# NORMAL PROCEDURES

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NORMAL PROCEDURES

OVERVIEW: The following sets of procedures follow step by step through the processes required to fly the Next Generation 737. These normal procedures are divided by major flight phase and should provide a basic guideline for accomplishing the major procedures required during flight. Although these checklists do not need to be removed from the manual and followed on a step by step basis, crews are encouraged to develop a pattern of behavior which ensures that all of the following steps are accomplished in the correct order and format. Use of the In Flight Use Checklist (located on pages 17/18 of this chapter) is required of crewmembers. (We recommend that you print page 17/18 for use in flight!)

In the interest of containing operating costs, external ground power should be used during the initial cockpit preparation. This will allow the crew to delay APU start until immediately before departure. In circumstances where the quality of an external power connection is an issue, or when ground based aircraft cooling is not available, crews may elect to start the APU at their discretion in the interest of preserving an on-time departure and passenger climate comfort.

In Cold Weather Operations crews should ensure that the cockpit has not been set up for aircraft deicing operations by ground crew. If this is determined to be the case, crews are advised not to begin cockpit preparation until clearing their actions with the ground crew in order to prevent damage to the aircraft or injuries to ground personnel.

Exterior Safety Inspection

SURFACES AND CHOCKS .........................................................................................................IN
  Visually check that all moveable surfaces are clear and the chocks are in place.

MAINTENANCE STATUS .................................................................................................................CHECKED

Cockpit Acceptance Check

BATTERY SWITCH .................................................................................................................ON
ELECTRICAL HYDRAULIC PUMP SWITCHES ........................................................................OFF
LANDING GEAR LEVER .........................................................................................................DOWN
GROUND POWER (If Available) ..............................................................................................ON
  LEFT/RIGHT TRANSFER BUS ‘SOURCE’ LIGHTS ..................................................................ON
  OVERHEAT/FIRE PROTECTION (Center Pedestal)
    OVERHEAT DETECTOR SWITCHES ....................................................................................NORMAL
    TEST SWITCH ...............................................................................................................Hold to FAUL/INOP
      Verify the FAULT lights illuminate.
    FIRE/OVERHEAT WARNING ...........................................................................................CHECK
    EXTINGUISHER TEST SWITCH .........................................................................................CHECK

APU START IF NECESSARY

APU START SELECT SWITCH .....................................................................................................START
APU GENERATOR SWITCHES ......................................................ON
APU PNEUMATIC BLEED VALVE ..............................................ON

FLAP POSITION INDICATOR AND FLAP LEVER ..................................AGREE
EVACUATION ACTIVATION SWITCH ..................................................OFF
REVERSER LIGHTS ....................................................................EXTINGUISHED
PASSENGER OXYGEN switch ..................................................NORMAL / Light OFF
SERVICE INTERPHONE SWITCH ..................................................AS REQUIRED
IRS MODE SELECTORS ................................................................NAV

Exterior Pre-Flight Inspection

ELECTRICAL HYDRAULIC PUMP switches ........................................ON

  System A and B pressure should equal 2800PSI approximately
PARKING BRAKE ........................................................................SET
EXTERIOR LIGHTS ....................................................................ON/FUNCTIONAL

General Airplane Condition ..........................................................Check
Probes, sensors, ports, vents and drains ........................................Unobstructed/Undamaged
Doors latches and access panels ..................................................Closed/Secure
Tires, brakes and wheels .................................................................Check/Undamaged
Gear struts and doors ......................................................................Check
Gear Pins ..........................................................................................Removed
Nose gear steering lockout pin .........................................................As Required
Oxygen Pressure Relief Disc ..........................................................Check
Cargo compartments .......................................................................Check
Ram Air deflector door ....................................................................As Required
Flight Control Surfaces .................................................................Unobstructed/Free of fluid leaks
Fuel Measuring Sticks .....................................................................Stowed
Wing Surfaces ..................................................................................Check
A and B hydraulic reservoir quantity indicators ..........................RF or higher
APU fire control handle .................................................................UP
Outflow valve ..................................................................................Open
Tail Skid (800/900) .........................................................................Check
ELECTRICAL HYDRAULIC PUMP switches ..................................OFF
External Lights ..................................................................................As Required
## Cockpit Preparation

**FLIGHT CONTROL PANEL (OHD)**

- Check all 5 switch guards down.
- Alternate Flaps position switch off.
- Yaw Damper switch on.

