                                 | AF855               | -        | 154<br>(146.1) | -8.0               | 1.0           | -              | 2987          | -            | -3.00           | 0.2<br>0.3 |
| 008           | RF<br>Center:<br>AFRF6<br>r=2.06NM | AF856               | -        | -              | -8.0               | 0.9           | R              | 2700          | -            | -3.00           | 0.2<br>0.3 |
| 009           | TF                                 | RW18                | Y        | 179<br>(171.1) | -8.0               | 1.6           | -              | 2182          | -            | -3.00/50        | 0.2<br>0.3 |
| 010           | DF                                 | AF859               | Y        | -              | -8.0               | -             | -              | -             | -            | -               | 1.0        |
| 011           | DF                                 | MBE                 | -        | -              | -8.0               | -             | L              | 10000         | -            | -               | 1.0        |

Waypoint Coordinates

| Waypoint Identifier | Coordinates              | RF Arc Center Identifier | Coordinates              |
|---------------------|--------------------------|--------------------------|--------------------------|
| RIPSI               | 355340.33N / 1374133.41E | AFRF5                    | 361534.43N / 1375704.35E |
| AF850               | 355408.74N / 1375645.79E | AFRF6                    | 361149.74N / 1375225.49E |
| AF851               | 355901.18N / 1380100.60E |                          |                          |
| AF852               | 361534.92N / 1380057.71E |                          |                          |
| AF853               | 361749.79N / 1375421.45E |                          |                          |
| AF854               | 361348.83N / 1375350.85E |                          |                          |
| AF855               | 361259.03N / 1375432.28E |                          |                          |
| AF856               | 361209.11N / 1375456.52E |                          |                          |
| RW18                | 361032.37N / 1375515.37E |                          |                          |
| AF859               | 360155.80N / 1375655.84E |                          |                          |
| MBE                 | 360921.51N / 1375511.34E |                          |                          |

CHANGE : Correction of misdescription (AFRF6 Coordinates).

INSTRUMENT APPROACH CHART

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RNAV(RNP) Y RWY18



**MISSED APPROACH**

Climb to 10000FT, direct to AF859,  
turn left, direct to MBE and hold.  
Contact MATSUMOTO RADIO.



Missed APCH climb gradient MNM 7.0%

| CAT | RNP 0.20  |      | RNP 0.30  |      |
|-----|-----------|------|-----------|------|
|     | DA(H)     | CMV  | DA(H)     | CMV  |
| A   | -         | -    | -         | -    |
| B   | -         | -    | -         | -    |
| C   | 2432(300) | 1000 | 2448(316) | 1000 |
| D   | -         | -    | -         | -    |

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

**RNP AR**

**Special Authorization Required**

CHANGE : New PROC

## INSTRUMENT APPROACH CHART

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RNAV(RNP) Y RWY18

RNAV(RNP) Y RWY18Coding 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              | PAPNA               | -        | -             | -8.0               | -             | -              | +12000        | -            | -               | -          |
| 002           | TF              | AF857               | -        | 221 (212.8)   | -8.0               | 13.6          | -              | +5200         | -            | -               | 1.0        |
| 003           | TF              | AF858               | -        | 179 (171.0)   | -8.0               | 9.9           | -              | 4000          | -            | -               | 1.0        |
| 004           | TF              | RW18                | Y        | 179 (171.1)   | -8.0               | 5.7           | -              | 2182          | -            | -3.00/50        | 0.2<br>0.3 |
| 005           | DF              | AF859               | Y        | -             | -8.0               | -             | -              | -             | -            | -               | 1.0        |
| 006           | DF              | MBE                 | -        | -             | -8.0               | -             | L              | 10000         | -            | -               | 1.0        |

Waypoint Coordinates

| Waypoint Identifier | Coordinates              |
|---------------------|--------------------------|
| PAPNA               | 363721.74N / 1380122.92E |
| AF857               | 362557.23N / 1375214.72E |
| AF858               | 361611.17N / 1375409.31E |
| RW18                | 361032.37N / 1375515.37E |
| AF859               | 360155.80N / 1375655.84E |
| MBE                 | 360921.51N / 1375511.34E |

CHANGE : New PROC



INSTRUMENT APPROACH CHART

RJAF / MATSUMOTO

RNAV(RNP) Z RWY36



**MISSED APPROACH**

From RW36 on track 359°, at or above 7000FT turn right, direct to MBE and hold at 10000FT. Contact MATSUMOTO RADIO.

PAPI not coincident with VPA.



