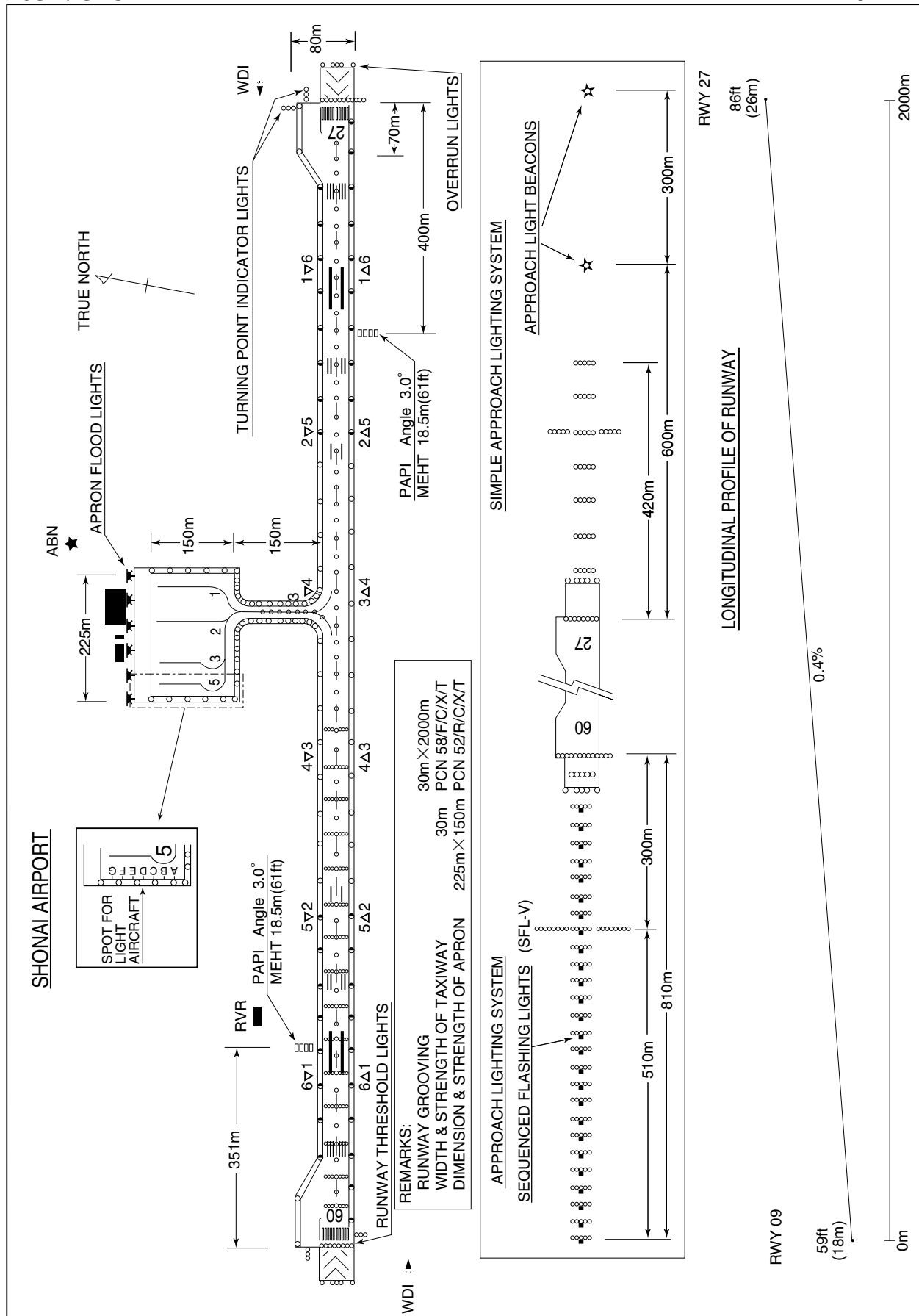


RJSY / SHONAI

AD CHART



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STANDARD DEPARTURE CHART - INSTRUMENT

RJSY / SHONAI

SID

SHONAI REVERSAL THREE DEPARTURE

RWY 09 : Climb RWY HDG to 600FT, turn left HDG 285° to intercept and proceed via YSE R330 to YSE R330/8.5DME, turn left,...

