Checklist + Flow-Procedure
Boeing 737 NG
-600/-700/-800/-900

DO NOT USE FOR FLIGHT

Boeing 737 NG

Checklist / Flow-Procedure
including basic Flight-Planning-Charts

for PMDG 737NGX
with Microsoft Flight Simulator X

created by Carsten Rau
www.CarstenRau.de

Version 6.0
To start with a dark & cold cockpit, you need to set the aircraft to dark & cold in the FMC and activate dark and cold for every startup.

**Parking Position:**
- **FSX**
  - start & create 737 flight
- Parkingbreak
  - Check Set
- IVAP-Connection
  - Activate
- Dep-Metar
  - Check & note
- Arr-Metar
  - Check & note
- Flightplan
  - Create (e.g. in FSBuild)
- Door 1
  - Open (Shift + E / via FMC)
- Gangway
  - Enable (if available) (Strg + J)
- Battery (OHP)
  - On & Covered
- DC-Voltemeter-Selector (left)
  - BAT
- DC-Voltemeter
  - Check ≈ 28V
- AC-Voltemeter-Selector (right)
  - STBY PWR
- Master Caution
  - Disengage
- Hyd. Pumps
  - All Off
- Fuel Pumps
  - All Off
- Interior Lights:
  - Panel-Light (Pedestal)
    - as required
  - Flood-Light (Pedestal)
    - as required
  - Lights (Main Panel)
    - as required
  - Background (Main Panel)
    - as required
  - AFDS Flood (Main Panel)
    - as required
  - Panel Light (Ovhd Panel)
    - as required
  - Circuit Brk. (Ovhd Panel)
    - as required
- Cabin / Utility Power
  - Check On
- IFE Pass Seat Power
  - Check on

### Connect Ground Power ###
### If no Ground Power available bring forward APU-start ###

**FMC (Main Menu):**
- Clear any messages
- FS Actions
- Ground Connections
- Wheel Chocks
- Ground Power
- Air Start Unit
- Air Cond. Unit
- Pitot Covers
- Return

- Ground Power (GRD PWR)
- AC-Voltemeter-Selector (right)
- Emergency-Lights
- External Lights
  - Position
  - Wheel Well
  - Logo
  - Wing
- Master Caution
- Seat-Belt

### Continue here for next flight (cockpit not dark+cold) ###

- FMC (FS Action Menu):
  - Clear any messages
  - Payload Menu
  - Set Payload
  - Return
  - Fuel Menu
  - Set Fuel
  - Enter Fuel in LBS
  - Return
  - Return to Main Menu

- Recirc. Fan Left
- Recirc. Fan Right

---

PMDG 737NGX  Created by C. Rau (www.CarstenRau.de)
Checklist + Flow-Procedure
Boeing 737 NG
-600/-700/-800/-900

- Pack Left Auto
- Pack Right Auto
- Autopilots Check Off
- Speed Brake Check Down / Off
- Cockpit Voice Recorder Hold for 5 sec
  ### Wait for green light to appear ###
- Engine Fire Test Button Hold Left
  ### Verify FAULT and APU DET INOP light illuminated ###
- Engine Fire Test Button Hold Right
  ### Verify test lights illuminated and bell ringing ###
- IRS
  - DSPL SEL Test
  - DSPL SEL HDG/STS
  - IRS Selector Left ALIGN
  - IRS Selector Right ALIGN
- FMC
  - FMC Menu L1
  - Clear any messages CLR
  - Initiate (Pos Init Menu) INIT REF
  - Enter Airport Dep Code Enter + 2L (not required)
  - Enter Gate Enter + 3L (not required)
  - Go to Page 2 NEXT PAGE
  - Copy GPS L Position L4
  - Go to Page 1 PREV PAGE
  - Paste GPS Position R4
- IRS
  - IRS Selector Left NAV
  - IRS Selector Right NAV
- FMC
  - Route page R6
  - Enter Airport Dep Code L1
  - Enter Airport Arrival Code R1
- Enter Flight No. R2
- Go to Page 2 NEXT PAGE
- Enter first waypoint after SID R1
- Enter all airways Lx
  ### Repeat until all airways entered ###
- Enter last waypoint before STAR Rx (x = line of last airway)
- Activate R6
- Execute EXEC
  ### Enter alternative destination if desired via L6 ###
- Perf Init Page R6
- Auto-Enter ZFW 2x L3
- Enter Cost Index Enter + L5 (e.g. 80)
- Enter Cruise Flightlevel Enter + R1
- Enter Transition Alt Enter + R5
- Enter Average Cruise Wind Enter + R2 (not required)
- Enter Reserves Enter + L4
- Execute EXEC
- N1 Limit Page R6
- Set t/o power as desired
- Takeoff Page R6

