行政院所屬各機關因公出國人員報告書
（出國類別：實習）

B747-200型模擬機年度複訓

服務機關：民用航空局
出國人 職　　稱：航務檢查員
姓　　名：高王玉
出國地區：印尼，雅加達
出國期間：92.03.09-92.03.12
報告日期：92.05.26

系統識別號:C09201814

公 務 出 國 報 告 提 要

頁數: 4　含附件: 否

報告名稱:

B-742型模擬機年度複訓

主辦機關:

交通部民用航空局

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出國人員:

高王玉　交通部民用航空局　飛航標準組　約聘人員

出國類別: 實習

出國地區: 印尼

出國期間: 民國 92 年 03 月 09 日 -民國 92 年 03 月 12 日

報告日期: 民國 92 年 05 月 26 日

分類號/目: H2／航空　H2／航空

關鍵詞: B-742型模擬機年度複訓

內容摘要: 自從86年本局實施美國FAA檢查制度以來，凡持有機種檢定證之檢查員，於屆期日前應有該機種之複訓事宜，已建立因應本國民航制度的正確發展，並將教師駕駛員、檢定駕駛員及委任考試官等之考驗辦法列入模擬機複訓項目，藉由對快速參考手冊中各項緊急操作程序的認識與瞭解，以增加飛行人員信心。飛航途中發生緊急情況爲各飛航人員均可能遭遇之問題，故爲解決以上各項疑題，應多加利用模擬機之練習次數，以訓練及強化其反應操作。美國FAA遠東區代表，歷年皆有視察與督導，此一制度必應維持之，且對該項所列之經費，希立法院不可刪除，以利此項工作之推行。

本文電子檔已上傳至出國報告資訊網

印尼雅加達出國報告書目次

印尼雅加達Ｂ－747－200模擬機複訓出國報告書

壹、目的：

依民航法之航空人員檢定給證管理規則第七條第一項第一款規定駕駛員檢定證有效期為一年，本人因持有Ｂ747－200機種檢定證，依規定應予複訓考驗，以保持檢定證之效期。

貳、過程：

92年3月9日赴印尼雅加達印尼航空訓練中心模擬機組實施Ｂ－747－200型模擬機複訓，實施課目如下：

一、口試及任務提示

二、飛行前檢查程序

三、放棄起飛程序及操作

四、正常起飛

五、失速改正

六、貨艙火警程序

七、空中待命程序及操作

八、非精確進場（ＶＯＲ）程序及操作

九、重飛

十、自動降落

十一、起飛後發動機失效處理

十二、精確進場（ＩＬＳ）程序及操作

十三、一具發動機失效之重飛

十四、二具發動機失效之操作

十五、二具發動機失效落地（ＩＬＳ）

十六、緊急逃生程序

參、心得：

一、目前於遠東地區設置 B-747-200 型模擬機者，僅韓國漢城、香港及印尼雅加達三地，惟韓國往返需由香港轉機，耗時過長，極為不便。故僅香港及印尼雅加達可資運用，後因香港未能安排本次訓練時段，而採以印尼航空之模擬機以行複訓。（本次複訓課目內容如附件）

二、印尼航空模擬機訓練中心除地面設施及模擬機設備均稱完備外，亦符合該國民航主管機關之要求，具備初訓、轉訓、昇訓、複訓、專業等模擬機各項訓練能量，另具有風切、第一類儀降系統等訓練效能。（註.中華航空公司所屬 B-747-200 型機飛航組員亦均至該處實施年

度訓練。）

三、印尼航空所屬之訓練單位均集中於一共同區域，各型飛機之模擬機，亦均整齊排列、設置於同一建物內，緊急求生訓練裝置則於隔壁另一棟樓，故不論參與上課或實習，對受訓之學員而言均較省時、便利。

肆、建議：

凡持有檢定證之檢查員，依規定每年須實施該機種之複訓以溫故知新強化本職學識，俾利執行航空公司相關航務查核、輔導作業。惟此項訓練係屬年度例行之經常性工作，其內容及性質亦為單純且共通之訓練項目，故於完訓返國後是否應採報告書之方式提報，敬請有關單位參考。

伍、附件：複訓課目內容。

2002.12.03

LESSON SUMMARY:

- Hot Weather Operations
- Contaminated Runway (standing water) Performance
- Heavy Weight and Low Visibility T/O
- GPWS/CFIT/ALAR
- Stall Recovery
- V1 Engine Failure with Cross Wind
- EOSID
- VOR Approach / Procedure Turn
- One Engine Out Approach and Go Around
- Two Engine Inoperative Landing (for captain only)
- Microburst
- Landing Gear/ Brakes
- Flight Instruments Failure
- Warning System
- Visual approach
- Evacuation

LESSON OBJECTIVES:

- Maintain/regain proficiency in listed maneuvers
- Practice/improve CRM and CCC
- Prepare for the proficiency check

BRIEFING: (1+00)

The briefing will be conducted for each crewmember before PT. The IP is required to highlight the" **Must know"** items and evaluate the SIM preparation by using quiz during briefing.

- Hot Weather Operations: (0+05)
  - Use of RAM for Contaminated Runway
  - LVO Procedures
- Heavy Weight and Low Visibility T/O (0+03)
- GPWS/CFIT/ALAR (0+02)
- Stall Recovery
- V1 Engine Failure with Cross Wind
- EOSID (0+05)
- VOR Approach / Procedure Turn (0+05)
- One Engine Out Approach and Go Around
- Two Engine Inoperative Landing (for captain only) (0+05)
- Microburst (0+05)

- Landing Gear/ Brakes (0+05)
- Flight Instruments Failure (Loss of ?)
- Engine (0+05)
- Warning System (0+05)
- Evacuation (0+05)
- "Cockpit Crew Briefing" by the Capt (0+05)
- Break (0+05)

SIM PREPARATION:

- Position: HKG, RWY 7R, GATE C22
- Flt. plan: HKG/TPE
- Call-sign: Dynasty332
- Weather:
  - Visibility 7km -RW, Night, TEMPO 1000m Heavy RW
  - Clouds: 600-7000 ft.
  - Wind: 120/15G25
  - Temp: 28 ℃
  - QNH: 1004
  - Remark: Raining, braking action medium, runway contaminated (standing water), moderate to severe turbulence during approach and departure.
- Aircraft set-up
  - ZFW: 580.0
  - Fuel: 85.0
  - TOGW: 665.0
  - ZFCG: 24.0

Preflight: (0+15)/0+15

- Crew: perform cockpit preparation, load INS, complete all appropriate checklists,
- "Cockpit Crew Briefing" already completed before entering simulator

ATC CLEARANCE:

- Hong Kong Delivery: 129.9
  - Dynasty 332, clear to Taipei via Ocean 1A Departure, FL330, squawk 3535
  - Contact ground 122.55 for push back and start.