RWY 27 : Climb via YSE R278 to YSE R278/7.0DME, turn right,...
...direct to YSE VOR/DME.
Cross YSE VOR/DME at or above 6000FT.



SHONAI REVERSAL THREE DEPARTURE

STANDARD DEPARTURE CHART - INSTRUMENT

RJSY / SHONAI

RNAV SID

ZUNDA ONE DEPARTURE

Basic RNP1

Note GNSS required.

VAR 8°W (2013)

ZUNDA ONE DEPARTURE

RWY09 : Climb on HDG 088° at or above 500FT, turn right direct to SY900, to TADAT at or above 11000FT, to YTE, to ZUNDA at or above FL200.

RWY27 : Climb on HDG 268° at or above 900FT, turn left direct to SY900, to TADAT at or above 11000FT, to YTE, to ZUNDA at or above FL200.

NOTE RWY09 : 4.8% climb gradient required up to 5000FT.
OBST ALT 4758FT located at 17.2NM 150°FM end of RWY09.

RWY27 : 4.4% climb gradient required up to 3500FT.
OBST ALT 1117FT located at 3.1NM 212°FM end of RWY27.

STANDARD DEPARTURE CHART - INSTRUMENT

RJSY / SHONAI

RNAV SID

ZUNDA ONE 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 | — | — | 088 (079.5) | -8.1 | — | — | +500 | — | — | Basic RNP1 |
| 002 | DF | SY900 | — | — | -8.1 | — | R | — | — | — | Basic RNP1 |
| 003 | TF | TADAT | — | 142 (134.0) | -8.1 | 11.2 | — | +11000 | — | — | Basic RNP1 |
| 004 | TF | YTE | — | 142 (134.1) | -8.1 | 10.3 | — | — | — | — | Basic RNP1 |
| 005 | TF | ZUNDA | — | 169 (161.1) | -8.1 | 13.7 | — | +FL200 | — | — | 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 | — | — | 268 (259.5) | -8.1 | — | — | +900 | — | — | Basic RNP1 |
| 002 | DF | SY900 | — | — | -8.1 | — | L | — | — | — | Basic RNP1 |
| 003 | TF | TADAT | — | 142 (134.0) | -8.1 | 11.2 | — | +11000 | — | — | Basic RNP1 |
| 004 | TF | YTE | — | 142 (134.1) | -8.1 | 10.3 | — | — | — | — | Basic RNP1 |
| 005 | TF | ZUNDA | — | 169 (161.1) | -8.1 | 13.7 | — | +FL200 | — | — | Basic RNP1 |

