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## REQUIREMENTS:

- ✓ PMDG 747 QOTS II
- ✓ FS2CREW PMDG 747 QOTS II EDITION. Available at: [www.fs2crew.com](http://www.fs2crew.com)
- ✓ This tutorial uses **BUTTON CONTROL** with **SOP 1**

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## INTRODUCTION:

**SOP 1** follows stock Boeing procedures to a large degree, with some variation to account for the limitations imposed by desktop flying on a computer. Many airlines around the world use stock Boeing procedures, or slightly modified versions of them.

If you wish to tailor SOP 1 to match your airline, many of the FO's callouts can be enabled or disabled to match your needs on the SECONDARY PANEL. There are also some Config options you can set as well to match your airline.

[If you are new to FS2Crew, you should read the MAIN OPS MANUAL at least once prior to flying this tutorial!](#)

If you have any questions or problems, please consult the FS2Crew Support Forum at Avsim.com. This is complex software and we're trying to do things as realistically as possible, so don't be afraid to ask questions!

For the Flight Route, we'll leave that up to you. Pick your favorite airport and fly there!

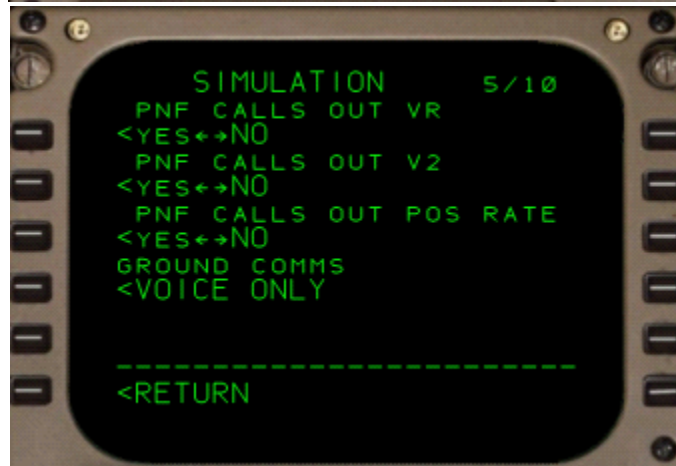
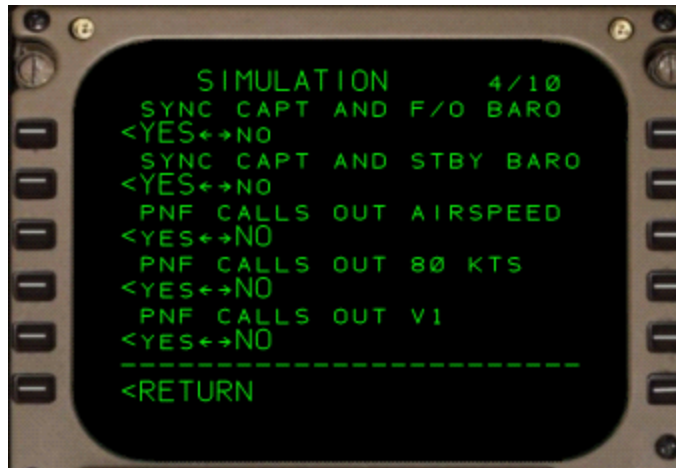
**DISCLAIMER:** This tutorial is made for flight simulation purposes only and does not necessarily reflect real world procedures to their fullest. FS2Crew 747 QOTS II is an entertainment product. It is not meant for real-world flying or training. It is not affiliated or associated with any specific airline or company.

# LOADING THE 747:

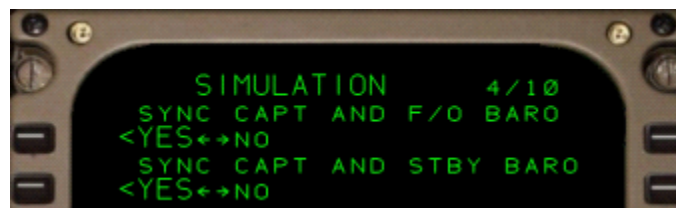
- Load the PMDG 747 QOTS II from the Free Flight screen.
- **FSX USERS ONLY:** The PMDG 747 should never be the default aircraft that loads or you WILL have problems. The default aircraft on the Free Flight screen should be a default aircraft, like the ultralight. Do not use saved situation files! If the trike is not the default aircraft, create a new saved situation file that uses the trike.



- At this point, you should be sitting in the 747's cockpit and the engines should be running. If the engines are not running, you are probably using a saved default PMDG 747 panel state file, and we generally don't recommend using a default saved panel state as they can sometimes cause the aircraft to initialize improperly.
- We need to shut off the built in **F/O CALLOUTS** or you will get double call outs via the **PMDG – OPTIONS - SIMULATION** menu as shown below:



- We recommend that the F/O's altimeter and Standby altimeter syncs to the Captain's altimeter as shown below.



**SYNC CAPT AND F/O BAR TO 'YES'.  
SYNC CAPT AND STBY BARO TO 'YES'.**

- Open the PMDG's FMC and select the stock **PMDG LONG** or **SHORT PANEL STATE** file. It's your choice. You don't need to do this for every flight. In fact, you can start with the engines running. But for the sake of this tutorial we're going to start with the engines off. These two panel states are generally the most realistic panel state files to use since airline pilots rarely receive the aircraft cold and dark and most major airports supply ground power and air.