ENGINE START: (0+05)/0+20

- Crew: complete checklists, pushback and start engines
- Quick start
- Crew completes the after start checklist

PART- A: CAPTAIN

TAXI/TAKE OFF 1: (0+05)/0+25

TAXI CLEARANCE:
- Hong Kong Ground: 122.55
  - Dynasty 332, taxi to RWY 7R, contact tower 118.4

- CM1 taxi: familiarization with all the taxi signs and lighting systems. Be cautious, especially in LVO, have the airport chart ready. When in doubt, stop and verify, ask for "progressive taxi" (ICAO: Detailed taxi instructions) if necessary.
- Crew: complete taxi checklist, review SID/ RTO/ EOSID

TAKEOFF CLEARANCE
- Hong Kong Tower: 118.4
  - Dynasty 332, wind 120/15G25, runway surface wet, wind shear reported during departure, cleared for takeoff RWY 7R

- Crew should state **CAL policy** regarding the reported wind shear.
- Crew should identify the takeoff runway by the runway sign and marking, verify the final is cleared.
- Crew: use LOC to identify and line-up runway
- Crew: prepare for T/O RWY 7R
- Capt. performs **Low Visibility Takeoff**
- **Moderate to severe turbulence** during departure

CLIMB/CRUISE: (0+05)/0+30

- Hong Kong Tower: 118.4:
  - Dynasty 332,contact departure 119.1
- Hong Kong departure:
  - Dynasty 332 radar contact, climb to 10,000', direct Ocean

- Crew: Perform direct "Ocean" operation
- At 10,000', perform the **approach to stall recovery** in landing configuration
- **Landing gear fail to retract,** return to HKG for landing
- Crew completes the appropriate procedure and checklist.

VOR APPROACH RWY 7L: (0+10)/0+40

- Hong Kong Approach: 119.1
  - Dynasty 332, clear descend to 7000, direct TD, expect VOR DME 7L approach
  - Dynasty 332, after TD, clear for VOR DME 7L approach

LANDING: (0+05)/0+45

- Hong Kong Approach: 119.1
  - Dynasty 332, contact tower 118.4
- Hong Kong Tower: 118.4
  - Dynasty 332, wind 120/15G25, clear to land RWY 7L

- Capt performs manual landing.

TAXI/TAKEOFF 2: (0+05)/0+50

TAKEOFF CLEARANCE
- Hong Kong Tower: 118.4
  - Dynasty 332, wind 120/15G25, runway surface wet cleared for takeoff RWY 7R

CLIMB/CRUISE: (0+10)/1+00

- Hong Kong Tower: 118.4:
  - Dynasty 332,contact departure 119.1
- Hong Kong departure: 119.1:
  - Dynasty 332 radar contact, climb to 5,000, maintain present heading due to traffic

GPWS

- Crew completes appropriate abnormal procedure and checklists.
- **Inflight Engine Failure/Shutdown**
- Crew completes appropriate abnormal procedure and checklists.
- ATC provide radar vector for ILS 7L

ILS APPROACH RWY 7L: (0+10)/1+10

- Hong Kong Approach: 119.1
  - Dynasty 332, clear descend to 3,000, heading 230, expect ILS 7L approach
  - Dynasty 332, heading 030 intercept LOC, clear for ILS 7L approach
  - Dynasty 332, contact tower 118.4

Rejected landing

- HKG Tower: 118.4
  - Dynasty 332, RWY blocked, go around. Follow the published procedure'. Contact HKG Approach 119.1

- **Second ENG Fire During G/A**
- Crew completes appropriate abnormal procedure and checklists.
- ATC provide radar vector for ILS 7L

ILS APPROACH RWY 7L: (0+10)/1+20

- Hong Kong Approach: 119.1
  - Dynasty 332, clear descend to 3,000, heading 230, expect ILS 7L approach
  - Dynasty 332, heading 030 intercept LOC, clear for ILS 7L approach
  - Dynasty 332, contact tower 118.4

LANDING: (0+05)/1+25

- Hong Kong Tower: 118.4
  - Dynasty 332, wind 120/15, clear to land RWY 7L

- Capt performs manual landing.

AFTER LANDING

- Crew: Prepare for next takeoff, review SID/ RTO/ EOSID

TAXI/TAKEOFF 3: (0+10)/1+35

TAKEOFF CLEARANCE

- Hong Kong Tower: 118.4
  - Dynasty 332, wind 120/15G25, runway surface wet, cleared for takeoff RWY 7R

- **Engine Failure at V1**
- Crew: Perform Abnormal Procedures and checklist.
- Crew: Perform **EOSID**

CLIMB/CRUISE: (0+20)/1+55

- Hong Kong Tower: 118.4:
  - Dynasty 332,contact departure 119.1
- Hong Kong departure: 119.1:
  - Dynasty 332 radar contact, climb to 3,000, expect radar vector for ILS 7L

- **Warning system**
  IP may set any problem regarding warning system.
- **Flight instrument**
  IP may set any problem regarding flight instrument.
- Crew: Perform Abnormal Procedures and checklist.
- Crew: Prepare for ILS RWY 07L Approach.
- ATC provide radar vector for ILS 7L

VISUAL APPROACH: (0+10)/2+05

- HKG Approach: 119.1
  - Dynasty 332, maintain heading 180, climb to 3000'. Expect radar vector for visual RWY 7L, advice when ready for the approach.
  - Dynasty 332, heading 030 clear for visual 7L approach
  - Dynasty 332, contact tower 118.4

LANDING: (0+05)/2+10

- Hong Kong Tower: 118.4
  - Dynasty 332, wind 120/15, clear to land RWY 7L

- Capt performs manual landing
- **Evacuation**
- Engine (Aircraft) fire during short final
- Crew: Perform Abnormal Procedures and checklist.

SUB-TOTAL 2+10

BREAK (0+10)/2+20

PART-B: FIRST OFFICER

FIRST OFFICER WILL FLY THE SAME PROFILE EXCEPT SECOND ENGINE FIRE DURING G/A

NOTE: F/O WILL FLY TO PUBLISHED MINIMUMS FOR TRAINING ONLY

TOTAL SIM TIME 4+00

CHECK SUMMARY

This check will cover all items and maneuvers required to satisfy the requirements of the CAA rating renewal in accordance with the CAL recurrent Training and Checking Matrix for Year – 3. This includes:

- RTO
- Low visibility takeoff
- HOLD / VOR approach and ILS CAT II approach
- Flight instruments
- Landing gears / brakes
- Warning systems
- Two engines inop. landing (Capt. only)
- Visual approach
- One engine inop. approach and G/A
- Evacuation

CHECK OBJECTIVES

- Checkee must demonstrate proficiency in completing all flying exercises to the standard described in the CAL Standards Manual, Chapter 4.
- Checkee must demonstrate knowledge of, and ability to implement the CAL Standard Operating Procedures.
- Checkee must demonstrate CRM and CCC behaviors consistent with their position.

