



# Ryanair PMDG 737 Flows

Best learnt in conjunction with my tutorial at <https://youtu.be/mX5QRithc0E>

| Cold & Dark                 |  |
|-----------------------------|--|
| Battery                     | On   |
| Emergency Exit Lights       | Arm  |
| Ground Power                | On (Establish)   |
| Gear                        | Down, 3 Greens<br>⇒ Check Main Panel Annunciators<br>⇒ Check AFT Overhead Annunciators             |
| Flaps                       | Up<br>⇒ Check Flap Indicator<br>⇒ Check Lights Extinguished  |
| Fire Test                   | Test Left<br>⇒ 2 Orange Lights<br>Test Right<br>⇒ Handles Lit<br>⇒ ENG Overheat Lights Illuminated |
| SQUIBS (Fire Solution) Test | Test Left + Right<br>⇒ 3 Green Lights Illuminated  |
| Manual Gear Extension       | Check Flap Down  |
| Circuit breakers            | Check All In<br>⇒ White collar if pulled   |
| Emergency Escape Rope       | Stowed / In  |
| Flight Recorder             | Test<br>⇒ Light Extinguishes<br>⇒ Return to Normal   |
| MACH Airspeed Warning Test  | Press & Hold<br>⇒ Number 1<br>⇒ Number 2<br>Check for beeps  |
| Stall Warning Test          | Press & Hold<br>⇒ Number 1<br>⇒ Number 2<br>Check stick shaker                                     |
| IRS                         | Both NAV   |
| Lights                      | Test<br>⇒ Check All Annunciators   |
| Oxygen                      | Test<br>⇒ Tested 100%  |

| FMC Setup        |   |
|------------------|---|
| Fuel             | FS Actions → Fuel<br>⇒ Enter Block Fuel<br>If No Delays Expected:<br>⇒ Round up to nearest 100kg<br>⇒ Add 100kg   |
| Payload          | Enter ZFW   |
| Set IRS Position | Pos Init<br>⇒ Page 2 - copy GPS L<br>⇒ Page 1 - paste into R4   |
| Route (FMC)      | Enter<br>⇒ Origin + Dest<br>⇒ FLT NO<br><br>DEP ARR<br>⇒ Select Departure Runway<br>⇒ Select SID<br>⇒ R6 - Activate<br>⇒ Next Page<br>⇒ Enter Route<br><br>DEP ARR<br>⇒ Select Approach<br>⇒ Select STAR<br><br>RTE<br>⇒ Check for Discontinuity<br>EXEC            |
| INIT REF (FMC)   | Enter<br>⇒ Cost Index<br>⇒ Reserves (Final + Alternate)<br>⇒ ZFW (Double Click)<br>⇒ Plan/Fuel (plan field used if re-fuelling not yet complete)<br>⇒ CRZ ALT<br>⇒ CRZ Wind (from Top of Climb)<br>⇒ Trans ALT (add 1, e.g. 6001 to maintain 6000ft on QNH)<br>EXEC |
| NI LIMIT (R6)    | Enter SEL (assumed temperature from takeoff performance calculator)   |
| Takeoff (R6)     | Enter<br>⇒ Flaps<br>⇒ CG% (click L3 twice to autofill)<br>⇒ V Speeds<br>Set V2 Speed in MCP<br>Set Takeoff Trim<br>NEXT PAGE<br>⇒ Enter ACCEL HT, REDUCTION & EO ACCEL HT   |

| Final Flow - Overhead         |  |
|-------------------------------|--|
| Yaw Damper                    | On   |
| Navigation & Display Switches | All Normal/Auto  |
| Fuel Pumps                    | On (As Required)   |
| Crossfeed Valve               | Test<br>⇒ Bright Blue<br>⇒ Dim Blue  |
| AC & DC Monitors              | As Required  |
| Galley                        | On   |
| Electrical Panel              | As Required  |
| Panel/Circuit Breaker Lights  | As Required  |
| Equip. Cooling                | Normal x2  |
| Emergency Exit Lights         | Check Armed  |
| Seatbelts                     | On   |
| Wipers                        | Park   |
| Window Heats                  | On   |
| Probe Heats                   | Off<br>⇒ On during Icing Conditions  |
| Anti-Ice                      | Off  |
| Hyd. Pumps                    | All On   |
| Trim Air                      | On (not present on -700)   |
| Recir. Fans                   | Auto   |
| Packs                         | Both Auto  |
| Isolation Valve               | Open or Auto   |
| Eng Bleed                     | Both On  |
| APU Bleed                     | Off  |
| FLT ALT                       | Enter  |
| LAND ALT                      | Enter  |
| Pressurisation Mode           | Auto   |
| Lights                        | As Required<br>⇒ Logo - on at night<br>⇒ Wheel Well - as required<br>⇒ Position - Steady |
| APU                           | Start<br>⇒ Check Low Press Annunciator<br>⇒ EGT Check Rise 6/8                           |
| APU Bleed                     | On once the APU has been running for at least 1 minute                                   |

