FSFlyingSchoolPro
Boeing 737-800 Detail Pack

Manual

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Note - The FSFlyingSchoolPro Boeing 737-800 Detail Pack will function only with the Boeing 737-800 included in FSX (Microsoft Flight Simulator X).

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training of any person for the operation
of any aircraft or vehicle of any kind.**

Introduction
Welcome to the **FSFlyingSchoolPro Boeing 737-800 Detail Pack!**
To get the most out of this product, please read this manual.
FSFlyingSchool uses sophisticated logic to analyze your flying technique, to help you refine and demonstrate your flying skills. Several of FSFlyingSchool's methods will be new, even to veteran simulation pilots, so please read about them in this manual, to discover how FSFlyingSchool works, what it is telling you, and why.

The FSFlyingSchoolPro Boeing 737-800 Detail Pack adds a whole new level of realism and atmosphere to your flights with FSFlyingSchoolPro.

Quick Start

Please read this manual if you want to get the most out of flying with the FSFlyingSchoolPro Boeing 737-800 Detail Pack.

If you would prefer to do this later and want to jump right into the cockpit, here's what you should do next:

Launch Flight Simulator.
Create or select a flight in Flight Simulator **using Flight Simulator X's Boeing 737-800.**
Get that plane ready to fly, either in mid-air or on the ground. Get yourself at the controls of the plane.
Launch the FSFlyingSchool program.
Press the *Connect Button* in FSFlyingSchool.
Switch back to Flight Simulator and enjoy your flight with FSFlyingSchool by your side!
But – you really should read this too…
There are several new features you will want to understand, including a special new key. Read more about these features in detail in this manual.

Enhanced Instructor Logic

With the addition of the FSFlyingSchoolPro Boeing 737-800 Detail Pack, your instructors will be looking at your aircraft and your performance in it in a lot more detail.

Note that the instructors' advice, warnings and checklist lists are a combination of real world reference sources and of the checklist and reference files supplied by Flight Simulator for this aircraft. Not all of these sources agree and as a result some of the values or methods used may differ from sources you may have seen yourself.

IMPORTANT!
While the following is optional for routine flights in FSFlyingSchool Pro, we recommend that all flights with the FSX Boeing 737-800 are conducted according to the following procedures, in order to get the most enjoyment from the **FSFlyingSchoolPro Boeing 737-800 Detail Pack:**

File a flight plan..
Enter speeds at the flight plan screen in FSFlyingSchool Pro for V1, Vr and V2.
Use the autopilot, autothrottle and MCP controls.
If you start on the ground, start cold and dark (everything switched off) by preference.
Set the flight plan screen in FSFlyingSchool Pro so that the flight *ends* with aircraft stopped, brake on and engines cutoff.
Always "shut down" the aircraft at the end of a flight (full shutdown procedure)..Disconnect from FSFlyingSchool Pro after you shut down the aircraft and get your final flight score.
Your 737-800 instructor is Mr Smith. He's the one with the knowledge!
Do not use the 2D cockpit throttle quadrant.
Use the 3D cockpit engine start switches.
Use the 3D cockpit throttle quadrant.

FSFS-Tips You may find that you need to switch from the 3D cockpit to 2D cockpit to Overhead Panel to operate all the switches and controls needed to fly this aircraft realistically.
Note that you can set take off trim within the 3D cockpit.
Yaw damper toggles with Ctrl D.

The following is a list of different stages of flight in which events will cause your instructor to talk to you, with specific reference to the Boeing 737-800 you are flying.

Cold and Dark

[Shortly after flight starts on ground with master battery on]
Estimate of current fuel as a percentage of full.

Starting Engines

[Engine start attempted with master battery switch off]
Advice that the master battery switch must be on when starting the engines.

[Engine start attempted and throttles not correctly set]
Advice that throttles should both be at idle when starting the engines.

[Engine start attempted and parking brake not set]
Warning that parking brake must be set when starting the engines.

Taxi Out

[Shortly after moving in taxi mode]
Advice on which instruments and systems should be checked during taxiing.

[Shortly after moving in taxi mode and too little flaps]
Advice to set flaps to 5, 10 or 15 degrees.