**FUEL SYSTEM (OHD)**

- Engine valve closed lights illuminated dim.
- Spar valve closed lights illuminated dim.
- Filter bypass lights off.
- Crossfeed selector closed.
- Crossfeed valve open light off.
- Fuel quantity fuel pump switches (for tanks containing fuel) on.
- Low pressure lights off.

**ELECTRICAL SYSTEM**

- Cabin/util power switch on.
-IFE/pass seat power switch on.

**EQUIPMENT COOLING switches**

- Normal.
- Off lights extinguished.

**EMERGENCY EXIT lights switch**

- Armed (guard down).

**WINDSHIELD WIPER SELECTORS**

- Park/off.

**WINDOW HEAT switches**

- On.

**PROBE HEAT switches**

- Off.

**WING and ENGINE ANTI ICE switches**

- Off.

**VALVE OPEN lights**

- Extinguished.

**HYDRAULICS**

- System A hydraulic pump switches on.
- System B hydraulic pump switches on.
- Electric pump low pressure lights extinguished.
- System pressure 2800 psi.

**PRESSURIZATION**

- Cabin differential pressure zero.
- Cabin altitude field elevation.
- Cabin rate of climb zero.
FLIGHT ALTITUDE indicator……………………………………….Set to Cruise Altitude
LANDING ALTITUDE……………………………………………Set to landing field elevation
PRESSURIZATION MODE SELECTOR……………………………AUTO

EXTERNAL LIGHT switches………………………………………….AS REQUIRED
IGNITION SELECT switch…………………………………………….IGN L or R
ENGINE START SWITCHES…………………………………………..OFF
RAM DOOR FULL OPEN lights…………………………………….ILLUMINATED
RECIRCULATION FAN switch………………………………………AUTO
AIR CONDITIONING PACK switches………………………………AUTO
ISOLATION/VALVE switch………………………………………….OPEN
ENGINE BLEED AIR switches……………………………………ON
APU BLEED AIR switch……………………………………………As Required

EFIS control panel……………………………………………….CHECK
MINIMUMS reference selector……………………………………As Desired
FLIGHT PATH VECTOR switch……………………………………As Desired
BAROMETRIC reference selector…………………………………..SET Local Altimeter
VOR/ADF switches………………………………………………..As Desired
MODE Selector…………………………………………………..MAP
CENTER switch……………………………………………………As Desired
RANGE Selector………………………………………………….As Desired
TRAFFIC Switch………………………………………………..As Desired
MAP Switches……………………………………………………..As Desired

MODE CONTROL PANEL…………………………………………CHECK
COURSE…………………………………………………………SET/VERIFY
FLIGHT DIRECTOR switches……………………………………ON
AUTOTHROTTLE switch…………………………………………OFF
HEADING…………………………………………………………Set to Runway Heading
BANK ANGLE LIMIT switch……………………………………..Set as Desired
ALTITUDE………………………………………………………Set to Takeoff Climb Clearance
AUTOPILOTS……………………………………………………Disengaged

EFIS…………………………………………………………..Verify No Flags Showing on PFD/ND

AUTOBRAKE switch………………………………………………RTO
AUTOBRAKE DISARM light……………………………………..Extinguished
ANTISKID INOP light…………………………………………..Extinguished