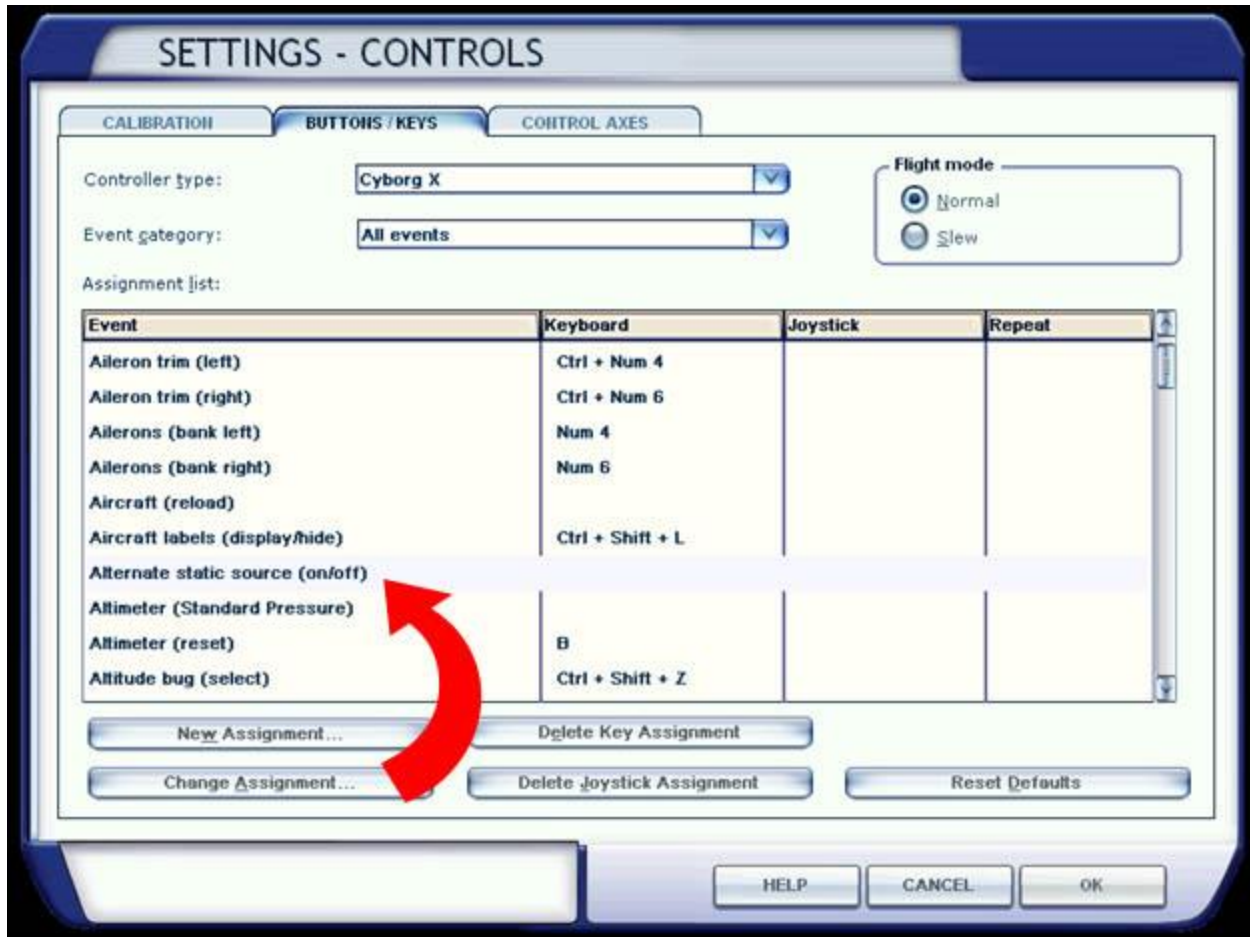
Remember: We generally do NOT recommend using a saved (default) panel state file. It's best to manually select it for each flight to ensure the aircraft loads properly.



- Now we need to assign the **MAIN BUTTON**. You will use this button 99 percent of the time to progress through the simulation, and to trigger the commands displayed on the left side of the MAIN PANEL. Assign a button to **ALTERNATE STATIC SOURCE (ON/OFF)** in the **FSX/P3D SETTINGS – CONTROLS** menu.

Do not use the same key assignment shared by a PMDG 747 command function, or the Main Button will not work. We recommend using the "C" key.

**Note:** If you are currently using FS2Crew NGX Reboot or any other recent version of FS2Crew, you may already have these assignments made.



**FOR NON-ENGLISH USERS:**

**GERMAN:** QUELLE FUR STATIKDRUCK (EIN/AUS)

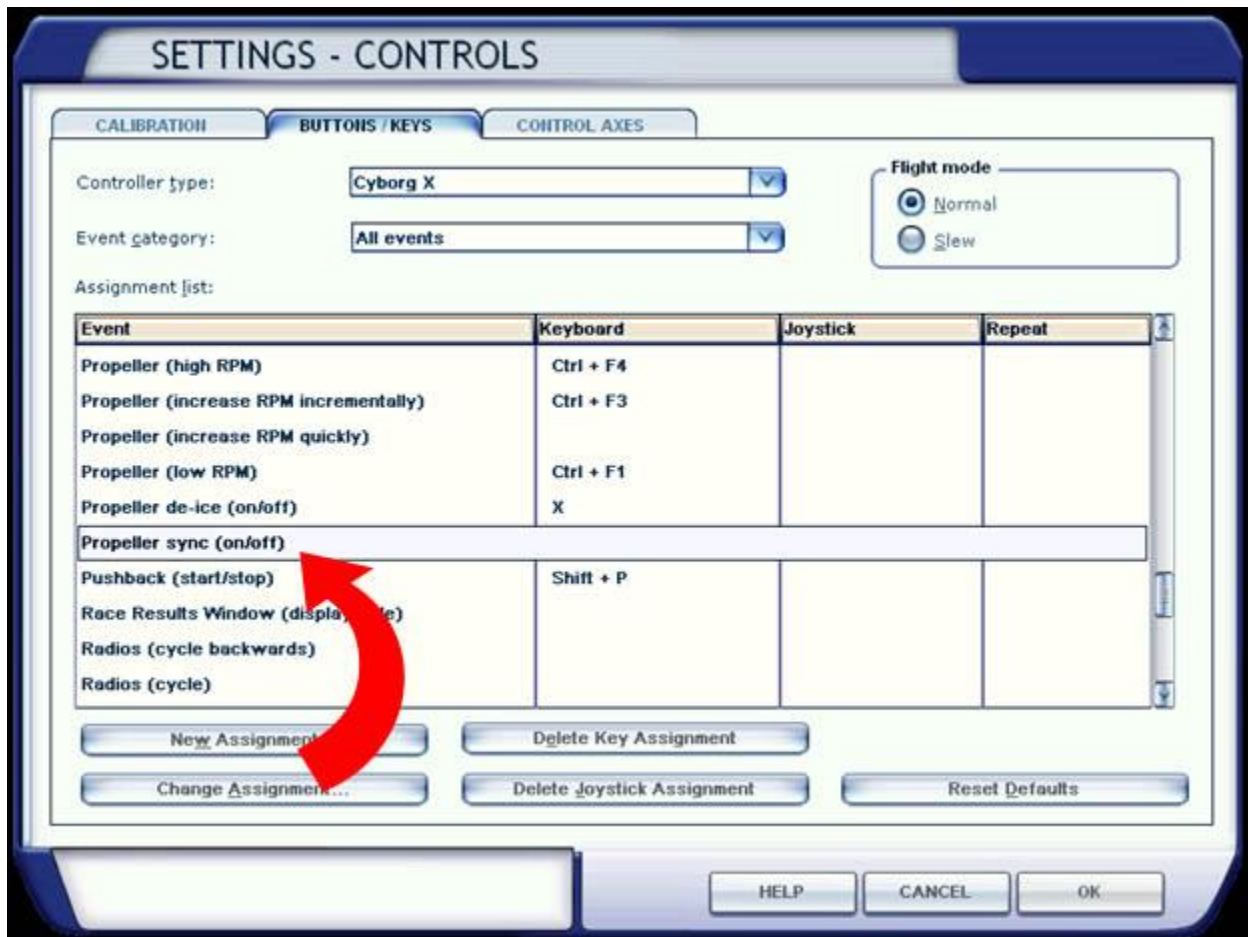
**FRENCH:** SOURCE STATIQUE DE REMPLACEMENT (ACTIVER/DESACTIVER)

**ITALIAN:** PRESA STATICA ALTERNATIVA

**SPANISH:** FUENTE ESTATICA ALTERNATIVA

- Next, we need to assign a button the **SECONDARY BUTTON**. Assign a button to **PROPELLER SYNC (ON/OFF)** in the **FSX/P3D SETTINGS – CONTROLS** menu.

