

Checklist MS FSX incl. Level-D 767-300ER

IVAO:

Member-#: _____

Website-PW: _____

Network-PW: _____

Attention:

LVL D 767 Options Menu

Standard settings, IRS Alignment on fast mode (2min)

Parking Position / Preparation:

- Load & Fuel (at Configurator) Set (note CG trim setting from lead sheet!!!)
 - Dep-Metar Check & note
 - Flighplan Create a flightplan (in FSBuild and save at LVL D dir.)
 - FSX Start & load/create 747-flight
 - Dark & Cold Load D&C panel setting
 - Load & Fuel (at FSX) Check (or reset)
 - Parkingbreak Set
 - Dark & Cold (at Configurator) Load (if needed)
 - IVAP-Connection Activate
 - Door(s) Open
 - Gangway Enable (if available) (Ctrl + J)
- OVHP only:
- Battery On
 - Standby Power Auto
 - APU GEN switch Push
 - Bus Tie switches Auto
 - Utility Bus switches On
 - GENERATOR CONTROL switches Pushed in
 - Panel lights
 - PANEL/FLOOD On (if needed)
 - LT OVRD (Dome) On (if needed)
 - Ext Pwr Request (from ground crew)
---wait till Ext Pwr available---
 - Ext Pwr switch On
 - APU Start → On
---wait till APU Run light illuminates---
 - Ext Pwr Off / Disconnect (call ground crew)
 - POS lights On
 - IRS Alignment (OVHP & FMC):
 - IRS switches (1-3) Off
 - IRS switches (1-3) Nav
---wait till ON DC light flashes and then ALIGN light is illuminated---
 - DSPL SEL knob PPOS
 - SYS DSPL knob IRU L, C or R
 - → FMC:
 - (Index page Go to...)
 - Ident page 1L
 - Pos Init page 6R
 - Look-up Coordinates Shift + z (/or enter 4-letter airport code & press 2L)

- Coordinates to IRS Enter + 5R (/or copy airport position to IRS; 2R → 5R)
 - Yaw Dampers On (both)
 - EEC switches On (both)
 - Hydraulic panel:
 - Primary engine pumps On
 - Primary electric switches Off
 - Demand pump switches Off
 - Overhead Cautions Check (no abnormal warnings)
 - HF radio Off
 - Electrical panel:
 - All switches Pushed in
 - Cockpit Voice Recorder btn. Test
 - Emergency Light switch Armed
 - Passenger Oxygen switch Blank
 - Ram Air Turbine switch Blank
 - Ignition switch 1: odd days / 2: even days / both: cold weather
 - Engine Start selectors Auto
 - Fuel Jettison Panel:
 - All switches Blank
 - Selector Off
 - Fuel Panel:
 - All fuel pumps Off
 - Crossfeed Off
 - Fuel quantity and balance Check
 - Engine & Wing anti-ice Off (on under 10°C TAT)
 - Cargo heat Off
 - Window heat On
 - Passenger Signs:
 - No smoking On
 - Seatbelts Auto
 - Cabin Alt. Control:
 - Mode Select Auto1: odd days / Auto2: even days
 - Auto Rate Detent position (black marking)
 - Equipment Cooling Auto
 - Temp. Control (Cabin & Flt Dk) Auto (or as required)
 - Trim Air On
 - Recirculation Fan switches On
 - Packs:
 - APU in use Both Packs Auto
 - External Air Both Packs Off
 - Isolation switches L & R On
 - Isolation C On & guarded
 - Engine Bleed switches On
 - APU should now run at least 1min---
 - APU Bleed On
- End OVHP only
- FMC
 - Clear messages → CLR
 - Route Page → RTE
 - Enter company route [read: enter flightplan-name (created in FSBuild)] → 3R
 - Enter flight number (example DHL458 => Lufthansa Flt. 458) → 2R