| MCP Setup & Pre-Departure Flow |   |
|--------------------------------|---|
| Heading                        | Enter Runway Heading  |
| Course                         | Enter Inbound and Outbound Course to VOR/LOC as required<br>⇒ Enter NAV Aid Frequency |
| Altitude                       | Enter Cleared Level / Stop Altitude   |
| Flight Directors               | On (Left First)   |
| EFIS                           | Set QNH<br>DATA, TERR etc. as desired   |
| Autobrake                      | RTO   |
| MFD                            | Select SYS<br>⇒ Check Hydraulic Pressures<br>Select ENG                               |
| Parking Brake                  | Set   |
| Speed Brake                    | Down  |
| Config Check                   | Advance Throttles<br>⇒ Check warning horn is heard                                    |
| Start Levers                   | Cut-off   |
| Stab Trim Switches             | Normal  |
| Radios                         | Set/check   |
| Transponder                    | 2000 / Clearance Squawk<br>STDBY  |
| ALT Source                     | Set to Pilot Flying<br>⇒ 1 = Captain<br>⇒ 2 = F/O                                     |
| Rudder & Aileron Trim          | Free & 0  |
| Safety Inspection Checklist    | Perform   |

| SAFETY INSPECTION CHECKLIST |         |
|-----------------------------|---------|
| SURFACES & CHOCKS           | CHECKED |
| MAINTENANCE STATUS          | CHECKED |
| BATTERY                     | ON      |
| ELECTRIC HYDRAULIC PUMPS    | ON      |
| LANDING GEAR LEVER          | DOWN    |
| SHIPS LIBRARY               | CHECKED |

| Before Start            |   |
|-------------------------|---|
| APU Gen                 | Both On   |
| Parking Brake           | Check Set   |
| Ground Power            | Remove  |
| Doors                   | Close<br>⇒ Check Door Lights Ex-tinguished (Overhead) |
| Stairs / Jetways        | Remove  |
| Chocks                  | Remove  |
| APU Bleed               | On  |
| Before Start Check-list | Perform   |

|                                       |                          |
|---------------------------------------|--------------------------|
| STAB TRIM                             | ___SET                   |
| PERFORMANCE/W&B                       | SIGNED & SENT            |
| PHONES                                | OFF                      |
| EFB                                   | AIRPLANE MODE,<br>STOWED |
| FLIGHT DECK WINDOWS &<br>COCKPIT DOOR | LOCKED                   |
| DOORS                                 | CLOSED                   |
| PASSENGERS                            | SEATED                   |

| BEFORE START CHECKLIST DOWN TO THE LINE   |   |
|---|---|
| IRS MODE SELECTORS                        | NAV                                     |
| GEAR PINS                                 | 1, 2, 3 REMOVED                         |
| LIGHT TEST                                | CHECKED                                 |
| OXYGEN                                    | TESTED, 100%                            |
| YAW DAMPER                                | ON                                      |
| NAV TRANSFER & DISPLAY SWITCHES           | NORMAL, AUTO                            |
| FUEL                                      | ___REQ'D,<br>___ONBOARD,<br>___PUMPS ON |
| CAB/UTIL, IFE/GALLEY POWER (AS INSTALLED) | ON                                      |
| EMERGENCY EXIT LIGHTS                     | ARMED                                   |
| FASTEN BELTS                              | ON                                      |
| WINDOW HEAT                               | ON                                      |
| AIR COND & PRESS                          | PACKS___, BLEEDS ON, SET                |
| PRESSURIZATION MODE SELECTOR              | AUTO                                    |
| INSTRUMENTS                               | X-CHECKED                               |
| AUTOBRAKE                                 | RTO                                     |
| HYDRAULICS                                | NORMAL                                  |
| SPEEDBRAKE                                | DOWN DETENT                             |
| PARKING BRAKE                             | SET                                     |
| STAB TRIM CUTOUT SWITCHES                 | NORMAL                                  |
| WHEEL WELL FIRE WARNING                   | CHECKED                                 |
| RADIOS, RADAR & TXPDR                     | SET & STBY                              |
| RUDDER & AILERON TRIMS                    | FREE & ZERO                             |
| TAKEOFF BRIEFING                          | DISCUSSED                               |
| PA  | COMPLETE                                |
| FMC/CDU                                   | SET                                     |
| NI & IAS BUGS                             | AUTO/SET                                |