Do not use the same key assignment shared by a PMDG 737 command function, or the Main Button will not work. We recommend using the “D” key.



**FOR NON-ENGLISH USERS:**

**GERMAN:** PROPELLER (SEGELSTELLUNG)

**FRENCH:** SYNCHRO DE L'HELICE (ACTIVER/DEACTIVER)

**ITALIAN:** SISTEMA DI MESSA IN BANDIERA DELL'ELICA (ARMA/DISATTIVA)

**SPANISH:** PUESTA EN BANDERA AUTOMATICA

- Now we need to open the **MAIN PANEL**. There is no click spot! Press the button you assigned to open the FS2Crew MAIN PANEL (namely the one linked to **AUTOFEATHER ARM/OFF**.) If you haven't already assigned a button to this event, do it now, or you won't be able to open the MAIN PANEL.

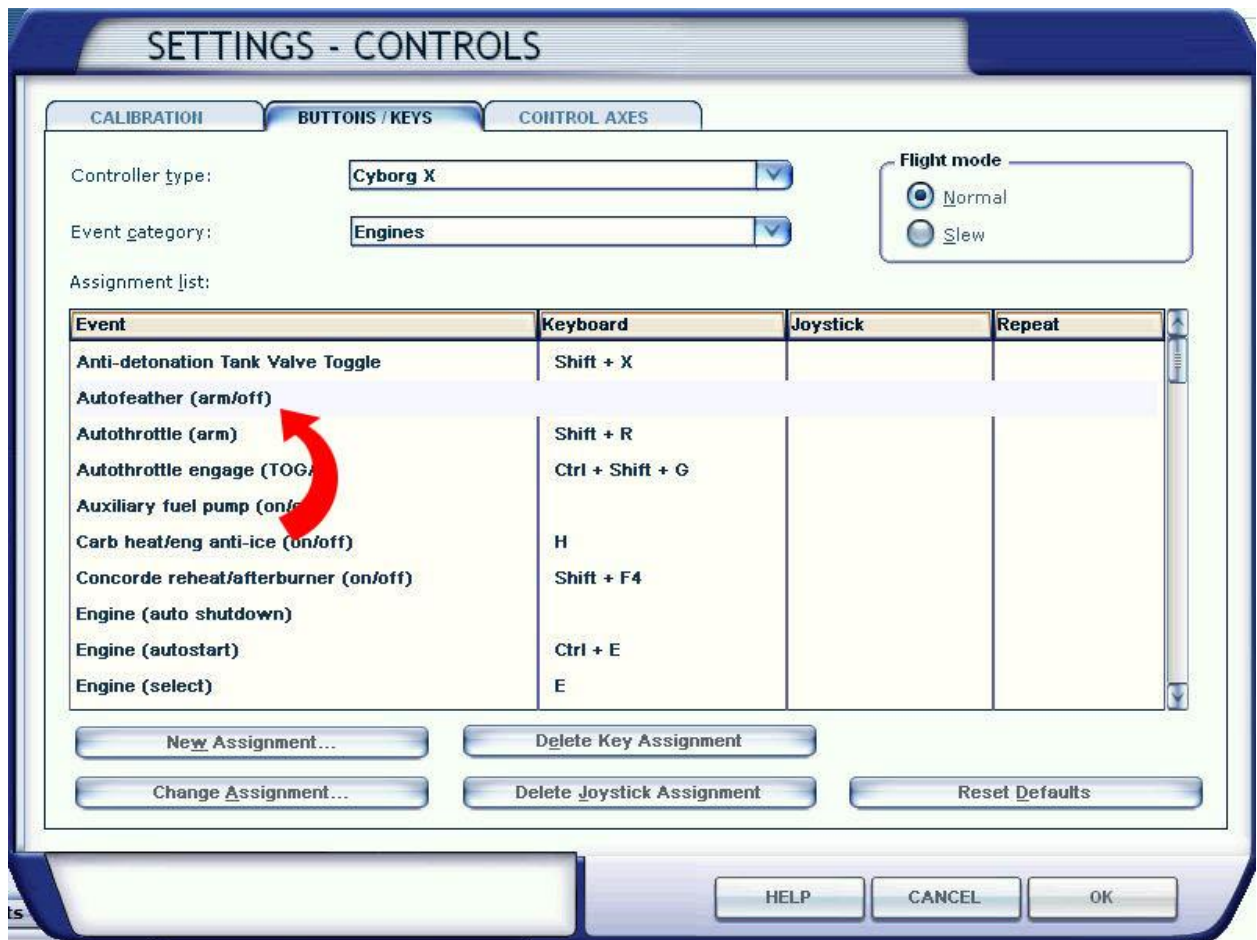


- Another, but not recommended, way to open the MAIN PANEL is:

**FSX:** VIEWS -> INSTRUMENT PANEL menu

**P3D V3.3 and above:** VEHICLES -> INSTRUMENT PANEL menu

- If the MAIN PANEL does now show up, run the SYSTEM CHECK found in the FS2Crew 747 Configurator. Also try using the “N” key for AUTOFEATHER ARM/OFF.