Missed APCH climb gradient MNM 3.0%

| CAT | THR elev. 2182 |      | AD elev. 2157 |      |
|-----|----------------|------|---------------|------|
|     | RNP 0.20       |      | RNP 0.30      |      |
|     | DA(H)          | CMV  | DA(H)         | CMV  |
| A   | -              | -    | -             | -    |
| B   | -              | -    | -             | -    |
| C   | 2482(300)      | 1800 | 2551(369)     | 1800 |
| D   | -              | -    | -             | -    |

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

**RNP AR**

**Special Authorization Required**

## INSTRUMENT APPROACH CHART

RJAF / MATSUMOTO

RNAV(RNP) Z RWY36

RNAV(RNP) Z RWY36Coding 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                                 | RIPSI               | -        | -              | -8.0               | -             | -              | +12000        | -250         | -               | -          |
| 002           | TF                                 | AF850               | -        | 096<br>(087.7) | -8.0               | 12.3          | -              | +8600         | -            | -               | 1.0        |
| 003           | TF                                 | AF851               | -        | 043<br>(035.2) | -8.0               | 6.0           | -              | +5700         | -            | -               | 1.0        |
| 004           | RF<br>Center:<br>AFRF1<br>r=4.60NM | AF650               | -        | -              | -8.0               | 5.6           | L              | 5000          | -            | -               | 1.0        |
| 005           | RF<br>Center:<br>AFRF1<br>r=4.60NM | AF651               | -        | -              | -8.0               | 3.0           | L              | 3880          | -            | -3.50           | 0.2<br>0.3 |
| 006           | TF                                 | AF652               | -        | 296<br>(288.3) | -8.0               | 0.6           | -              | 3657          | -            | -3.50           | 0.2<br>0.3 |
| 007           | RF<br>Center:<br>AFRF2<br>r=2.02NM | AF653               | -        | -              | -8.0               | 2.2           | R              | 2837          | -            | -3.50           | 0.2<br>0.3 |
| 008           | TF                                 | RW36                | Y        | 359<br>(351.1) | -8.0               | 1.6           | -              | 2232          | -            | -3.50/50        | 0.2<br>0.3 |
| 009           | FA                                 | -                   | -        | 359<br>(351.1) | -8.0               | -             | -              | +7000         | -            | -               | 1.0        |
| 010           | DF                                 | MBE                 | -        | -              | -8.0               | -             | R              | 10000         | -            | -               | 1.0        |

Waypoint Coordinates

| Waypoint Identifier | Coordinates              | RF Arc Center Identifier | Coordinates              |
|---------------------|--------------------------|--------------------------|--------------------------|
| RIPSI               | 355340.33N / 1374133.41E | AFRF1                    | 360141.27N / 1375622.53E |
| AF850               | 355408.74N / 1375645.79E | AFRF2                    | 360810.39N / 1375813.97E |
| AF851               | 355901.18N / 1380100.60E |                          |                          |
| AF650               | 360417.29N / 1380104.24E |                          |                          |
| AF651               | 360604.23N / 1375809.40E |                          |                          |
| AF652               | 360615.53N / 1375727.24E |                          |                          |
| AF653               | 360751.55N / 1375546.68E |                          |                          |
| RW36                | 360928.29N / 1375527.85E |                          |                          |
| MBE                 | 360921.51N / 1375511.34E |                          |                          |

CHANGE : New PROC

INSTRUMENT APPROACH CHART

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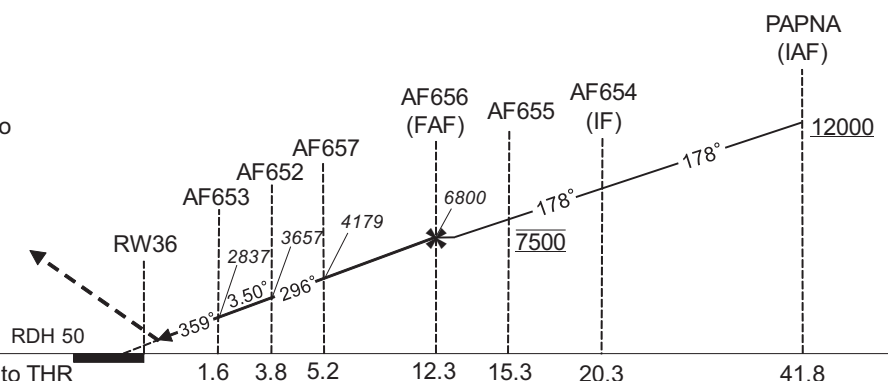
RNAV(RNP) Y RWY36



MISSED APPROACH

From RW36 on track 359°, at or above 7000FT turn right, direct to MBE and hold at 10000FT. Contact MATSUMOTO RADIO.