- Fuel Pump Aft No.1 On
  ### Check Low Pressure Light extinguished ###
- APU START
- EFIS-Mode MAP
- EFIS-Range 20 nm (or as required)
  ### Wait until APU Gens available ###
- APU Gen Switch Left On
- APU Gen Switch Right On
  ### Wait until APU GEN OFF BUS + SOURCE OFF lights extinguished ###
- APU Bleed Switch Check On
- Engine Bleed Switches Check On
- AC-Voltemeter-Selector (right) APU
• FMC
  o Main Menu Page MENU
  o FS Actions Menu R5
  o Ground Connections L3
  o Disconnect Ground Pwr L2
  o Disconnect Air Start Unit L3
  o Disconnect Air Cond. Unit L4
• Master Caution
  Disengage
• Com1-Frequenz
  Set (active ATC or 122.8 UniCom)
• IVAP-flightplan
  Copy route from FSBuild
• Departure Time
  Enter in UTC time (CET-2/CEWT-1)
• IVAP-flightplan
  Fill out and send
• IFR-Clearance
  o Clearance Request
  o First Altitude Note
  o Departure Route (SID) Note
  o Squawk Code Note
• Squawk
  Set
• Altimeter
  Set to current atm. pressure (B)
• First Altitude
  Set A/P-Alt.
• FMC
  o DEP/ARR Page DEP /Alt.
  o Departure Page L1
  o Set dep. runway Rx
  o Set SID Lx
  o Set Transition Lx
  o Execute EXEC
  o Route Page RTE

### Check no discontinuities, delete any of them ###
  o Takeoff Page R6
  o Enter t/o flaps Enter + L1
  o Auto-Enter V-Speeds R1, R2, R3
Checklist + Flow-Procedure
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- Auto-Enter CG
- Go to Page 2
- Enter t/o winds
- Select Runway condition

- Set Elevator trim
- Gangway
- Door 1
- Doors
- Gen Bus Transfer Switch
- Fuel Pumps
- Hydraulic Pumps
- Anticollision Lights
- Pack Left
- Pack Right
- Thrust
- Fuel Control Switches

Engine s/u & Pushback:
- Engine s/u & p/b clearance
- FMC
  - Main Menu Page
  - FS Actions Menu
  - Ground Connections
  - Wheel Chocks Off
- Pushback

- Duct Pressure Gauge
- Ignition Selector
- Left Engine Start Switch
- Left Engine Fuel Control Switch

---

2x L3 (note trim data)
NEXT PAGE
Enter + L1
R1

Set to trim data from FMC
Disable (ctrl + j)
Close (Shift + E / via FMC)
Check all closed
Check Auto + Covered
All on (no cross-feed)
All on
On
Off
Off
Idle (check)
Cutoff (check)

Request
MENU
R5
L3
L1

Start (via IVAP or FMC menu)

30 PSI (verify)
Engine L (or R or Both)
GRD

### Wait till Engine 1 at N2 > 20% ###

### Wait till Left Engine Start Switch returned to off ###
• Left Engine Start Switch  CONT
• Right Engine Start Switch  GRD
  ### Wait till Engine 2 at N2 > 20% ###
• Right Engine Fuel Control Switch  On
  ### Wait till Right Engine Start Switch returned to off ###
• Right Engine Start Switch  CONT
• Engine Generator Switches  On

• AC-Voltemeter-Selector  Gen 1 (or 2)
• APU  Off
• APU Bleed  Off
• Pack Left  On
• Pack Right  On
• Pitot Heat Switches (PROBE)  On
• Window Heat  As Required
• Engine Anti-Ice  As Required
• Wing Anti-Ice  As Required
• Yaw Damper  On
• Flaps  Select (as entered in FMC)
• Autobreak  RTO
• Pushback  End
• Taxi-Lights  On
• Runway Turnoff Lights  On
• TCAS  Test
  ### Wait for “TCAS Test passed” sound ###
• TCAS  TA/RA

**Taxi:**
• Taxi-Clearence  Request
• Taxiways  Note
• ( Ground guidance  Request if needed )
• Taxi to h/p
Autopilot
- AP Disengage bar: Up (AP available)
- FD (Flight Director): On
- AT (Auto-Throttle): On
- IAS: 250 knots / first speed limit
- HDG: Rwy heading
- ALT: To assigned altitude (first alt)