**We highly recommend using the “N” key for the Autofeather (Arm/off)**

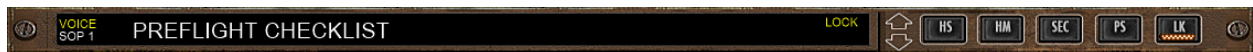
**FOR NON-ENGLISH USERS:**

**GERMAN:** AUTOMATISCHE ANSTELLWINKELVERSTELLUNG (EIN/AUS)

**FRENCH:** AMORCAGE DE LA MISE EN DRAPEAU AUTOMATIQUE (ARMER/DESARMER)

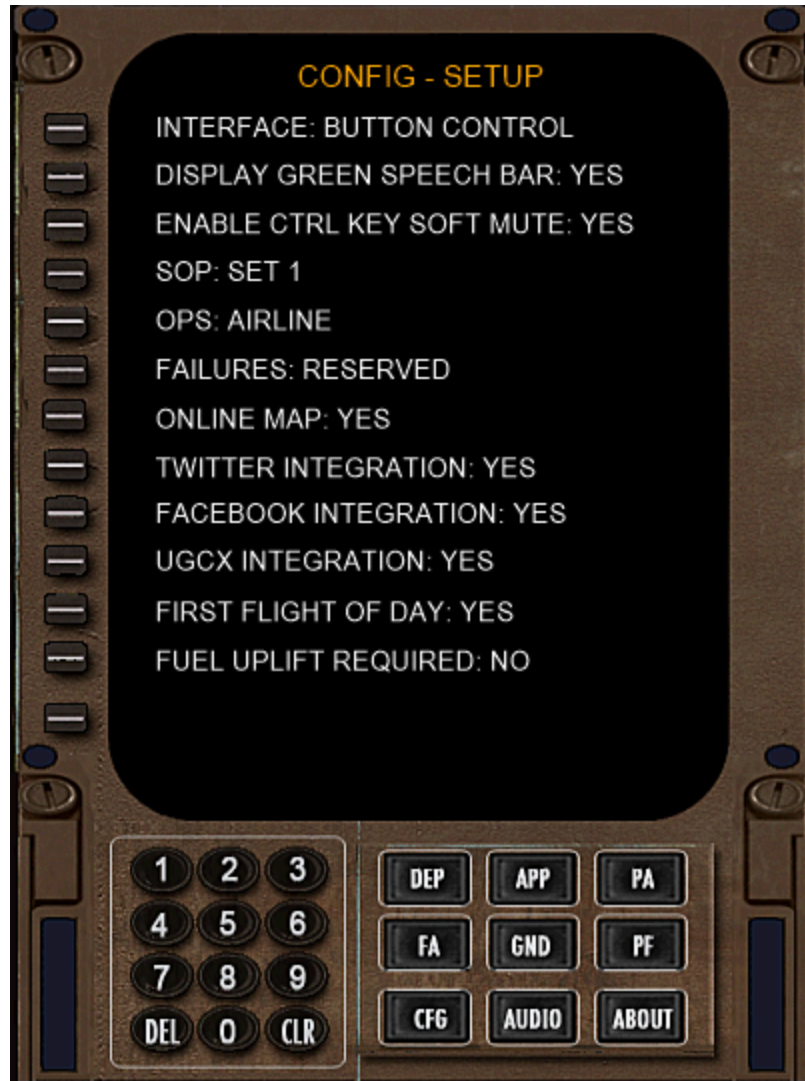
**ITALIAN:** SISTEMA DI MESSA IN BANDIERA DELL'ELICA (ARMA/DISATTIVA)

**SPANISH:** PUESTA EN BANDERA AUTOMATICA



- For a detailed explanation of the MAIN PANEL and its functions, please consult the **MAIN OPS MANUAL**.
- Now we need to open the **SECONDARY PANEL**. Press the **SEC** button on the MAIN PANEL.





- Press the **CFG** button on the FMC to open the CONFIG menu.
- Press LSK 1 (Left Line Select Button) to open the **SETUP** page.
- By default, FS2Crew is running in BUTTON CONTROL mode.
- Next, press the **AUDIO** button on the SECONDARY PANEL.
- Select your **CREW REGION** by pressing LSK 1. This setting controls the regional accent of the crew.
- If you are using a headset, select the audio device associated with your headset by pressing LSK 4 (HEADSET AUDIO DEVICE).
- Press LSK 7 to play the audio test. From your main speakers, you should hear *“Left speaker test.... Right speaker test... Audio test complete”*.



- Note the button that says **RESET AUDIO SYSTEM**. Only press that if you seem to lose FS2Crew audio; that can happen if your audio device momentarily disconnects from the system.
- Now we need to run the Pre-Flight events. Running the Pre-Flight events is **OPTIONAL**, but we'll run it anyway for the sake of the tutorial.
- Press the **PF** button on the SECONDARY PANEL to open the **PRE FLIGHT EVENTS** page.
- Press LSK 4 to run the Preflight Events (your engines must be shutdown first).



- To close the SECONDARY PANEL, press the SEC button on the FS2Crew Main Panel, or click the right screw in the top right hand corner of the SECONDARY PANEL.

# PRE-FLIGHT EVENTS:

**Special Note:** To **FAST FORWARD** the **PRE FLIGHT EVENTS TIME**, RIGHT CLICK the DOWN ARROW on the FS2Crew Main Panel or press LSK 4 on the **PRE FLIGHT EVENT PAGE**.









**NOTE: All times listed below are approximate.**

**+60 Minutes:** Pre-Flight Events start. Jetway connects if available. Door 2L opens.

**+59 Minutes:** ONLY if the APU or GPU are not supplying electrical power, FO starts the **ELECTRICAL POWER UP SUPPLEMENTARY PROCEDURE** unless you've selected otherwise in the FS2Crew Options menu. Note that in real life, pilots rarely receive the aircraft cold and dark, especially in passenger operations.

Note: If using a Freighter model, the FO will not turn on APU GEN #2 or EXT PWR #2 so that the cargo doors may be powered.

## **ELECTRICAL POWER UP SUPPLEMENTARY PROCEDURE** **-CAPTAIN OR FO. TUTORIAL ASSUMES FO WILL DO IT BASED ON DEFAULT CONFIG OPTION.**

-  *BATTERY ON*
-  *STANDBY POWER AUTO*
-  *HYDRAULIC PUMPS OFF*
-  *WINDSHIELD WIPERS OFF*
-  *ALTERNATE FLAPS SELECTOR OFF*
-  *LANDING GEAR DOWN*
-  *ESTABLISH ELECTRICAL POWER (IF GPU NOT CONNECTED, FO STARTS APU)*
-  *NAV LIGHTS ON*

**m+ 54 Minutes:** Forward cargo door opens. If using a freighter model, the nose cargo door will open. FO sets IRS to NAV. (Note: You still need to enter the position in the CDU. The FO will not do that).

**+53 Minutes:** Aft cargo door opens. Bulk cargo and cargo side door also open.

**+50 Minutes:** FO starts his walkaround.

**+35 Minutes:** FO returns from walkaround.

**+34 Minutes:** FO starts Pre-Flight and CDU Pre-flight procedures. (A Config option is available to disable this.)

Note: FO does not perform the various Supplementary Tests, such as the Fire tests, as they are performed by engineering.

## **PREFLIGHT PROCEDURE**

**-FIRST OFFICER. TUTORIAL ASSUMES FO WILL DO IT BASED ON DEFAULT CONFIG OPTION.**

***NOTE: The various tests (CVR, WX RADAR, TCAS, GPWS) are not part of the normal Preflight Procedure, and are not usually run in during everyday operations. They are 'Supplementary Procedures' and those tests are usually performed by the engineers.***

- ✚ EEC SWITCHES NORM
- ✚ ULILITY POWER SWITCHES ON
- ✚ BUS TIE AUTO
- ✚ GEN SWITCHES ON
- ✚ ENGINE HYD PUMPS ON
- ✚ EMERGENCY EXIT LIGHTS ARMED
- ✚ SERVICE INTERPHONE OFF
- ✚ FUEL TRANSFER 1 AND 4 OFF
- ✚ ENGINE FIRE SWITCHES OFF
- ✚ APU FIRE SWITCH IN
- ✚ CARGO FIRE ARM SWITCHES OFF
- ✚ ENGINE START SWITCHES IN
- ✚ STANDBY IGNITION NORMAL
- ✚ CONTINUOUS IGNITION OFF
- ✚ AUTO IGNITION SINGLE
- ✚ AUTO START SWITCHES ON
- ✚ FUEL JETTISON NOZZLE VALVE SWITCHES OFF
- ✚ ALL FUEL CROSS FEED SWITCHES ON
- ✚ ALL FUEL PUMPS OFF
- ✚ ENGINE AND WING ANTI ICE OFF (8 MODELS: AUTO)
- ✚ WINDOW HEAT ON
- ✚ WIPERS OFF
- ✚ PASSENGER OXYGEN SWITCH NORM (GUARD CLOSED)
- ✚ YAW DAMPERS ON (UPPER AND LOWER)
- ✚ PRESSURIZATION PANEL SET
- ✚ PAX AND FLIGHT DECK TEMP SELECTORS AUTO
- ✚ TRIM AIR ON
- ✚ RECIRC FANS ON
- ✚ AFT CARGO HEAT OFF