PAPI not coincident with VPA.



Missed APCH climb gradient MNM 3.0%

| CAT | THR elev. 2182 |      | AD elev. 2157 |      |
|-----|----------------|------|---------------|------|
|     | RNP 0.20       |      | RNP 0.30      |      |
|     | DA(H)          | CMV  | DA(H)         | CMV  |
| A   | -              | -    | -             | -    |
| B   | -              | -    | -             | -    |
| C   | 2482(300)      | 1800 | 2551(369)     | 1800 |
| D   | -              | -    | -             | -    |

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

**RNP AR**

Special Authorization Required

CHANGE : New PROC

## INSTRUMENT APPROACH CHART

RJAF / MATSUMOTO

RNAV(RNP) Y RWY36

RNAV(RNP) Y RWY36Coding 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                                 | PAPNA               | -        | -              | -8.0               | -             | -              | +12000        | -            | -              | -          |
| 002           | TF                                 | AF654               | -        | 178<br>(170.2) | -8.0               | 21.5          | -              | -             | -            | -              | 1.0        |
| 003           | TF                                 | AF655               | -        | 178<br>(170.3) | -8.0               | 5.0           | -              | 7500          | -            | -              | 0.3        |
| 004           | RF<br>Center:<br>AFRF4<br>r=4.89NM | AF656               | -        | -              | -8.0               | 3.0           | R              | 6800          | -            | -              | 0.3        |
| 005           | RF<br>Center:<br>AFRF4<br>r=4.89NM | AF657               | -        | -              | -8.0               | 7.1           | R              | 4179          | -            | -3.50          | 0.2<br>0.3 |
| 006           | TF                                 | AF652               | -        | 296<br>(288.4) | -8.0               | 1.4           | -              | 3657          | -            | -3.50          | 0.2<br>0.3 |
| 007           | RF<br>Center:<br>AFRF2<br>r=2.02NM | AF653               | -        | -              | -8.0               | 2.2           | R              | 2837          | -            | -3.50          | 0.2<br>0.3 |
| 008           | TF                                 | RW36                | Y        | 359<br>(351.1) | -8.0               | 1.6           | -              | 2232          | -            | -3.50/50       | 0.2<br>0.3 |
| 009           | FA                                 | -                   | -        | 359<br>(351.1) | -8.0               | -             | -              | +7000         | -            | -              | 1.0        |
| 010           | DF                                 | MBE                 | -        | -              | -8.0               | -             | R              | 10000         | -            | -              | 1.0        |

Waypoint Coordinates

| Waypoint Identifier | Coordinates              | RF Arc Center Identifier | Coordinates              |
|---------------------|--------------------------|--------------------------|--------------------------|
| PAPNA               | 363721.74N / 1380122.92E | AFRF4                    | 361027.73N / 1380059.34E |
| AF654               | 361613.48N / 1380553.24E | AFRF2                    | 360810.39N / 1375813.97E |
| AF655               | 361117.56N / 1380656.02E |                          |                          |
| AF656               | 360820.76N / 1380625.54E |                          |                          |
| AF657               | 360549.12N / 1375905.80E |                          |                          |
| AF652               | 360615.53N / 1375727.24E |                          |                          |
| AF653               | 360751.55N / 1375546.68E |                          |                          |
| RW36                | 360928.29N / 1375527.85E |                          |                          |
| MBE                 | 360921.51N / 1375511.34E |                          |                          |

CHANGE : New PROC



RJAF / MATSUMOTO

Visual REP



| Call sign                          | BRG / DIST from ARP | Remarks                           |
|------------------------------------|---------------------|-----------------------------------|
| 安曇野インターチェンジ<br>Azumino Interchange | 008°/8.0NM          | 長野自動車道 安曇野インターチェンジ<br>Interchange |
| 松本ステーション<br>Matsumoto Station      | 036°/4.3NM          | JR駅<br>Station                    |
| 美ヶ原<br>Utsukushigahara             | 075°/9.6NM          | 美ヶ原王ヶ頭<br>Peak                    |
| 島島<br>Shimashima                   | 292°/5.0NM          | 松本電鉄新島島駅<br>Station               |
| 塩尻インターチェンジ<br>Shiojiri Interchange | 142°/4.1NM          | 長野自動車道 塩尻インターチェンジ<br>Interchange  |
| 諏訪湖<br>Suwako                      | 140°/10NM           | 諏訪湖上空<br>Lake                     |
| 鳥居峠<br>Torii touge                 | 213°/14.4NM         | 峠<br>Mountain Pass                |



RJAF / MATSUMOTO

Minimum Vectoring Altitude CHART