| BEFORE START CHECKLIST & FLOW BELOW THE LINE |         |
|--|---------|
| AIR COND PACKS                               | OFF     |
| ANTICOLLISION LIGHT                          | ON      |
| PARKING BRAKE                                | SET     |
| TRANSPONDER                                  | ALT OFF |

| Pushback & Start-up   |   |
|---|---|
| Pushback  | Request   |
| Parking Brake   | Release   |
| Start Clearance   | Receive   |
| Eng 2 Start   | Starter - GND<br>⇒ Check N2 Rise<br>⇒ Check Oil Pressure Rise<br>⇒ Check N1 Rise<br>N2 = 25%<br>⇒ Eng 2 Start Lever On<br>Start Valve Indication<br>⇒ Extinguished<br>Start Switch<br>⇒ Off (Automatic) |
| Eng 1 Start   | Starter - GND<br>⇒ Check N2 Rise<br>⇒ Check Oil Pressure Rise<br>⇒ Check N1 Rise<br>N2 = 25%<br>⇒ Eng 2 Start Lever On<br>Start Valve Indication<br>⇒ Extinguished<br>Start Switch<br>Off (Automatic)   |
| NB: Each engine start attempt should take no longer than 2 minutes. This should be timed using the CHR button to the top-left of the clock. |   |
| Eng 1 + 2 Gens  | Both On   |
| APU   | Off   |
| Ground Equipment  | Clear<br>⇒ Tug<br>⇒ Towbar<br>⇒ Bypass Pin  |

| After Start           |                           |
|-----------------------|---------------------------|
| Start Switches        | Both Cont                 |
| Probe Heat            | On                        |
| Eng Anti-Ice          | As Required               |
| Packs                 | Both Auto                 |
| APU Bleed             | Off                       |
| Isolation Valve       | Auto                      |
| Flaps                 | Set                       |
| Stab Trim             | Check                     |
| Start Levers          | Idle Detent               |
| Flight Controls       | Check                     |
| Recall                | Check                     |
| MFS ENG               | Press (to blank lower DU) |
| Before Taxi Checklist | Perform                   |

| BEFORE TAXI CHECKLIST |                                  |
|-----------------------|----------------------------------|
| GENERATORS            | ON                               |
| APU                   | ___                              |
| START SWITCHES        | CONT                             |
| PROBE HEAT            | ON                               |
| ANTI-ICE              | ___                              |
| AIR COND              | PACKS AUTO, BLEEDS ON            |
| ISOLATION VALVE       | AUTO                             |
| FLAPS                 | ___ REQ'D, ___ SEL'D, GREENLIGHT |
| STAB TRIM             | ___ UNITS REQ'D, ___ SET         |
| START LEVERS          | IDLE DETENT                      |
| FLIGHT CONTROLS       | CHECKED                          |
| RECALL                | CHECKED                          |

| Before Taxi   |                                      |
|---------------|--------------------------------------|
| Taxi Lights   | On                                   |
| Parking Brake | Released                             |
| Config Check  | Advance Thrustles<br>⇒ Check no horn |

| Taxi Speeds       |           |
|-------------------|-----------|
| Runway Back-track | Max 50kts |
| Taxiway           | Max 30kts |
| Apron             | Max 15kts |
| Turn > 45 degrees | Max 10kts |

| Taxiing                  |                      |
|--------------------------|----------------------|
| Before Takeoff Checklist | Complete to the line |
| Cabin Check              | Press Attend         |