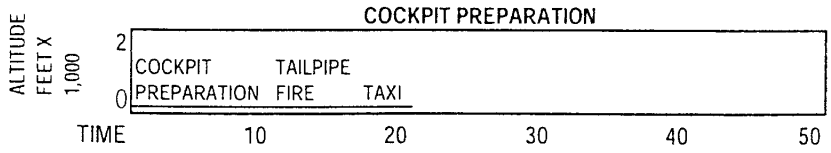
BRIEFING

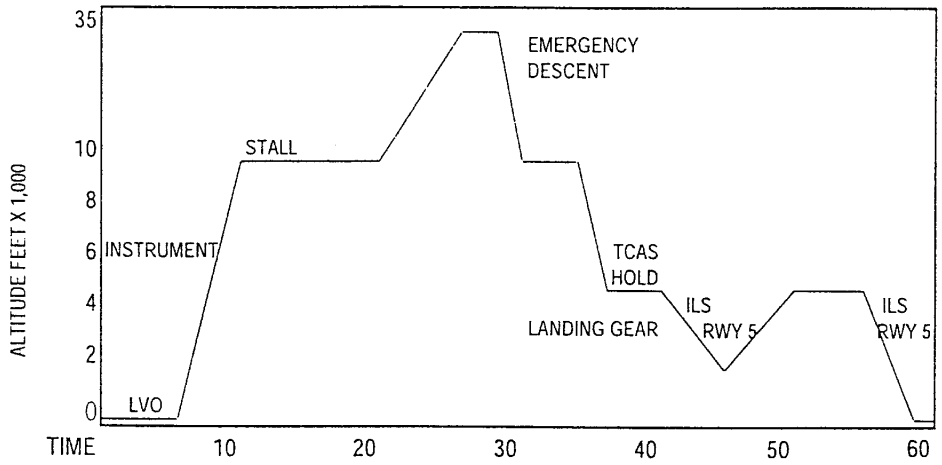
- A briefing consistent with the requirements of Chapter 4.2 of the CAL Standards Manual shall be given.
- An oral examination as outlined in Chapter 4.3 of the CAL Standards Manual shall be administered to each checkee.
- Stable approach criteria.

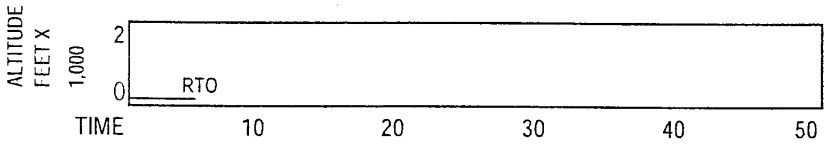
SIMULATOR PREPARATION

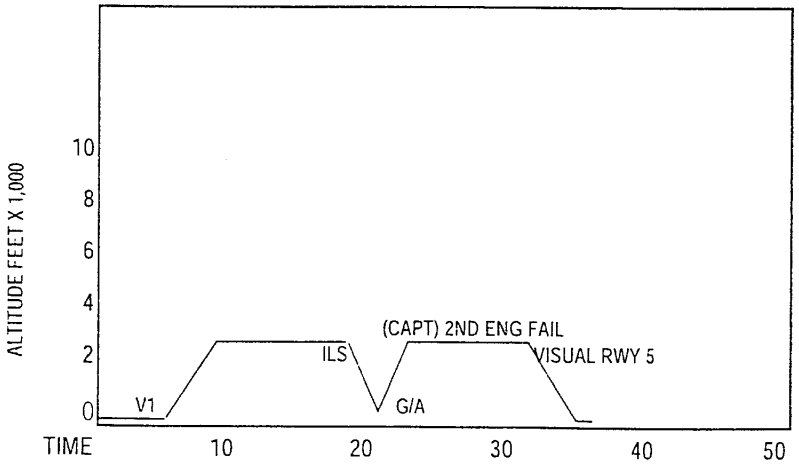
- A/C Set: Total Reset / ZFW 480.0 / Fuel 100.0 / CG 22%
- Pos Set: Airport RCTP / RWY 05 / Gate 510
- Envir. Set: Cloud Top 9000 / Base 250 / RVR 800 M / Day
- Wind 140/15 / QNH 1015 / OAT 30°C
  - Wx effect: rain
    Storm clouds: CB north-west of airport

Runway conditions: wet


COCKPIT PREPARATION
ALTITUDE FEET X 1,000
2
0
COCKPIT PREPARATION
TAILPIPE FIRE
TAXI
TIME
10
20
30
40
50


ALTITUDE FEET X 1,000
35
10
8
6
4
2
0
INSTRUMENT
LVO
STALL
EMERGENCY DESCENT
TCAS HOLD
LANDING GEAR
ILS RWY 5
ILS RWY 5
TIME
10
20
30
40
50
60