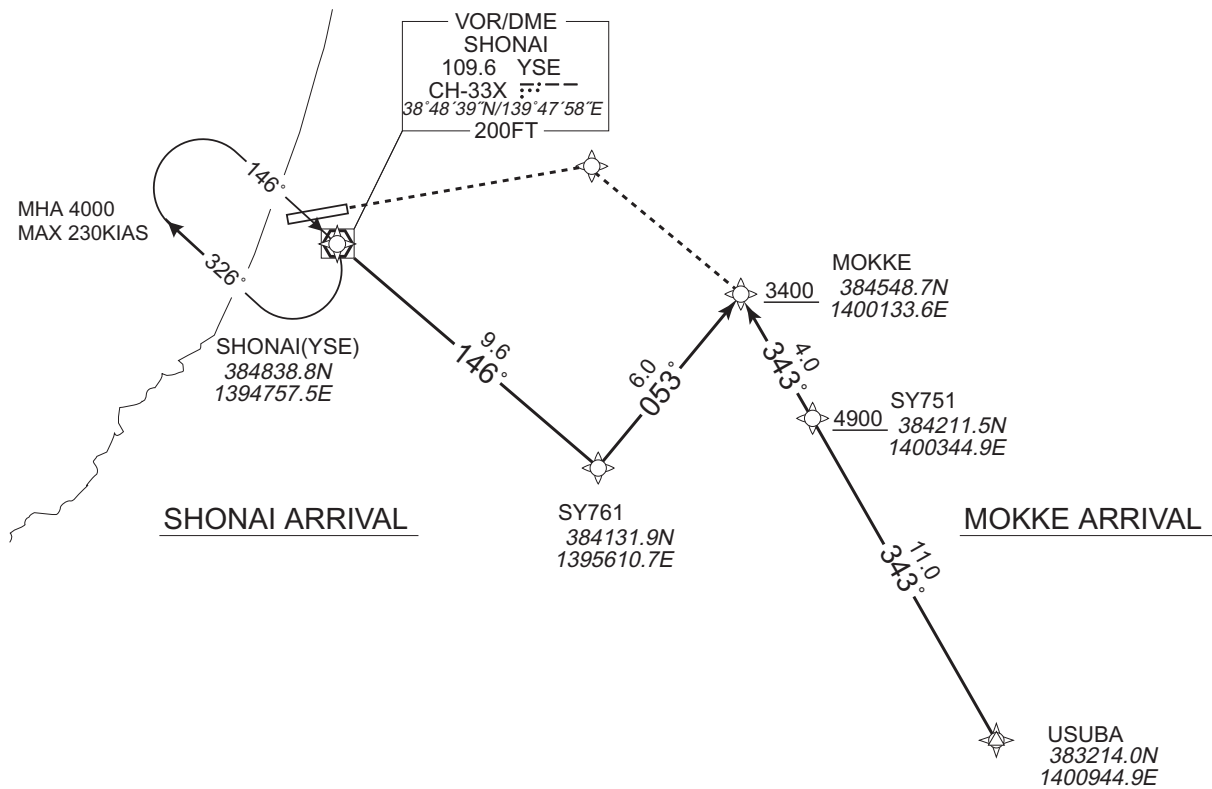
STANDARD ARRIVAL CHART -INSTRUMENT

RJSY / SHONAI RNAV STAR RWY27

| | |
|---------------------------------|------------|
| MOKKE ARRIVAL SHONAI ARRIVAL | Basic RNP1 |
|---------------------------------|------------|

Note GNSS required.

VAR 8°W (2013)



STANDARD ARRIVAL CHART -INSTRUMENT

RJSY / SHONAI

RNAV STAR RWY27

MOKKE ARRIVAL

From USUBA, to SY751 at or above 4900FT, to MOKKE at or above 3400FT.

| 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 | USUBA | — | — | -8.1 | — | — | — | — | — | Basic RNP1 |
| 002 | TF | SY751 | — | 343 (334.8) | -8.1 | 11.0 | — | +4900 | — | — | Basic RNP1 |
| 003 | TF | MOKKE | — | 343 (334.8) | -8.1 | 4.0 | — | +3400 | — | — | Basic RNP1 |

SHONAI ARRIVAL

From YSE, to SY761, to MOKKE at or above 3400FT.

| 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 | YSE | — | — | -8.1 | — | — | — | — | — | Basic RNP1 |
| 002 | TF | SY761 | — | 146 (137.9) | -8.1 | 9.6 | — | — | — | — | Basic RNP1 |
| 003 | TF | MOKKE | — | 053 (044.4) | -8.1 | 6.0 | — | +3400 | — | — | Basic RNP1 |