| BEFORE TAKEOFF CHECKLIST |                 |
|--------------------------|-----------------|
| CONFIG                   | CHECKED         |
| FLAPS                    | ___ GREEN LIGHT |
| STAB TRIM                | ___ UNITS SET   |
| TAKEOFF BRIEFING         | REVIEWED        |
| CABIN                    | SECURE          |
| MCP                      | SET             |
| TRANSPONDER              | TA/RA           |
| STROBE LIGHTS            | ON              |
| LANDING LIGHTS           | ON              |

| Line Up                  |   |
|--------------------------|---|
| Lights                   | Landing Lights<br>⇒ All on<br>Position Lights<br>⇒ Strobe & Steady<br>Runway Turnoff Lights<br>⇒ On<br>Taxi Light<br>⇒ Off until cleared for takeoff, then on |
| Auto-throttle            | Arm   |
| Navigation               | LNAV or HDG Select  |
| Transponder              | TA/RA   |
| Before Takeoff Checklist | Complete below the line   |

| Takeoff       |  |
|---------------|--|
| Thrust Levers | Advance to 40% NI<br>⇒ Check Stable<br>Press ET on clock to start timer<br>Press TOGA button                         |
| Pitch         | Rotate at VR<br>⇒ Pitch to 20 degrees  |
| Positive Rate |  |
| Gear          | Up   |
| 400 feet      |  |
| LNAV          | Check engaged  |
| Autopilot     | Engage   |
| Bug Up        | Select Flaps Up Speed  |
| Flaps         | Positive Trend toward Flaps 1<br>⇒ Flaps 1<br>Past F1 indication, with positive trend towards Flaps Up<br>⇒ Flaps Up |
| Climb         | Next Altitude Select<br>⇒ ALT INTV<br>⇒ Engage VNAV / LVL CHG / VS   |

| Approaching Cleared Level |  |
|---------------------------|--|
| VS Mode                   | 2000ft to cleared level<br>⇒ VS = 2000ft/pm<br>1000ft to cleared level<br>⇒ VS = 1000ft/pm |

| After Takeoff Flow      |          |
|-------------------------|----------|
| Pressurisation          | Check    |
| Start Switches          | Off      |
| Gear                    | Up + Off |
| Autobrake               | Off      |
| Altimeters              | Check    |
| After Takeoff Checklist | Perform  |

| AFTER TAKEOFF CHECKLIST |               |
|-------------------------|---------------|
| AIR COND & PRESS        | ___, ___ set  |
| ENGINE START SWITCHES   | ___           |
| LANDING GEAR            | UP/OFF        |
| AUTOBREAK               | OFF           |
| FLAPS                   | UP, NO LIGHTS |
| ALTIMETERS              | SET           |

| Transition Altitude |              |
|---------------------|--------------|
| Altimeters          | Set Standard |

| 10,000 feet FLAPS Flow |   |
|------------------------|---|
| F - Fuel               | Check Balanced  |
| L - Lights             | Landing lights off<br>Runway turnoff lights off<br>Taxi light off |
| A - APU                | Off   |
| P - Pressurisation     | Check   |
| S - Seatbelts          | Auto  |
| Recall                 | Check   |

| Flight Level 300   |                   |
|--------------------|-------------------|
| Bank Angle Limiter | Set to 10 degrees |

| Landing Weight Calculation  |  |
|---|--|
| PROG (FMC)  | <ul style="list-style-type: none"> <li>⇒ Check destination fuel (DF)</li> <li>⇒ Subtract destination fuel from current fuel on board (FOB) to get remaining fuel burn (RFB)</li> </ul> |
| APPROACH REF (FMC)  | <ul style="list-style-type: none"> <li>⇒ Check current gross weight (GW)</li> <li>⇒ Subtract RFB from GW</li> <li>⇒ Enter result into GROSS WT (L1) field</li> </ul>                   |
| Video link: <a href="https://youtu.be/mX5QRithc0E?t=7151">https://youtu.be/mX5QRithc0E?t=7151</a> |  |