- Activate → 6R → Exec
- DEP/ARR page → DEP/ARR btn.
- Set SID (standard departure route) (if required)
 - o 1. Choose active Rwy
 - o 2. Choose SID
- Performance initialization page → PERF INIT
- Enter ZFW (in 1000 LBS) → 3L
 - o Zero Fuel Weight = Operating Empty Weight (OEW=197.000LBS) + Load
 - o Load = Weight of passengers and cargo (in LBS)
 - o Maximum ZFW = 288.000 LBS
- GW (Gross Weight) should now auto-fill in L1---
- Enter Reserve Fuel (in 1000 LBS) → 4L
- Enter FL / altitude → 1R (max FL for 767 = FL430)
- Enter Cost Index (0 to 9999) (80 eco cruise, 100 normal cruise) → 2R
- Enter step climb value (2000 for RVSM, 4000 for ICAO standard) → 5R
- Takeoff Reference page (1 / 2) → 6R
- Modify Thrust settings if needed
- Takeoff Reference page (2 / 2) → Next Page
- Enter temperature (xx = °C) → 5R
- Enter winds (xxx/xx = heading/knots) → 3L
- Enter rwy condition (/D or /W = dry or wet) → 5L
- Takeoff Reference page (1 / 2) Prev Page
- Enter flaps setting (standard 5) → 1L
- Enter CG trim setting (from load sheet / Center of Gravity / example 26) → 3L
- V1, VR and V2 should be auto-filled now (note V2)---
- PRE-FLT column should say COMPLETE now---
- Legs page → LEGS
- Delete any discontinuities
- EHSI Control panel route check (optional):
 - o EHSI control knob PLAN
 - o Range knob 40nm (or as required)
 - o FMC Legs page LEGS
 - o FMC stepwise forward STEP → 6R
 - when finished checking route---
 - o EHSI control knob MAP
 - o FMC Init Ref page INIT REF
- IVAP-flightplan Read from FMC or FSBuild & note/enter in IVAP FP
- MACH at flightplan Enter in IVAP FP (eco cruise Mach 0.80)
- Departure Time enter (UTC to CET → CET -2 (winter -1)
- EFIS-Range (MP) 40nm (or as required)
- Altimeter Set to actual atmospheric pressure (B)

- Nav1 Radio Auto
- F/D (AP) On
- A/T (AP) Off
- V2 (AP) Enter V2 speed to IAS/MACH indicator of AP
- HDG (AP) Set rwy heading
- Altitude (AP) Set first altitude
- AP Disengage Bar Up
- Nav2 Radio Auto (F/O panel)
- continue when IRS alignment finished---
- Instrument Source selectors Norm

• Airspeed	Set in analogue gauge (auto: click lower left corner)
• RDMI	Set pointer controls & verify headings
• EADI	Check
• EHSI	Check (range & display mode as required)
• ASA	Blank
• Altimeter	Set
• VSI	Check indicates 0
• Clock	Set
• Standby Instruments	Set
• Warning Annunciators	Check all off
• Standby Engine gauges	Auto
• Autobreak	Off
• EICAS	Check for messages
• EICAS	Engines page
• Thrust Rating Panel:	
○ Set T/O	T/O
○ Set derate setting	Non, Clb1 or Clb2
• Flap indicator	Check 0
• Alternate flap selector	Norm
• Landing gear	Down & Green
• Alternate gear switch	Guarded off
• GND PROX Ovrdr switches	Off (F/O panel)
→ Pedestal only:	
• Parking break	Check set
• Stab Trim Cutout switches	Norm
• Spoilers	Down
• Throttles	Closed
• Fuel Control switches	Cut off
• Flaps	Up
• Engine & APU Fire Panel	Normal (no handle pulled / turned)
• Cargo Fire Panel	Normal
• Squawk	Set
• Squawk	Auto
• Comm Panel	Set
• Audio Panel	Set (active ATC or Unicom 122.8)
• ILS frequency	PARK or Set (or auto-set by FMC)
• Aileron & Rudder Trim	Set 0
• TCAS switch	TA/RA
→ End Pedestal only	
• IFR-clrc	Request (when ATC active)
• FP-correction	Correct (if required / requested)
• IFR-clrc-data	Note (Squawk, First-Altitude, QNH, SID → Readback)

Engine s/u & Pushback:

• Cargo Heat switches	On
• Passenger Signs	On
• Inform Crew	Press ALERT button
• Gangway	disable (strg + j)
• EICAS messages	Cancel
• Primary Electric pumps	On

- Demand Pumps Auto
- Fuel pumps On (all tanks containing fuel)
- Red Anti-collision lights On
- Packs Off
- Stabilizer Trim Set (as indicated on load sheet)
- EICAS Status page
- Flight Controls Check
- EICAS Engine page
- Doors closed

- Engine s/u & Pushback p/b clrc request
- Parking break Off
- Pushback
 - Start via IVAP
 - or
 - Start via GND CALL (p/b, start & interphone disconnect)
- Start Selector R GND
---wait till N2 reaches 18% on lower EICAS Engine page---
- Fuel Control switch R Run
---At 50% N2 Start Selector should go back to Auto---
- Start Selector L GND
---wait till N2 reaches 18% on lower EICAS Engine page---
- Fuel Control switch L Run
---At 50% N2 Start Selector should go back to Auto---
- Generator lights Check off
- APU Off
- (Engine anti-ice On under 10°C)
- Isolation switches Closed
- Packs Auto
- Autobreak selector RTO
- EICAS Check for abnormal msgs.
- (Ground equipment Clear)