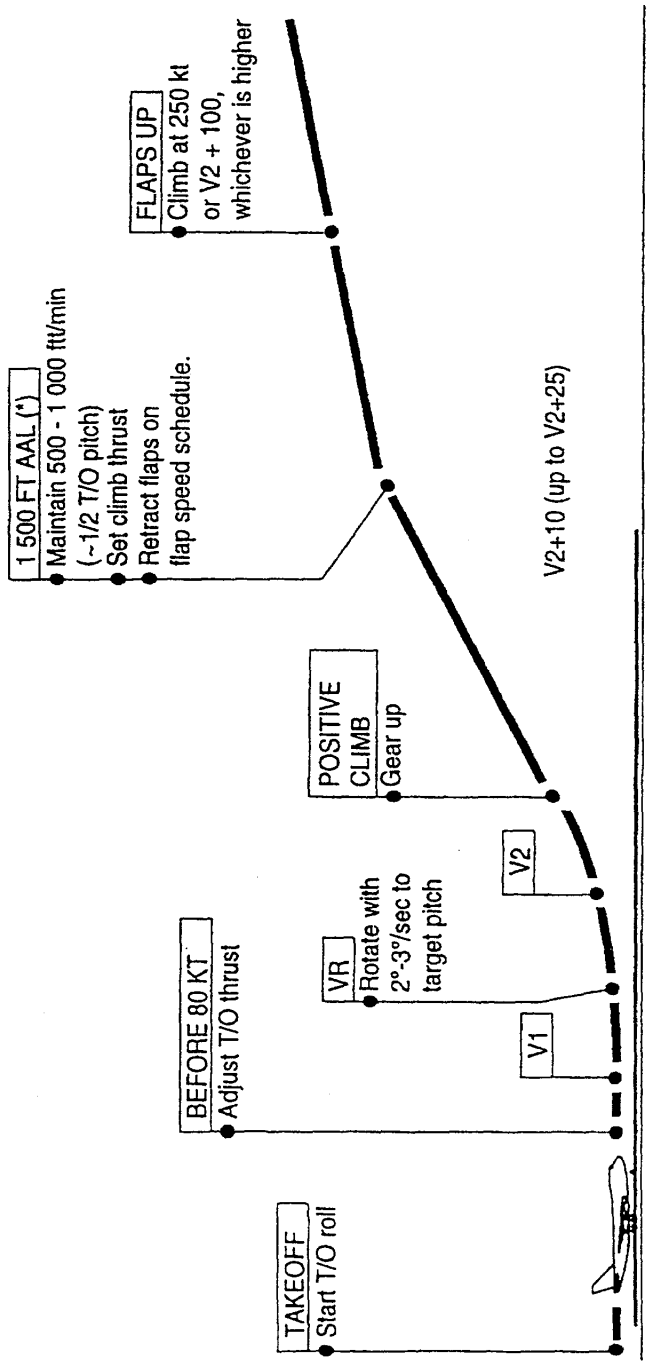

ALTITUDE FEET X 1,000
2
0
RTO
TIME
10
20
30
40
50


ALTITUDE FEET X 1,000
10
8
6
4
2
0
V1
ILS
(CAPT) 2ND ENG FAIL
G/A
VISUAL RWY 5
TIME
10
20
30
40
50

3.20.6. TAKEOFF (CONT'D)

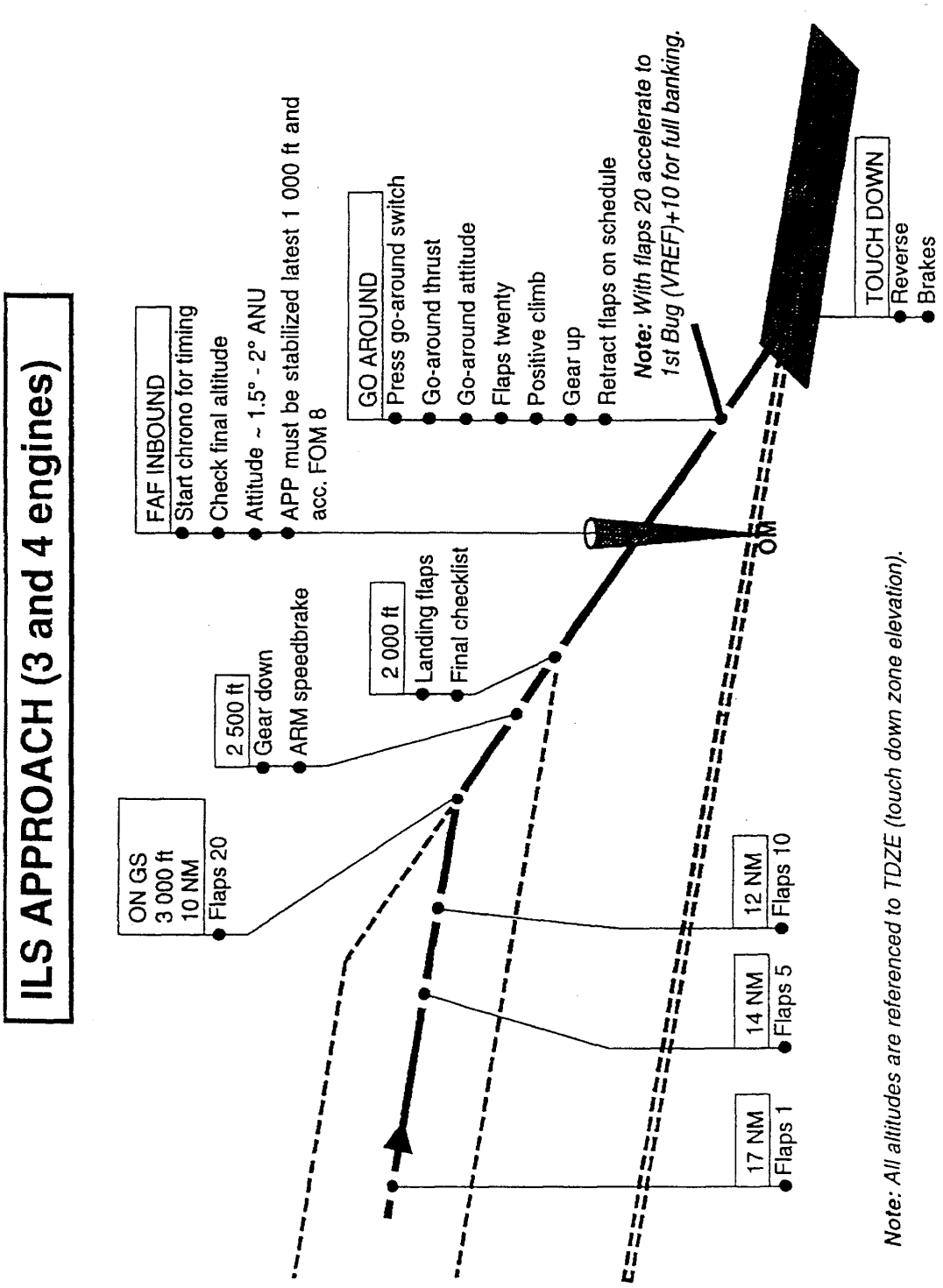
NORMAL TAKEOFF / STANDARD NOISE ABATEMENT TAKEOFF

Notes: - Maximum bank angle 15° between 300 ft and 500 ft or with speeds below V2+10.
- Limit bank angle 15° while retracting flaps 1 to up position until V2+100.