ENGINE INSTRUMENTS…………………………………………CHECK
SPEED BRAKE LEVER…………………………………………DOWN
THRUST LEVERS……………………………………………….IDLE
START SWITCHES………………………………………………CUTOFF
PARKING BRAKE………………………………………………..SET
STABILIZER TRIM………………………………………………GREEN RANGE
<table>
<thead>
<tr>
<th>PROCEDURE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RADIOs</strong></td>
<td>TUNED</td>
</tr>
<tr>
<td><strong>TRANSPONDER</strong></td>
<td>CODE</td>
</tr>
<tr>
<td><strong>FMC/CDU</strong></td>
<td>SET</td>
</tr>
<tr>
<td><strong>IDENT</strong> page</td>
<td>CHECK</td>
</tr>
<tr>
<td>Verify airplane and engine MODEL and NAV DATA ACTIVE dates are correct.</td>
<td></td>
</tr>
<tr>
<td><strong>POS INIT</strong> page</td>
<td>SET</td>
</tr>
<tr>
<td>Verify GMT is correct.</td>
<td></td>
</tr>
<tr>
<td><strong>RTE</strong> page</td>
<td>SET</td>
</tr>
<tr>
<td>Enter route by company route load function or by origin/destination entry.</td>
<td></td>
</tr>
<tr>
<td><strong>DEPARTURES</strong> page</td>
<td>SET</td>
</tr>
<tr>
<td>Select the active runway and departure/transition procedures if know.</td>
<td></td>
</tr>
<tr>
<td><strong>RTE</strong> page</td>
<td>SET</td>
</tr>
<tr>
<td>Verify selected departure and route. Correct discontinuities.</td>
<td></td>
</tr>
<tr>
<td><strong>ACTIVATE</strong> and <strong>EXECUTE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PERF INIT</strong> page</td>
<td>SET</td>
</tr>
<tr>
<td>Verify total fuel quantity is displayed on the CDU.</td>
<td></td>
</tr>
<tr>
<td>Validate Weight Figures, Cost Index and Cruise Altitude.</td>
<td></td>
</tr>
<tr>
<td><strong>EXECUTE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>N1 LIMIT</strong> page</td>
<td>SET</td>
</tr>
<tr>
<td>Enter OAT</td>
<td></td>
</tr>
<tr>
<td>Select Desired Takeoff and Climb thrust modes</td>
<td></td>
</tr>
<tr>
<td><strong>TAKEOFF REF</strong> page</td>
<td>SET</td>
</tr>
<tr>
<td>Verify Preflight is complete</td>
<td></td>
</tr>
<tr>
<td>Enter takeoff flaps and V-speeds (click on 1R, 2R, 3R to populate…)</td>
<td></td>
</tr>
</tbody>
</table>

**Pushback and Engine Start**

<table>
<thead>
<tr>
<th>PROCEDURE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENGINE START CLEARANCE</strong></td>
<td>OBTAIN</td>
</tr>
<tr>
<td>Captain calls for “BEFORE START CHECKLIST TO THE LINE”</td>
<td></td>
</tr>
<tr>
<td>First Officer Accomplishes BEFORE START CHECKLIST to the line using</td>
<td></td>
</tr>
<tr>
<td>The IN-FLIGHT-USE-CHECKLIST.</td>
<td></td>
</tr>
<tr>
<td>&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;&gt;</td>
<td></td>
</tr>
<tr>
<td><strong>DOORS</strong></td>
<td>CLOSED</td>
</tr>
<tr>
<td><strong>AIR CONDITIONING PACK</strong> switches</td>
<td>OFF</td>
</tr>
<tr>
<td><strong>ANTI-COLLISION light switch</strong></td>
<td>ON</td>
</tr>
<tr>
<td>Captain calls for “BEFORE START CHECKLIST BELOW THE LINE”</td>
<td></td>
</tr>
<tr>
<td>First Officer completes the BEFORE START checklist</td>
<td></td>
</tr>
</tbody>
</table>
After Start

ELECTRICAL SYSTEM .................................................................SET
  BOTH GENERATOR switches .................................................ON
  GEN OFF BUS lights .........................................................Extinguished
  SOURCE OFF lights .........................................................Extinguished

PROBE HEAT switches .........................................................ON
  All Probe Heat lights .......................................................Extinguished

ANTI-ICE .................................................................As Required

AIR CONDITIONING ...............................................................SET
  PACK switches .................................................................AUTO
  APU BLEED AIR switch .........................................................OFF
  ISOLATION VALVE switch .................................................AUTO

HYDRAULIC PUMP switches ..................................................ON

Before Takeoff

RECALL SWITCH .................................................................CHECK
FLIGHT CONTROLS .................................................................CHECK/FREE
FLAPS ..........................................................SET ______
STABILIZER TRIM .................................................................SET ______
TAKEOFF BRIEFING ..............................................................Review

Captain calls for “BEFORE TAKEOFF CHECKLIST TO THE LINE”
First Officer accomplishes BEFORE TAKEOFF checklist to the line.

