

OPT KE/OZ 설정 비교 안내

운항기술팀

Contents

1. Introduction

2. Takeoff

3. Landing

※ 별첨 : Boeing Improved Climb 관련 안내 사항

1. Introduction

가. 이 가이드는 KE와 OZ의 OPT 화면 설정을 비교·안내하여,
OZ OPT에 KE 설정 적용 전 사전에 참고하도록 작성됨

2. Takeoff

가. TKO Dispatch

<OZ>

오전 8:50 10월 30일 목요일 25%

PERFORMANCE - TAKEOFF

PROFILE B777

ARPT Info Add Airport NOTAM MEL CDL Send Output

ARPT ARPT SEARCH OPTIMUM THR

RWY RUNWAYS ATM

INTER INTX LIST OPTIMUM FLAP

COND CONDITION AUTO A/C

WIND ENG & WING AUTO A-ICE

OAT

QNH

Takeoff Weight: LB

Calculate

<KE>

오전 8:45 10월 30일 목요일 73%

PERFORMANCE - TAKEOFF

PROFILE B777

ARPT Info Add Airport NOTAM MEL CDL Send Output

ARPT ARPT SEARCH THRUST RTG RTG

RWY RUNWAYS

INTX INTX LIST I/C CONFIG I/C

COND CONDITION ATM

WIND FLAP CONFIG FLAP

OAT A/C CONFIG A/C

QNH A/I CONFIG A/I

Takeoff Weight: LB

Calculate

KE/OZ 간 주요 차이점

1. 용어 표현

- INTER = INTX
- THR = RTG(RATING)
- A-ICE = A/I

2. 항목 추가

- I/C(IMPROVED CLIMB)

2. Takeoff

가. TKO Dispatch

RWY Condition

<OZ>

6-DRY
5-GOOD (ATM O) WET
5-GOOD (ATM X)
4-GOOD TO MEDIUM
3-MEDIUM
2-MEDIUM TO POOR
1-POOR

<KE>

DRY
WET
STNDNG WTR
SLUSH
CMPCT SNOW
DRY SNOW
WET SNOW
ICE
MEDIUM
POOR

- POM 9.2.8 참고

RTG(Takeoff Thrust Rating)

<OZ>

OPTIMUM
MAX
TO1
TO2

<KE>

OPTIMUM
TO
TO1
TO2
WINDSHEAR

- KE 'RTG' = OZ 'THR' / KE 'TO' = OZ 'MAX'
- 'Windshear 기능' 추가 → 다음 페이지 참조

※ Windshear Option 기능 (KE 승무원 대상 제공된 설명자료)

1. 배경

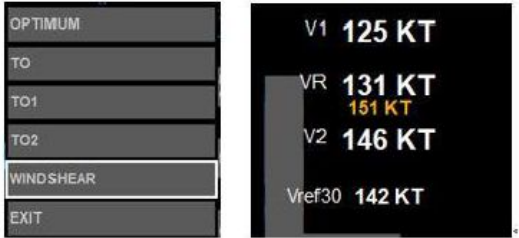
가. Windshear가 예상될 경우, High Thrust 사용이 권장되며, VR은 Performance Limited Gross Weight로 산출된 Windshear VR까지 증속을 고려해야 합니다. 단, Increased (Windshear) VR은 Actual Gross Weight의 VR+20 kts를 초과할 수 없습니다.

(POM - Adverse Weather Operations - WINDSHEAR)

나. OPT에 새로 추가될 “WINDSHEAR” rating을 선택하면 Increased (Windshear) VR을 산출할 수 있습니다.

2. Increased (Windshear) VR 산출

- 가. Select Takeoff thrust rating - WINDSHEAR
- 나. OPT displays the windshear guidance information
- 다. OPT calculates and displays “windshear” VR in amber (e.g. 151 KT)



* When WINDSHEAR and OPTIMUM flap is selected, OPT will display the recommended Windshear flap.

2. Takeoff

가. TKO Dispatch

I/C

<OZ>

없음

<KE>

YES

NO

Flap

<OZ>

OPTIMUM

5

15

<KE>

OPTIMUM

5

15

20

※ Improved Climb 관련 내용은 본 안내서 말미에 첨부된 **별첨** 참조

• 이륙 Flap 20 추가 선택 가능

2. Takeoff

가. TKO Dispatch

A/C

<OZ>

AUTO ✓
OFF
APU TO PACK

<KE>

AUTO
OFF
APU TO PACK

- OZ/KE 동일

A/I (Anti-Ice)