- ✚ EQUIPMENT COOLING SELECTOR NORM
- ✚ HIGH FLOW SWITCH OFF
- ✚ GASPER SWITCH ON
- ✚ PACKS ON IF AIR CONDITIONING CART NOT ATTACHED (BELOW 20 DEGREES C: ONE PACK ON. ABOVE 20 DEGREES C: TWO PACKS ON)
- ✚ ISOLATION BLEED VALVES ON
- ✚ ENGINE BLEEDS ON
- ✚ APU BLEED ON
- ✚ LIGHTING PANEL SET
- ✚ STATUS DISPLAY SWITCH PUSH
- ✚ SET BARO (IN/HPA) BASED ON CURRENT REGION
- ✚ PRESS TFC
- ✚ CHECK CDU PAGES
- ✚ SET 121.5 ON VHF RIGHT
- ✚ SET TCAS PANEL
- ✚ AUTOBRAKES RTO
- ✚ OXYGEN TEST
- ✚ CHECK OXYGEN ON STAT PAGE
- ✚ SET QNH
- ✚ GPWS PANEL SET
- ✚ GEAR AND TERRAIN OVERRIDE OFF
- ✚ EIU SELECTOR AUTO
- ✚ HDG SWITCH MAGNETIC

## **PREFLIGHT PROCEDURE**

### **-CAPTAIN**

- ✚ SETUP CDU
- ✚ EFIS CONTROL PANEL SET (MINIMUMS REFERENCE SELECTOR SET. BARO (IN/HPA) SET. ND TRAFFIC SWITCH ON. WX RADAR OFF.)
- ✚ MCP SET ( F/D SWITCH ON – AUTO THROTTLE ARM – IAS SET (SET V2 FOR PLANNED TAKE OFF WEIGHT FROM OPERATIONAL FLIGHT PLAN – BANK LIMIT AUTO – AUTOPILOT DISENGAGE BAR UP)
- ✚ OXYGEN TEST AND SET
- ✚ SOURCE SELECT PANEL SET
- ✚ PFD: VERIFY MODES AND CHECK NO FLAGS
- ✚ ISFD SET
- ✚ SPEEDBRAKE LEVER DOWN
- ✚ FLAP LEVER SET
- ✚ PARKING BRAKE SET (VERIFY 'PARK BRAKE SET' MESSAGE SHOWS ON EICAS)
- ✚ FUEL CONTROL SWITCHES CUTOFF
- ✚ STAB AND ALT STABILIZER TRIM SWITCHES NEUTRAL
- ✚ AUDIO CONTROL PANEL SET

**+ 30 Minutes:** FA asks if she can start the boarding. Press the SECONDARY BUTTON to respond. Actual boarding will commence approximately two minute later.

Note that items that appear in the right hand side of the Main Panel text area are triggered by pressing the SECONDARY BUTTON.

Items that appear in the left-hand side of the Main Panel text are triggered by pressing the MAIN BUTTON.

**+ 15 Minutes:** Run the PREFLIGHT CHECKLIST by pressing the MAIN BUTTON.

### Checklist Notes:

**B** = Responded by both flight crew members.

**F** = Responded by the FO only.

**C** = Responded by the Captain only.

Items in **RED TEXT** are to be spoken by you, the Captain.

The FO will respond to many of his own challenges if the item falls within his area of responsibility.

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### PREFLIGHT CHECKLIST (PLEASE)

OXYGEN (B)	TESTED, 100 PERCENT
FLIGHT INSTRUMENTS (B)	HEADING ____, ALTIMETER __*
PARKING BRAKE (C)	SET
FUEL CONTROL SWITCHES (C)	CUTOFF

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- “HEADING” refers to the aircraft heading shown on the PFD, not the heading value dialed in the MCP.

**+10 Minutes:** Obtain your airways clearance if using ATC. (In FS2Crew, this is done by the Captain, but in real-life it’s usually done by the FO). Once you’ve received the clearance, enter your cleared Altitude in the MCP Altitude Window.



**+ 9 Minutes:** Run the Departure Briefing around this time by opening the SECONDARY PANEL and opening the DEPARTURE BRIEF PAGE and pressing "PLAY". Forward cargo door, nose cargo and bulk cargo door close.






**+ 8 Minutes:** Bulk cargo door and cargo side door close. Main electrical cargo door closes.

**+ 7 Minutes:** Loadsheet arrives either via ACARS or in person (Config Option)

**+6 Minutes:** After the fueling, tech log and loadsheet have been reviewed, complete the CDU FINAL PREFLIGHT PROCEDURE.

## **CDU FINAL PREFLIGHT PROCEDURE**

### **-CAPTAIN**

-  COMPLETE CDU (PERF INIT PAGE AND TAKEOFF REF PAGE)
-  MCP SET (IAS TO V2, VNAV/LNAV ARM, RWY HDG SET, INITIAL ALT SET)
-  SET MDA TO ENGINE OUT ACCELERATION HIGHT + FIELD ELEVATION
-  CHECK TAKEOFF DATA AGAINST THE LOADHSHEET
-  SELECT TAKEOFF PAGE ON CDU

### **-FIRST OFFICER / PILOT MONITORING**

-  SELECT LEGS PAGE ON CDU

**+ 4 Minutes:** Aft cargo door closes.

**+ 3 Minutes:** Boarding is complete. The FA will notify you that the cabin is ready and if she can close the cockpit door.

**+ 2 Minutes:** If the Air Start Cart is not connected and the APU is running and on the busses, the wheel chocks will be automatically removed. Door 2L will close and the Jetway will disconnect.

**+1 Minutes:** Ask the ground crew if you can pressurize the hydraulics if desired. You can initiate a conversation with the ground crew by dialing **P1** on the interphone.



You can also talk to the Ground Crew without using the interphone. However, you will need to enable ground comms first by press MIC above FLT on the Captain's Audio Panel.







**+ 0 Minutes:** After being cleared for engine start (not simulated) and after the exterior doors are closed, and, if desired, after ground has cleared you to pressurize the hydraulics, command: **"BEFORE START PROCEDURE"** and perform the **BEFORE START PROCEDURE**.

When the FO asks you if you are cleared to pressurize, command: **"YES"**.