- Taxi Lights On
- Runway turn-off lights On
- Nose wheel landing lights On
- Pushback Finish

Taxi:

- Taxi-Clrc Request
- Taxiways Note if needed
- Ground-Guidance Request if needed
- FMC (optional 1 / 2):
 - Takeoff Ref. page (1 / 2) → INIT REF
 - Set TOGW (TOGW = GR WT – consumed taxi fuel) → 4R
 - “T/O Speeds Deleted” message will appear → CLR (clear message)
 - New T/O Speeds will be auto-filled
- Airspeed (optional 2 / 2) Set analogue airspeed gauge (click left lower corner)
- Flaps Select (as filled in FMC / standard 20°)
- Notify Crew Press ALERT button

h/p:

- Hand-off GND to TWR Change frequency
- l/u & t/o clrc Request (rdy for dep h/p xx)
- Landing lights On (all now)
- Anti-collision lights On (all now)
- IVAP-Transponder ein
- Postion & hold Taxi & stop on rwy

Ready to Takeoff:

- Parkingbreak Activate
- Autothrottle (AP) On
- AP settings Check (FD on, HDG, IAS, ALT)
- N1 button (AP) On
- Thrust Levers Forward (fully fwd position)
- Parkingbreak Release
- Yoke (till 80 knots) Press forward
- V1 Abort of start not possible anymore
- VR Lift nose up
- V2 Lift-off

Takeoff:

- Trim settings Adjust (when needed)
- Gear Up (at positive climb rate >500ft)
 - above 400ft AGL---
- HDG SEL On
 - above 1000ft AGL---
- FL CH On
 - above 1500ft AGL---
- Autopilot On (1 of 3) (normal C)
- Flaps Raise
- Landing gear lever Off position
- Airborne Publish airborne when on Unicom (no ATC)
- **Starttime** **Note (if needed)**
- FMC:
 - Legs page → LEGS
 - Copy first waypoint → 1L or 2L
 - Set as dct waypoint → 1L
 - Exec light illuminates, press → EXEC
- LNAV (AP) On
- VNAV (AP) On

Climb:

- Landing-/Taxi Lights Off
 - to final FL / next FL clrc ---
- AP altitude (& speed) Change (FL CH when VNAV not enabled)
 - do the following things if required---
- Hand-off to APP/CTR Change frequency
- Engine & Wing anti-ice On (under 10°C TAT)
- Altimeter Readjust (above 18000ft)

Cruise:

- Radio /ATC contact Maintain (on UniCom watch TCAS)
- Autopilot / FMC Check permanently
 - FMC Check PROGRESS page for fuel consumption
- when center fuel tank empty---
- Center fuel pump Off

Descent & Approach:

- Descent preparations Begin 30nm before T/D (Top of Descent)
- Airport-/Meta-Information Retrieve
- Autobreaks Set
- FMC:
 - Arrivals page → DEP/ARR
 - Set active rwy (and approach/STAR)
 - Approach Ref page → INIT REF button
 - Copy flap and corresponding Vref setting → 1R, 2R or 3R
 - Paste for approach → 4R
 - Note approach speed (see 4R)
 - NAV Radio page → NAV/RAD
 - Note rwy heading (see 4L)
 - Close FMC
- Notify crew ALERT button
- Start of Descent (4 possibilities):
 - VNAV:
 - Alt (AP) Set (before reaching T/D !)
 - VNAV Will descent automatically at T/D
 - DES NOW:
 - Alt (AP) Set (before reaching T/D !)
 - FMC ACT ECON CRZ page → VNAV
 - Page 2 Next Page
 - Des Now 6R
 - Execute EXEC
 - FL CH:
 - Alt (AP) Set
 - FL CH (AP) On
 - Speed (AP) Set to IAS, set Speed
 - Change Cruise Alt:
 - FMC ACT ECON CRZ page → VNAV
 - Alt (FMC) Enter in Scratchpad
 - Cruise Alt (FMC) Set → 1L
 - Execute EXEC
- Speedbrakes Flaps to 1 (when needed/too fast)
- Altimeter Readjust (under 18000ft)
- Flight Instruments & Radios Set
- Airspeed bugs Set analogue gauge (click left lower corner)
- Hand-off CTR to APP Change frequency
- Landing lights On
- Taxi light On