>>>----------------------------------CLEARED FOR TAKEOFF ------------------------------------------<<<<

ENGINE START SWITCHES .....................................................CONT
LANDING LIGHTS .................................................................ON
STROBE LIGHTS .................................................................ON
AUTOTHROTTLE .................................................................ARM
TRANSPONDER .................................................................ON

Captain calls for “BEFORE TAKEOFF CHECKLIST BELOW THE LINE”
First Officer completes BEFORE TAKEOFF checklist
**Takeoff Procedure Explained:**

Advance thrust levers to approximately 40% N1.

Observe engine instruments stabilized and normal.

Push TO/GA switch to advance the thrust levers to takeoff N1.

Verify mode annunciation.

Note: After takeoff thrust is set, the captain’s hand must be on the thrust levers until V1.

Hold light forward pressure on the control column, maintain directional control.

Monitor engine instruments. Verify oil pressure is not in the amber band.

Verify 80 knots.

Monitor airspeed, noting V1, and rotate smoothly.

When positive rate of climb is indicated, call “GEAR UP” and position landing gear lever UP.

Continue rotation to takeoff pitch.

Check flight instrument indications.

---

**After Takeoff Procedure Explained:**

Maintain a minimum of V2 + 15 knots during initial climb. At light gross weight a higher speed (up to V2 + 25) may be selected.

Above 400 feet, select appropriate roll mode, if required. Verify proper mode annunciation.

Above 1,000 feet, set flaps up maneuvering speed. Verify climb thrust is set and proper mode is annunciated.

When above minimum altitude for autopilot engagement, engage A/P. Verify flight mode annunciation.

Retract flaps on takeoff flap retraction speed schedule and monitor flaps and slats retraction.

Position landing gear lever OFF, APU and engine start switches as required. Verify air conditioning and pressurization operating normally.

Perform AFTER TAKEOFF CHECKLIST when flaps are up.

Above 3,000 feet AGL, engage VNAV or select normal climb speed and verify annunciation.
## Takeoff Flap Retraction Speed Schedule

<table>
<thead>
<tr>
<th>T/O FLAPS</th>
<th>SELECT FLAPS</th>
<th>AT: (for all weights)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>15, 5, 1, UP</td>
<td>V2 + 15 “15”, “5”, “1”</td>
</tr>
<tr>
<td>15</td>
<td>5, 1, UP</td>
<td>V2 + 15 “5”, “1”</td>
</tr>
<tr>
<td>10</td>
<td>5, 1, UP</td>
<td>V2 + 15 “5”, “1”</td>
</tr>
<tr>
<td>5</td>
<td>1, UP</td>
<td>V2 + 15 “1”</td>
</tr>
<tr>
<td>1</td>
<td>UP</td>
<td>“1”</td>
</tr>
</tbody>
</table>

- “UP” – Flaps up maneuvering speed
- “1”, “5”, “10”, “15”, “25” – Number corresponding to flap maneuvering speed.

Note: Limit bank angle to 15 degrees until reaching V2 + 15.
Climb and Cruise

CLIMBING THROUGH 10,000 .................................................................SET
  Alert Cabin crew
  Turn off non-essential external lighting

TRANSITION ALTITUDE ..................................................Set Altimeters to STANDARD

FUEL MANAGEMENT .................................................................MONITOR
  When Center Fuel Tank LOW PRESSURE lights illuminate ........CENTER PUMPS OFF
  Ensure Fuel Balance during cruise flight

PRIOR TO REACHING Top of Descent ..................Set MCP altitude selector for descent
At Top of Descent .................................................................Verify descent initiated

Climb and Cruise Procedure Explained:

Position landing lights OFF passing through 10,000 feet.