<OZ>

OFF
ENG ON
ENG ON & WING ON
ENG AUTO
ENG & WING AUTO ✓
ENG ON & WING AUTO

<KE>

OFF
ENGINE
ENG+WING

- ENGINE = ENG ON (AUTO 아님)
- ENG+WING = ENG ON & WING ON (AUTO 아님)
- ※ KE B777 OPT 설정 AUTO 없음

3. Landing

가. LDG Enroute

<OZ>

PERFORMANCE - LANDING - ENROUTE

PROFILE B777

ARPT Info Add Airport NOTAM MEL CDL Send Output

ARPT ARPT SEARCH FLAP CONFIG FLAP

RWY RUNWAYS ALL OPERATING REV

A/C AUTO A/C

COND CONDITION ALL BRKS

WIND AUTO SPOIL

OAT MANUAL LAND

QNH NON-NORM NNC

LANDING WT: LB VREF ADD: 5

Calculate

<KE>

PERFORMANCE - LANDING - ENROUTE

PROFILE B777

ARPT Info Add Airport NOTAM MEL CDL Send Output

ARPT ARPT SEARCH FLAP CONFIG FLAP

RWY RUNWAYS A/C CONFIG A/C

A/I CONFIG A/I

COND CONDITION REV CONFIG REV

WIND M/A CONFIG M/A

OAT BRKS CONFIG BRKS

QNH NON-NORM NNC

LANDING WT: LB VREF ADD: 5

Calculate

KE OPT 설정

- Ground Spoilers 항목 없음
: 선택없이 AUTO가 기본
설정됨
- Anti-Icing 항목 추가

3. Landing

가. LDG Enroute

RWY Condition

<OZ>

6-DRY
5-GOOD
4-GOOD TO MEDIUM
3-MEDIUM
2-MEDIUM TO POOR
1-POOR

<KE>

DRY
GOOD
GOOD TO MEDIUM
MEDIUM
MEDIUM TO POOR
POOR

- OZ/KE 동일

Flap

<OZ>

25
30

<KE>

25
30

- OZ/KE 동일

3. Landing

가. LDG Enroute

REV(Thrust Reverse Credit)

<OZ>

ALL OPERATING	✓
ONE INOP	
NO CREDIT	

<KE>

ALL OP
ONE INOP
ALL INOP

- OZ/KE 동일

A/C

<OZ>

AUTO	✓
OFF	

<KE>

AUTO
OFF

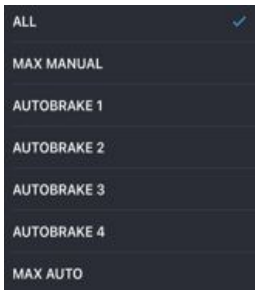
- OZ/KE 동일

3. Landing

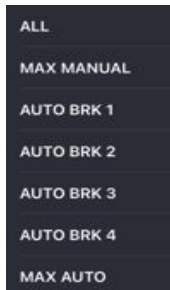
가. LDG Enroute

BRKS(Auto Brakes Setting)

<OZ>



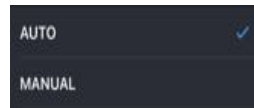
<KE>



- OZ/KE 동일

SPOIL(Ground Spoilers)

<OZ>



<KE>

없음

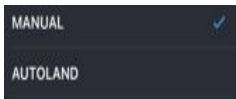
- KE는 Spoiler 선택할 수 없으며, AUTO를 Default 값으로 계산함

3. Landing

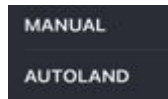
가. LDG Enroute

M/A(Landing Category Choice)

<OZ>



<KE>



- OZ/KE 동일

A/I

<OZ>

없음

<KE>



- KE는 Anti-Icing 항목 있음

※ 별첨

Boeing Improved Climb 관련 안내 사항

운항기술팀

1. Improved Climb 개념

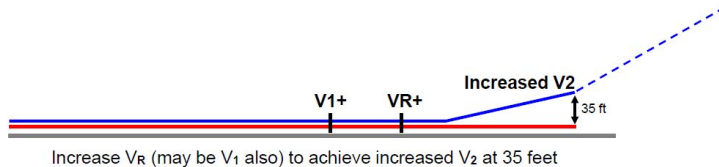
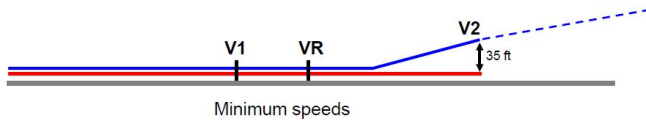
Takeoff and Initial Climb