Spoiler
- Armed

h/p:
- Hand-off GND to TWR: Change frequency
- l/u & t/o clrc: state ready for dep (h/p xx)
- Landing-Lights: On
- Runway Turnoff Lights: On
- Taxi-Lights: Off
- Position Lights: Strobe + Steady
- IVAP-Transponder: On
- Postion & hold: Taxi & stop on rwy

Ready to Takeoff:
- Parkingbreak: Set
- Thrust Levers: Takeoff-Setting
- Parkingbreak: Release
- Yoke (till 80 knots): Press forward
- VR: Rotate
- V2: Lift-off

Takeoff:
- Trim settings: Adjust (when needed)
- Gear: Up (at positive climb rate >500ft)

### After climb over 1000 ft ASL ###
### Checklist + Flow-Procedure
Boeing 737 NG
-600/-700/-800/-900

- **Autopilot** On
- **VNAV** On
- **LNAV** On
- **Flaps** Raise on schedule
- **Start time** Note (if needed)
- **Hand-off TWR to DEP(APP)** Change frequency

#### Climb:
- **Autobreak** Off
- **Spoiler** Disarm
- **Landing Lights** Off
- **Runway Turnoff Lights** Off
- **Wheel Well Lights** Off

    ### When cleared to next / final FL ###

- **AP altitude** Set

    ### Do the following things if required ###

- **Hand-off DEP(APP) to CTR** Change frequency
- **Window Heat** On (under 10°C TAT)
- **Engine Anti-Ice** On (under 10°C TAT)
- **Wing Anti-Ice** On (under 10°C TAT)
- **Altimeter** Readjust (above 18000ft)

#### Cruise:
- **Radio /ATC contact** Maintain
- **Autopilot / FMC** Check permanently
- **FMC Progress Page** Check fuel consumption

    ### When center fuel tank empty ###

- **Center fuel pump** Off

#### Descent & Approach:
- **Descent preparations** Begin 30nm before T/D
- **Airport-/Metar-Information** Retrieve
Autobreaks

Top of Descent (T/D)
  - Alt (AP) Set (before reaching T/D)
  - VNAV Will descent automatically at T/D

FMC
  - DEP/ARR Menu DEP/ARR
  - Arrivals Page R2
  - STARS Select Lx
  - Transition Select Lx
  - Approach Select Rx
  - App Transition Select Rx
  - Route Page RTE
  
  ### Delete any discontinuities by copying and pasting the first waypoint after the discontinuity into the line of the discontinuity(Rx → Lx) ###
  
  - Init Ref Page INIT REF
  - Copy flap/speed setting R1 or R2 or R3
  - Paste flap/speed setting R4

### When ILS available ###

- ILS frequency Set into NAV1 and NAV2
- ILS course Set into AP both CRS selectors

HGS Settings
  - Mode PRI
  - STBY Axxx ARM
  - RWY Set Airport Elevation (in ft) (EL)
  - RWY Set Runway Length (in ft) (RL)
  - GS Set Glideslope (Standard -3.00°)

### When too fast / too high / drag require ###

- Speedbrakes Flight Detent
  
  ### Continue here ###

- Altimeter Readjust (under 18000 ft)
- Hand-off CTR to APP Change frequency
Checklist + Flow-Procedure
Boeing 737 NG
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- Landing Lights: On
- Runway Turnoff Lights: On
- Spoilers: Arm

**Final approach & Landing (handflown):**
- Flaps: Lower as indicated on PFD
  ### (e.g. if 1 passes on PFD set to 5 etc.) ###
- Gear: Down (latest at flap 20)
- ILS captured / Runway in sight: Announce (on UC state final app)
  ### Check flaps to ref-degree and gear down ###
- Hand-off APP to TWR: Change frequency
- Autopilot (AP): Disengage (Disengage bar down)
- A/T (AP): Off
- AP Disengage Warning: Off
- Trim settings: Adjust (when needed)
  ### After touchdown ###
- Throttles: Idle
- Spoilers: Engage (if not auto-engaged)
- Thrust reversers: Engage (if needed)
- Thrust reversers: Disengage under 80kt
- Runway: Vacate (on UC: “rwy vacated“)

**Final approach & Landing (Autoland):**
- Flaps: Lower as indicated on PFD
  ### (e.g. if 1 passes on PFD set to 5 etc.) ###
- Gear: Down (latest at flap 20)
- Decision Height (Ovhd Panel): Set 100 (ft)
- AP Alt: Set 0
  ### 10 - 15nm before runway verify on glideslope, required to start autoland ###
  ### When turning into ILS continue below ###
- LOC/LOC (AP): On (to follow ILS localizer)
### Verify white VOR/LOC illuminated on PFD ###
### Wait until localizer captured, verify green VOR/LOC illuminated ###
- **APP (AP)**
  - On (to follow glideslope)