Final approach & Landing (Autoland):

- Flaps Lower (if F/O on, as announced)

- Gear Down (under 270kt / at least at flap 20)
- Speedbrake Arm
- ILS captured Announce (on Unicom state final app)
- LOC (AP) On (to follow ILS localizer)
- APP (AP) On (to follow ILS glideslope path)
---check, when APP pressed, LOC, VNAV off, 3 AP on---
- Hand-off APP to TWR Change frequency
- Landing clrc Request (or state intention on Unicom)
---Touchdown---
- Throttles Idle
- Thrust reversers Engage (if needed)
- Thrust reversers Disengage (under 80kt) (Throttles idle)
- Autopilot (AP) Disengage
- A/T (AP) Off
- F/D (AP) Off
- Runway Vacate („rwy vacated“)

Final approach & Landing (w/o Autoland):

- Flaps Lower (continue as indicated on PFD)
- Gear Down (under 270kt / at flap 20)
- Speedbrake Arm
- ILS captured Announce (on Unicom state final app)
---check flaps to set degree and gear down---
- Hand-off APP to TWR Change frequency
- Autopilot (AP) Disengage (Disengage bar down)
- A/T (AP) Off
- F/D (AP) Off
- Trim settings Adjust (when needed)
- Landing clrc Request (or state intention on Unicom)
---Touchdown---
- Throttles Idle
- Thrust reversers Engage (if needed)
- Thrust reversers Disengage (under 80kt) (Throttles idle)
- Runway Vacate („rwy vacated“)

Taxi:

- Transponder Stdbby
- Hand-off TWR to GND Change frequency
- Taxiways Note and follow (with active ATC)
- (Ground-Guidance Request if required)
- Flaps Set 0
- Stab Trim 4 units
- Speedbrake Down (if engaged)
- Autobrakes Off
- Landing lights Off (Nose Landing lights stay on)
- White anti-collision lights Off
- Landing time Note (if needed)
- APU Start

Parking Position:

- Parking brake Set

- ATC contact End (state “on blocks, thx for service, bye”)
- Engine anti-ice Off
- Isolation switches On
- Ext Pwr Request from ground crew (if needed)
- Fuel control switches Cut off
- Seat Belts Off
- Primary Electric pumps Off
- Demand pumps Off
- Primary Engine pumps Stay on
- Fuel pump switches Off
- Red anti-collision lights Off
- Door s Open (shift + e)
- Gangway Enable (strg + j)

---Aircraft ready for turn-around /next flight---

---Continue if Dark&Cold needed---

- OVHP operations (from pages 1 & 2) Work backwards(everything to off/stdby)
- IRS selectors Off
- Emergency light Off
- Window heat Off
- Cargo heat Off
- Packs Off
- TCAS Stdbby
- If still on APU (no Ground power):
 - APU Off
 - APU Bleed Off
- Ground power Off
- External lights Off (all)
- Internal lights Off (all)
- Bus Tie Switches Off
- Stdbby power selector Off
- Battery Off

Checklist for Level-D 767 with Microsoft Flight Simulator.

Created by: Carsten Rau (June 2008 / v5)
 I used to create: Level-D 767 Manual, my (PMDG) 747 checklist
 Only use with: Microsoft Flight Simulator / IVAO (Intl. Virtual Aviation Organization)
 Visit: <http://www.iva0.aero>
<http://www.carstenrau.de>
<http://www.leveldsim.com> - Level-D 767
<http://www.precisionmanuals.com> - PMDG 747
<http://www.wilcopub.com> - Wilco 737 PIC / Airbus Series 1 & 2

Attachments

for
Checklist MS FSX incl. Level-D 767-300ER
by Carsten Rau

FUEL TABLE (Rule Of Thumb)		
NM	KG	LBS
250	5875	12925
500	8750	19250
750	11625	25575
1000	14500	31900
1250	17375	38225
1500	20250	44550
1750	23125	50875
2000	26000	57200
2250	28875	63525
2500	31750	69850
2750	34625	76175
3000	37500	82500
3250	40375	88825
3500	43250	95150
3750	46125	101475
4000	49000	107800
4250	51875	114125
4500	54750	120450
4750	57625	126775
5000	60500	133100
5250	63375	139425
5500	66250	145750
5750	69125	152075
6000	72000	158400

← Flight Plan Fuel only!