| Descent Preparation—80-100nm from TOD |   |
|---------------------------------------|---|
| Weather                               | Checked   |
| Arrival Brief                         | Consider Threats<br>⇒ Congestion<br>⇒ Terrain<br>⇒ Weather<br>⇒ Runway<br>⇒ Arrival   |
| DES (FMC)                             | SPD REST - 250/10000<br>EXEC.   |
| Forecast (L6)                         | Set TRANS LVL<br>Set ISA DEV/QNH<br>Set TAI ON/OFF (if required)<br>Set WIND ALTITUDES<br>⇒ FL310 / 200 / 100<br>Set DES Winds<br>EXEC  |
| FIX (FMC)                             | Enter RW(Identifier)<br>⇒ E.G. RW09R / RW09L<br>Enter distances for range rings<br>⇒ /5 - 5nm Ring - latest point for Gear Down + Flap 15<br>⇒ /10 - 10nm Ring - latest point for Flaps 5<br>⇒ Current altitude/1000*3 - rough TOD point (e.g. 30,000ft, 30*3=90, enter /90 for a 90 nm range ring) |
| RTE (FMC)                             | Check   |
| LEGS (FMC)                            | Check<br>⇒ Arrival STAR<br>⇒ Restrictions   |
| NAV                                   | Set ILS Freq.<br>Set VOR to STNDBY for Go-Around  |
| Course                                | Set ILS Course  |
| LAND ALT                              | Set/Check Airport Elevation   |
| Minimums                              | Set<br>⇒ Radio - CAT II/III Approaches<br>⇒ Baro - All Other Approaches   |
| Perf/Fuel Checks                      |   |
| APP REF (FMC)                         | Press Init<br>Enter Landing Gross Weight<br>Select Flaps/VREF - Double Click  |
| Autobrake                             | As Required   |
| Descent Checklist                     | Perform   |

| DESCENT CHECKLIST     |                  |
|-----------------------|------------------|
| PRESSURIZATION        | LAND ALT ___ SET |
| ANTI-ICE              | ___              |
| APPROACH BRIEF & FUEL | DISCUSSED        |
| IAS & ALT BUGS        | CHECK & SET      |

| Approaching TOD |  |
|-----------------|--|
| Target Altitude | Set<br>⇒ Press ALT INTV to start descent early |

| Descent - FL200/300 |            |
|---------------------|------------|
| Bank Angle          | 25 Degrees |

| Descent—10,000ft            |                |
|-----------------------------|----------------|
| Seatbelts (15 Mins to land) | On             |
| Fixed Landing Lights        | On             |
| Runway Turnoff Lights       | On             |
| Bank Angle                  | 25 Degrees     |
| Pressurisation              | As Required    |
| Recall                      | Check          |
| FLAPS Check                 |                |
| F - Fuel                    | Check Balanced |
| L - Lights                  | Check          |
| A - Angle of Bank           | Check          |
| P - Pressurisation          | Check          |
| S - Seatbelts               | On             |
| Recall                      | Check          |

| Transition Level        |                    |
|-------------------------|--------------------|
| Altimeters              | Set local pressure |
| FRISC Check             |                    |
| F - Frequencies         | Tune/check         |
| R - Range Rings         | Check              |
| I - Idents              | ILS/DME Alive      |
| S - Standby Instruments | Check              |
| C - Courses             | Check              |

| APPROACH CHECKLIST      |                 |
|-------------------------|-----------------|
| ALTIMETER & INSTRUMENTS | SET & X-CHECKED |
| APPROACH AIDS           | CHECKED & SET   |

| Approach                   |                         |
|----------------------------|-------------------------|
| Terrain (Pilot Monitoring) | On                      |
| VSD (Pilot Monitoring)     | On<br>⇒ Press CTR twice |
| LOC Intercept Heading      | Arm APP mode            |
| By 10 DME from Touchdown   |                         |
| Flaps                      | 5                       |
| HDG                        | Set Runway Heading      |
| By 4 DME from Touchdown    |                         |
| Gear                       | Down                    |
| Flaps                      | 15                      |

| Pre-landing Flows |  |
|-------------------|--|
| Speed             | VREF + 5 to 15<br><i>See green box below for details</i> |
| Start Switches    | CONT   |
| Recall            | Check  |
| Speedbrake        | Arm + Green Light  |
| Landing Gear      | Down + 3 Greens  |
| Autobrake         | As Required  |
| Landing Lights    | All On   |