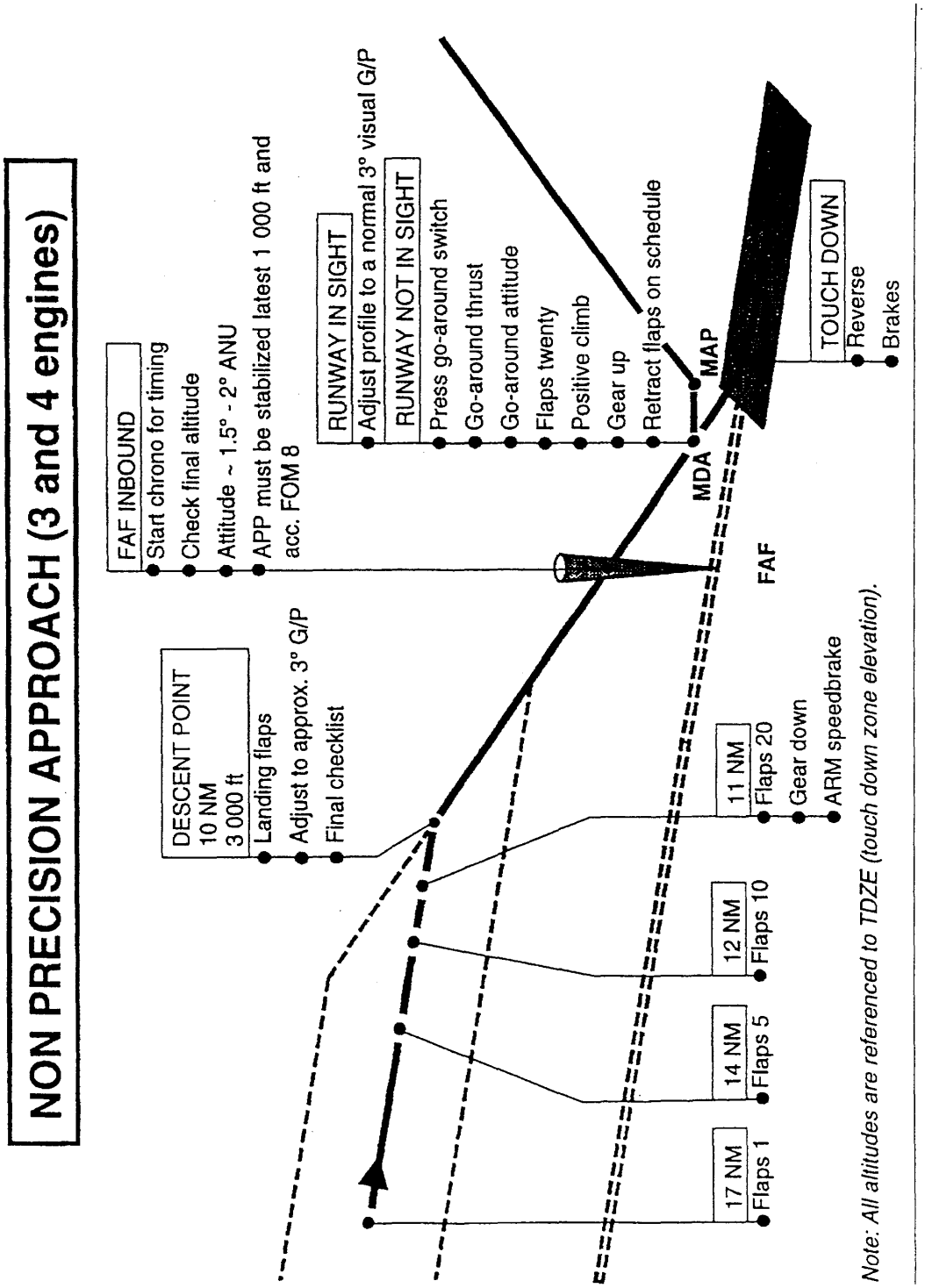


** Note: Local procedures may require different acceleration heights.*

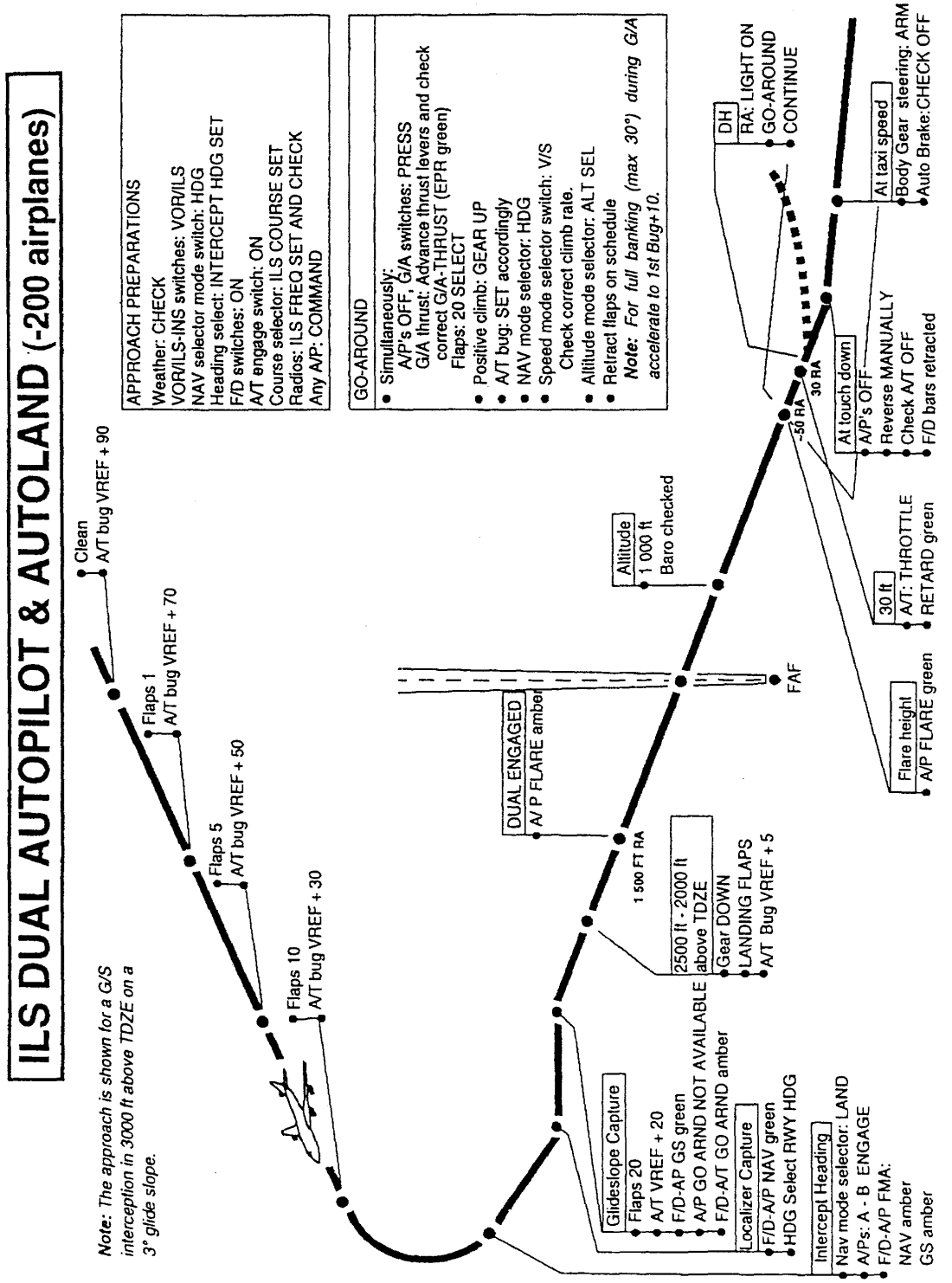
3.20.13. ILS APPROACH (CONT'D)



