

STANDARD DEPARTURE CHART  
RNAV (GNSS) -  
INSTRUMENT (SID)

|     |                |
|-----|----------------|
| TWR | 118.6 / 118.25 |
| APP | 120.3          |
|     | 124.05         |
| ACC | 134.2          |

|                     |                     |
|---------------------|---------------------|
| TRANSITION ALTITUDE | 11 000ft            |
| D-ATIS              | AP ID-WSSS<br>128.6 |

SINGAPORE/Singapore Changi  
RWY 02L  
TOMAN DEPARTURES  
TOMAN 3E

ELEV, ALT IN FEET  
BEARINGS, TRACKS AND  
RADIALS ARE MAGNETIC  
VAR 0°23'E (2020)

DISTANCES IN NM

GENERAL INFORMATION

INITIAL CLIMB  
3000FT

CAUTION: RWY 02R/20L NOT AVAILABLE FOR CIVIL USE UNTIL  
FURTHER ADVISED

NOTE: RADAR REQUIRED

NOTE: RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

NOTE: ACFT UNABLE TO FLY THE SID PROFILE  
SHALL INFORM ATC PRIOR TO DEPARTURE AND  
EXPECT RADAR VECTURING IF NECESSARY

NOTE: WHEN TAKEN OFF THE SID, AS INSTRUCTED BY ATC,  
REFER TO ENR 1.5, SECTION 3, PARAGRAPH 3.2 [A]  
- FOR RWY 02L MINIMUM CLIMB GRADIENT

NOTE: REFER TO BACK PAGE FOR  
- FORMAL AND TABULAR DESCRIPTIONS  
- RADIO COM FAILURE PROCEDURES

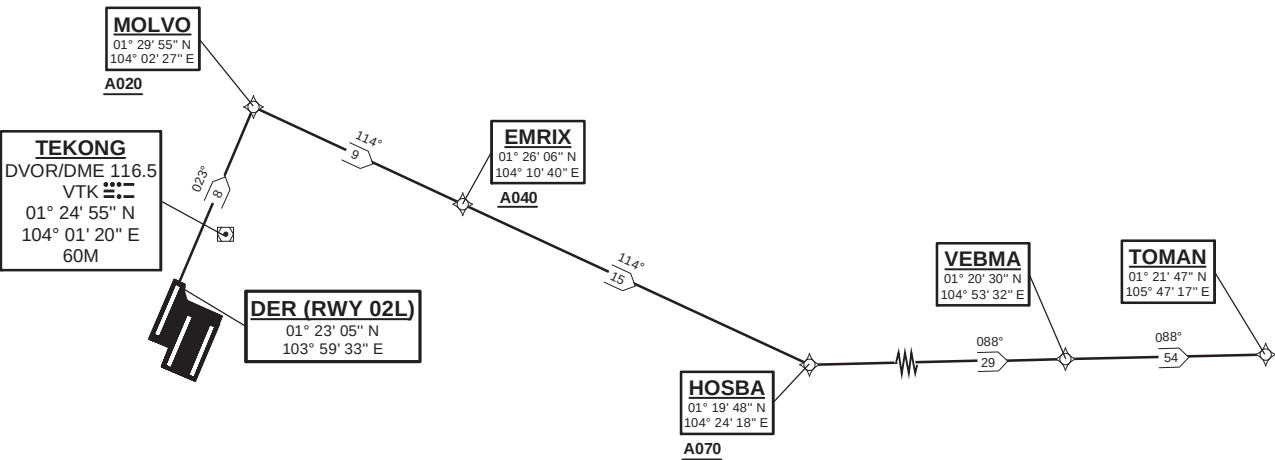
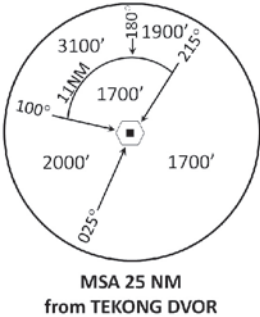
PROCEDURE INFORMATION

SID SHALL NOT EXCEED IAS 230KTS UNTIL  
PASSING 4000FT AMSL AND NOT EXCEED  
IAS 250KTS UNTIL PASSING 10000FT AMSL.

CRUISING LEVELS WILL BE ISSUED AFTER TAKE-OFF  
BY SINGAPORE RADAR.

SID SHALL BE ON A MINIMUM CLIMB GRADIENT OF 5%  
UNTIL REACHING OR PASSING 2500FT, THEREAFTER 3.3%.

|                   |     |     |     |      |      |      |
|-------------------|-----|-----|-----|------|------|------|
| GND SPEED - KNOTS | 75  | 100 | 150 | 200  | 250  | 300  |
| 5% V/V (fpm)      | 380 | 506 | 760 | 1013 | 1266 | 1519 |
| 3.3% V/V (fpm)    | 251 | 334 | 501 | 668  | 835  | 1003 |



NOT TO SCALE

TOMAN 3E (SID) RNAV GNSS RWY 02L - DESCRIPTIONS

Formal & Abbreviated Descriptions

| Formal Description                                      | Abbreviated Description  | Path Terminator | Fly-Over required |
|---------------------------------------------------------|--------------------------|-----------------|-------------------|
| To MOLVO on course 023° at or above 2000ft, turn right. | MOLVO [M023; A020+; R] - | CF              | N                 |
| To EMRIX at or above 4000ft.                            | EMRIX [A040+] -          | TF              | N                 |
| To HOSBA at or above 7000ft, turn left.                 | HOSBA [A070+; L] -       | TF              | N                 |
| To VEBMA.                                               | VEBMA -                  | TF              | N                 |
| To TOMAN.                                               | TOMAN                    | TF              | N                 |

Tabular Descriptions

| Path Term | Waypoint Name | Fly-Over | Course °M(°T) | Distance (NM) | Turn Direction | Altitude | Speed Limit | Navigation Spec |
|-----------|---------------|----------|---------------|---------------|----------------|----------|-------------|-----------------|
| CF        | MOLVO         | -        | 023(023.4)    | 8.0           | R              | A020+    | -           | RNAV1           |
| TF        | EMRIX         | -        | 114(114.4)    | 9.0           | -              | A040+    | -           | RNAV1           |
| TF        | HOSBA         | -        | 114(114.4)    | 15.0          | L              | A070+    | -           | RNAV1           |
| TF        | VEBMA         | -        | 088(088.4)    | 29.0          | -              | -        | -           | RNAV1           |
| TF        | TOMAN         | -        | 088(088.4)    | 54.0          | -              | -        | -           | RNAV1           |

Radio Communications Failure Procedure

|   |                                                                                                                                                                                                                                   |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | SET TRANSPONDER TO MODE A/C CODE 7600                                                                                                                                                                                             |
| 2 | COMMUNICATIONS FAILURE OCCURS IMMEDIATELY AFTER DEPARTURE:<br><br>PROCEED DIRECT TO NYLON HOLDING AREA (NHA) CLIMBING TO THE LAST ASSIGNED ALTITUDE, THEREAFTER REFER TO SINGAPORE AIP ON RADIO COMMUNICATIONS FAILURE PROCEDURE. |