## **BEFORE START PROCEDURE**

### **-CAPTAIN / PILOT FLYING**

-  *VERIFY DOORS CLOSED*
-  *OBTAIN CLEARANCE FROM GROUND CREW TO PRESSURIZE HYDRAULICS*
-  *SET TRIM FOR TAKEOFF*
-  *CALL FOR THE "BEFORE START CHECKLIST"*

## BEFORE START PROCEDURE -FIRST OFFICER / PILOT MONITORING

- ✚ VERIFY DOORS CLOSED
- ✚ ASK CAPT IF CLEARED TO PRESSURIZE THE HYDRAULICS
- ✚ IF APU RUNNING AND USING A FREIGHTER MODEL, APU GEN #2 ON
- ✚ HYD DEMAND PUMP 4 AND 1 - AUX, 2 AND 3 – AUTO.
- ✚ IF AIR START CART CONNECTED: PACKS OFF
- ✚ FUEL PANEL SET
- ✚ RECIRC FANS ON IF PREVIOUSLY OFF
- ✚ LEFT PACK ON. RIGHT AND CENTER PACKS OFF (IF CARGO: ALL PACKS OFF)
- ✚ BEACON BOTH
- ✚ RECALL
- ✚ CHECK DOORS
- ✚ CHECK STATUS
- ✚ SEATBELT SELECTOR ON

**+0 Minutes:** Command: “**BEFORE START CHECKLIST**”.

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### BEFORE START CHECKLIST (PLEASE)

FLIGHT DECK DOOR (F)	CLOSED AND LOCKED
PASSENGER (SUPERNUMERARY) SIGNS (F)	SET
MCP (C)	V2____, HEADING____, ALTITUDE____*
TAKEOFF SPEEDS (C)	V1____, VR____, V2____*
CDU PREFLIGHT (C)	COMPLETED
TRIM (C)	X POINT X UNITS ZERO AND ZERO*
TAXI AND TAKEOFF BRIEFING (C)	COMPLETED
BEACON (F)	BOTH

\*Due to SDK limits, the trim value read by the FO will be rounded up or down.

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**+ 0 Minutes:** Pushback and Engine Start.

# PUSHBACK AND ENGINE START:

- For pushback, use the built in PMDG pushback until Ultimate Ground Crew X is released.
- Command “**START SEQUENCE IS FOUR THREE TWO ONE**” or, if auto start is not available, command, “**START SEQUENCE IS FOUR AND THREE THEN TWO AND ONE**”.
- Note: Announcing the start sequence is the trigger for the Cabin Crew to arm the doors.
- Use the following commands to start the engines.

## NON-AUTO START (ENGINES MUST BE STARTED INDIVIDUALLY)

- **START ENGINE 4**
- **START ENGINE 3**
- **START ENGINE 2**
- **START ENGINE 1**

## AUTO START:

- **START ENGINES 4 AND 3**
  - **START ENGINES 2 AND 1**
- After the FO pulls the start lever, set the fuel control lever for the associated engine to RUN.
  - If you wish to perform a cross bleed start, start Engine 4, then disconnect the Ground Air Start Equipment, then advance the throttle on Engine 4 to 70% N2 in the 747-400 (or 82% N2 in the 747-8), then start the remaining engines normally.

# BEFORE TAXI PROCEDURE:

- Call for the “**BEFORE TAXI PROCEDURE**”.

## BEFORE TAXI PROCEDURE -PILOT MONITORING

- ✚ *IF APU TO PACKS TAKEOFF: LEFT AND RIGHT ISOLATION VALVES SWITCHES OFF*
- ✚ *IF PACKS ON OR PACKS OFF TAKEOFF: APU OFF*
- ✚ *HYDRAULIC DEMAND PUMPS AUTO*
- ✚ *ENGINE AND WING ANTI ICE AS REQUIRED*
- ✚ *AFT CARGO HEAT ON*
- ✚ *PACKS NORMAL*
- ✚ *RECALL*
- ✚ *CHECK STATUS*

- After the BEFORE TAXI PROCEDURE IS COMPLETE and you are clear of any ground equipment or ramp staff, call for the takeoff flap: “**FLAPS 10**” or “**FLAPS 20**”.
- If the taxi route is through slush or standing water at temperatures below freezing, taxi with the flaps up. Command, via the SECONDARY BUTTON: “**LEAVE THE FLAPS UP FOR TAXI**”.
- Perform the Flight Controls check while the flaps are extending.
- The Flight Controls check is performed silently by the Captain.

Command: “**BEFORE TAXI CHECKLIST**” when the Flight Controls check is complete. Remember to call for this checklist after you’ve performed the flight controls check. The FO will blank the STATUS screen when you call for this checklist.

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**BEFORE TAXI CHECKLIST (PLEASE)**

ANTI-ICE (F)	_____
RECALL (F)	CHECKED
AUTOBRAKE (F)	RTO
FLIGHT CONTROLS (C)	<b>CHECKED</b>
GROUND EQUIPMENT (B)	<b>CLEAR</b>

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## TAXI PROCEDURE:

- Release the parking brake and announce: “**CLEAR LEFT**”. That is the trigger for the PM to turn on the TAXI and RUNWAY TURNOFF LIGHTS. If your model does not use a taxi light, the PM will turn on the INBOARD LANDINGS LIGHTS.

# APPROACHING RUNWAY:

- After the cabin is secure, run the BEFORE TAKEOFF CHECKLIST. Command: “**BEFORE TAKEOFF CHECKLIST (PLEASE)**”. Note: FS2Crew cannot “read” due to SDK limits when the Cabin is Secure message is displayed on the intercom panel, so you’ll just have to make do. Do not expect an announcement from the FO about the cabin being secure.
- If the flaps were left up for taxi because the taxiway was heavily contaminated, stop the plane and extend the flaps. Command: “**FLAPS 10**” or “**FLAPS 20**”.

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## **BEFORE TAKE OFF CHECKLIST (PLEASE)**

FLAPS (C)

**FLAPS 10 / FLAPS 20**

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# RUNWAY ENTRY PROCEDURE AND TAKEOFF:

- Command: “**RUNWAY ENTRY PROCEDURE**”

## **BEFORE TAKEOFF PROCEDURE**

### **-PILOT FLYING**

- ✚ WEATHER RADAR ON (ALWAYS, REGARDLESS OF CONDITIONS)
- ✚ TRAFFIC (TFC) ON

## **BEFORE TAKEOFF PROCEDURE**

### **-PILOT MONITORING**

- ✚ SIGNAL CABIN BY CYCLING NO SMOKING SIGN
- ✚ STROBES ON
- ✚ INBOARD LANDING LIGHTS ON
- ✚ TRANSPONDER TARA
- ✚ TERRAIN ON (ALWAYS, REGARDLESS OF CONDITIONS)
- ✚ IF APU TO PACKS TAKEOFF: PACKS 1 AND 3 OFF
- ✚ IF PACKS OFF TAKEOFF: ALL PACKS OFF

- Command **“TAKEOFF”** after cleared by ATC for takeoff.
- The PM will then set the OUTBOARD LANDING LIGHTS to ON and start timing (ET and CHR).
- Advance the thrust levers to 50%, wait for the engines to stabilize, then press TOGA.
- PM will call **“THRUST SET”** and **“80 KNOTS”**.
- The PM will call **“V1”** if V1 is not selected an aircraft auto-callout.
- When the PM calls **“ROTATE”**, pitch the nose up.
- After the PM calls **“POSITIVE RATE”**, command: **“GEAR UP”**.
- Note: The PM will not announce **“GEAR UP”** because it’s Boeing practice not to say anything between V1 and 400 feet except for **“ROTATE”** and **“POSITIVE RATE”**, even if you have a failure.