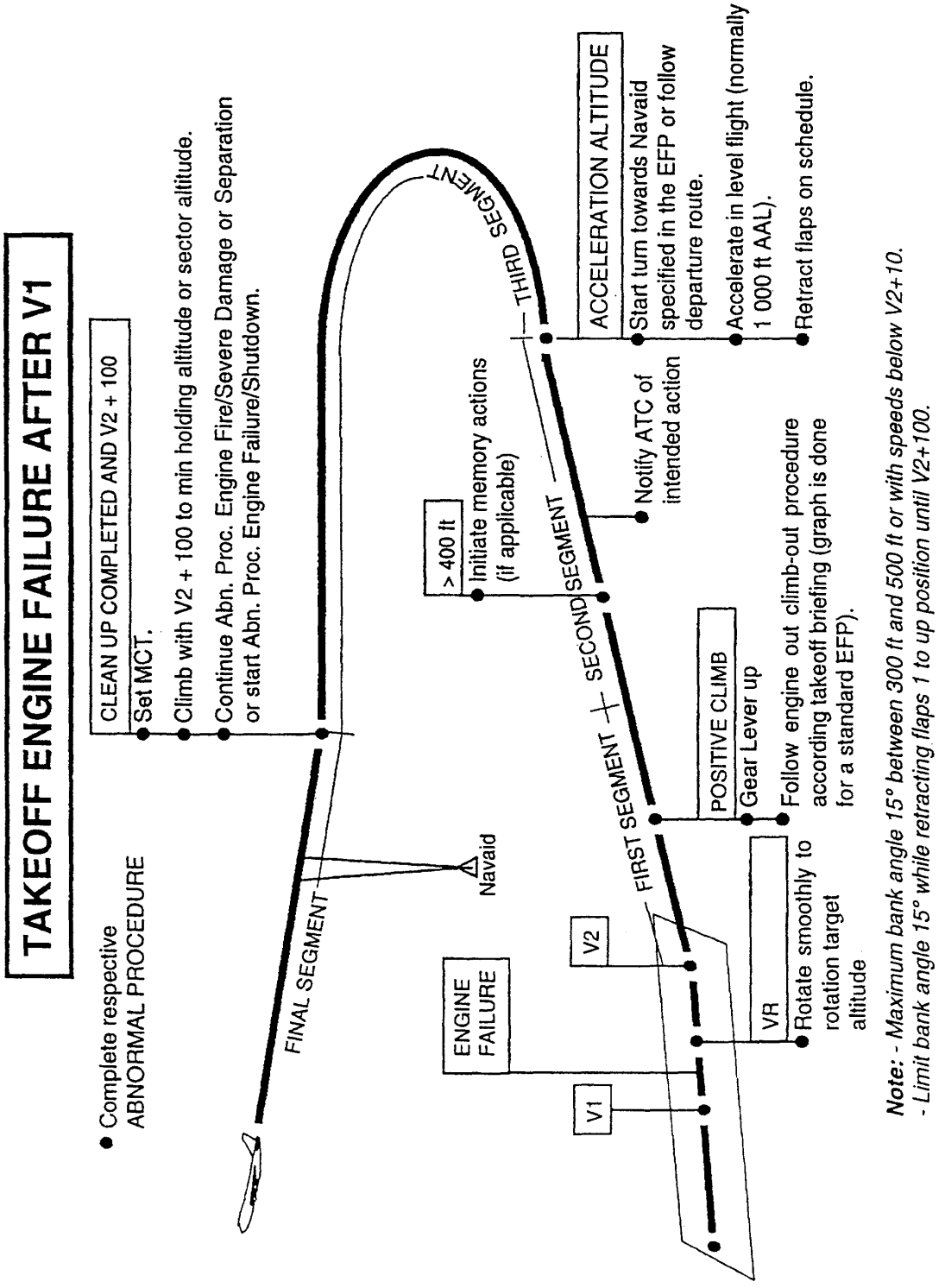
3.20. 14. NON PRECISION APPROACH (CONT'D)