777 Flight Crew Training Manual

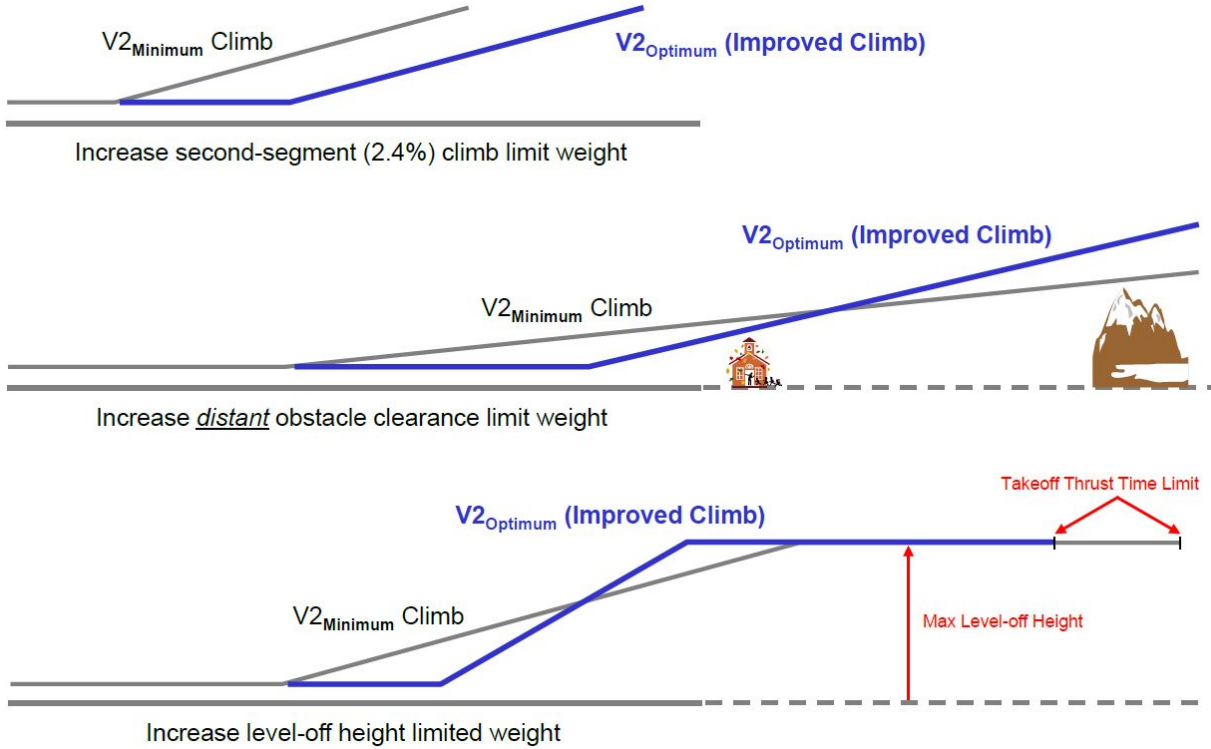
Improved Climb Performance Takeoff

When not field length limited, an increased climb limit weight is achieved by using the excess field length to accelerate to higher takeoff and climb speeds. This improves the climb gradient, thereby raising the climb and obstacle limited weights. V_1 , V_R and V_2 are increased and must be obtained from dispatch or by airport analysis.



- 충분한 활주로 길이를 추가 사용 Takeoff Speed 확보
- 추가 Climb Gradient 및 Weight 증가 효과

2. Improved Climb vs. Standard Climb



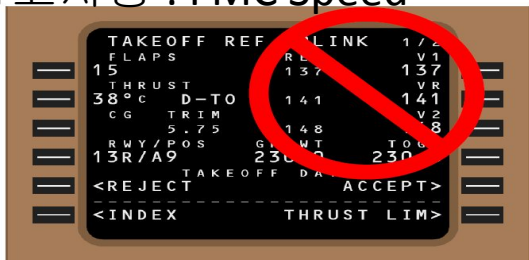
3. Improved Climb Benefit

Improved Climb is using an optimized (increased) V_2 to increase the airplane's total climb capability (Excess Thrust), which can be used to **increase**:

- Maximum dispatch takeoff weight
- Climb gradient
- Flight path angle
- Rate of climb
- Acceleration
- Takeoff thrust reduction capability
- Liftoff tail clearance
- Maneuver (turn) capability
- Noise abatement

4. FMC Speed 참고사항 및 Improved Climb Logic 안내

▣ 참고사항 : FMC Speed



- FMC Speed는 Standard 방식으로 산출되어, Improved Climb 적용시 결과값 상이함

▣ I.C (Improved Climb) “YES” 선택시 (아래 Case 1, 2 에 따라 자동 으로 Improved Climb 적용여부 결정됨)

- **Case 1** : 이륙성능이 Climb 이나 Obstacle 에 제한 “**AND**” 활주로 길이가 충분할 경우;
 - ▶ **Improved Climb Logic**으로 계산됨 (Standard 대비 높은 V Speed)
- **Case 2** : 이륙성능이 Climb 이나 Obstacle 에 제한되지 않음 “**OR**” 활주로 길이가 충분하지 않을 경우;
 - ▶ Improved Climb Logic으로 계산되지 않고, **기존 Standard Logic**으로 계산됨 (I.C 옵션을 “YES”로 선택하더라도 Standard Logic으로 계산됨)

5. I.C 의 YES 와 NO 선택에 따른 결과

▣ I.C YES 혹은 NO 선택시, 성능계산 결과

- YES 선택시 : 이륙조건 및 환경에 따라 OPT가 자동으로 Improved Climb Logic 혹은 Standard Logic을 선택하여 계산 결과값을 도출함
- NO 선택시 : 항상 STANDARD Option으로만 계산하며, 기존과 동일

כך
עושה .