STANDARD ARRIVAL CHART -INSTRUMENT

RJSY / SHONAI

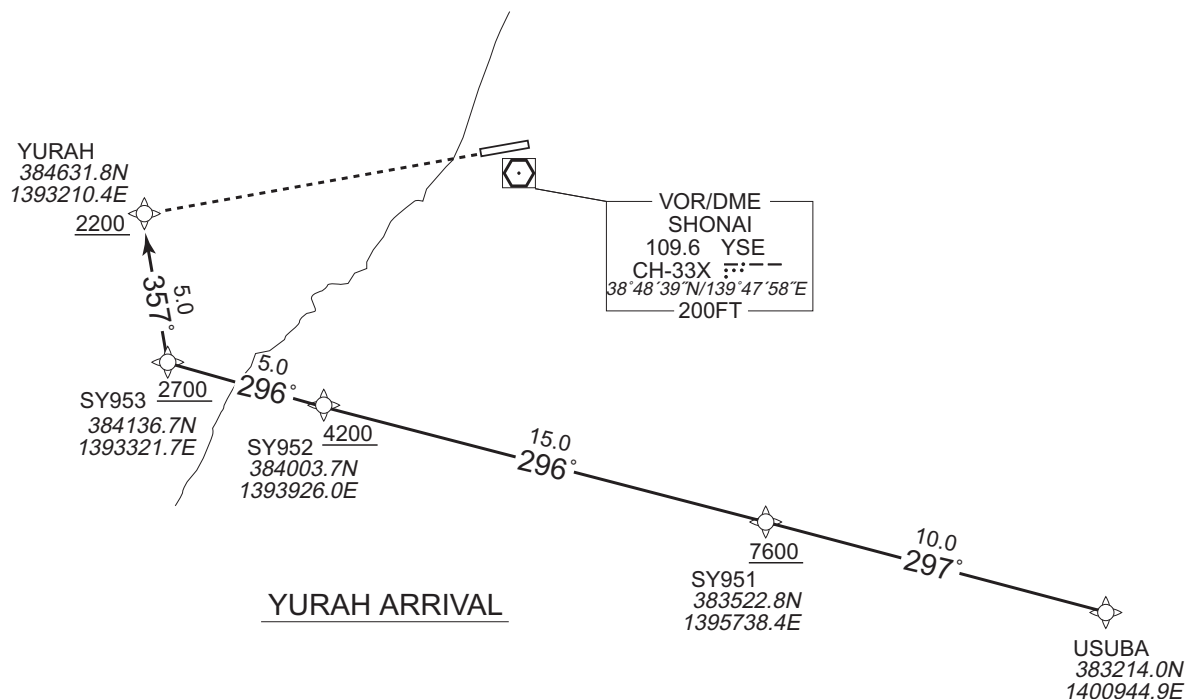
RNAV STAR RWY09

YURAH ARRIVAL

Basic RNP1

Note GNSS required.

VAR 8°W (2013)

YURAH ARRIVAL

From USUBA, to SY951 at or above 7600FT, to SY952 at or above 4200FT, to SY953 at or above 2700FT, to YURAH at or above 2200FT.

| 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 | USUBA | — | — | -8.1 | — | — | — | — | — | Basic RNP1 |
| 002 | TF | SY951 | — | 297 (288.4) | -8.1 | 10.0 | — | +7600 | — | — | Basic RNP1 |
| 003 | TF | SY952 | — | 296 (288.3) | -8.1 | 15.0 | — | +4200 | — | — | Basic RNP1 |
| 004 | TF | SY953 | — | 296 (288.1) | -8.1 | 5.0 | — | +2700 | — | — | Basic RNP1 |
| 005 | TF | YURAH | — | 357 (349.3) | -8.1 | 5.0 | — | +2200 | — | — | Basic RNP1 |

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INSTRUMENT APPROACH CHART

RJSY / SHONAI

ILS Z or LOC Z RWY09



Missed APCH climb gradient MNM 5.0%

| MINIMA | | THR elev. 59 | | AD elev. 72 | |
|--------|-----------|--------------|-----------|-------------|----------------|
| CAT | CAT I | | LOC | | CIRCLING |
| | DA(H) | RVR/CMV | MDA(H) | RVR/CMV | MDA(H) VIS |
| A | 259 (200) | 550 | 380 (321) | 900 | 530 (458) 1600 |
| B | | | | 1000 | |
| C | | | | 1400 | 2400 |
| D | | | | | 3200 |

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

Circling to NORTH side of RWY only.