3.25.3. AUTOLAND (CONT'D)

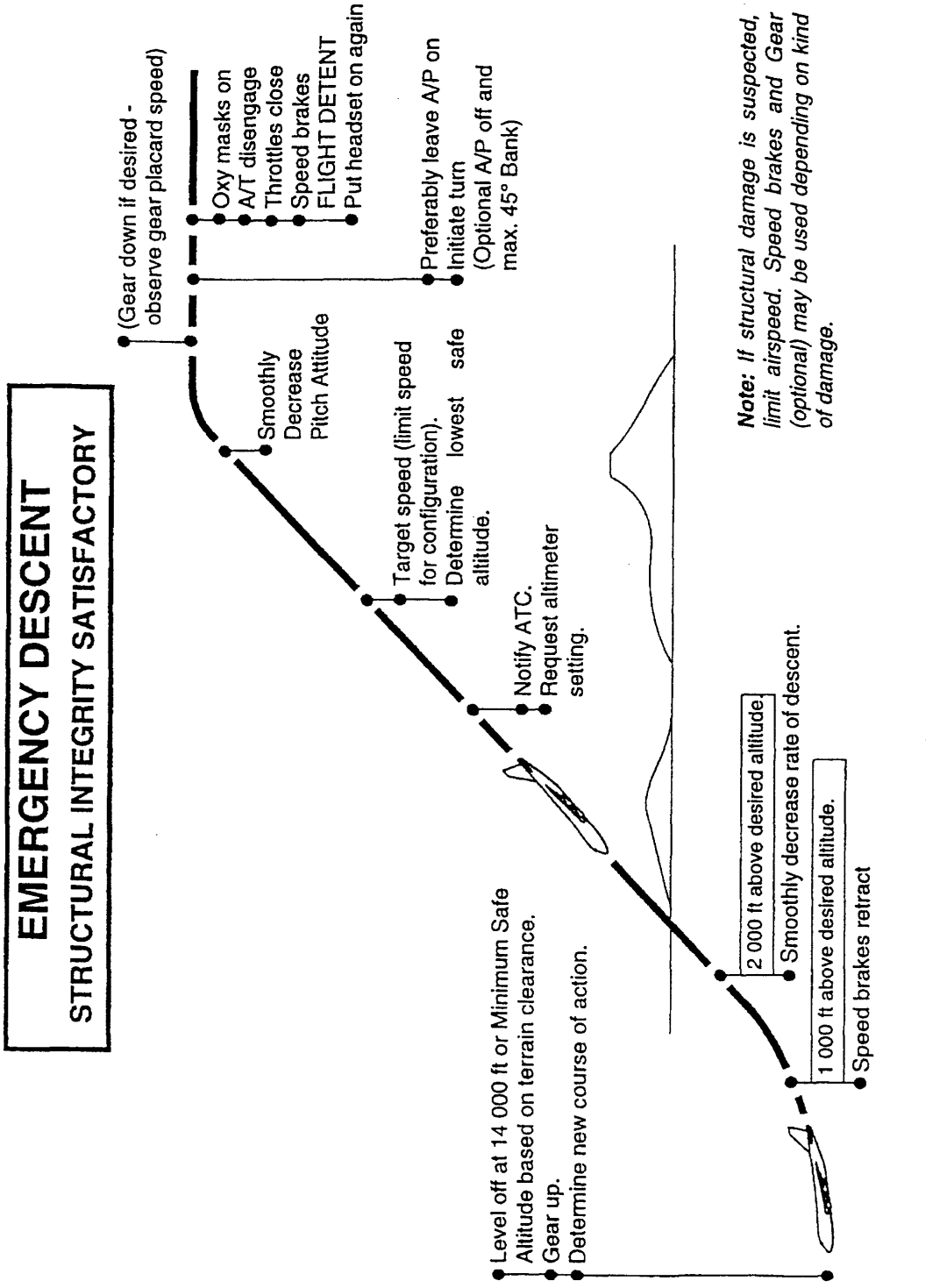


3.30.1. TAKEOFF ENGINE FAILURE AFTER V1 (CONT'D)

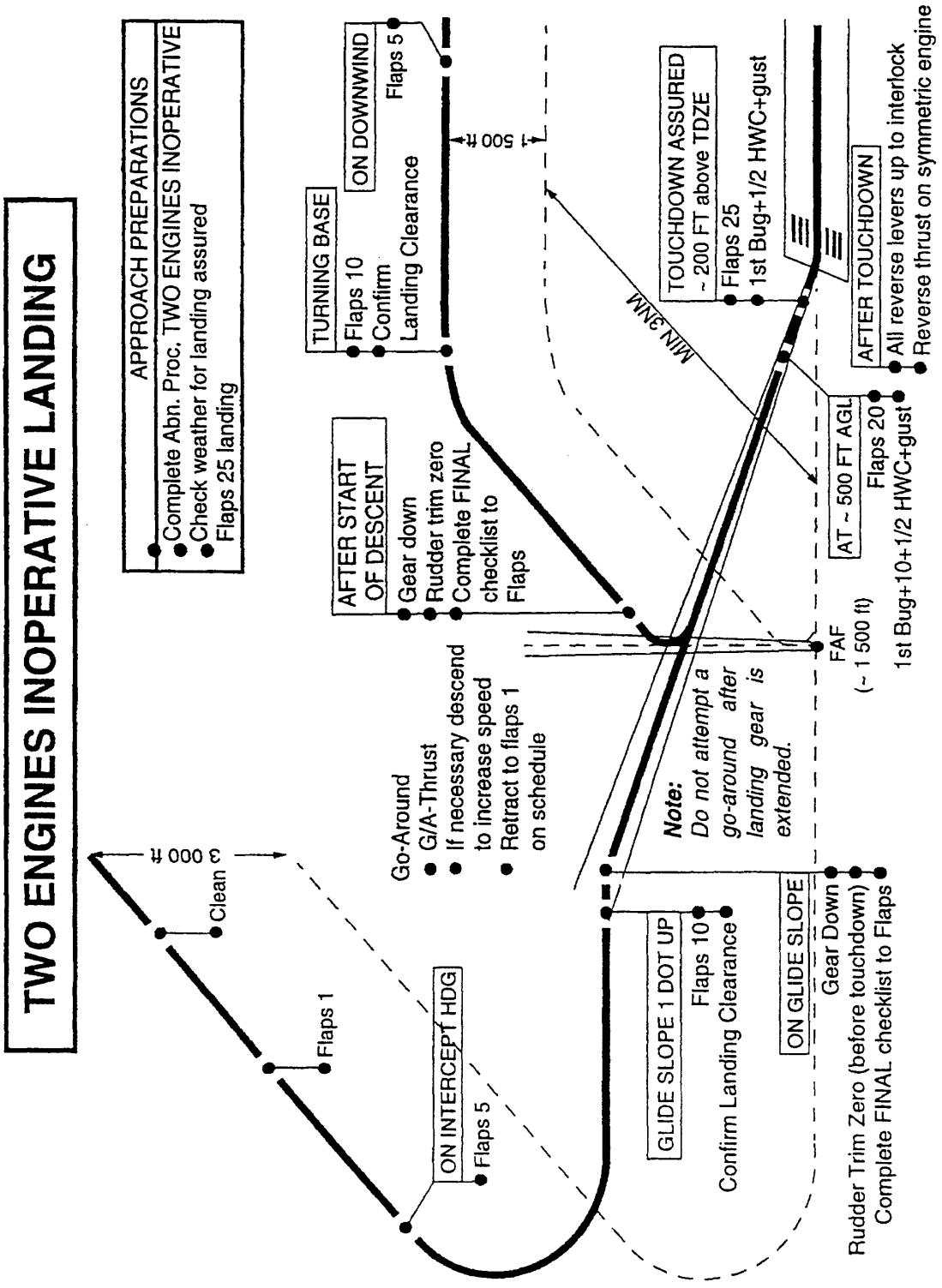


Note: *- Maximum bank angle 15° between 300 ft and 500 ft or with speeds below V2+10.*
- Limit bank angle 15° while retracting flaps 1 to up position until V2+100.

3.30.2. EMERGENCY DESCENT (CONT'D)



3.30.7. TWO ENGINES INOP LANDING (EXAMPLE FOR B747-200) (CONT'D)



RCTP
CHIANG KAI SHEK INTL

JEPPESEN
21 JUN 02 (21-1)

TAIPEI, TAIWAN
ILS Rwy 05

ATIS	TAIPEI Approach (R)			TAIPEI Tower	Ground
127.6	119.6	119.7	125.1	118.7	121.7

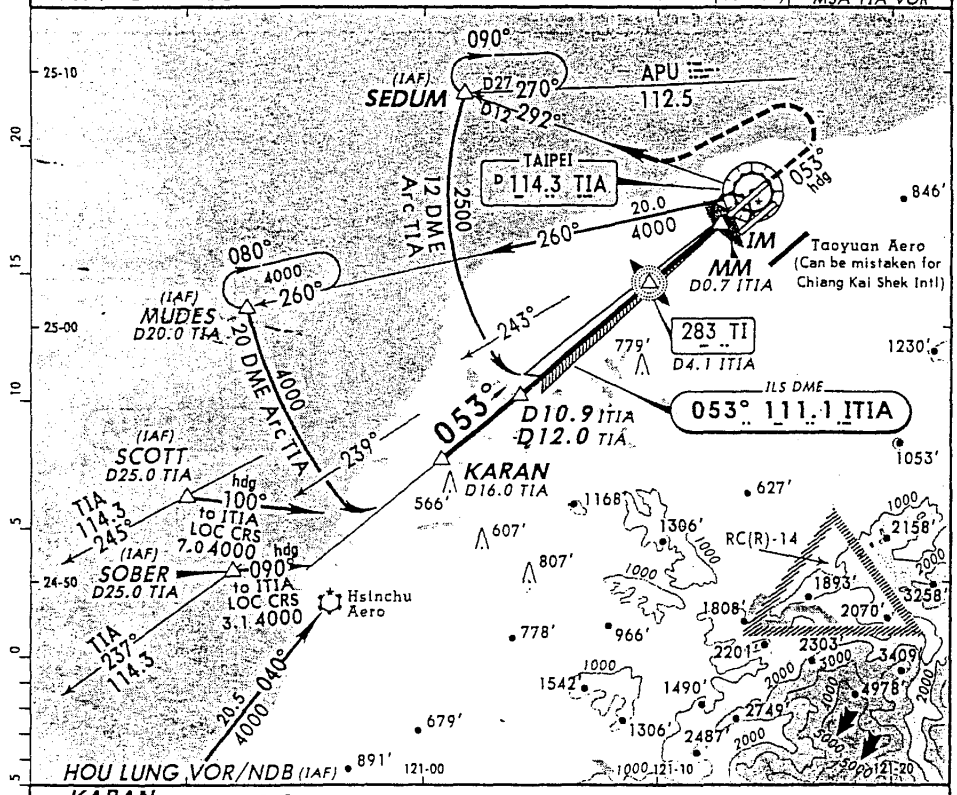
BRIEFING STRIP™

LOC ITIA	Final Apch Crs	GS LOM	ILS DA(H)	Apt Elev 107′ TDZE 73′
111.1	053°	1400′ (1327′)	273′ (200′)	