	Operating Empty Weight	197.000	LBS
+	Payload	XXX.XXX	LBS
=	Zero Fuel Weight	XXX.XXX	LBS
+	Minimum Landing Fuel	012.000	LBS
+	Alternate Fuel (200nm dist.)	006.000	LBS
+	Contingency Fuel	012.000	LBS
+	Flight Plan Fuel	XXX.XXX	LBS
=	Planned Takeoff Weight	XXX.XXX	LBS

→ Flight Plan Fuel + 30.000 LBS = Total Fuel

→ Total fuel = Enough fuel for route, 1h contingency (holding & taxi), problematic winds, alternate fuel for 200nm and a minimum landing fuel (1h). Modify alternate value as needed.

→ Load wing tanks first, with same amount of fuel; wing tanks full → center tank.

Max Weights:

Maximum Takeoff Weight	408.000	LBS
Maximum Landing Weight	310.000	LBS
Maximum Zero Fuel Weight	196.000	LBS

Trim examples, empty 767-300ER:

45.000	LBS	→	22%/2,2
100.000	LBS	→	26%/2,7
140.000	LBS	→	21%/4,5
160.000	LBS	→	19%/5,2

The above graphic is available for free at <http://www.leveldsim.com> (767 manual)

Reduced & Conventional Vertical Separation Minima

CVSM & RVSM (for West-East configuration)

<u>West 180° to 359°</u>	<u>East / 000° to 179°</u>	<u>West / 180° to 359°</u>	<u>East / 000° to 179°</u>
FL 040	FL 050	FL 040	FL 050
FL 060	FL 070	FL 060	FL 070
FL 080	FL 090	FL 080	FL 090
FL 100	FL 110	FL 100	FL 110
FL 120	FL 130	FL 120	FL 130
FL 140	FL 150	FL 140	FL 150
FL 160	FL 170	FL 160	FL 170
FL 180	FL 190	FL 180	FL 190
FL 200	FL 210	FL 200	FL 210
FL 220	FL 230	FL 220	FL 230
FL 240	FL 250	FL 240	FL 250
FL 260	FL 270	FL 260	FL 270
FL 280	FL 290	FL 280	FL 290
<u>CVSM</u>	<u>CVSM</u>	<u>RVSM</u>	<u>RVSM</u>
FL 310		FL 300	FL 310
	FL 330	FL 320	FL 330
FL 350		FL 340	FL 350
	FL 370	FL 360	FL 370
FL 390		FL 380	FL 390
	FL 410	FL 400	FL 410
<u>CVSM</u>	<u>CVSM</u>	<u>CVSM</u>	<u>CVSM</u>
FL 430	FL 450	FL 430	FL 450
FL 470	FL 490	FL 470	FL 490

RVSM Regions & Countries:

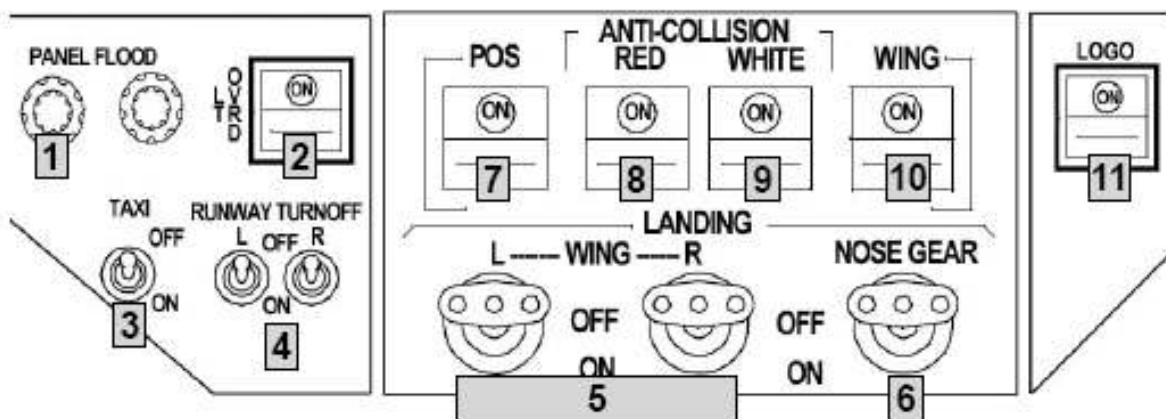
North & South Atlantic Airspace

All European Countries

Beside RVSM/CVSM some countries have a North-South configuration:

France, Italy, Portugal, Spain & New Zealand

Lights panel as printed in freely the available 767 manual at <http://www.leveldsim.com>:



Recommendation: Print pages 7 to 12, 27 and 184 from the 767 manual.