[Shortly after moving in taxi mode and too much flaps]
Advice to set flaps to 5, 10 or 15 degrees.

Take Off

[Yaw damper not on]
Reminder to turn on yaw damper

[On ground and takeoff trim not set]
Advice to set takeoff trim between 2.75 to 8.5 degrees.

[On ground with APU on]
Warning that APU must be off during takeoff.

[On ground with autopilot on]
Warning that autopilot must be off during takeoff.

[On ground with MCP altitude not set]
Warning to set MCP altitude to initially assigned altitude.

[On ground with MCP heading not set]
Warning to set MCP heading to departure runway heading.

[On ground with MCP speed not set]
Warning to set MCP speed to climb speed.

[On ground with autobrakes not set]
Warning to set autobrakes to RTO.

[On ground with parking brake off and either engine N1 < 40%]
Warning that parking brake needs to be on while spooling up to 40%..

[On ground with parking brake on and either engine N1 approaching 40%]
Advice to spool both N1 to 40% and then release parking brake.

[On ground with parking brake on and either engine N1 > 40%]
Warning that parking brake needs to be off.

[Shortly after beginning takeoff]
Advice to engage TOGA or move throttle smoothly up to take off thrust.

[Shortly after beginning takeoff]
Reminder to listen for "V1" then "Rotate" and then to smoothly pitch up to 10 degrees and hold.

[Shortly after takeoff]
Reminder to turn on autopilot.

[Flaps up too soon]
Warning if take off flaps retracted too soon..

[Shortly after takeoff]
Reminder to start retracting flaps.

[Shortly after takeoff]
Reminder to engage MCP heading hold.

[Approaching 'minimums']
Instructor calls "approaching minimums" based on value set on EFIS minimums reference selector.

[Descent to 'minimums']
Instructor calls "minimums" based on value set on EFIS minimums reference selector.

[Autopilot on below 360 feet AGL without ILS]
Warning to turn autopilot off.

[Autothrottle on below 50 feet AGL]
Reminder to turn autothrottle off.

[Autopilot on below 50 feet AGL with ILS]
Warning to turn autopilot off.

Taxi In

[Autobrakes on]
Advice to turn autobrakes off.

[Flight director on]
Advice to turn flight director off.

[Pitot heat on]
Advice to turn pitot heat off.

Shut Down

[Fuel control levers not both cutoff]
Advice to cut off both fuel control levers.

[Engine anti-ice on]
Advice to turn off engine anti-ice.

[Seatbelts sign on]
Advice to turn off seatbelts sign.

[Hydraulic pumps on]
Advice to turn off hydraulic pumps.

[Fuel pumps on]
Reminder to turn off both fuel pumps.

[Panel lights on]
Advice to turn off panel lights.

General Warnings and Advice

[On ground and too heavy to taxi]
Warning gross weight exceeds maximum taxi weight of 156,000 pounds.

[On ground and too heavy to take off]
Warning gross weight exceeds maximum take off weight of 155,000 pounds.

[Seatbelts sign off under 10,000 feet MSL]
Advice to turn on seatbelts sign.

[No smoking sign off and master battery on]
Advice to turn on no smoking sign.

[Panel lights off and master battery on and not shutting down]
Advice to turn on panel lights.

[Engines off and pitot heat on]
Advice to turn off pitot heat.

[Engines running and hydraulic pressure is low]
Advice to turn on hydraulic pumps.

[Speed brake in use below 1,000 feet AGL]
Advice to turn off speed brake below 1,000 feet AGL.

[Airspeed over 250 KIAS below 10,000 feet MSL]
Advice to turn reduce speed to 250 KIAS or less when off below 10,000 feet MSL.

[Airborne and parking brake on]
Warning that parking brake needs to be off.

[Pitot heat off and not taxiing]
Advice to turn on pitot heat.

[Engine fire started]
Warning that an engine is on fire.

[APU started too soon]
Warning that 60 seconds must elapse before starting APU again.

[Engine 1 or engine 2 starter switch just turned on]
Reminder to check the oil pressure.