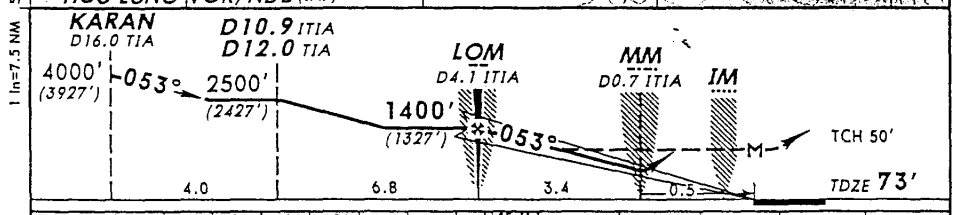
MISSED APCH: Climb on 053° heading until leaving 800′, then turn LEFT to intercept TIA VOR R-292 outbound, proceed to SEDUM, MAINTAIN 3000′ and hold.

Alt Set: hPa | TDZ Elev: 3 hPa | Trans level: FL 130 | Trans alt: 11000′ (10927′)

MSA TIA VOR
2200′ 200° 6200′ 310° 040° 8500′



1 In=7.5 NM



Gnd speed-Kts	70	90	100	120	140	160
GS 3.00°	377	484	538	646	753	861
LOM to MAP 3.9	3:21	2:36	2:20	1:57	1:40	1:28

ALSF-II PAPI | 800′ on hdg 053° | LT | TIA 114.3 R-292 | SEDUM

STRAIGHT-IN LANDING RWY 05

	ILS DA(H) 273′ (200′)			LOC (GS out) MDA(H) 520′ (447′)		Max Kts	MDA(H)
	FULL	TDZ/CL out	ALS out		ALS out		
A	600m	800m	1200m	1600m		90	660′ (553′)-3200m
B						120	
C						140	
D						165	

CIRCLE-TO-LAND
Not Authorized
Southeast of Rwy 06-24

CHANGES: APU VOR transition removed, contours added.

RCTP
CHIANG KAI SHEK INTL

JEPPESEN
21 JUN 02
23-1

TAIPEI, TAIWAN
VOR DME Rwy 05

ATIS	TAIPEI Approach (R)			TAIPEI Tower	Ground
127.6	119.6	119.7	125.1	118.7	121.7

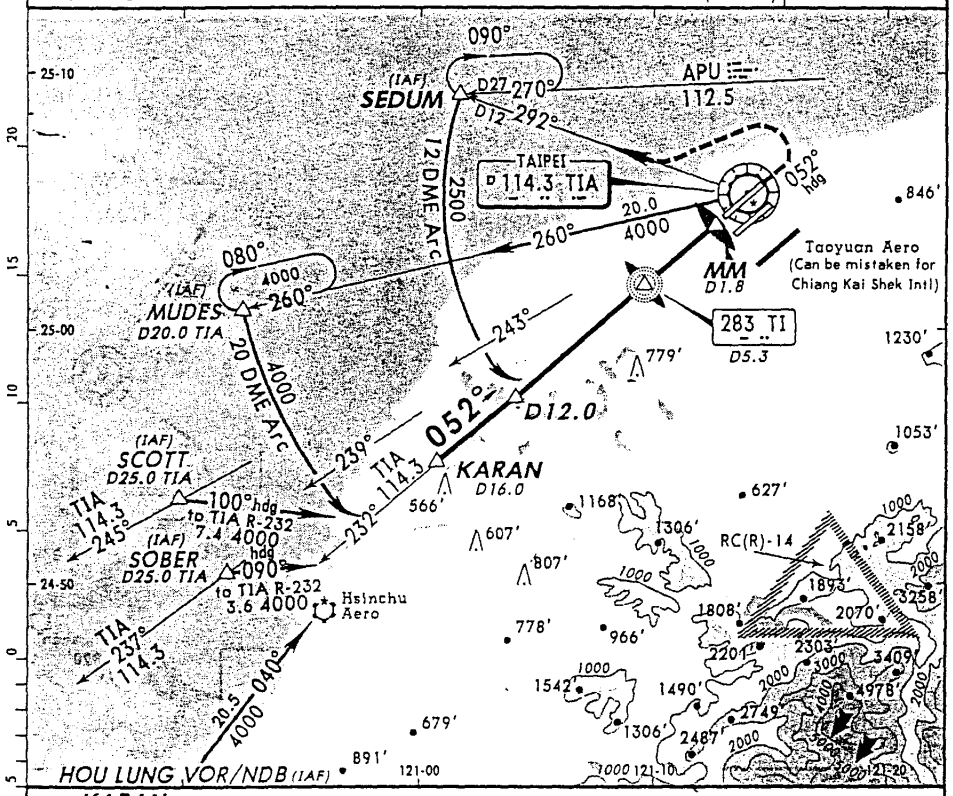
VOR TIA	Final Apch Crs	Minimum Alt LOM	MDA(H)	Apt Elev 107′ TDZE 73′
114.3	052°	1400′(1327′)	520′(447′)	

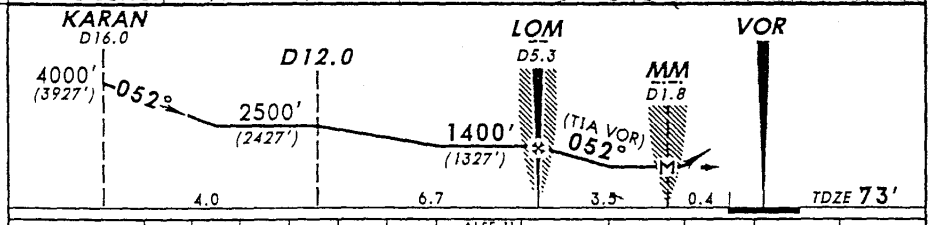
MISSED APCH: Climb on 052° heading until leaving 800′, then turn LEFT to intercept TIA VOR R-292 outbound, proceed to SEDUM, MAINTAIN 3000′ and hold.

2200′ 6200′ 8500′ 040° 220° 310°
MSA TIA VOR

Alt Set: hPa | TDZ Elev: 3 hPa | Trans level: FL 130 | Trans alt: 11000′(10927′)

BRIEFING STRIP™





1 In=7.5 NM

MAP at MM/D1.8		ALSF-II PAPI	800′ on 052° hdg	LT	TIA 114.3 R-292	SEDUM	

STRAIGHT-IN LANDING RWY 05			CIRCLE-TO-LAND Not Authorized Southeast of Rwy 06-24	
MDA(H) 520′(447′)			Max Kts	MDA(H)
	ALS out			
A	1600m	2000m	90	660′(553′)-3200m
B			120	
C			140	
D			165	

CHANGES: APU VOR transition removed, contours added.