Set altimeters to standard at transition altitude.

Approaching selected FMC cruise altitude, verify level off and proper mode/N1 limit annunciation.

Position center tank fuel pump switches OFF when both pump LOW PRESSURE lights illuminate.

During the last hour of cruise on all extended range (ETOPS) flights, perform Fuel Crossfeed Valve check.

Prior to top of descent, select and verify the planned arrival procedure on the FMC.

Set MCP altitude selector for descent.

At top of descent point observe descent initiated and verify proper mode annunciation.
Descent and Approach

Descent and Approach Procedure Explained:

Position center tank fuel pump switches OFF when both pump LOW PRESSURE lights illuminate.

Check and set VREF and approach speeds as required.

Set anti-ice as required.

Verify pressurization set for destination airport elevation and system operating normally.

Set AUTO BRAKE select switch to desired brake setting.

Set and crosscheck altimeters at transition level.

Set and crosscheck course selection and RADIO/BARO minimums as required for approach.

Set and verify ADF and VHF NAV radios for approach.

Position fixed landing lights passing through 10,000 feet.

Accomplish the DESCENT-APPROACH checklist.

Call “FLAPS___” according to flap speed schedule and position FLAP lever. Monitor flap and slat extension.

Approaching selected FMC altitude verify level off and mode annunciation.
Approach Procedure Explained:

Using flaps as speed brakes is not recommended.

The following procedures are used for flap extensions:

- Select flaps 1 when decelerating through the flaps-up maneuvering speed, displayed on the airspeed display as “UP”.
- Set airspeed cursor to the flap maneuvering speed displayed as “1”.
- When appropriate, select the next flap position and then set the airspeed cursor to that flap maneuvering speed.

Landing Procedure Explained:

When on localizer intercept heading, verify ILS tuned and identified, LOC and G/S pointer displayed, arm APP mode and engage second autopilot.

Verify mode annunciation.

At localizer capture verify proper mode annunciation and set appropriate heading.

At glide slope “alive”, position landing gear lever DN, FLAP lever to 15 and arm speedbrakes.

Position engine start switches to CONT. Check RECALL.

Perform LANDING CHECKLIST down to FLAPS.

At glide slope capture, verify proper mode annunciation, check N1 reference bug at the go-around limit and set missed approach altitude.

Call “FLAPS _____” as required for landing and position FLAP lever accordingly. Set MCP speed selector at VREF + 5 knots.

At final approach fix, OM, verify crossing altitude.

Complete the LANDING CHECKLIST.

Monitor approach progress and guard the controls.

At 500 feet AGL, verify FLARE is armed.

At approximately 50 feet AGL, verify FLARE is engaged.

Ensure the autothrottle retards the thrust levers to idle by touchdown.
**Go-Around Procedure Explained:**

Push TO/GA button switch.

Call “FLAPS 15” and position FLAP lever to 15.

Confirm rotation to go-around attitude and monitor autopilot.

When positive rate of climb is indicated, position landing gear lever UP.

Check flight instruments indications.

Above 400 feet, select appropriate roll mode and verify proper mode annunciation.

Retract flaps on speed schedule.

Verify airplane levels off at selected altitude and maintain flaps maneuvering speed.

Accomplish AFTER TAKEOFF checklist.

---

**Landing Roll Procedure Explained:**

Ensure thrust levers at idle.

Disengage autopilot and control airplane manually. Verify autothrottle disengages automatically.

Verify SPEED BRAKE lever – UP.

Verify proper autobrake operation.

Without delay, apply reverse thrust as required.

At 60 knots, reduce reverse thrust to be at IDLE reverse when reaching taxi speed.

Verify REV indication extinguished.