INSTRUMENT APPROACH CHART

RJSY / SHONAI

ILS Y or LOC Y RWY09



Missed APCH climb gradient MNM 5.0%

MINIMA THR elev. 59 AD elev. 72

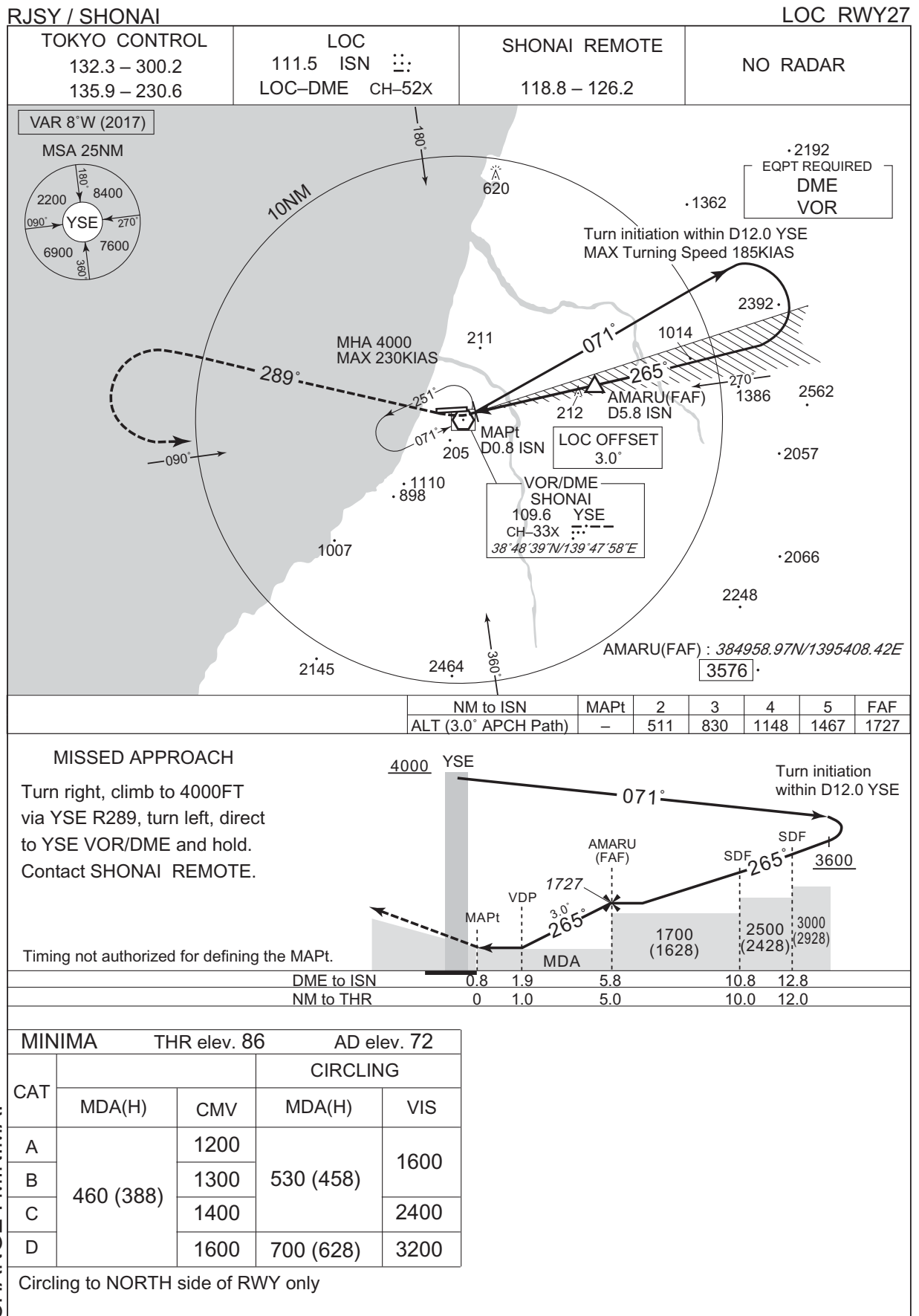
| CAT | CAT I | | LOC | | CIRCLING | |
|-----|-----------|-------------|-----------|-------------|-----------|------|
| | DA(H) | RVR/ CMV | MDA(H) | RVR/ CMV | MDA(H) | VIS |
| A | 259 (200) | 550 | 380 (321) | 900 | 530 (458) | 1600 |
| B | | | | 1000 | | |
| C | | | | | | |
| D | | | | 1400 | 700 (628) | 3200 |