### Verify white GS illuminated on PFD ###
### Wait until ILS glideslope captured, verify green GS illuminated ###
- **AP2**
  - On

### Verify both autopilots on ###
### Verify LAND3, ROLLOUT and FLARE illuminated on PFD ###
- **ILS captured**
  - Announce (on UC state final app)
- **Hand-off APP to TWR**
  - Change frequency
- **Landing clearance**
  - Request (UC: state “short final”)

### After touchdown ###
- **Throttles**
  - Idle
- **Spoilers**
  - Engage (if not auto-engaged)
- **Thrust reversers**
  - Engage (if needed)
- **Thrust reversers**
  - Disengage under 80kt
- **Autopilot (AP)**
  - Disengage (bar down)
- **A/T (AP)**
  - Off
- **AP Disengage Warning**
  - Off
- **Runway**
  - Vacate (UC: state „rwy vacated“)

### Taxi: ###
- **Transponder**
  - Stdby
- **Hand-off TWR to GND**
  - Change frequency
- **Taxiways**
  - Note and follow
- **( Ground-Guidance**
  - Request if required)
- **FD (AP)**
  - Off
- **Spoilers**
  - Off
- **Flaps**
  - Set 0
- **Autobreaks**
  - Off
- **Taxi Lights**
  - On
- **Landing Lights**
  - Off
• Runway Turnoff Lights Off
• Position Lights Steady
• Wheel Well Lights On
• Window Heat Off
• Engine Anti-Ice Off
• Wing Anti-Ice Off
• Landing time Note (if needed)
• APU START
• Autopilot (AP) Reset (bar up)

Parking Position:

### Before entering parking position ###
• Taxi Lights Off
### At parking position ###
• Parkingbreak Set
### Wait till APU Gen available ###
• APU Gen Switches On
• APU-Bleed On
• AC-Voltemeter-Selector APU
• ENG 1 Cut off
• ENG 2 Cut off
• Master Warning Disengage
• FMC
  o Main Menu MENU
  o FS Actions R5
  o Ground Connections L3
  o Set Wheel Chocks/Breaks L1
  o Ground Power L2
  o Air Start Unit L3
  o Air Condition Unit L4
  o Return L6
  o Door Menu L4
Checklist + Flow-Procedure
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- Open Doors
  - Gangway
  - Seat-Belts
  - Ground Power (GRD PWR)
  - AC-Voltemeter-Selector (right)
  - APU
  - APU Bleed

- External Lights
  - Position
  - Wheel Well
  - Logo
  - Wing
  - Anti-Collision

- TCAS
- Yaw Damper
- Pitot Heat Switches (PROBE)
- Engine Start Switches
- Hyd Pumps
- Fuel Pumps
- Master Warning

#### Stop here for next flight, continue to set cockpit to dark+cold ####

- External Lights
- Emergency Lights
- IRS Selectors
- AC-Voltemeter-Selector (right)
- Ground Power (GRD PWR)
- IFE Pass Seat Power
- Cabin / Utility Power
- Interior Lights
- DC-Voltemeter-Selector (left)
- Master Warning
- Battery

- Lx / Rx
- Enable (ctrl + j)
- Off / Auto
- On
- GND PWR
- Off
- Off
- Steady
- On
- On
- On
- Off
- Stdby
- Off
- Off
- Both Off
- All Off
- All Off
- Disengage
- Disengage
- All Off
- Uncovered + Off
- Both off
- STBY PWR
- Off
- Off
- Off
- STBY PWR
- Disengage
- Uncovered + Off
Intentionally Blank
**Flight-Planning-Charts:**

As all required charts are included within the FCOMv1 PDF-File I will not include them here again. Print the following pages from the PDF-file for the listed 737 models:

<table>
<thead>
<tr>
<th>Model</th>
<th>Pages</th>
<th>Data in</th>
<th>Pages</th>
<th>Data in</th>
</tr>
</thead>
<tbody>
<tr>
<td>737-600</td>
<td>285-288, 295-299, 305</td>
<td>KG</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>737-700</td>
<td>325-327, 333-337, 343</td>
<td>LB</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>737-800</td>
<td>359-362, 369-373, 379</td>
<td>KG</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>737-900</td>
<td>405-408, 417-421, 427</td>
<td>LB</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>737-900ERW</td>
<td>447-450, 457-461, 467</td>
<td>KG</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

**Further Notes:**

- **Total fuel = Trip fuel + Reserves (45min Holding, 60min Diversion to alternate, Contingency including minimum landing fuel, 5% of trip-length-reserve and taxi-out fuel).** Modify alternate value as required.
- **Load wing tanks first, with same amount of fuel; wing tanks full ➔ center tank.**