[Engine 1 generator switch on and engine 1 not running]
Reminder to turn off engine 1 generator.

[Engine 2 generator switch on and engine 2 not running]
Reminder to turn off engine 2 generator.

[Engine 1 generator switch off and engine 1 running]
Reminder to turn on engine 1 generator.

[Engine 2 generator switch off and engine 2 running]
Reminder to turn on engine 2 generator.

[Engine anti-ice on with no engines running]
Reminder to turn off engine anti-ice when no engines are running.

[Engine anti-ice off on ground when cold]
Reminder to turn on engine anti-ice when engines running and below 10 Celsius.

[Engine anti-ice off in air when cold]
Reminder to turn on engine anti-ice when engines running and total air temperature is below 10 Celsius.

[Engine anti-ice on on ground when warm]
Reminder to turn off engine anti-ice when above 10 Celsius.

[Engine anti-ice on in air when warm]
Reminder to turn off engine anti-ice when total air temperature is above 10 Celsius.

[Wing anti-ice on on ground]
Reminder to turn off wing anti-ice on ground.

[Wing anti-ice on in air when warm]
Reminder to turn off wing anti-ice when total air temperature is above 10 Celsius.

[Wing anti-ice off in air when cold]
Reminder to turn on wing anti-ice when total air temperature is below 10 Celsius.

[Speed approaching vNE]
Warning that you are close to exceeding 340 KIAS or 0.82 Mach which is 'vNE' (Never Exceed Speed) for this aircraft.

[Not taxiing and flight director off]
Advice to turn on flight director.

[Destination runway length less than 6,000 feet]
Warning that a different runway or airport should be chosen.

[Destination runway width less than 148 feet]
Warning that a different runway or airport should be chosen.

[Destination runway has inappropriate surface]
Warning that a different runway or airport should be chosen as runway surface is not Asphalt, Concrete, Macadam or Tarmac.

[Fuel level low]
Warning that fuel is below 10 percent and you may wish to consider your refueling options.

[MCP approach hold on and not landing]
Reminder to engage MCP heading hold.

[Taxiing and autothrottle on]
Reminder to turn autothrottle off.

[Flying with engines running and autothrottle off and not about to land]
Reminder to turn autothrottle on.

[Fuel in left tank and left fuel pump off]
Reminder to turn on left pump.

[Fuel in right tank and right fuel pump off]
Reminder to turn on right fuel pump.

[Fuel in left tank low and left fuel pump on]
Reminder to turn off left pump.

[Fuel in right tank low and right fuel pump on]
Reminder to turn off right fuel pump.

[Fuel out in left and right and pumps on]
Reminder to turn off both fuel pumps.

[Fuel in left and right and both pumps off]
Reminder to turn on both fuel pumps.

[Master battery just switched on]
Estimate of current fuel as a percentage of full.

[Master battery on and fuel level getting low]
Estimate of current fuel as a percentage of full as fuel falls below 50%, 25%, 10%, 5% and 3%.

Checklists

Overview

The primary function of FSFlyingSchool is to provide virtual instructors who are watching you and helping you be your best in the area of *airmanship* – how well you *fly your airplane* – and to have fun doing it. It certainly does a lot of other things in several other areas, but airmanship is its main focus.

We do not concentrate on teaching checklists and indeed there are other products which concentrate on just such training. As a result, we have not concentrated on checklists in this detail pack, but have instead added several simple checklist reminders from the instructor that can be requested by the pilot with a single simple keystroke.

Because the keystroke is always the same:

Ctrl Shift N

the process could not be simpler to remember. Your instructor will determine which checklist is the logical one at that point in your flight. In reading a checklist, the instructor will take several seconds to list all of its points, during which time you can follow along performing and checking the actions required, or you can use the checklist to make sure that you have already performed those actions.

The name of the checklist currently being read is shown on your screen in Flight Simulator immediately after the checklist key is pressed. Pressing **Ctrl Shift B** displays which checklist would be read out by the instructor if the checklist key Ctrl Shift N were to be pressed.