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

Circling to NORTH side of RWY only.

CHANGE : MINIMA.

INSTRUMENT APPROACH CHART



INSTRUMENT APPROACH CHART

RJSY / SHONAI

VOR RWY09



CHANGE : MINIMA.

| MINIMA | | THR elev. 59 | AD elev. 72 | |
|--------|-----------|--------------|-------------|------|
| CAT | | | CIRCLING | |
| | MDA(H) | RVR/ CMV | MDA(H) | VIS |
| A | 470 (411) | 900 | 530 (458) | 1600 |
| B | | 1000 | | |
| C | | | | 2400 |
| D | | 1400 | 700 (628) | 3200 |

Circling to NORTH side of RWY only

RJSY / SHONAI

RNAV(RNP) RWY09

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



Direct to SY958, turn left, direct to YSE and hold at 4000FT.
Contact SHONAI REMOTE.

CHANGE : New PROC

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

RNP AR
Special Authorization Required

INSTRUMENT APPROACH CHART

RJSY / SHONAI

RNAV(RNP) RWY09

RNAV(RNP) 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 | USUBA | - | - | -8.5 | - | - | +9000 | - | - | - |
| 002 | TF | MOSSH | - | 310 (301.2) | -8.5 | 8.4 | - | +7100 | - | - | 1.0 |
| 003 | TF | SY954 | - | 310 (301.1) | -8.5 | 4.7 | - | +5200 | - | - | 1.0 |
| 004 | TF | SY955 | - | 310 (301.1) | -8.5 | 9.4 | - | 2700 | - | - | 1.0 |
| 005 | TF | SY956 | - | 309 (301.0) | -8.5 | 1.5 | - | 2230 | -165 | -3.00 | 0.1 0.3 |
| 006 | RF Center: SYRF1 r=2.03 | SY957 | - | - | -8.5 | 4.9 | R | 669 | - | -3.00 | 0.1 0.3 |
| 007 | TF | RW09 | Y | 088 (079.4) | -8.5 | 1.7 | - | 114 | - | -3.00/55 | 0.1 0.3 |
| 008 | DF | SY958 | Y | - | -8.5 | - | - | - | - | - | 1.0 |
| 009 | DF | YSE | - | - | -8.5 | - | L | 4000 | - | - | 1.0 |

Waypoint Coordinates

| Waypoint Identifier | Coordinates | RF Arc Center Identifier | Coordinates |
|---------------------|--------------------------|--------------------------|--------------------------|
| USUBA | 383214.02N / 1400944.88E | SYRF1 | 384619.71N / 1394450.17E |
| MOSSH | 383634.00N / 1400035.10E | | |
| SY954 | 383858.43N / 1395528.53E | | |
| SY955 | 384349.72N / 1394507.69E | | |
| SY956 | 384435.19N / 1394330.47E | | |
| SY957 | 384819.37N / 1394421.61E | | |
| RW09 | 384838.58N / 1394633.12E | | |
| SY958 | 384943.40N / 1395359.19E | | |
| YSE | 384838.81N / 1394757.51E | | |