**Fuel planning notes (737-600):**

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Operating Weight (OEW)</td>
<td>XX.XXX KG</td>
</tr>
<tr>
<td>+ Payload (passengers &amp; cargo)</td>
<td>XX.XXX KG</td>
</tr>
<tr>
<td>= Zero Fuel Weigh (ZFW) (max 51.709 KGs)</td>
<td>XX.XXX KG</td>
</tr>
<tr>
<td>+ Holding</td>
<td>1.200 KG</td>
</tr>
<tr>
<td>+ Diversion</td>
<td>1.750 KG</td>
</tr>
<tr>
<td>+ Contingency Fuel</td>
<td>550 KG</td>
</tr>
<tr>
<td>= Planned Landing Weight (PLW) (max 54.657 KGs)</td>
<td>XX.XXX KG</td>
</tr>
<tr>
<td>+ Flight Plan Fuel (fuel for route)</td>
<td>XX.XXX KG</td>
</tr>
<tr>
<td>= Planned Takeoff Weight (PTOW) (max 57.606 KGs)</td>
<td>XX.XXX KG</td>
</tr>
</tbody>
</table>

**Flight Plan Fuel + 3.500 KGS = Total Fuel**
### Fuel planning notes (737-700):

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Operating Weight (OEW)</td>
<td>XX.XXX LBS</td>
</tr>
<tr>
<td>Payload (passengers &amp; cargo)</td>
<td>XX.XXX LBS</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>XX.XXX LBS</td>
</tr>
</tbody>
</table>

- **Zero Fuel Weigh (ZFW)** (max 120.500 LBS): XX.XXX LBS
- **Holding**                           | 2.800 LBS    |
- **Diversion**                         | 4.000 LBS    |
- **Contingency Fuel**                  | 1.000 LBS    |

**Total Landing Weight (PLW)** (max 128.000 LBS): XX.XXX LBS

Flight Plan Fuel + 7.800 LBS = Total Fuel

### Fuel planning notes (737-800):

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Operating Weight (OEW)</td>
<td>XX.XXX KGS</td>
</tr>
<tr>
<td>Payload (passengers &amp; cargo)</td>
<td>XX.XXX KGS</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>XX.XXX KGS</td>
</tr>
</tbody>
</table>

- **Zero Fuel Weigh (ZFW)** (max 61.688 KGS): XX.XXX KGS
- **Holding**                           | 1.400 KGS    |
- **Diversion**                         | 2.200 KGS    |
- **Contingency Fuel**                  | 600 KGS      |

**Total Landing Weight (PLW)** (max 65.317 KGS): XX.XXX KGS

Flight Plan Fuel + 4.200 KGS = Total Fuel
Fuel planning notes (737-900):

Basic Operating Weight (OEW) \( \text{XX.XXX LBS} \)

+ Payload (passengers & cargo) \( \text{XX.XXX LBS} \)

= Zero Fuel Weigh (ZFW) (max 138.300 LBS) \( \text{XX.XXX LBS} \)

+ Holding \( \text{3.400 LBS} \)

+ Diversion \( \text{4.800 LBS} \)

+ Contingency Fuel \( \text{1.300 LBS} \)

= Planned Landing Weight (PLW) (max 146.300 LBS) \( \text{XX.XXX LBS} \)

+ Flight Plan Fuel (fuel for route) \( \text{XX.XXX LBS} \)

= Planned Takeoff Weight (PTOW) (max 174.700 LBS) \( \text{XX.XXX LBS} \)

\( \Rightarrow \) Flight Plan Fuel + 9.500 LBS = Total Fuel

Fuel planning notes (737-900ERW):

Basic Operating Weight (OEW) \( \text{XX.XXX KGS} \)

+ Payload (passengers & cargo) \( \text{XX.XXX KGS} \)

= Zero Fuel Weigh (ZFW) (max 62.731 KGS) \( \text{XX.XXX KGS} \)

+ Holding \( \text{1.600 KGS} \)

+ Diversion \( \text{2.400 KGS} \)

+ Contingency Fuel \( \text{600 KGS} \)

= Planned Landing Weight (PLW) (max 66.360 KGS) \( \text{XX.XXX KGS} \)

+ Flight Plan Fuel (fuel for route) \( \text{XX.XXX KGS} \)

= Planned Takeoff Weight (PTOW) (max 79.015 KGS) \( \text{XX.XXX KGS} \)

\( \Rightarrow \) Flight Plan Fuel + 4.600 KGS = Total Fuel