## REJECTED TAKEOFFS

- Command: **“STOP STOP”**.
- If you want to return to the runway, command: **“LETS TAXI BACK TO THE RUNWAY”**.
- You may also wish to make PAs from the **PA - QRH** screen in the SECONDARY PANEL depending on the context.

## CLIMB:

- Retract the flaps on schedule using the following commands (assuming takeoff was done at Flaps 20): **“FLAPS 10 / FLAPS 5 / FLAPS 1 / FLAPS UP”**.
- If a PACKS OFF takeoff was performed, the PM will restore the packs 2000 feet above the takeoff elevation.
- The PM will set the Gear Handle to off with the Flaps 5 call.
- The PM will turn off the outboard landing lights, taxi light and runway turnoff light after selecting Flaps Up.
- Command **“AFTER TAKEOFF CHECKLIST (PLEASE)”**

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### **AFTER TAKEOFF CHECKLIST (PLEASE)**

LANDING GEAR (F)

UP AND OFF

FLAPS (F)

UP

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- The PM will perform entire checklist on his own.



- If VNAV / LNAV were not armed on the ground, engage VNAV / LNAV when desired.
- At 10,000 feet, the PM will call “**10,000/ FLIGHT LEVEL 100**”, and he will turn off inboard landing lights and the logo light.

## TRANSITION ALTITUDE:

When cleared above the Transition Altitude, or when passing the Transition Altitude:

1. Press STD on the Captain’s EFIS Panel.
2. PF: “**SET STANDARD**”.
3. PM replies: “STANDARD SET”.

## DESCENT PROCEDURE

### DESCENT PROCEDURE

#### -CAPTAIN

- ✚ ENTER ARRIVAL ROUTE IN FMC
- ✚ CHECK LANDING PERFORMANCE
- ✚ MAKE DESIRED SELECTIONS ON THE FS2CREW APPROACH BRIEF PAGE, BUT DO NOT RUN THE BRIEF YET.
- ✚ SET MINS SELECTOR (RADIO IF CATII or III OTHERWISE SELECT BARO)
- ✚ SET DECISION ALTITUDE/HEIGHT AND SELECT APP/BCRS ON STANDBY/ISFD.
- ✚ VERIFY OR SET THE TRANSITION LEVEL ON THE FMC’S DESCENT FORECAST PAGE. FS2CREW NEEDS THAT VALUE TO COMPUTE THE PM’S ‘TRANSITION’ CALL.
- ✚ RUN THE APPROACH BRIEFING BY PRESSING “**PLAY BRIEF**” ON THE BRIEF PANEL.
- ✚ AFTER THE BRIEF, COMMAND: “**DESCENT PROCEDURE**”.

## DESCENT PROCEDURE

### -FIRST OFFICER

- ✚ RECALL
- ✚ SELECT VREF (NOTE: A CONFIG OPTION IS AVAILABLE TO PERFORM THIS ACTION MANUALLY BY THE USER IF DESIRED)
- ✚ SET DA/DH ON FO'S EFIS PANEL (NOT SIMULATED DUE TO SDK LIMITS)
- ✚ SET AUTOBRAKE

## DESCENT CHECKLIST

- Run the descent checklist prior to the Top of Descent.
- Command “DESCENT CHECKLIST”.

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### DESCENT CHECKLIST (PLEASE)

RECALL (PM)	CHECKED
AUTOBRAKE (PF)	SET
LANDING DATA (B)	VREF__, MINIMUMS__FEET*
APPROACH BRIEFING (PF)	COMPLETED

---

The PM will set the Seatbelts to on at the Top of Descent point.

## TRANSITION LEVEL:

- When cleared to an altitude, or when the PM announces passing the Transition Level, you have two options:

### When cleared to an altitude prior to passing the Transition Level.

1. Preselect local pressure.
2. Press the STD button on the Captain's EFIS panel to set local pressure.
3. PF: “SET ALTIMETERS”.
4. PM: “XXXX SET CROSSCHECKED. PASSING XXXX. DESCENDING XXXX”
5. PF: “XXXX SET AND CROSSCHECKED”.

# APPROACH:

- After passing the Transition Level, command: “**APPROACH CHECKLIST (PLEASE)**”.

---

## APPROACH CHECKLIST (PLEASE)

ALTIMETERS (B)

\_\_\_\_ SET

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- Passing 10,000 feet, the PM will turn on the following exterior lights: Inboard landing, taxi and runway turnoff. If it’s night, the PM will turn on the logo light.
- At approximately 5000 feet above the arrival airport, PM will rotate the NO SMOKING SIGN to verify the cabin is ready for landing.

# SHOOTING THE APPROACH:

- Use HDG SEL or LNAV to intercept the final approach course. If using LNAV, ensure the localizer is captured as it might parallel the approach course.
- Arm APP Mode if required.
- Extend the flaps on schedule using the available flap commands: “**FLAPS 1**”, “**FLAPS 5**”, “**FLAPS 10**”, “**FLAPS 20**”, “**FLAPS 25**”, “**FLAPS 30**”.
- Depending on your selected call out options, the PM will call “**LOCALIZER ALIVE**” and “**GLIDESLOPE ALIVE**”.
- When the Glideslope comes alive, command: “**GEAR DOWN FLAPS 20**”. Arm the speed brake.
- When desired, speak: “**FLAPS 25/30**”.
- If autopilot engaged, manually set VREF plus additive.
- Passing the Outer Marker or FAF/FAP, the PM will call “**OUTER MARKER / FINAL APPROACH FIX, HEIGHT CHECKED**”.
- After the final landing flap has been selected, command: “**LANDING CHECKLIST**”.

---

## LANDING CHECKLIST (PLEASE)

SPEEDBRAKE (PF)

ARMED

LANDING GEAR (PF)

DOWN

FLAPS (PF)

25 GREEN / 30 GREEN

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- At 500 feet, the PM will call stable or not stable.
- Command: “**CLEARED TO LAND**” when cleared to land. That is the PM’s trigger to turn on the outboard landing lights.

- At minimums, command: “**LAND**” or “**CONTINUE**”. If you need to go around, follow the Go Around procedure described below.