CHANGE : Correction of misdescription (9Y957 → SY957)

RJSY / SHONAI

RNAV(GNSS) Z RWY27



INSTRUMENT APPROACH CHART

RJSY / SHONAI

RNAV(RNP) Y RWY27



CHANGE : Correction of misdescription (Notes on plan view)

INSTRUMENT APPROACH CHART

RJSY / SHONAI

RNAV(RNP) Y RWY27

RNAV(RNP) Y 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 | USUBA | - | - | -8.5 | - | - | +9000 | - | - | - |
| 002 | TF | ANNON | - | 333 (324.8) | -8.5 | 6.8 | - | +5400 | - | - | 1.0 |
| 003 | TF | SY754 | - | 333 (324.7) | -8.5 | 6.1 | - | +4200 | - | - | 1.0 |
| 004 | TF | SY755 | - | 333 (324.7) | -8.5 | 5.9 | - | 2400 | - | - | 1.0 |
| 005 | TF | SY756 | - | 333 (324.6) | -8.5 | 1.4 | - | 1967 | -165 | -3.00 | 0.12 0.30 |
| 006 | RF Center: SYRF2 r=2.01 | SY757 | - | - | -8.5 | 2.3 | L | 1240 | - | -3.00 | 0.12 0.30 |
| 007 | TF | RW27 | Y | 268 (259.5) | -8.5 | 3.5 | - | 136 | - | -3.00/50 | 0.12 0.30 |
| 008 | TF | SY758 | - | 268 (259.4) | -8.5 | 0.6 | - | - | - | - | 0.12 0.30 |
| 009 | CF | SY753 | Y | 268 (259.4) | -8.5 | 2.4 | - | - | - | - | 1.0 |
| 010 | DF | YSE | - | - | -8.5 | - | R | 4000 | - | - | 1.0 |

