



international x-plane engineering group

737 CLASSIC



Quick Start Guide
Start Up Cold and Dark



Quick Start – Start Up Cold and Dark

RESOURCES

There is a YouTube video of Captain Jan Vogel performing this lesson. The video can be found at:

<http://www.youtube.com/>

DESCRIPTION

In this quick start lesson, we will begin with the aircraft completely unpowered. This aircraft state is commonly referred to as "cold and dark". We will not utilize the ground power unit (GPU), which is the most common way to provide ground power to the aircraft in reality, but rather we will utilize the aircraft auxiliary power unit (APU) to power the aircraft as well as to start our engines. The APU can provide both electrical and pneumatic power, both of which are needed to start the engines.

LEARNING GOALS

Pilot familiarization with the basic steps needed to power up a dormant 737.

PRE FLIGHT CHECKLIST

NOTE: Where indicated in red below, you can refer to the Installation and Setup manual for further instructions. We will abbreviate references to the the Installation and Setup Manual as 'ISM'. You can click on the references to automatically open the ISM documents to the related areas of information.

- Start X-Plane
- Select the IXEG 737-300 as your active aircraft
- Select any location you like
- After entering the cockpit, use the user interface (bump mouse to left screen) to go to the PREFLIGHT menu and select the option "COLD AND DARK". Hit APPLY & RESET TO RUNWAY
- Now use the X-Plane menu LOCATION and SELECT GLOBAL AIRPORT to go to any airport/runway/parking position you like

PRE FLIGHT INSTRUCTOR BRIEFING

During this lesson you will need to operate various controls and buttons in all parts of the cockpit. Make sure you can move your view around as desired, either with the IXEG view selection tool ([ISM, page #n – PDF link](#)), x-planes free mouse view or a head-tracking device such as Track IR. Most controls can be manipulated with the mouse, either with a single click, or with a "grab" and



“pull” (click when the mouse arrow turns into a hand, but don’t let go, then move the mouse).

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FLIGHT OPERATIONS

1. Click the battery switch to toggle the switch to “ON”. This will provide only the most basic of electrical power to the aircraft. Close the guard.



2. Start the APU by moving the APU switch to the “START” position and holding it there for 2 seconds, then release the switch and it will automatically settle to the “ON” position.



NOTE: It will take around 15-20 seconds for the APU to be ready to provide electricity. You may see a few annunciators become dimmer as the APU starts. The blue, "APU GEN OFF BUS" light will illuminate when the APU is ready to power the aircraft.



- When the APU GEN OFF BUS light illuminates, then move BOTH APU GEN switches to the ON position, first one and then the other (any order). The switches will auto-return to the middle position when released. The bus and transfer warning lights should extinguish.



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4. Turn on all wing-tank fuel pumps. Low pressure lights should extinguish.



5. Move the YAW DAMPER switch to the ON position. The yaw damper light will extinguish, even though there is no hydraulic power yet.



6. Move all hydraulic switches to the ON position. The low pressure warning lights for the electric pumps should extinguish as they are now powered via the APU. The low pressure warning lights for ENG1 and ENG2 will remain lit until the engines are started later on.



7. Turn on the APU BLEED switch. Verify both engine bleed switches are ON. Observe the “DUAL BLEED” warning light illuminate and the air pressure on the indicator should rise. Turn off all pack switches. Place the Isolation Valve switch to the AUTO position.



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8. Move both IRS mode selectors to the NAV (not ALIGN!) position. A brief self test will run, after which you should observe the ALIGN lights illuminate. (If you turn the knobs too far by accident, then just turn the knobs back to OFF, wait until all IRS lights extinguish, and then try again).



9. On the FMS click INIT REF button and then enter your current geographical latitude and longitude position into the hollow boxes. **NOTE: you may copy the GPS position by going to the NEXT PAGE (use 'next page' button) and pressing the key next to the GPS coordinates. This will temporarily copy the GPS location to the scratchpad. Now go back to PREV PAGE (use 'prev page' button), then press the key next to the hollow squares and the GPS position will be copied into the hollow boxes.**



NOTE: Do NOT taxi or move the aircraft until both EADI's show a valid artificial horizon with blue and brown for the sky/ground. The image below shows an invalid EADI. It will take up to 13 minutes for the EADIs to show a valid artificial horizon. You may continue with the steps below in the meantime.



10. To start the right-side engine, move the engine start-switch #2 to the GRD position (for realism you may turn on the anti-collision light first, 4 switches to the right).



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11. When the engine speed, N2 reaches about 22% as shown on the EIS gauges in the first image below, then move the start lever #2 on the throttle quadrant from the CUTOFF position to the IDLE position (lower picture below). The engine will spool up and settle at idle speed.



12. When the #2 start-switch has automatically returned to the OFF position, move the start-switch for engine #1 to the GRD position. N2 for engine #1 will increase after a few seconds.



13. Repeat step 13 above for start lever #1
14. After both engines have been started, move the generator switches, GEN 1 and GEN 2 to the ON position. The switches will auto-return to the middle position and the blue GENERATOR OFF BUS indicator lights will extinguish. The APU GEN OFF BUS light will illuminate again.



15. On the overhead panel, turn on all window and pitot-static heat switches.



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16. Turn on both air conditioning packs and turn off the APU BLEED switch (note the DUAL BLEED light extinguishing).



17. The plane has now been started and if the EADI's now have a valid brown/blue horizon, you are ready to taxi. If the EADIs are invalid, then continue to wait until they are valid before taxiing. It takes approximately 13 minutes from turning the IRS mode selectors from OFF to NAV (step 8 above) for alignment to occur and the EADI's to be ready to go.
18. This concludes the minimum steps needed to get the aircraft started. To operate the aircraft realistically, many many more steps are needed of course. These steps are covered in the complete manual. If you just want to get airborne and take off now though, then don't forget to set flaps to 1 or 5, and you are ready to go.