Prior to taxi speed, disarm, the autobrake and continue manual braking as required.
### Normal Procedures

**Taxi-In**

<table>
<thead>
<tr>
<th>Switch/Control</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEED BRAKE lever</td>
<td>DOWN</td>
</tr>
<tr>
<td>FLAP lever</td>
<td>UP</td>
</tr>
<tr>
<td>APU (if desired)</td>
<td>START</td>
</tr>
<tr>
<td>PROBE HEAT switches</td>
<td>OFF</td>
</tr>
<tr>
<td>ENGINE START switches</td>
<td>OFF</td>
</tr>
<tr>
<td>LANDING lights</td>
<td>OFF</td>
</tr>
<tr>
<td>TAXI Lights</td>
<td>As Desired</td>
</tr>
<tr>
<td>STROBE lights</td>
<td>OFF</td>
</tr>
<tr>
<td>FLIGHT DIRECTOR switches</td>
<td>OFF</td>
</tr>
<tr>
<td>TRANSPONDER</td>
<td>OFF</td>
</tr>
<tr>
<td>APU GENERATOR switches (if APU operating)</td>
<td>ON</td>
</tr>
<tr>
<td>APU GEN OFF BUS lights</td>
<td>OFF</td>
</tr>
</tbody>
</table>

**Shutdown Procedures**

<table>
<thead>
<tr>
<th>Switch/Control</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARKING BRAKE</td>
<td>SET</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>SET AS DESIRED</td>
</tr>
<tr>
<td>FUEL CONTROL LEVERS</td>
<td>CUTOFF</td>
</tr>
<tr>
<td>FASTEN SEATBELTS switch</td>
<td>OFF</td>
</tr>
<tr>
<td>ANTI COLLISION light switch</td>
<td>OFF</td>
</tr>
<tr>
<td>FUEL PUMP switches</td>
<td>OFF</td>
</tr>
<tr>
<td>CAB/UTIL power switch</td>
<td>As Required</td>
</tr>
<tr>
<td>IFE/PASS seat power switch</td>
<td>As Required</td>
</tr>
<tr>
<td>WINDOW HEAT switches</td>
<td>OFF</td>
</tr>
<tr>
<td>WING and ENGINE ANTI-ICE switches</td>
<td>OFF</td>
</tr>
<tr>
<td>ELECTRIC HYDRAULIC PUMP switches</td>
<td>OFF</td>
</tr>
<tr>
<td>RECIRCULATION FAN switch</td>
<td>As Desired</td>
</tr>
<tr>
<td>AIR CONDITIONING PACK switches</td>
<td>AUTO</td>
</tr>
<tr>
<td>ISOLATION VALVE switch</td>
<td>OPEN</td>
</tr>
<tr>
<td>ENGINE BLEED AIR switches</td>
<td>OFF</td>
</tr>
<tr>
<td>APU BLEED AIR SWITCH</td>
<td>As Required</td>
</tr>
<tr>
<td>EXTERIOR LIGHTS</td>
<td>As Required</td>
</tr>
<tr>
<td>AUTO BRAKE switch</td>
<td>OFF</td>
</tr>
<tr>
<td>SPEED BRAKE lever</td>
<td>DOWN</td>
</tr>
<tr>
<td>PARKING BRAKE</td>
<td>As Required</td>
</tr>
</tbody>
</table>

**Secure Procedure**

<table>
<thead>
<tr>
<th>Switch/Control</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMERGENCY EXIT LIGHTS switch</td>
<td>OFF</td>
</tr>
<tr>
<td>AIR CONDITIONING PACK SWITCHES</td>
<td>OFF</td>
</tr>
<tr>
<td>APU</td>
<td>SHUT DOWN</td>
</tr>
<tr>
<td>BATTERY SWITCH</td>
<td>OFF</td>
</tr>
<tr>
<td>SECURE CHECKLIST</td>
<td>ACCOMPLISH</td>
</tr>
</tbody>
</table>

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PMDG 737NG - AOM

DO NOT DUPLICATE

Revision – 1.4 23APR04
INFLIGHT USE CHECKLISTS EXPLAINED:

The following pages comprise a two page In-Flight Use Checklist that should be printed and kept handy in the cockpit for use during flight.

The procedures listed above in this chapter are designed to be studied and to serve as a useful guide for setting up the cockpit and flight process. The In-Flight Use Checklist below is designed to assist crews in checking their work and validating that proper procedures have been accomplished prior to any critical phase of flight.