A key point to understand is that the checklists are not *interactive*, which means that the instructor is not waiting for you to perform each action. The instructor will read the entire checklist from start to finish regardless of what the pilot does. This is because checklists are not our main focus and also because your FSFlyingSchool instructor *is always* looking at your flight to see if anything is not as it should be – not just when a checklist is being read.

For example, if you failed to switch something on during a checklist, you can be sure that if it is ever off, or on, at the wrong time, your instructor will bring this to your attention – not just when a checklist is being read.

> **FSFS-Tip** Remember it's handy to press Ctrl Shift B to see which checklist **would be** read out by the instructor if the checklist key Ctrl Shift N were to be pressed.

Checklists
(Press Ctrl Shift N to hear the current checklist)

Note that some items are hard to find and therefore have notes included.

Cold and dark
[Taxi mode and master battery off]
This is a before (engine) start checklist.
Parking brake on
Master battery on
Hydraulics off
APU start
APU generator on
Yaw damper on (toggle with Ctrl D)
No smoking on
Fasten seatbelts on
Panel lights on
Crossfeed off
Fuel quantity check
Both fuel pumps on
Pitot heat off
Anti-ice off
EFIS minimums reference selector as desired
EFIS range selector as 40
EFIS mode selector MAP
Flight director on
Autothrottle off
Set MCP heading to runway heading
Set MCP to initially assigned altitude
Set MCP airspeed to desired climb speed
Autopilot off
Autobrakes RTO
Speed brake off
Throttles Idle

Starting
[Taxi mode and power on and engines off]
This is an engine starting checklist.
Engine 2 start switch on
Monitor the oil pressure
When N2 stabilizes around 20% raise engine 2 fuel control lever to idle
Note rapid increase in N1 and when N1 has stabilized turn off engine 2 start switch
Engine 1 start switch on
Monitor the oil pressure
When N2 stabilizes around 20% raise engine 1 fuel control lever to idle
Note rapid increase in N1 and when N1 has stabilized turn off engine 1 start switch

After start
[Taxi mode and both engines running]
This is an after (engine) start checklist.
Generators on
Pitot heat on
Anti-ice as required
Hydraulic pumps on
Main exit closed (toggle with Shift E)
Radios and avionics set
Autopilot off
Flight controls free
Wing flaps set between 5 to 15 degrees as necessary
Trim set for take-off between 2.75 to 8.5 degrees
Parking brake off
Push back as desired (press Shift P)

Takeoff
[Takeoff mode and on ground]
This is a takeoff checklist.
Landing lights on
Strobe lights on
Parking brake on
Autothrottle on
Increase throttle until N1 stabilizes at 40%
Release parking brake
Engage TOGA or set take-off thrust (press Ctrl Shift G for TOGA)
Callout 80 knots
Callout "V1"
Callout "Rotate"
Raise nose to around 10 degrees pitch up and hold
Callout "V2"
When positive rate of climb established - gear up
Maintain V2 + 15 KIAS
Autopilot engage
Start retracting flaps at 1,000 feet AGL
Autopilot heading select switch on
Autopilot speed select switch on
Autopilot altitude select switch on
Autobrakes off

Descent
[Landing mode and above 1000 feet AGL]
This is a descent checklist.
Set autobrakes
Lower flaps incrementally
Gear down
Arm spoilers

Before Landing
[Landing mode and below 1000 feet AGL]
This is a before landing checklist.
Autopilot off
Autothrottle off
Throttles Idle
Pitch on landing
Reverse thrust until 60 knots (hold F2)
Autobrakes off

Taxi In
[Taxi mode and aircraft has flown since FSFSPro connected]
This is a combination after landing and taxi in checklist.
Spoilers retracted
Flaps up
Pitot heat off
Landing lights off
Strobes off
Flight director off

Shut down
[Taxi mode and aircraft has flown since FSFSPro connected and parking brake on]
This is a shut down checklist.
Parking brake set
Fuel control levers cutoff
Fasten seatbelts off
Beacon off
Both fuel pumps off
Pitot heat off
Wing and Engine Anti-Ice off
Hydraulic pumps off
Generators off
Autobrakes off
Throttles idle
Main exit open
Taxi lights off
Panel lights off
APU off
Master battery off

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