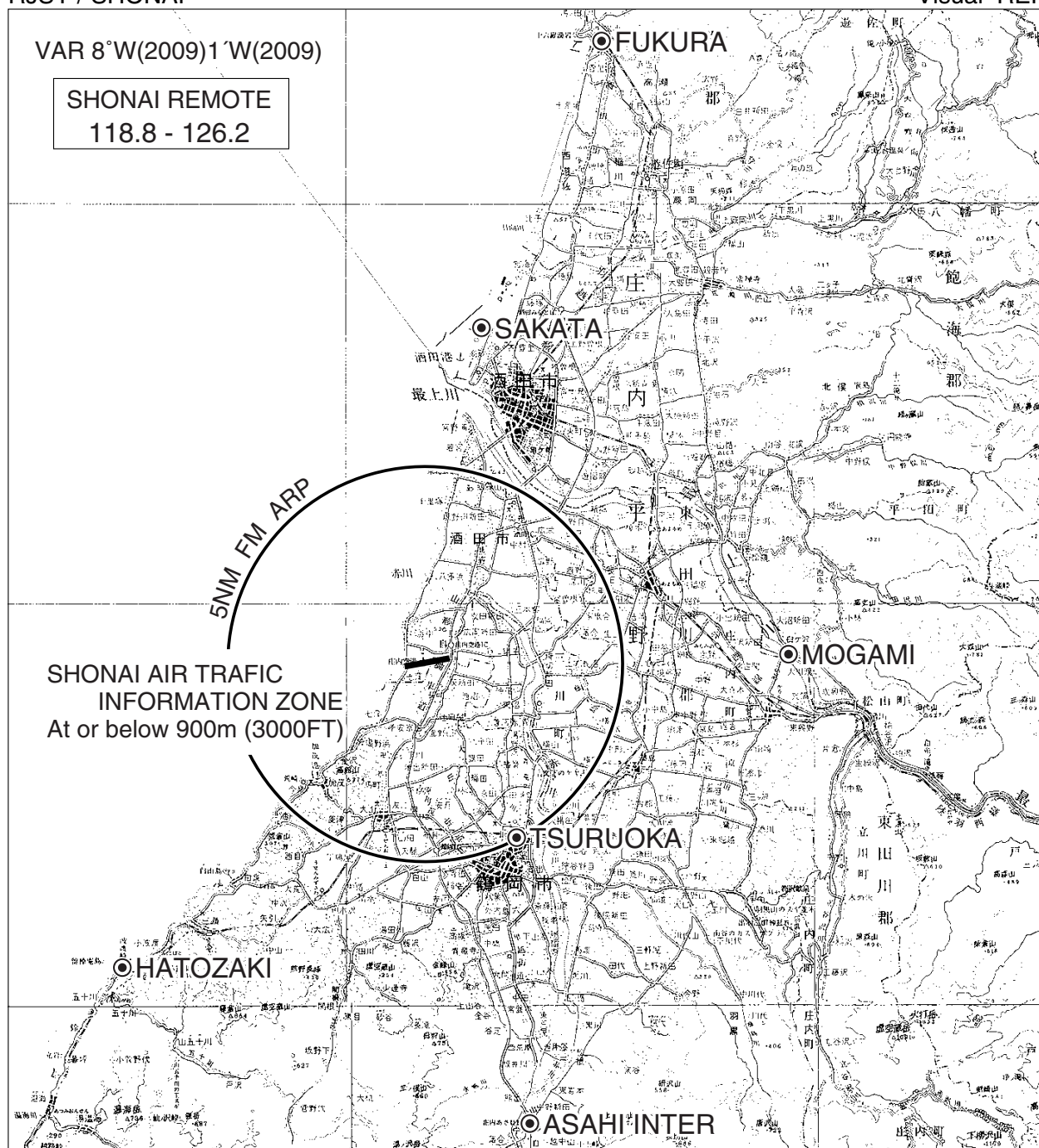
Waypoint Coordinates

| Waypoint Identifier | Coordinates | RF Arc Center Identifier | Coordinates |
|---------------------|--------------------------|--------------------------|--------------------------|
| USUBA | 383214.02N / 1400944.88E | SYRF2 | 384729.55N / 1395244.67E |
| ANNON | 383745.37N / 1400445.25E | | |
| SY754 | 384245.22N / 1400013.26E | | |
| SY755 | 384733.27N / 1395551.21E | | |
| SY756 | 384839.83N / 1395450.54E | | |
| SY757 | 384928.52N / 1395216.49E | | |
| RW27 | 384850.46N / 1394754.61E | | |
| SY758 | 384843.80N / 1394708.93E | | |
| SY753 | 384817.41N / 1394408.18E | | |
| YSE | 384838.81N / 1394757.51E | | |

CHANGE : New PROC

RJSY / SHONAI

Visual REP



| Call sign | BRG / DIST from ARP | Remarks |
|------------------------|---------------------|-------------------------------------|
| 吹 浦 Fukura | 023°T / 16.1NM | 吹浦港 Harbor |
| 酒 田 Sakata | 015°T / 8.0NM | 酒田港 Harbor |
| 最 上 Mogami | 097°T / 9.0NM | 最上川橋 Bridge |
| 鶴 岡 Tsuruoka | 161°T / 4.9NM | JR駅 Station |
| 波 渡 崎 Hatozaki | 233°T / 10.6NM | 岬 Cape |
| あさひインター Asahi Inter | 167°T / 11.9NM | 山形自動車道 庄内あさひインターチェンジ Interchange |

RJSY / SHONAI

LDG CHART



RJSY / SHONAI

Minimum Vectoring Altitude CHART