When following the Expanded Normal Procedures above you will notice that the process occasionally calls for the conduct of a checklist. For example:

<table>
<thead>
<tr>
<th>ENGINE START CLEARANCE</th>
<th>OBTAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Captain calls for &quot;BEFORE START CHECKLIST TO THE LINE&quot;</td>
<td></td>
</tr>
<tr>
<td>First Officer Accomplishes BEFORE START CHECKLIST to the line using</td>
<td></td>
</tr>
<tr>
<td>The IN-FLIGHT-USE-CHECKLIST.</td>
<td></td>
</tr>
</tbody>
</table>

In such a situation, the BEFORE START CHECKLIST that is being referenced is the In-Flight-Use Checklist as described on pages 17/18 of this chapter.

It is recommended that the following two pages be printed and stapled back to back for ease of use!
BEFORE START

FLIGHT DECK PREPERATION .................................................................COMPLETED
YAW DAMPER .................................................................................ON
FUEL .......................................................... LBS/KGS PLANNED, BOARDED, PUMPS ON
CAB/UTIL & IFE PASS SEAT POWER ...............................................ON
EMERGENCY EXIT LIGHTS ...............................................................ARMED
CABIN SIGNS ..................................................................................ON
WINDOW HEAT ..................................................................................ON
HYDRAULICS ..................................................................................NORMAL
AIR CONDITIONING & PRESSURIZATION ...................................... PACKS, BLEEDS ON, SET
AUTOPILOT ..........................................................................................DISENGAGED
INSTRUMENTS ..................................................................................CROSS CHECKED
AUTOBRake .....................................................................................RTO
SPEED BRAKE ..................................................................................DOWN
PARKING BRAKE ................................................................................SET
STABILIZER TRIM ................................................................................SET
FMC, RADIOS, TRANSPONDER ..........................................................SET
TRIM .................................................................................................SET
FMC/CDU ..........................................................................................SET
N1 & IAS BUGS ..................................................................................SET

DOORS/WINDOWS .............................................................................CLOSED

BEFORE TAKEOFF

RECALL .............................................................................................CHECKED/CLEARED
FLIGHT CONTROLS ...........................................................................FREE
FLAPS .................................................................................................SET
TRIM .................................................................................................SET
TAKEOFF BRIEFING ...........................................................................REVIEWED

ENGINE START SWITCHES ..................................................................ON

AFTER TAKEOFF

AIR CONDITIONING & PRESSURIZATION .........................................SET
ENGINE START SWITCHES ..................................................................OFF
LANDING GEAR ..................................................................................UP and OFF
FLAPS ...................................................................................................UP
### DESCENT APPROACH

- **ANTI-ICE**: As Required
- **AIR CONDITIONING & PRESSURIZATION**: Set
- **ALTIMETER & INSTRUMENTS**: Set / Cross-Checked
- **N1 & IAS BUGS**: Checked / Set

### LANDING

- **ENGINE START SWITCHES**: On
- **RECALL**: Checked / Cleared
- **SPEED BRAKE**: Armed, Green Light
- **LANDING GEAR**: Down 3 Green
- **FLAPS**: Set

### SHUTDOWN

- **FUEL PUMPS**: Off
- **CAB/UTIL & IFE/PASS SEAT POWER SWITCHES**: As Required
- **ELECTRICAL SOURCE**: Off
- **FASTEN SEATBELTS SIGN**: Off
- **WINDOW HEAT**: Off
- **PROBE HEAT**: Off
- **ANTI-ICE**: Off
- **ELECTRIC HYDRAULIC PUMPS**: Off
- **AIR CONDITIONING**: Off
- **ENGINE START SWITCHES**: Off
- **AUTOBRAKE SWITCH**: Off
- **SPEED BRAKE**: Down
- **FLAPS**: Up
- **PARKING BRAKE**: As Required
- **FUEL SHUTOFF LEVERS**: Cutoff
- **TRANSPONDER**: Off

### SECURE CHECK

- **EMERGENCY EXIT LIGHTS**: Off
- **AIR CONDITIONING PACKS**: Off
- **APU / GROUND POWER**: Off
- **BATTERY**: Off