## GO AROUND PROCEDURES

- Push the TO/GA switch and push the SECONDARY BUTTON.
- Command: “**GO AROUND / GO AROUND FLAPS 20**”.
- After the PM announces “**POSITIVE RATE**”, command: “**GEAR UP**”.
- The PM will set the landing gear up.
- At or above 400’, select or call for a lateral roll mode.
- Retract the flaps on schedule and call for the “**AFTER TAKEOFF CHECKLIST**”.

## ROLLOUT

- The PM will announce the status of the speed brakes and reversers. “**SPEED BRAKE UP/ NOT UP/ REVERSERS NORMAL**”.
- The PM will call “**60 KNOTS**”.
- If doing an Autoland, disengaging the autopilot/auto throttle is the responsibility of the Pilot Flying.

# AFTER LANDING

To trigger the FO's after landing flow, command **"OKAY TO CLEAN UP"**.

## AFTER LANDING PROCEDURE

### -CAPTAIN

- ✚ SPEED BRAKE DOWN
- ✚ WX RADAR OFF

## AFTER LANDING PROCEDURE

### -FIRST OFFICER

- ✚ START TIMING FOR 3 MINUTE ENGINE COOL DOWN
- ✚ APU: IF GPU/AC NOT PRESELECTED TO BE CONNECTED AT THE GATE, ASK CAPTAIN IF HE/SHE WANTS THE APU ON. COMMAND: **"YES"** OR **"NO"**.
- ✚ EXTERIOR LIGHTS AS REQUIRED
- ✚ TERRAIN OFF (NOTE: DUE TO SDK LIMITS, FS2CREW CANNOT READ IF TERRAIN IS ACTIVE. THAT SAID, THE FO PUSHES THE TERR BUTTON ASSUMING ITS ALREADY ON).
- ✚ AUTOBRAKE OFF
- ✚ FLAPS UP IF TAXIWAYS NOT CONTAMINATED
- ✚ IF TAXIWAYS CONTAMINATED, FO WILL ASK YOU IF YOU WANT TO LEAVE THE FLAPS DOWN. COMMAND: **"YES"** OR **"NO"**.
- ✚ STAB TRIM TO 6 UNITS
- ✚ TRANSPONDER AS REQUIRED

# TAXI IN

- Just prior to turning into the gate or stand, command: **"LIGHTS AND DOORS"**. The FO will turn off the taxi, runway turnoff lights and inboard landing lights as appropriate and make the following PA: **"CABIN CREW DISARM DOORS AND CROSSCHECK."** It is also the trigger for the doors to be disarmed.

# GATE/STAND ARRIVAL SHUTDOWN

## SHUTDOWN PROCEDURE (PRIOR TO ENGINE CUT)

### -CAPTAIN

- ✚ PARKING BRAKE SET
- ✚ IF YOU ASKED THE FO TO TURN ON THE APU AFTER LANDING, WAIT FOR THE FO TO ANNOUNCE THAT THE APU IS "ON-LINE" PRIOR TO RUNNING THE SHUTDOWN PROCEDURE.
- ✚ COMMAND: "**SHUTDOWN PROCEDURE / SHUTDOWN PROCEDURE PLEASE**". THAT IS THE TRIGGER FOR THE FO TO START HIS FLOW DESCRIBED BELOW (THREE MINUTE ENGINE COOL DOWN TIME REQUIRED FIRST.)
- ✚ AFTER THE FO ANNOUNCES "CLEAR TO CUT" OR "CLEAR TO SHUTDOWN", ENGINE START LEVERS CUTOFF. NOTE: IF FOR SOME REASON THE APU IS INOP, LEAVE ENGINE #4 RUNNING UNTIL EXTERNAL POWER CAN BE CONNECTED.

## SHUTDOWN PROCEDURE (PRIOR TO ENGINE CUT)

### -FIRST OFFICER

- ✚ APU / GPU ON THE BUSES (IF APU or GPU AVAILABLE)
- ✚ HYD DEMAND PUMPS OFF (4 TO AUX)
- ✚ STATUS DISPLAY TO ENGINE
- ✚ ANNOUNCE READY FOR ENGINE SHUTDOWN

## SHUTDOWN PROCEDURE (AFTER ENGINE CUT)




### -CAPTAIN

- ✚ WHEN CHOCKS IN PLACE, ANNOUNCE: "**CHOCKS HOLDING**". THIS IS THE TRIGGER FOR THE FO TO SET HYD PUMP 4 TO OFF
- ✚ CAPT'S FLIGHT DIRECTOR OFF

## SHUTDOWN PROCEDURE (AFTER ENGINE CUT)

### -FIRST OFFICER

- ✚ SEATBELT SIGN OFF
- ✚ ANTI ICE OFF
- ✚ FUEL PUMP SWITCHES OFF
- ✚ AFT CARGO HEAT OFF
- ✚ IF OAT LESS THAN 20 DEGREES CELCIUS, LEAVE ONE PACK ON.
- ✚ IF OAT GREATER THAN 20 DEGREES CELCIUS, LEAVE TWO PACKS ON
- ✚ BEACON OFF (IF ON APU POWER, THE GROUND CREW WILL INSERT THE CHOCKS AFTER THE BEACON IS SELECTED OFF)

-  *FO'S FLIGHT DIRECTOR OFF*
-  *HYD PUMP 4 TO OFF IF CHOCKS IN PLACE*
-  *APU OFF IF EXTERNAL POWER CONNECTED*

When the shutdown procedure is complete, call for the SHUTDOWN CHECKLIST. Command: **"SHUTDOWN CHECKLIST"**.

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### **SHUTDOWN CHECKLIST (PLEASE)**

HYDRAULIC PANEL (F)	SET
FUEL PUMPS (F)	OFF
FLAPS (F)	UP
PARKING BRAKE (C)	<b>SET / RELEASED</b>
FUEL CONTROL SWITCHES (C)	<b>CUTOFF</b>
WEATHER RADAR (B)	<b>OFF</b>

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**Note:** If you want to make a second flight, you do NOT need to reload the aircraft. Instead, press the down arrow button on the FS2Crew Main Panel and skip over the SECURE CHECKLIST. You will be returned to the PRE-FLIGHT CHECKLIST.

## **SECURING THE AIRCRAFT**




If you wish to secure the aircraft, use the following procedure, but note that in real-world flying, pilots very rarely run this procedure. It's usually done by engineering.

Important note: If you do NOT have **FINAL SECTOR** set to **YES** on the **2<sup>nd</sup> page of the Approach Briefing** page, FS2Crew will automatically skip the secure section and return you to the first checklist.

- Command: **"SECURE PROCEDURE"**.
- When the FO completes his flow, command: **"SECURE CHECKLIST"**.

### **SECURE PROCEDURE**

#### **-FIRST OFFICER**

-  *IRS'S OFF*
  -  *EMERGENCY EXIT LIGHTS OFF*
  -  *PACKS OFF*
-



**SECURE CHECKLIST (PLEASE)**

IRsS (F)	OFF
EMERGENCY EXIT LIGHTS (F)	OFF
PACKS (F)	OFF

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**-TUTORIAL END-**