| Approach Speed Calculation                            |  |
|---|--|
| VAPP should be VREF + 1/2 headwind component BUT      |  |
| ⇒ Minimum Correction = +5 knots                       |  |
| ⇒ Maximum Correction = +15 knots                      |  |
| <i>Examples</i>                                       |  |
| Headwind component = 14 knots,                        |  |
| ⇒ VAPP = VREF + 7                                     |  |
| Headwind component = 35 knots                         |  |
| ⇒ VAPP = VREF + 15 (as 15 is the maximum you can add) |  |
| Headwind component = 4 knots                          |  |
| ⇒ VAPP = VREF + 5 (as 5 is the minimum you can add)   |  |

| LANDING CHECKLIST |                      |
|-------------------|----------------------|
| START SWITCHES    | CONT                 |
| RECALL            | CHECKED              |
| SPEEDBRAKE        | ARMED, GREEN LIGHT   |
| LANDING GEAR      | DOWN, 3 GREENS       |
| AUTOBRAKE         | ___ SET              |
| FLAPS             | ___/___, GREEN LIGHT |
| LANDING LIGHTS    | ON                   |

| Taxi-In / Clean Up |   |
|--------------------|---|
| Speed Brakes       | Stowed  |
| Lights             | Position Lights<br>⇒ Steady<br>Landing Lights<br>⇒ Off<br>Taxi Light<br>⇒ On<br>Other Lights<br>⇒ As required |
| Transponder        | Alt Off   |
| Flaps              | Up  |
| Trim               | 4 to 5  |
| Autobrake          | Off   |
| MFD                | ENG   |
| FDs                | Off   |
| MCP Speed          | 100   |
| MCP Alt            | 3100 / Above MSA  |
| Start Switches     | Off   |
| Probe Heat         | Off/Auto  |
| Lights             | As Required   |

| Arriving onto Apron |    |
|---------------------|----|
| APU                 | On |

| Stand  |                               |
|--|-------------------------------|
| Taxi Lights  | OFF before pulling onto stand |
| APU Gens   | Both On                       |
| Parking Brake  | Set                           |
| 2 Blues (2 Blue Eng Buses), 1 Red (Parking Brake Light On), Engines Dead (Cut Engines) |                               |
| Start Levers   | Cut-off                       |
| Seat belt signs  | Off                           |
| Once N2 < 20%  |                               |
| Anti-Collision Light   | Off                           |

| SHUTDOWN FLOW & CHECKLIST  |               |
|----------------------------|---------------|
| FUEL PUMPS                 | OFF           |
| ELECTRICAL                 | ON ____       |
| FASTEN BELTS               | OFF           |
| WINDOW HEAT                | OFF           |
| PROBE HEAT                 | AUTO/OFF      |
| ANTI-ICE                   | OFF           |
| ELECTRICAL HYDRAULIC PUMPS | OFF           |
| VOICE RECORDER             | ON/AUTO       |
| AIR COND PACK(S)           | AUTO          |
| ENG BLEED                  | ON            |
| APU BLEED                  | OFF           |
| EXTERIOR LIGHTS            | ____          |
| START SWITCHES             | OFF           |
| AUTOBRAKE                  | OFF           |
| SPEEDBRAKE                 | DOWN DETENT   |
| FLAPS                      | UP, NO LIGHTS |
| PARKING BRAKE              | SET           |
| START LEVERS               | CUTOFF        |
| WEATHER RADAR              | OFF           |
| TRANSPONDER                | 2000, STANDBY |
| CVR CB                     | IN/OUT        |
| COCKPIT DOOR               | UNLOCKED      |

| SECURE FLOW & CHECKLIST                   |          |
|---|----------|
| IRS MODE SELECTORS                        | OFF      |
| CAB/UTIL, IFE/GALLEY POWER (as installed) | ON       |
| EMERGENCY EXIT LIGHTS                     | OFF      |
| AIR COND PACKS                            | OFF      |
| TRIM AIR (N/A - B737-700)                 | AUTO/OFF |
| APU/GROUND POWER                          | OFF      |
| BATTERY                                   | OFF      |

With many thanks to Seb for the hours of excellent tuition, and to Will ([Hinshee](#)) for his help in distilling the tutorial video down into this document.